

L E A D E R S H I P I N A C H A N G I N G W O R L D

New Research on
**LEADERSHIP
STYLES AND
PERFORMANCE**



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New Research on Leadership Styles and Performance



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Chapter 1

Introduction: Exploring the Nexus Between Leadership Styles and Employee Performance

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Abstract

In the current landscape of contemporary organizations, leadership's role has transcended traditional boundaries to become pivotal in shaping employee performance and organizational success. Amid complex challenges and opportunities, the leadership styles adopted by organizational leaders significantly impact team efficiency, effectiveness, and strategic goal attainment. The correlation between leadership styles and employee performance has captured the attention of researchers, practitioners, and business enthusiasts. The amalgamation of leadership practices and their effects on employee morale, productivity, job satisfaction, and innovation underscore the intricate connection between leadership models and organizational outcomes. This article explores the interplay between leadership styles and employee performance. By delving into diverse leadership paradigms and their effects on workforce dynamics, the study sheds light on how leadership behavior shapes individual and collective accomplishments. Through a comprehensive analysis of key leadership theories, real-world cases, and empirical research, the article unveils the underlying mechanisms that underscore this correlation. Recognizing the multifaceted nature of leadership styles—from autocratic to servant leadership—organizations can tailor their approach to enhance employee performance and engagement.

Keywords: leadership styles, employee performance, contemporary organizations, human resources management

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Introduction

In the dynamic and ever-evolving landscape of modern organizations, the role of leadership has transcended traditional boundaries, assuming a pivotal stance in shaping employee performance and overall success. As businesses navigate through intricate challenges and opportunities, the leadership styles employed by organizational leaders play a defining role in determining not only the efficiency and effectiveness of their teams but also the realization of strategic objectives.

The connection between leadership styles and employee performance has garnered substantial attention from researchers, practitioners, and business enthusiasts alike. The amalgamation of leadership practices and their subsequent impact on employee morale, productivity, job satisfaction, and innovation underscore the intricate interplay between leadership approaches and organizational outcomes.

This article embarks on an exploration of the intricate relationship between leadership styles and employee performance. By delving into various leadership paradigms and their corresponding effects on workforce dynamics, this study aims to shed light on the nuanced mechanisms through which leadership behavior influences the achievement of both individual and collective goals. Through a comprehensive analysis of key leadership theories, real-world case studies, and empirical research, we seek to unravel the underlying mechanisms that underpin this crucial connection.

As we embark on this journey of discovery, it is imperative to recognize the multifaceted nature of leadership styles, ranging from autocratic and transformational to laissez-faire and servant leadership. Each style brings its distinct attributes, resonating differently with diverse organizational contexts and employee profiles. By understanding the distinct traits, advantages, and potential pitfalls of each leadership style, organizations can better tailor their approach to elicit optimal employee performance and engagement.

In the subsequent sections of this article, we will explore the link between leadership styles and employee performance. We will delve into how transformational leaders inspire innovation and creativity, how transactional leaders maintain task-oriented efficiency, and how servant leaders cultivate a culture of empathy and collaboration. This research exploration makes evident that the dynamic interplay between leadership styles and employee performance is a pivotal determinant of a sustained organization's context and growth.

Literature Review

Leadership Styles Linked to Employee Performance

Leadership styles and performance models are integral concepts in the field of management and organizational behavior, exerting significant influence over how leaders engage with their teams and shape overall performance outcomes. These concepts provide a framework to explore how effective leadership and structured performance evaluation contribute to the success of individuals and organizations.

Leadership styles encompass the distinctive approaches that leaders adopt when assuming their roles, making decisions, and interacting with their teams. The impact of different

leadership styles on employee motivation, satisfaction, and overall performance varies widely. Among the array of leadership styles, several stand out:

Autocratic Leadership entails unilateral decision-making by the leader, bypassing input from team members. While it can expedite choices, it may hinder employee engagement and creative contributions. In contrast, Democratic Leadership engages team members in decision-making processes, fostering collaboration and a shared sense of ownership.

Transformational Leadership revolves around inspiring and motivating teams through a compelling vision and encouragement of innovative thinking. This approach prioritizes personal growth and development, often leading to heightened engagement and superior performance.

Transactional Leadership centers on task-oriented management, with clear expectations, rewards, and penalties linked to performance. This style is effective for maintaining routine tasks and processes.

Servant Leadership places emphasis on the well-being and development of team members. Leaders under this style prioritize serving their employees and facilitating their professional growth.

Laissez-Faire Leadership involves minimal leader intervention, granting team members autonomy in decision-making. While encouraging creativity, it can potentially lead to directionlessness and a lack of accountability.

Complementing leadership styles are performance models, which offer structured frameworks for assessing and enhancing individual and organizational performance. These models facilitate the measurement, analysis, and improvement of performance through various methodologies: the Balanced Scorecard focuses on multiple performance dimensions—financial, customer-related, internal processes, and learning and growth—to align organizational activities with strategic goals; HR Analytics and Metrics include key performance indicators (KPIs) which needs to be specific, measurable metrics that gauge the attainment of goals for individuals, teams, or organizations; performance appraisal models entail systematic evaluations of employee performance, frequently involving structured assessments and feedback sessions. These models identify strengths and areas for improvement. Normally, based on competencies management and SMART Goals—Specific, Measurable, Achievable, Relevant, and Time-bound— which provide a structured approach to crafting clear and actionable objectives, enhancing performance by channeling efforts towards attainable targets. This allows management by objectives (MBO) involves collaborative goal setting between managers and employees, promoting alignment and employee participation in the planning process.

Following the transactional and transformational styles will be analysed considering contributions to the employee performance:

Transactional leadership stands out as a distinct leadership style, characterized by its emphasis on establishing a reciprocal exchange of rewards and punishments to prompt specific behaviors and achieve desired performance outcomes from employees. In contrast, the essence of transformational leadership lies in its ability to inspire and motivate employees, urging them to reach higher levels of performance and personal growth.

Central to the concept of transactional leadership is the establishment of a structured framework, governed by well-defined principles and practices. This framework revolves around the establishment of clear expectations, delineated roles, and explicit guidelines. Leaders who adopt this style utilize contingent rewards as a means of reinforcing desired

behaviors. These rewards are provided in response to employees meeting predetermined standards or accomplishing specific goals. Conversely, corrective actions, encompassing penalties or negative consequences, are deployed to deter undesirable conduct and steer employee performance towards organizational objectives.

A critical examination of transactional leadership reveals several key components and defining characteristics. Leaders employing this approach leverage contingent rewards such as promotions, salary increases, recognition, and bonuses to incentivize employees. These rewards are intrinsically tied to the fulfilment of predefined performance standards or the achievement of specific objectives.

Transactional leaders frequently adopt a “management by exception” approach, whereby they closely monitor employee activities and intervene when deviations from established norms or performance standards are detected. This approach can take two distinct forms: passive management by exception, where leaders intervene only when significant issues arise, and active management by exception, wherein leaders proactively monitor for deviations and promptly intervene as soon as they emerge.

In certain transactional leadership models, there exists a propensity for leaders to embrace a laissez-faire approach. This involves granting employees a notable degree of autonomy and decision-making authority in their roles. However, this approach can potentially lead to diminished supervision and guidance, impacting overall performance outcomes.

A defining attribute of transactional leadership is the creation of a clear and unequivocal structure. Leaders establish unambiguous rules, structures, and expectations to provide employees with a sense of direction and to minimize ambiguity, ultimately contributing to improved performance outcomes.

It is important to note that transactional leadership tends to prioritize short-term goals and immediate outcomes. While this can yield prompt results, it may not inherently foster long-term innovation and creativity to the same extent as other leadership styles, such as transformational leadership.

In the realm of employee performance models, various theories have been developed to shed light on performance predictors. These models intersect with transactional leadership as the leadership style significantly influences employee performance outcomes. Notable models include the Expectancy Theory, suggesting that motivation stems from the belief that efforts lead to desired outcomes; the Goal-Setting Theory, asserting that specific, challenging goals enhance motivation; and Performance Management Models, structured processes defining expectations, measuring performance, and providing feedback.

Furthermore, the Social Exchange Theory posits that equitable exchanges between inputs and outputs lead to improved performance, aligning with transactional leaders’ use of contingent rewards. Additionally, the Job Characteristics Model examines how job attributes influence motivation and performance, offering insights applicable to transactional leadership.

However, it’s important to acknowledge that while transactional leadership can drive immediate performance enhancements through reward-punishment mechanisms, its effectiveness in cultivating lasting employee engagement, creativity, and intrinsic motivation may be constrained in comparison to transformational or alternative leadership styles. Achieving a balance between diverse leadership approaches, tailored to the specific organizational context and requirements, is imperative for sustaining high-level performance over the long term.

Transformational leadership represents a dynamic approach to leadership that revolves around inspiring and motivating employees to reach heightened levels of performance and personal growth. In contrast to transactional leadership, which relies on a system of rewards and punishments, transformational leadership places emphasis on instilling a sense of purpose, vision, and commitment among employees. Leaders who adopt a transformational stance aim to effect positive changes in both individuals and organizations, shaping values, beliefs, and aspirations.

Within the framework of *transformational leadership*, several key behaviors and attributes come to the fore. Notably, transformational leaders often exude charisma and possess a compelling presence that captures and energizes their followers. They possess the ability to articulate a compelling vision and rally people around it, fostering enthusiasm and a shared sense of purpose.

Furthermore, these leaders excel in providing inspirational motivation, communicating a clear and inspiring vision for the future. They inject a sense of purpose and excitement into the workforce, motivating employees to strive for excellence and invest themselves wholeheartedly in their roles.

A crucial aspect of transformational leadership is individualized consideration, wherein leaders recognize and address the unique needs and strengths of each employee. They provide personalized guidance, support, and mentorship, facilitating individual growth and development within the organizational context.

Intellectual stimulation is another characteristic of transformational leaders. They actively promote creativity, critical thinking, and innovation among their employees. By challenging conventional norms and fostering a culture of continuous learning, they encourage the exploration of new ideas and approaches.

At the heart of transformational leadership lies idealized influence, where leaders serve as role models and earn the respect and admiration of their followers through ethical conduct, integrity, and unwavering commitment to shared values.

In parallel to the concept of transformational leadership, numerous models and theories have emerged to shed light on employee performance dynamics. These models take into account various factors influencing how employees contribute to the overall success of an organization.

The Expectancy Theory, for instance, posits that employee motivation is contingent upon the belief that efforts exerted will yield desirable outcomes. It underscores the interconnectedness of effort, performance, and eventual results.

Similarly, the Goal-Setting Theory highlights the significance of setting specific, challenging goals in enhancing employee motivation and performance. By offering a clear target to strive towards, employees are more inclined to invest effort in achieving these goals.

In the realm of performance management, models have been developed to systematize the management of employee performance. These models encompass defining performance expectations, monitoring progress, delivering feedback, and making decisions aligned with performance outcomes.

Furthermore, the Social Exchange Theory delves into the dynamics of social interactions between employees and their organization. It posits that when employees perceive a fair exchange of their efforts, skills, and loyalty for rewards, recognition, and career opportunities, they are inclined to perform at their best.

Additionally, the Job Characteristics Model explores the impact of specific job attributes, such as skill variety, task identity, task significance, autonomy, and feedback, on employee motivation and performance.

Underpinning these theories and models is the Self-Determination Theory, which underscores the role of intrinsic motivation, autonomy, and competence in driving employee performance. When employees experience a sense of ownership and control over their work, they are more likely to be engaged, productive, and committed to their organization's success.

Transformational leadership endeavors to elevate employee performance by fostering inspiration and motivation for individuals to reach their fullest potential. This dovetails with a multitude of employee performance models that consider factors such as motivation, goal setting, job characteristics, and engagement in predicting and augmenting the contributions of employees to the success of an organization.

In conclusion effective leadership styles and performance models often intertwine, with leaders selecting appropriate styles based on context and leveraging performance models to track progress, provide constructive feedback, and drive continuous enhancement within teams and organizations. This synergy contributes to achieving optimal performance outcomes and sustained growth.

Next, we will present the main performance models present in the literature and also adopted by the companies:

The Balanced Scorecard serves as a strategic framework for managing and evaluating organizational performance across a range of dimensions. Through the utilization of a comprehensive set of balanced key performance indicators (KPIs), the framework captures diverse aspects of an organization's operations. The traditional Balanced Scorecard encompasses four primary perspectives, each housing a distinct array of variables or KPIs.

Firstly, the Financial Perspective delves into critical financial metrics, including revenue growth, profit margins, return on investment (ROI), cash flow, cost reduction, and economic value added (EVA) (Kaplan & Norton, 1992). This perspective offers insights into the organization's fiscal health and profitability.

The Customer Perspective focuses on customer-centric measures, such as customer satisfaction, retention, market share, loyalty, Net Promoter Score (NPS), and the handling of customer complaints and resolutions (Kaplan & Norton, 1992). By assessing customer perceptions and interactions, this perspective gauges the organization's effectiveness in meeting customer needs.

In the Internal Process Perspective, the framework evaluates process efficiency, cycle time, quality indicators, innovation metrics, employee productivity, and supplier performance (Kaplan & Norton, 1992). These indicators shed light on the organization's internal operations and its ability to deliver value to customers.

The Learning and Growth Perspective emphasizes factors that contribute to organizational development and sustainability, including employee training and development, satisfaction, leadership growth, knowledge management, organizational culture, and technology adoption (Kaplan & Norton, 1992). By nurturing these areas, an organization can enhance its long-term capabilities.

Beyond these foundational perspectives, some organizations expand the Balanced Scorecard to encompass additional facets aligned with their specific industry or strategic objectives. These supplementary perspectives might encompass the Environmental or

Sustainability Perspective, involving considerations such as environmental impact, resource consumption, carbon footprint, and sustainable practices (Kaplan & Norton, 1996).

Furthermore, the Social Responsibility Perspective takes into account corporate social responsibility initiatives, community engagement, and social impact programs (Ittner et al., 2003). This reflects the organization's commitment to ethical and societal considerations.

Lastly, the Stakeholder Perspective evaluates stakeholder engagement, satisfaction, value creation, and regulatory compliance (Bititci et al., 1997). Addressing these concerns supports effective communication and collaboration with various stakeholders.

When crafting a Balanced Scorecard, it is crucial to align chosen perspectives and variables with the organization's strategic goals and priorities. The exemplified KPIs above merely scratch the surface; the specific indicators selected hinge on the organization's industry, objectives, and unique context. Ultimately, the Balanced Scorecard framework empowers organizations to attain a comprehensive vantage point of their performance and gauge progress towards strategic aims from multiple dimensions.

Human Capital ROI (Return on Investment) Human Capital Return on Investment (ROI) serves as a critical measure that quantifies the financial value derived from an organization's investments in its human resources, encompassing the skills, knowledge, and capabilities of its employees. The model of Human Capital ROI entails evaluating the influence of these investments on the overall performance and financial outcomes of the organization (Smith, 2020; Becker, Huselid & Beatty, 2009). Within this context, several parameters are commonly employed to gauge and compute Human Capital ROI:

An essential facet involves Revenue Growth, whereby the impact of human capital investments on heightened revenue is gauged (Becker, Huselid & Ulrich, 2001). These investments can catalyze augmented revenue streams through factors such as improved employee performance, enriched customer service, and heightened innovation. Furthermore, the concept extends to Cost Savings, wherein the effect of human capital investments on cost efficiencies is analyzed (Cascio & Boudreau, 2010).

These investments might yield diminished costs, attributed to aspects like lowered turnover expenses, streamlined processes, and reduced training outlays. Monitoring shifts in Employee Productivity is another key element, as it elucidates alterations in output and efficiency resulting from initiatives pertaining to training, development, and skills enhancement (Huselid, Jackson, & Schuler, 1997). A crucial dimension of Human Capital ROI pertains to Employee Engagement, as it evaluates how investments in human capital reverberate across employee morale, job satisfaction, and engagement, which in turn impact productivity levels and mitigate turnover rates (Boudreau & Jesuthasan, 2011).

Talent Acquisition and Retention hold a prominent position, focusing on how human capital investments affect the capacity to attract and retain high-caliber talent, consequently reducing recruitment expenses and curbing turnover (Boudreau & Ramstad, 2005). The realm of Leadership Development is equally significant, quantifying the contributions of programs aimed at enhancing leadership skills in terms of informed decision-making, employee motivation, and the overall organizational effectiveness (Lawler & Boudreau, 2012).

Innovation and Creativity also feature prominently, capturing how investments in human capital bolster the organization's innovative prowess, yielding novel products, services, or processes (Fitz-enz, 2000). The spectrum broadens to encompass Learning and Development Metrics, illuminating outcomes stemming from training initiatives, encompassing aspects like the number of employees trained, proficiency enhancement, and knowledge transfer (Boudreau

& Ramstad, 2007). Additionally, the notion of Time-to-Competence evaluates the expediency with which new hires or employees transitioning to new roles attain full competency and contribute productively (Becker, Huselid, & Beatty, 2009).

Succession Planning assumes significance in assessing the efficacy of endeavors directed at grooming future leaders and minimizing disruptions during leadership transitions (Fitz-enz, 2009). The ramifications of Diversity and Inclusion initiatives are also gauged, measuring their impact on employee satisfaction, creativity, and overall organizational performance (Boudreau & Ramstad, 2007). Consideration extends to Health and Well-being, discerning the influence of investments in employee well-being on absenteeism, presenteeism, and overall workforce efficiency (Becker, Huselid, & Ulrich, 2001).

Workforce Flexibility encapsulates the contributions of human capital investments to the organization's adaptability to evolving market dynamics and demands (Boudreau & Jesuthasan, 2011). Notably, Employee Turnover and Retention form a pivotal aspect, encompassing the quantification of reduced turnover rates and associated costs, a result of refined human capital management practices (Cascio & Boudreau, 2010). Furthermore, the influence of human capital investments on Customer Satisfaction is weighed, assessing the enhanced customer interactions and service quality resulting from these investments (Fitz-enz, 2009). Leveraging advanced Human Capital Analytics is an evolving approach to analyze and predict the impacts of human capital investments on various business outcomes (Boudreau & Jesuthasan, 2011).

It is essential to acknowledge that the specific variables employed to compute Human Capital ROI hinge upon an organization's specific goals, industry, and unique contextual factors (Becker, Huselid & Beatty, 2009). Typically, calculating Human Capital ROI involves contrasting the financial gains arising from human capital investments against the associated costs over a designated timeframe (Smith, 2020).

The High-Performance Work System (HPWS) this model stands as a distinct approach to human resource management, centering its efforts on the construction of a unified and all-encompassing suite of HR practices, meticulously crafted to elevate organizational performance. At its core, HPWS aims to synchronize the orchestration of personnel with the strategic aspirations of the organization (Huselid, Jackson, & Schuler, 1997). While the specifics within the HPWS model may display slight fluctuations contingent upon differing models and research endeavors, they generally encompass the subsequent dimensions:

The realm of Selection and Recruitment assumes significance, ensuring that the organization attracts and appoints individuals who possess the precise skill sets, knowledge, and aptitudes that seamlessly align with the organizational objectives (Huselid, Jackson, & Schuler, 1997).

In the domain of Training and Development, a continuous array of learning prospects is extended to fortify employees' skills and competencies, thus empowering them to make meaningful contributions to the organization's endeavors (Appelbaum et al., 2000; Huselid, 1995).

Performance Management emerges as a pivotal facet, necessitating the establishment of lucid performance expectations, the consistent provision of constructive feedback, and the implementation of performance evaluations. These endeavors coalesce to harmonize individual and team aspirations with the overarching organizational aims (Delery & Doty, 1996; Huselid, Jackson, & Schuler, 1997).

Compensation and Rewards form a critical arena, with the emphasis lying on crafting compensation and incentive systems that act as motivational stimuli, propelling employees to deliver their utmost while intricately linking performance with both individual and organizational accomplishments (Huselid, 1995).

The tenet of Employee Involvement and Empowerment takes center stage, fostering an environment where employees are not just participants but active contributors to decision-making processes, enabling the sharing of innovative ideas and nurturing a sense of ownership towards their responsibilities (Lawler & Mohrman, 2003).

Job Design and Enrichment emerge as mechanisms to structure roles in a manner that facilitates the complete utilization of employees' skills and talents, thus engendering job satisfaction and enhanced performance (MacDuffie, 1995).

Promoting Teamwork and Collaboration within the organizational framework gains significance as it fuels efficient collective efforts toward shared objectives, subsequently enabling the sharing of knowledge and insights (Boxall & Purcell, 2003).

Information Sharing and Communication form the bedrock of transparency and coordination, with established channels ensuring the seamless dissemination of information across the organization (Boxall & Macky, 2014).

Employee Well-being and Work-Life Balance underscore a commitment to enhancing the overall welfare of employees by addressing stressors related to work, advocating for a harmonious work-life equilibrium, and nurturing a heightened sense of job satisfaction (Purcell et al., 2003).

The attribute of Adaptability and Flexibility aligns the organizational culture to be agile in response to shifts in the external landscape, accentuating innovation and fostering an environment of perpetual betterment (Subramony, 2009).

The aspect of Employee Relations and Trust occupies a pivotal role, fostering positive interactions between employees and management, nurturing trust, and methodically resolving conflicts or concerns that may arise (Huselid, Jackson, & Schuler, 1997).

Organizational Culture and Values converge to mold a robust cultural backdrop that resonates with the company's mission and values, thereby eliciting elevated levels of commitment and engagement (Purcell et al., 2003).

In their interconnection, these variables synergistically precipitate a profound impact, culminating in augmented organizational performance and an enhanced competitive edge (Boxall & Purcell, 2003). The successful adoption of the HPWS model often correlates with heightened employee engagement, amplified productivity, and an overarching elevation in business triumph. It is imperative to acknowledge that while the HPWS model furnishes a comprehensive framework, its execution can inherently differ, aligning with the individual requisites and distinct characteristics unique to each organization (Boxall & Macky, 2014).

HR analytics and metrics encompass a data-driven and quantitative approach to glean insights into various facets of human resource management. This methodology entails the meticulous collection, analysis, and interpretation of data to inform decision-making and enhance outcomes within HR processes (Boudreau & Cascio, 2017). By leveraging HR analytics and metrics, organizations can measure and monitor crucial key performance indicators (KPIs) pertinent to their workforce, thus enabling the alignment of HR strategies with broader business objectives, and in turn, propelling the achievement of organizational success.

One domain where HR analytics and metrics prove invaluable is in Recruitment and Selection. Parameters like “time-to-fill” offer insight into the duration taken to fill a job vacancy, while “cost-per-hire” quantifies the expenses associated with recruitment and hiring endeavors (Boudreau & Cascio, 2017). Equally significant is the metric of “quality of hire,” which gauges the performance and influence of newly recruited employees.

Turning the spotlight to Employee Performance, the utilization of “key performance indicators (KPIs)” emerges as an effective yardstick, providing quantitative gauges of employee performance that harmonize with overarching business targets (Becker, Huselid & Ulrich, 2001). Delving into performance appraisal data to extract “performance ratings” allows for trend analysis and the identification of areas ripe for enhancement (Fitz-enz, 2001).

The realms of Employee Turnover and Retention are equally paramount. Metrics such as “turnover rate” facilitate the calculation of the percentage of employees departing the organization within a specified timeframe, while “retention rate” quantifies the proportion of employees choosing to remain within the company over a defined period (Boudreau & Cascio, 2017).

In the context of Training and Development, “training effectiveness” surfaces as an evaluative tool to assess the impact of training initiatives on employee skills and overall performance. Additionally, “learning and development ROI” facilitates the calculation of the return on investment stemming from training efforts (Cascio & Boudreau, 2011).

Employee Engagement assumes a pivotal role, with the “employee engagement score” derived from surveys capturing engagement levels and influential factors (Fitz-enz, 2018). The spectrum of Compensation and Benefits is further enriched by metrics such as “total compensation,” which gauges the comprehensive value of an employee’s compensation package, and “benefits utilization,” which evaluates the utility and consequences of employee benefits programs (Marr & Neely, 2004).

The significance of Workforce Diversity and Inclusion is underscored by “diversity metrics,” enabling the monitoring of demographic representation within the workforce, and “inclusion measures,” gauging the inclusiveness and sense of belonging experienced by employees (Rasmussen et al., 2017).

Workforce Planning is enhanced through “succession planning,” which identifies and nurtures potential future leaders within the organization, and “talent pipeline” analysis, which assesses the availability of qualified candidates for pivotal roles (Huselid & Becker, 2011).

Efficiency within HR processes is gauged through “HR process cycle time,” quantifying the duration required to complete various HR procedures, and “HR service delivery metrics,” which evaluate the quality and efficiency of HR services extended to employees (Lawler, Levenson, & Boudreau, 2004).

Cost Analysis plays a prominent role with metrics like “HR cost per employee,” a calculation of total HR expenses divided by the number of employees, and “cost of turnover,” which estimates the financial implications of employee turnover on the organization (Fitz-enz, 2001).

The successful implementation of HR analytics and metrics necessitates access to accurate and pertinent data, sophisticated analytical tools, and expertise in data interpretation (Cascio, 2003). This enables organizations to cultivate a data-driven approach, pinpoint areas for improvement, and optimize HR strategies, thereby fostering heightened organizational performance and greater employee contentment (Boudreau & Cascio, 2017).

Capability Maturity Model (CMM) The Capability Maturity Model (CMM) is a framework used to assess and improve the maturity and effectiveness of an organization's processes (Paulk et al., 1993). It was originally developed for software development but has since been adapted for various industries. The CMM defines five levels of maturity, from Initial (Level 1) to Optimizing (Level 5), each representing a higher degree of process improvement and organizational maturity.

The CMM framework, although lacking specific "variables," encompasses essential concepts and components crucial for evaluating an organization's maturity level and guiding its enhancement endeavors (Paulk et al., 1993). These components include distinct aspects:

Firstly, the framework delineates Maturity Levels, which encompass five distinct stages signifying various levels of process improvement and organizational advancement (Paulk et al., 1993). Each level is characterized by specific attributes, practices, and objectives that organizations should aim to attain.

Secondly, the CMM establishes Process Areas, outlining fundamental domains that demand an organization's focus for maturity augmentation (Paulk et al., 1993). These areas encapsulate specific facets of an organization's processes and practices. For instance, in software development, examples of process areas are Requirements Management, Configuration Management, and Measurement and Analysis.

Furthermore, within each Process Area, the framework prescribes Goals and Practices that serve as benchmarks for organizations striving to ascend to higher maturity levels (Paulk et al., 1993). These goals and practices serve as directives, guiding an organization's actions toward effective process improvement.

The CMM framework employs Capability Levels to gauge an organization's proficiency in executing specific practices within each Process Area (Paulk et al., 1993). Ranging from Incomplete (Level 0) to Optimizing (Level 5), these capability levels reflect an organization's consistency and predictability in executing defined practices.

To assess their current standing and pinpoint avenues for enhancement, organizations can conduct Maturity Assessments (Chrissis, Konrad, & Shrum, 2011). These evaluations entail scrutinizing an organization's processes, practices, and performance against the backdrop of the CMM framework.

Emphasizing the principle of Continuous Improvement, the CMM framework encourages organizations to perpetually evaluate their processes, identify areas necessitating refinement, and work towards achieving elevated maturity levels (Paulk et al., 1993).

Importantly, the CMM framework has evolved over time and features variations tailored to diverse industries and domains (Turner & Ledgard, 2006). Additionally, more contemporary frameworks such as the Capability Maturity Model Integration (CMMI) have succeeded the CMM, offering a more comprehensive and integrated approach to process improvement (Daley, 2002).

If you require specific insights about implementing the CMM or its constituents within a particular context, kindly furnish additional details to enable me to provide more targeted and pertinent information.

Employee engagement models serve as structured frameworks for organizations to evaluate and elevate their employees' level of commitment and involvement. These models encompass a range of variables and elements that collectively contribute to fostering employee engagement. While diverse models and methodologies exist, several common variables frequently feature in employee engagement models.

One essential component is Job Satisfaction, reflecting the extent to which employees find their work fulfilling, gratifying, and aligned with their skills and personal interests (Locke, 1969; Albrecht et al., 2015). Equally crucial, Workplace Relationships gauge the caliber of interactions among employees, peers, managers, and other stakeholders, with positive relationships fostering a sense of belonging and engagement (Eisenberger et al., 1986).

Effective Communication plays a pivotal role, encompassing transparent communication from leadership and throughout the organization (Macey & Schneider, 2008). This clarity aids employees in comprehending objectives, changes, and expectations, thereby nurturing a sense of involvement. Moreover, Recognition and Rewards programs acknowledge and value employees' contributions, both formally and informally (Eisenberger et al., 1997).

Career Development opportunities, facilitating skill enhancement, training, advancement, and growth, constitute another vital variable (Saks, 2006; Bakker & Albrecht, 2018). Autonomy and Decision-Making afford employees the authority and latitude to contribute ideas and make choices, fostering a sense of ownership (Deci & Ryan, 1985).

Promoting Work-Life Balance is instrumental in supporting employees' well-being by encouraging a harmonious equilibrium between professional and personal domains (Greenhaus & Beutell, 1985). Organizational Culture, encompassing values, norms, and beliefs, significantly shapes employees' perceptions of their work environment (Schein, 1990).

Alignment with Organizational Values measures the congruence between employees' personal beliefs and those of the organization (Edwards & Cable, 2009). Clarity and Meaningfulness of Job Roles and Responsibilities, and their alignment with employees' skills and interests, are pivotal for engagement (Harter et al., 2002).

Feedback and Performance Management mechanisms, as well as Inclusion and Diversity efforts, contribute to a positive workplace (Shuck & Wollard, 2010). Effective Organizational Leadership sets clear directions, inspires, and cultivates a favorable work atmosphere (Robinson et al., 2004).

Employee Well-Being initiatives target physical, mental, and emotional health (Maslach & Leiter, 2008). Involvement in Decision-Making opportunities empowers employees to contribute insights and ideas. Empowerment, job security, and Corporate Social Responsibility (CSR) perceptions also factor into engagement (Rich et al., 2010).

Notably, these variables can differ based on the specific model used and an organization's unique culture, industry, and context. Employing methods such as employee surveys and focus groups, organizations gauge these variables to pinpoint areas for enhancing engagement. These models offer a comprehensive approach, enabling organizations to systematically elevate employee engagement and, consequently, overall organizational success.

Performance management systems serve as structured frameworks and processes that organizations employ to oversee, assess, and enhance employee performance and productivity. The concept of an effective performance management system is supported by extensive research in the field of organizational psychology and management (Aguinis & Gottfredson, 2010; Aguinis & Kraiger, 2009; DeNisi & Murphy, 2017; Fletcher, 2001; Kluger & DeNisi, 1996; Murphy & Cleveland, 1995; Pulakos, 2009; Pulakos & O'Leary, 2011). These systems incorporate a wide range of variables and elements, all of which are essential for optimizing employee performance and organizational success.

Central to these systems are Performance Goals and Objectives, which provide employees with clear and specific targets aligned with the organization's broader strategic objectives

(Aguinis & Gottfredson, 2010). These goals serve as a foundation for performance measurement and improvement.

Key Performance Indicators (KPIs) offer quantifiable metrics to gauge progress toward these goals (Aguinis & Gottfredson, 2010).

Performance Appraisal constitutes a regular evaluation of employee performance against predetermined benchmarks, often involving formal reviews and assessments by managers (DeNisi & Murphy, 2017).

Feedback and Coaching sessions facilitate ongoing discussions between managers and employees to address performance matters and offer guidance (Kluger & DeNisi, 1996).

Employees are often encouraged to engage in Self-Assessment, reflecting on their achievements and identifying areas for development (Aguinis & Kraiger, 2009). The 360-Degree Feedback process collects input from various sources, providing a holistic view of an employee's performance (Murphy & Cleveland, 1995).

Development Plans outline tailored strategies for skill enhancement and career growth based on performance assessments (Pulakos, 2009). Conversely, Performance Improvement Plans (PIPs) offer structured action plans for employees needing to meet performance expectations (Pulakos & O'Leary, 2011).

Acknowledgment for exceptional performance is achieved through Recognition and Rewards (Pulakos & O'Leary, 2011). Performance Metrics and Dashboards visually present performance data to monitor progress and trends (Lawler III, Levenson, & Boudreau, 2004).

Competency Assessments evaluate employees' skills and knowledge against predefined criteria (Aguinis & Kraiger, 2009). Training and Development Opportunities enable skill improvement.

Ensuring consistency across assessments is achieved through Performance Calibration (DeNisi & Murphy, 2017). Succession Planning identifies future leaders within the organization (Fletcher, 2001).

Alignment with organizational goals is crucial through Goal Alignment (Aguinis & Kraiger, 2009). Performance Data Analysis identifies patterns and areas for enhancement (Kluger & DeNisi, 1996).

Engagement and Satisfaction assessments consider employees' feelings toward the performance management process (Pulakos, 2009). Timely Feedback addresses concerns promptly (Fletcher, 2001).

Technology and Tools, such as digital solutions, streamline processes (Lawler III et al., 2004). Continuous Improvement entails regular system reviews and refinements (Pulakos, 2009).

The specific variables within a performance management system differ based on organizational factors. An effective system forms a continuous cycle, encompassing setting expectations, monitoring progress, offering feedback, and fostering employee growth.

Talent management frameworks represent strategic methodologies utilized by organizations to strategically attract, cultivate, retain, and optimize their workforce in pursuit of business objectives. These comprehensive frameworks encompass a multitude of variables and components crucial for effective talent management (Collings et al., 2009). While these frameworks can be distinctive to each organization, several common variables often find prominence within talent management frameworks (Collings et al., 2009).

In the sphere of Talent Acquisition and Recruitment, foundational components include conducting thorough Job Analysis and Role Definition, devising effective Sourcing Strategies,

meticulously assessing and selecting candidates, and ensuring a seamless Onboarding and Integration process (Scullion & Collings, 2011).

The realm of Succession Planning and Leadership Development involves identifying High-Potential Employees, instituting targeted Leadership Development Programs, cultivating robust Succession Planning mechanisms, and establishing Leadership Competency Models (Vaiman et al., 2012).

Performance Management and Appraisal encompass the establishment of clear Goal Setting and Performance Expectations, fostering Ongoing Feedback and Coaching, conducting meticulous Performance Appraisal and Review Processes, and implementing Performance Improvement Plans as needed (Cappelli, 2008).

Learning and Development initiatives encompass an array of training programs, workshops, and Skill Development Initiatives, providing Continuous Learning Opportunities, and charting out Individual Development Plans (Collings et al., 2009).

Career Pathing and Mobility strategies incorporate frameworks for Career Development, facilitation of Job Rotation and Cross-Functional Opportunities, execution of Internal Mobility Programs, and meticulous Skills and Competency Mapping (Collings et al., 2009).

Employee Engagement and Retention initiatives involve measuring Employee Satisfaction through Surveys, designing Recognition and Rewards Programs, promoting Work-Life Balance, and championing Employee Wellness and Well-Being Programs (Collings et al., 2009).

Diversity and Inclusion efforts entail Diversity Recruitment Strategies, promoting Inclusion Initiatives and Employee Resource Groups, implementing Equal Opportunity Practices, and providing Unconscious Bias Training (Scullion & Collings, 2011).

Performance Metrics and Analytics play a vital role, encompassing Key Talent Metrics, leveraging Talent Analytics for Decision-Making, conducting Workforce Planning and Gap Analysis, and focusing on Employer Branding and Employee Value Proposition (Collings et al., 2009).

Strategies for Talent Retention encompass competitive Compensation and Benefits, furnishing robust Career Growth Opportunities, nurturing a positive Work Environment and Culture, and offering Flexibility and Work-Life Balance (Collings et al., 2009).

In the realm of Knowledge Management and Knowledge Transfer, emphasis is placed on Capturing and Sharing Institutional Knowledge, instating Mentorship and Coaching Programs, and establishing Knowledge Repositories and Learning Platforms (Scullion & Collings, 2011).

Performance-Based Rewards and Recognition mechanisms involve Merit-Based Compensation, Performance Bonuses and Incentives, and Recognition for Achievements (Cappelli, 2008).

An enduring commitment to Feedback and Continuous Improvement underpins effective talent management, involving Regular Feedback Mechanisms and a dynamic process of Continuous Review and Enhancement (Ready & Conger, 2007).

The integration of Technology and Tools is pivotal, encompassing HR Information Systems (HRIS), Learning Management Systems (LMS), Performance Management Software, and Recruitment and Applicant Tracking Systems (ATS) (Scullion & Collings, 2011).

These variables are malleable and amenable to customization to harmonize with an organization's specific aspirations, industry dynamics, cultural ethos, and workforce exigencies (Collings et al., 2009). The ultimate objective of an impactful talent management framework is

to forge a cohesive strategy for attracting, nurturing, and retaining exceptional talent, harmonizing talent initiatives with the overarching business strategy (Berger & Berger, 2004).

Conclusion

Moreover, the significance of aligning leadership styles with organizational objectives has become increasingly evident. Organizations that recognize the dynamic nature of employee expectations and the evolving landscape of work are better positioned to optimize performance through strategic leadership choices. While no one-size-fits-all formula exists, the cultivation of emotional intelligence, effective communication, and empathy emerges as common threads among successful leaders who elevate employee performance.

As we navigate the ever-changing landscape of business, it is imperative for leaders to remain receptive to emerging research, adaptable in their approach, and attuned to the evolving needs of their workforce. By nurturing a symbiotic relationship between leadership styles and employee performance, organizations can unlock the full potential of their teams, fostering a culture of excellence, growth, and collective achievement.

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Chapter 2

Green Leadership Development for the Sustainable Performance of Organizations: An Overview

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Abstract

Environmental concerns and the role of organizations are on the agenda. Leadership and management thus assume a fundamental role in this context of transformation. The role of leadership in the implementation of green management practices is essential for the sustainable performance of the organization and for teams to be involved and committed. The aim of this research is to explore through the literature review how the development of green organizational leaders can leverage sustainable performance through GHRM practices. This research highlighted the importance of GHRM for sustainable performance, with the development of green leaders being an enabler of a green organizational culture. A Green Leader Development Model is proposed that seeks to enhance green leadership development within an organization. These findings provide both managerial and theoretical implications that can be beneficial for scholars and practitioners alike. Other implications and recommendations for future studies are presented.

Keywords: green leadership, green organizations, sustainable performance, GHRM, green competences, leadership development, organizational leader, organizational performance

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Introduction

With the growing trend of environmental concerns comes the concept of green organizations, referring to the values and beliefs expressed through the behavior of organizational members that support the preservation and conservation of nature and the green environment (Roscoe et al., 2019). More than seeking to overcome the problem of environmental pollution, it is to promote a more effective management of the organization by reducing costs and taking advantage of more sustainable business opportunities.

Green organizational culture was confirmed to have a significant positive relationship with employees' green behavior and organizational environmental performance (Al-Swidi et al., 2021). According to the same authors, green organizational culture also mediates the relationship between environmental concern, green human resource management, green leadership behavior and employees' green behavior.

Some researchers also find that green organizational leadership is the key to create successful green organizations (Norton et al., 2015; Robertson & Carleton, 2018), and in which Green Human Resource Management (GHRM) practices are visible. Green organizational leadership refers to the leader's ability to influence and motivate employees to carry out work in which the preservation and conservation of the environment is strategically a priority (Abadiyah et al., 2020; Norton et al., 2015).

In line with the world's challenges to combat global warming in the context of advances in smart technology, artificial intelligence, robotics, algorithms (STARA) and digitization, organizational leaders are under pressure to retain talented and effectively managed employees (Ogbeibu et al., 2022). The concept of STARA competences is currently evolved in the academic literature (Yudiatmaja et al., 2021). Thus, companies need leaders with a set of specific skills that prepares them to act and compete in the new environment. Leaders' competences play a fundamental role in SMEs' social orientation and in the importance of training in competences for sustainable development (Álvarez-García et al., 2022), leading to green innovation performance.

Human Resource Management (HRM) is a crucial aspect of management that deals with the most valuable assets of an organization, which are human resources. The whole context of HRM is currently being considered in the light of sustainability, hence it has attracted the attention of researchers, professionals, and entrepreneurs (Massood, 2018).

The awareness of GHRM practices has been phenomenally increased among different stakeholders like management researchers, practitioners, governments, corporate world including business executives and consumers (Khan et al., 2017; Xie & Lau, 2023). GHRM is the most significant element of sustainability because it is an innovative approach to environmental sustainability (Ren et al., 2018; Sharma & Gupta, 2015). People are the 'instruments' that enable management systems and objectives oriented towards the dimensions of sustainability, specifically environmental sustainability (Ahmad & Ibrahim, 2015; Barinua & Worlu, 2022; Sharma & Gupta, 2015).

In view of the foregoing, the literature has studied the leadership styles that best suit sustainable development issues (Akins et al., 2013), namely servant leadership (Darvishmotevali & Altinay, 2022; Yan et al., 2023; Ying et al., 2020), ethical leadership (Liu & Zhao, 2019; Saleem et al., 2020; Şengüllendi et al., 2023), and transformational leadership (Ahmad et al., 2022; Ahmed et al., 2020; Bano et al., 2022; Du & Yan, 2022; Li et al., 2022; Ozgul, 2022; Özgül & Zehir, 2023; Saif et al., 2023; Singh et al., 2020; Sobaih et al., 2022;

Wang et al., 2018; Zhao & Huang, 2022). Despite the recent studies carried out, there is still a literary gap regarding the role of green leadership in sustainable performance, more specifically the impact of green leadership development. The research question is thus to understand how the development of green organizational leaders can leverage the sustainable performance of organizations and thereby develop green organizations. This research intended to highlight not only the importance of GHRM for sustainable performance, but above all the development of green leaders as a factor that promotes and enhances a green organizational culture.

Methodology

The research method of this chapter is based on a qualitative overview of literature review of academic articles and studies. A comprehensive search was conducted in the dominant databases, namely Scopus, SAGE, Emeralds, Science Direct and EBSCOhost’s, following the keywords for article selection presented in Table 1.

Table 1. Criteria used to select articles

Green Leadership Green Leader Green Leadership Development Green Leader Development	Green Organizations Green HRM/GRHM Sustainable Performance Organizational Sustainability
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The main objective was to systematize how the development of green leaders can leverage the sustainable performance of an organization. The research procedure was to clarify the theoretical concepts and search in the recent literature the relationship between the concepts. Methodological quality was based on several literature reviews and case studies in which green organizational leaders drive the implementation of GHRM practices in the organization and sustainable performance improvements.

The authors identified, read, and analyzed about a hundred academic scientific articles and decided to exclude from their research opinion articles from daily newspapers that were not based on practical or academic research. Thus, the research method chosen intends to be a first approach to the research of the relationship between the theoretical concepts under study, as there is a gap in the specialized literature.

Literature Review

Green Leadership

The topic of leadership or more properly the search for effective leadership in the organizational context has been studied over the last century. As the context has changed, researchers have felt the need to find the leadership styles that best suit the demands of organizations.

Nowadays, characterized by the VUCA world (volatile, uncertain, complex and ambiguous), new challenges to leadership arise that result in the search for new approaches, such as digital leadership (Henderikx & Stoffers, 2022; Oberer & Erkollar, 2018; Sainger,

2018), shared leadership (Dionísio et al., 2022; Evaggelia & Vitta, 2012; Martin et al., 2018; Salas-Vallina et al., 2022; Tran & Vu, 2021; Wu & Cormican, 2021; Zhang, 2021) and positive leadership (Blanch et al., 2016; Figueiredo & Fonseca, 2022; Malinga et al., 2019; Meyer & Hühn, 2020; Monzani & Van Dick, 2020; Redín et al., 2023; Youssef-Morgan & Luthans, 2013; Zbierowski & Góra, 2014). All of them with the aim of ensuring the best performances of the organizations. In addition to the search for new approaches, there is a concern with the ethical issues of leadership, more specifically the impact of ethical and moral behavior of the leader (Jensen et al., 2019; Nicholson & Kurucz, 2019).

The concept of green leadership involves the ability to influence individuals and organizations to achieve long-term ecological sustainability goals (Egri & Herman, 2000). Green leadership behavior is one that encourages subordinates to achieve environmental goals and inspires stakeholders to exceed environmental performance levels (Chen & Chang, 2013). This is a behavioral approach based on the idea that green leadership encompasses the conduct of leaders with the aim of motivating followers to adopt ecologically correct practices to achieve the organization's sustainable development goals. The internal culture and especially the leader's style is the source of contagion of behaviors and attitudes in the organization (Tran, 2023). In other words, the culture of an organization is influenced through leadership, so if it is necessary to instill a green culture, the role of the leader is fundamental to promote these values and behaviors among employees.

Green leadership not only implies exhibiting ecologically correct behavior, but also assumes the role of a model for followers, instituting regulations, incentives, and penalties (AlNuaimi et al., 2021). There is evidence that managers' green leadership has considerable influence on their followers (Khan & Khan, 2022). Leaders wield not only authority and prestige, but also serve as role models for employees. Leaders who consistently exhibit eco-friendly behavior tend to inspire employees to emulate their actions and prioritize environmental resources within the organization (Al-Swidi et al., 2021). Green leadership focuses primarily on shaping employee attitudes to promote green behavior (Li et al., 2020) and protect environmental resources.

A green inclusive leadership style involves interacting with employees to achieve environmental protection and cleanliness organizational goals (Quan et al., 2022). Openness, effectiveness, and accessibility are the characteristics of this leadership style. To study the performance of organizations, some authors also present environmental leadership as the ability to influence individuals and mobilize organizations to achieve a goal of long-term ecological sustainability (Egri & Herman, 2000). After environmental leadership was defined as the capabilities or acts that promote internal and external stakeholders to achieve environmentally sustainable goals (Jang et al., 2017). But recently, some scholars define environmental leadership as transformational behavior (Chen & Chang, 2013; Robertson & Barling, 2013), and the concept of green transformational leadership emerged. This refers to the leader's behavior to inspire employees to achieve environmental goals and exceed expected environmental performance (Chen & Chang, 2013).

In the GHRM process, the green leadership mentality emerges, that is, leaders need to be able to create and act in accordance with sustainable practices (Joyce & Vijai, 2020). This critical factor is essential to be reinforced and developed as the leader has the ability to influence his team and the organization as a whole. Green leadership and GHRM are predictors of employee green behavior (Aboramadan, 2022; Ercantan & Eyupoglu, 2022).

A recent study examined GHRM and its impact on green innovation followed by the interplay of green transformational leadership. Besides the results suggesting that GHRM prospects of green ability and motivation have significant relationship with green innovation, they also indicated a significant relationship between green transformational leadership and green innovation (Ahmed et al., 2020). This study is a breakthrough in the literature as it confirms the moderating potential of green transformational leadership on green ability-green innovation and green motivation-green motivation relationship. Regarding organizational performance, environmental leadership has a positive relationship with the two dimensions of firm performance, namely, environmental performance and financial performance (Su et al., 2020). This results also indicate that green innovation practices play a mediating role between environmental leadership and firm performance.

Other studies have emphasized the role of leadership and HRM in moving organizations towards sustainability. GHRM helps companies match their corporate strategies to the environment, mainly in the presence of ethical leaders who can walk the talk and the provision of adequate practices and training by HRM to foster a working environment, where employees can exhibit creativity, passion, and positive behaviors towards sustainability (Chreif & Farmanesh, 2022). This study further highlighted that green creativity strengthened the association between ethical leadership and GHRM, while a psychological green climate strengthened the association between GHRM and employees' green behaviors.

Sustainable Performance

Sustainable performance become a key issue to organizations pretending to be sustainable. The three main dimensions of organizational sustainability are: financial, social, and environmental (the Elkington Triple Bottom Line). Sustainable organizational performance refers to the incorporation of these three dimensions into the strategy, processes, and corporate practices (Jum'a et al., 2022; Tipu, 2022), to maintain high levels of productivity and efficiency, in the long term, without compromising the well-being of future generations or the planet. In this sense, "GHRM is considered a focal component of business sustainability, which puts it at the heart of personnel management, as employees are key stakeholders in achieving business sustainability" (Chreif & Farmanesh, 2022).

One way to achieve organizational sustainability is through GHRM practices (Yong et al., 2020). These practices help to promote employees' green awareness, ability, and behavior for the development of a green culture (Jerónimo et al., 2020). According to Yong et al., (2020), GHRM is a requirement, because global environmental incidents, industrial waste of natural resources, as well as environmental pollution, and ecological imbalances and global warming. Thus, the definition of HRM policies and practices must be aligned with the three pillars of sustainability – environment, social and economic balance (Ahmad, 2015).

In 1996, the concept of GHRM was introduced into the literature by Wehrmeyer, in his book 'Greening People' (Shah, 2019). At the academic level, GHRM is defined as "an organization's aspiration to design and implement an HRM system that supports a proactive and positive approach to addressing environmental concerns" (Ren et al., 2018, 778).

GHRM includes five dimensions: green recruitment and selection, green training, green performance management, green pay and reward, and green involvement (Jabbour & Renwick, 2018). However, according to Shah (2019), GHRM is also a multidimensional construct, but

it's composed of seven dimensions: green job design; green recruitment and selection; green training and development; green performance management; green compensation management; green health and safety; and green labor relations.

Nevertheless, currently, there is no single definition for this concept. Benevene & Buonomo (2020) concluded in their study that there is still high heterogeneity regarding the conceptualization of GHRM. And the most studied dimensions are training and development, performance management, rewards and remuneration, recruitment, and selection. In Gupta's study (2018), green training and development has been considered the most important variable for environmental management in organizations. The effectiveness of green training and development depends on a proper analysis of needs, the readiness of employees to learn, and their commitment to the training, among other requirements (Jerónimo et al., 2020). Other researchers concluded that the systematized environmental training, structured with the purpose of achieving the sustainability objectives of organizations, supports the development of individual skills of each employee in this area (Silva et al., 2020).

Indeed, there is no consensus on which activities and practices belong to the GHRM system (Ari et al., 2020). At the organizational level, the adoption and implementation of GHRM practices are determined by top management support and environmental orientation, which consequently positively influence GHRM (Obeidat et al., 2020). Previously, Accenture and UNGC had already found that most CEOs recognized that environmental concerns were fundamental to the future success of their organizations. The need for companies to reduce their ecological footprint, along with economic concerns and the objective of attaining competitive advantages, are other factors that justify the implementation of GHRM practices. However, there is still ambiguity regarding companies' stance on the effective implementation of green policies and practices (Ahmad, 2015).

Another study made a theoretical contribution to the greening of human resource management by establishing links between green practices (in general) and manufacturing results that are linked to organizational performance (Barinua & Worlu, 2022). The researchers conclude that there is an indirect impact of GHRM on organizational performance; demonstrating that GHRM strategies increase employees' green empowerment, providing empirical evidence of the relationship between green HRM practices and organizational performance (Barinua & Worlu, 2022).

The pressing need to achieve corporate sustainability therefore requires a new approach centered on the competences of leaders and the effective implementation of GRHM practices. (Chreif & Farmanesh, 2022). The researchers also reinforce that through GHRM practices, positive consequences are promoted for the organization and for employees (Ababneh, 2021; Cesário et al., 2022), and on organizational citizenship behavior (Freire & Pieta, 2022; Hameed et al., 2020). In order to improve organizational performance, the role of green leadership thus seems to be essential.

A recent study also provide evidence for the mediating effect of team creativity and GRHM practices on the links between green recruitment and selection, green training and development, green performance and compensation, green performance management and appraisal and organizational sustainability (Zahrani, 2022). Another model states that the incorporation of GHRM practices in SMEs reveals facilitating effects of green performance (Huo et al., 2022). The authors provide realistic insights for SMEs to create better strategies to green the environment while ensuring green performance. The results of a study reveal that green training and development, green rewards and compensation, and green organizational culture are

significant predictors of sustainable performance in companies. In contrast, green recruitment and selection and green performance management and appraisal do not play a significant role in sustainable performance (Sinniah et al., 2020).

In short, GHRM is the utilization of human resource management policies to encourage the sustainable employment of resources in business enterprises (Barinua & Worlu, 2022). These researchers have made a theoretical contribution to GHRM by establishing links between green practices (in general) and manufacturing results that are linked to organizational performance. There are several studies on the direct and indirect impacts of GHRM practices on different dimensions of individual and organizational performance and sustainability. Some researchers have sought to define a holistic model to show how GHRM practices can be implemented for sustainable organizational performance (Chowdhury et al., 2023). GHRM have brought about expanded efficiencies, cost decrease, employee retention and improved profitability and furthermore other substantial advantages in environmental management (Joyce & Vijai, 2020).

Green Leadership for Sustainable Performance

The importance of leadership development began to be studied with greater relevance from the end of the 20th century due to the scarcity of leaders. Several authors aware of this need sought to clarify the concepts of leadership development and leader development (Bolden, 2005; Dalakoura, 2010; Day, 2001, 2011; Day et al., 2014; DeRue & Myers, 2009; Hernez-Broome & Hughes, 2012).

Leadership development occurs in a complex and dynamic context due to issues related to globalization, change in organizational structure, knowledge-based economy, and diversity (Carbery & Garavan, 2014). Moreover, leadership is “a composite of multiple aspects and experiences” (McGuire, 2014, 197). Consequently, a single theory is not enough to understand the leadership phenomenon.

From the analysis of the concepts of several authors, it is highlighted that leadership development is a comprehensive process that includes leader development (Figueiredo, 2022; Figueiredo & Sousa, 2013), in which: - Leadership development is a relational leadership perspective; Leadership development is a collective process that covers the organization and leader development (focused on the individual); Leader development is focusing on the human capital development and leadership development is oriented towards the social capital development (Figueiredo, 2022). Human capital corresponds to individual behaviors, such as self-awareness, self-regulation, and self-motivation (intrapersonal competence). The social capital emphasizes the development of reciprocal obligations and commitments on a foundation of trust and mutual respect (interpersonal competence) (Figueiredo, 2022). Due to its importance, leadership development has continued to raise interest among researchers due to the current uncertain and complex context (Douglas et al., 2022; Lehtonen & Seeck, 2022; Maritsa et al., 2022; Vuhuong & Edwards, 2022). Recently, some researchers have studied the impact of human capital development on sustainability and its importance in the current organizational context (Kelvin-Iloafu et al., 2023).

With the digital transformation resulting from technological advances and the green transformation resulting from the great challenges of climate change, organizations need a culture based on these assumptions (Roscoe et al., 2019), and leaders who are highly committed

and engaged in these current and future issues (Robertson & Carleton, 2018). Moreover, leaders should create a culture of cooperation to promote knowledge sharing among employees. For this, several authors already referenced assume the importance of training and development of employees' competences in the current context. Liebowitz (2010) even assumed that it is fundamental to invest in the training and development of green leaders who dedicate themselves body and soul to sustainability issues, namely in the organizational context. However, GHRM practices are presently confined to a few activities - hiring, training, and reward (Khateeb & Nabi, 2023).

Another investigation showed evidence of a positive association between green human capital and environmental performance. As green human capital is owned by employees and not by organizations, organizations must adopt management practices to preserve the knowledge of their employees (Mansoor et al., 2021). On the one hand, leaders must create a culture of cooperation to promote knowledge sharing among employees. On the other hand, organizations must build a strong relationship with their customers, suppliers, retailers, and environmental agencies. By applying this method, the level of competence of all employees would be improved (Mansoor et al., 2021).

The state-of-the-art literature on green human resource management considers green competences as an essential requirement for organization to achieve environmental performance (Cabral & Dhar, 2020; Cabral & Dhar, 2019). The key finding of the study is that green competences is a reflective, multi-dimensional scale which comprises of dimensions such as green knowledge, green skills, green abilities, green attitudes, green behavior, and green awareness (Cabral & Dhar, 2019). Other researchers investigate how leader STARA competence, green creativity components and environmental dynamism can aid organizations to boost their green organizational innovative evidence (Ogbeibu et al., 2021).

There are attempts to identify green leader competences that need to be developed (Álvarez-García et al., 2022). Commitment to the preservation of the environment, social responsibility, or respect for diversity and multiculturalism emerge as some competences associated with sustainability. However, there is no consensus regarding what competences for sustainability should be included in university curricula (Eizaguirre et al., 2019). These authors agree that systems thinking, critical thinking, strategic thinking or empathy and ability to collaborate with others are key competences.

When studying the influence of individual green competences on the green practices and performance of organizations, it is found that acquired green competences are more positively associated with individuals' green competences and green behavior (Subramanian et al., 2016). Acquired green competence attributes such as environmental knowledge, green purchase attitude and intention during employee selection would certainly be helpful for firms to identify individual green performance potential.

A clear green leadership development strategy is critical to achieving sustainable performance. Organizational leaders (top and middle) must develop skills to align the culture and strategy and implement organizational practices in a consistent and transversal way throughout the organization. 'Greening the workplace entails greening typical company tasks such as human resource management, marketing, operations, and supply chain management' (Khateeb & Nabi, 2023).

Conclusion and Implications

Leadership development has gained prominence within organizations. Initially due to the scarcity of leaders resulting from the reform of the Baby Boomers generation, then due to the need to develop leadership skills focused on new technological and digital contexts and new trends due to generational diversity in the organizational context.

Environmental concerns are already present in today's organizations due to their impact not only on performance, but even on the survival of the business itself. The challenge is to prepare organizations and their leaders for a true green strategy and not just isolated green initiatives.

Through the overview on the development of green leadership and sustainable performance, despite the increase in research, namely in terms of GHRM policy and practices, there is still a gap in terms of the development of green leaders. Considering the real needs of attracting and retaining talent, the environmental concerns of organizations have been used by leaders to influence and motivate potential candidates and employees. The training and development of employees to promote greater environmental awareness is important, but it is not enough to guarantee commitment and good organizational performance.

The main conclusion of the research is the need to align organizational culture and strategy, namely the GHRM strategy. GHRM practices are essential as they promote effective people management in accordance with the organization's values and principles. Only with effective people management, it is possible to achieve sustainability-oriented management and objectives, more specifically environmental sustainability.

It is through organizational culture that environmental concerns are reflected in the behavior of leaders and other employees. Operationalization is done through GHRM practices. However, the sustainable performance of excellence of green organizations is only achieved if there is a leader who encourages and stimulates the process of green transformation. The leader's role in promoting a green culture and implementing sustainable development-oriented management systems is undeniable.

Green leadership development practices are the way to create and develop a green organizational culture that will be consolidated through the strategy and implementation of green management practices throughout the organization. The definition and development of competences for sustainability in leaders and teams are essential to strengthen the green organizational culture and contribute to the sustainable performance of organizations.

In summary, Figure 1 presents a proposal for a theoretical model of green leadership development, resulting from the research.

In building a green organizational culture, it is critical to emphasize the organization's context and sustainability issues. After analyzing the contextual factor, it is necessary to make interventions at the individual (employees), group (teams) and organizational (organization as a whole) levels. This approach makes it possible to align and involve everyone in the values and strategy to be followed. The leader is key in promoting a green work environment and creating a green purpose to ensure everyone is motivated and involved. It is necessary that leaders understand their role in this process and understand their qualities, making the correct strategic use of them. Given the awareness that the leader influences team member commitment and organizational performance, it is important to develop your green traits and behaviors. It is important for the leader to be the model and the example. Only if the leader believes in changing the organizational culture will results and excellent performance be achieved.

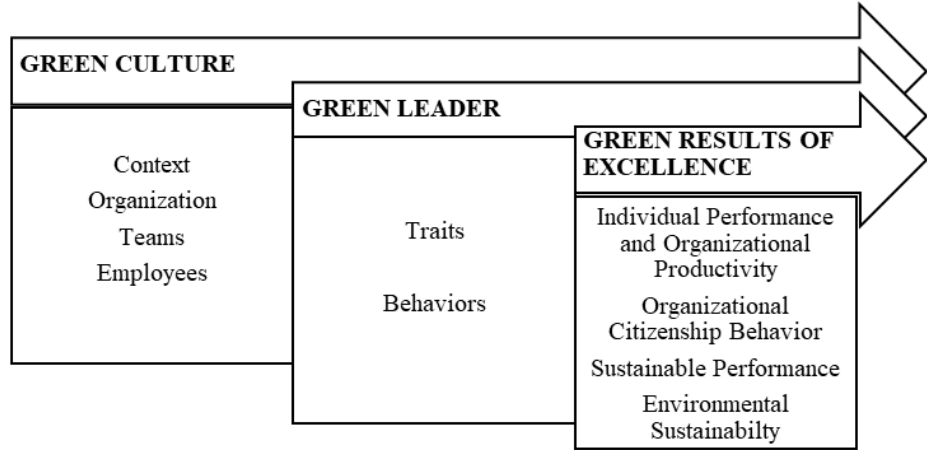


Figure 1. Green leadership development model.

With these findings, implications are identified at the level of research, management, and environmental sustainability. The results show that it is necessary to continue to develop more knowledge about the advantages and contributions of promoting the development of leadership competences within organizations. Given the importance of environmental sustainability issues, the relevance of developing green leadership competences is reinforced to ensure sustainable performance. Finally, the implications in terms of environmental sustainability are evident as it contributes to a greater awareness of environmental issues and of the social and economic well-being of both the organization and its employees. A reduction in the ecological footprint of each employee and the organization is expected.

Limitations and Future Research

The Green Leadership Development Model results from an overview of recent literature and constitutes a work base for consultants, leaders, and human resources professionals. The model systematizes the main pillars for implementing a leader development process based on a green culture that leads to practical results for the organization and has a real impact on the environment. Thus, this model serves as a guide for defining an organizational intervention plan to develop green leaders in the organization.

Research clearly shows the advantages in terms of sustainable performance if a green organizational strategy and green management practices are followed, where GHRM practices fit. However, further studies are needed to verify the intervention in a coherent and consistent way of green management practices, not only at the HRM level, but at all levels of the organization. Having clear evidence of GHRM practices and the implementation of green leader development practices. It is also important to clarify the competences for sustainability that are essential for today’s work environments and that respond to the demands of an uncertain and complex world.

The main limitation of the model is the lack of empirical evidence regarding its applicability. The model is built through the contributions of several investigations carried out and the integration of existing theories. It is necessary to promote case studies to operationalize

and validate the model. This research is presented only as a guide for professionals to develop green leadership within organizations. Despite the limitations of the model, the main contribution is to reinforce the importance of this approach in the organizational context, given the current state of the world and the need to adopt disruptive organizational approaches that contribute to sustainable development.

The sustainability paradigm implies major changes in organizational culture and leadership style. Green leadership can make a great contribution to promoting these changes, however, more research is needed to integrate green leadership principles. It is necessary to demonstrate evidence of the positive impact of developing green leaders on sustainable performance.

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Chapter 3

New Public Administration Dynamic Skills in Governance Models

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Abstract

The capacity of public organizations to adapt and respond to the difficulties of a complex environment is significantly influenced by innovation. The social dimension of work, specifically the involvement, participation, and dedication of the public servants, is equally vital to the technological and organizational dimensions of work because these are, without a doubt, the aspects that most directly contribute to adding value. In this way, the idea of innovation rests on a vision that unifies the human aspect with the various dimensions that innovation can take. Technical and soft skills are combined through innovation skills, which helps to build a more dynamic governance and organizational setting. The purpose of this article is to provide a comprehensive review of governance practices in public organizations and to identify the necessary innovative skills to help public workers become more agile. To this end, a literature review was conducted, and a Delphi study to explore the main innovation skills for the future of public organizations.

Keywords: public administration, governance models, dynamic skills, innovation skills, digital skills

Introduction

The analysis and discussion of governance can encompass multiple concepts. In general terms, governance deals with the ways in which society, government and organizations are led (Edwards et al., 2012), being guided by different contexts (Bovaird; Löffler, 2003; Edwards et al., 2012; Hill et al., 2005; Matias-Pereira, 2010; Robichau, 2011). Bell & Hindmoor (2009, p. 2) define governance “[...] tools, strategies and relationships used by governments to help govern.”

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In another perspective, Bevir (2012, p. 1) states that “governance differs from government in that it focuses less on the State and its institutions and more on social practices and activities.”

Chhotray and Stoker (2009) argue that governance is related to collective decision-making rules in multi-stakeholder environments, where there is no formal control system that can establish the terms of relationship between the actors involved.

In view of all these perspectives, it is necessary to make the necessary contextualization of the theme. Osborne (2010) differentiates three schools of governance in the literature: (i) corporate governance – focused on internal systems and processes that guide the direction and accountability of organizations; (ii) “good” governance - associated with the preparation of manuals and governance codes; and (iii) public governance – related to the participation of society in the process of implementing public policies and improving the provision of public services.

In the governance model referenced to public administration (Edwards et al., 2012), governance is considered to be a multidimensional and dynamic concept, in which the perspectives of analysis vary according to the actors. There are thus three governance conceptions that relate:

1. public governance (involving the public sector, private initiative and society);
2. governance of the public sector (governance of government administration and business);
3. corporate governance (corporate governance / specific sectors).

The following section will focus on public governance, as it is the object of study of this research.

Public Governance Models

Society is governed globally by public policies conceived by representatives of the people (legislators). This relationship between society and representatives (principal and agent) is marked by conflicts of interest and framed by the Agency Theory.

Public governance is oriented to the process of developing public policies that govern a society (Edwards et al., 2012). Bovaird and Löffler (2003, p. 316) see the term as “the ways in which stakeholders interact in order to influence the results of public policies.” From the views presented, it is inferable that the objective of public governance is to mitigate the conflicts of interest between the actors involved in the stages of public policy elaboration.

Matias-Pereira (2010, p. 113) corroborates the idea by conceptualizing public governance as: “the system that determines the balance of power between all those involved in an organization – governments, managers, employees, citizens – in order to allow the common good to prevail over the interests of individuals or groups.” The organization, by developing and achieving a better performance, achieves its objectives, which result in satisfaction for all the actors involved.

Public governance can also be understood from the perspective of a new organizational model after New Public Management (Kissler; Heidemann, 2006; Osborne, 2010; Secchi, 2009). In the public governance model, citizens and organizations (public and private) are “[...]”

partners or stakeholders, with whom the public sector builds horizontal models of relationship and coordination” (Secchi, 2009, p. 363).

The idea of partnership is also defended by Stoker (1998, p. 22) when he stated that “governance is an interactive process involving various forms of partnership.” Osborne (2010) defines the new model as New Public Governance, dividing the concept of public governance into five distinct strands that are presented below:

- Governance of social policies: It is concerned with the excess of institutional relations within society, which must be understood in order to support the process of creation and implementation of public policies.

Public policy governance: Guides how politicians and networks must interact to create and govern the public policy process.

- Administrative governance: Verifies the effective application of bureaucratic public administration and the repositioning of this model to deal with the complexities of the contemporary State.
- Contractual governance: Related to the internal functioning of New Public Management and particularly to the governance of contractual relations in the provision of public services.
- Network governance: Conducted through state and non-state networks inserted in the development of public policies and in the improvement of the provision of public services. The division proposed by Osborne (2010) reveals the importance of paradigms adapted from bureaucratic models within the context of public governance. In addition, the aspects presented by the author contribute to the improvement of the process of implementation of public policies, stimulating the more effective participation of society, aligning with the design of public governance advocated by Edwards et al., (2012). Briefly, Osborne’s New Public Governance (2010) proposes that dialogue between society (macro), government (meso) and organizations (micro) is fundamental for the improvement of public services. Thus, the theoretical contributions aligned with the design of public governance advocated by Edwards et al., (2012) converge to the idea of mitigating possible conflicts of interest in the process of elaboration, implementation and conduct of public policies.

For the implementation of all of these strands it is important to develop the innovation skills of the Public Servants to contribute to an effective transformation of the Public Organizations in more dynamic organisms and respond to the challenges of the external contexts.

Methodological Approach

Delphi Technique

The Delphi survey methodology was chosen in order to get information from experts and academicians about innovation skills for public organizations development. The Delphi

expert's panel was chosen in order to cover a maximum of differentiation of innovation contexts in order to capture different views.

This technique allows structuring individuals' contributions to achieving consensus among a group of experts. It is characterized by the anonymity that reduces certain biases as it "eliminates committee activity among the experts altogether and replaces it with a carefully designed program of sequential individual interrogations (usually best conducted by questionnaires) interspersed with information and opinion feedback." [Helmer, 1967, p. 8].

This technique is the most adequate in this research because its goal is to forecast future events. The first step consists in identifying a panel of experts (Helmer, 1967). For the current study, it was identified by 53 experts and academicians from the field of innovation to who was administered a questionnaire using an online survey.

After identification, participants need to be briefed on the topic and on the Delphi technique itself. Subsequently, experts are invited to participate in two or more rounds of the survey. Between two rounds, the researcher analyses the responses and set up feedback in terms of an anonymized summary of the experts' answers from the previous round. Usually, experts are then encouraged to revise their answers, comparing them to the answers given by the other panel experts to reach consensus among the group. After consensus or at least a majority-consensus has been reached, the second round can be initiated, focusing on a different aspect of the topic that builds on the consensus from the first round.

In the case of this research, experts in the first round were asked to rate the likelihood of innovation skills for public organizations. Between the first and the second round, we then calculated likelihood means for each of the skills in analysis, also taking into consideration the comments of respondents on the skills that were accounted for in terms of statement modifications for the second round. In the second round, respondents were then presented with the adjusted options.

After the ultimate round, the data was then be analysed calculating mean and standard deviations scores to shed some light on how the future in a particular field might look like according to the field's experts.

Finally, it is important to note that the approach used was designed to map the innovation skills.

Survey Design

The survey design has a first section about the characterization of the experts: their professional as well as national backgrounds and their fields of interest; the second section is an overview on the themes and questions about innovation skills.

Expert Panel Design

The sample was composed of 53 experts. Table 1 gives a short overview of the distribution between practitioners and academicians.

Table 1. Distribution of expert participants according to their professional field

Position	Practitioners	Academics
Experts	11	6
Researchers	10	5
Institutional representative	7	3
Policymaker	6	5

Note: N = 53.

The decision about the experts was based on their positions in order to capture the plurality of opinions on the topics surrounding the trends of innovation skills.

The experts that participated in round 1 and round 2, represents eight different countries (Belgium, France, Germany, Italy, Netherlands, Portugal, Spain, and the United Kingdom).

The process consisted of two rounds; the second round administered four weeks after the first. Both rounds were mainly focusing on asking experts to rating importance (round I and II) of potential innovation skills. The Round I and II of the Delphi Survey had 21-items about relevant innovation skills.

The questionnaire contained both closed and open-ended questions, which allowed generating a quantitative analysis, and also gathering respondents' comments and suggestions for reformulations. After the data collection, the qualitative answers and comments were analysed in order to re-formulate statements and items on innovation skills. The second questionnaire was not a mere replication of the first questionnaire but presented validated and refined statements.

Findings

The Skills identified during the research process as the most relevant innovation skills were distributed in three dimensions: a) organizational skills; b) innovation skills; c) digital skills, as showed in Table 2, Table 3 and Table 4.

The first skills dimension "Organizational Skills" suggests Problem-solving, Critical Thinking and Communication, as the most important innovation skills. As indicated by Table 2, the experts' opinion was largely overall in agreement with this position a) Problem-solving: $M = 4.58$, $SD = 0.58$, (strongly agree = 39.5%, agree = 42.2%); b) Critical thinking: $M = 4.55$, $SD = 0.65$, (strongly agree = 36.5%, agree = 40.2%); c) Communication: $M = 4.17$, $SD = 0.77$, (strongly agree = 35.0%, agree = 33.8%).

Organizational skills are fundamental for public leaders, enabling them to navigate the complexities of governance effectively. Leadership is at the core of organization, as public leaders must inspire and motivate their teams to embrace creative thinking and approach challenges with an open mind. By fostering a culture of innovation, leaders can encourage their staff to generate new ideas and explore innovative solutions to address societal issues.

Problem-solving is a critical skill that empowers public leaders to identify and tackle complex problems creatively. As they encounter various challenges in public administration, leaders must think critically and strategically to find viable and sustainable solutions. They should encourage a problem-solving mindset throughout their organization, encouraging all stakeholders to contribute ideas and collaborate to address multifaceted issues.

Table 2. Organizational Skills

Leadership	M = 4.11, SD = 0.81 Strongly agree = 37.0% Agree = 32.2%
Problem-solving	M = 4.58, SD = 0.58 Strongly agree = 39.5% Agree = 42.2%
Communication	M = 4.17, SD = 0.77 Strongly agree = 35.0% Agree = 33.8%
Critical Thinking	M = 4.55, SD = 0.65 Strongly agree = 36.5% Agree = 40.2%
Initiative	M = 3.12, SD = 1.23 Strongly agree = 21.0% Agree = 27.2%
Cooperation	M = 3.16, SD = 1.17 Strongly agree = 20.2% Agree = 29.5%

Effective communication is paramount for public leaders to drive culture of knowledge. Leaders must be skilled in articulating their vision for the organization, ensuring that all stakeholders understand the objectives and potential benefits of organizational initiatives. Clear and transparent communication fosters a shared sense of purpose and encourages buy-in from employees and the public, which is crucial for the successful implementation of public projects.

Critical thinking is an essential skill that enables public leaders to analyze complex situations, assess risks, and make well-informed decisions. By critically evaluating information and considering diverse perspectives, leaders can identify opportunities and potential roadblocks for the organization. They can then navigate through uncertainties, allowing for more effective planning and implementation.

Initiative is a key trait for public leaders in fostering innovation within their organizations. By taking proactive steps to identify opportunities for improvement and exploring innovative approaches, leaders set an example for their teams. Initiative inspires a culture of continuous improvement, where individuals are encouraged to experiment, learn from failures, and drive positive change in public services and policies.

Cooperation is a vital skill for public leaders to leverage the collective wisdom and expertise of their teams. Leaders should encourage collaboration and cooperation among diverse stakeholders, including government agencies, community groups, private organizations, and citizens. By fostering a collaborative environment, leaders can tap into the collective insights of the public and various experts, leading to more innovative and comprehensive solutions to societal challenges.

Organization skills are indispensable for public leaders to drive progress and advance public service in an ever-changing world. By demonstrating strong leadership, problem-solving abilities, effective communication, critical thinking, initiative, and cooperation, public leaders can inspire and mobilize their teams to embrace innovation and create meaningful positive change for the citizens.

Table 3. Innovation skills

Knowledge about methodologies to facilitate the implementation of organizational innovations.	M = 3.78, SD = 0.83 Strongly agree = 25.1% Agree = 30.2%
Elaborate scenarios about potential future developments.	M = 4.15, SD = 0.83 Strongly agree = 29.0% Agree = 39.7%
Flexibility to work with a diversity of equipment and materials.	M = 3.89, SD = 0.71 Strongly agree = 26.1% Agree = 32.6%
Identify and evaluate future improvements	M = 4.01, SD = 0.79 Strongly agree = 29.1% Agree = 47.0%
Define goals to implement the innovation.	M = 4.68, SD = 0.77 Strongly agree = 37.1% Agree = 40.6%
Define an innovation strategy	M = 4.77, SD = 0.81 Strongly agree = 39.7% Agree = 48.1%
Project management	M = 3.99, SD = 1.03 Strongly agree = 20.2% Agree = 32.7%
Context analysis	M = 3.87, SD = 0.91 Strongly agree = 22.4% Agree = 33.1%

In respect to innovation the majority of experts perceived the skills presented in Table 3 to be or to become increasingly important for public leaders.

The second skills dimension “Innovation Skills” suggests Define an innovation strategy, define goals to implement the innovation and elaborate scenarios about potential future developments, the most important innovation skills. As indicated by Table 3, the experts’ opinion was largely overall in agreement with this position a) Define an innovation strategy: M = 4.77, SD = 0.81, (strongly agree = 39.7%, agree = 48.1%); b) Define goals to implement the innovation: M = 4.68, SD = 0.77, (strongly agree = 37.1%, agree = 40.6%); c) Elaborate scenarios about potential future developments: M = 4.15, SD = 0.83, (strongly agree = 29.0%, agree = 39.7%).

The majority of experts perceived this skill to be or to become increasingly important for public innovation, as they are crucial to drive progress and effectiveness in a constantly evolving world. A skilled public leader should possess knowledge about various methodologies that facilitate the implementation of organizational innovations. One effective approach is to understand the “Innovation Adoption Model,” which helps identify different adopter groups within the organization. By tailoring the implementation strategy to meet the needs and attitudes of these groups, leaders can foster a more inclusive and successful innovation adoption process.

Public leaders with a forward-thinking mindset can also elaborate scenarios about potential future developments. By envisioning how emerging technologies and societal changes might impact their organization, leaders can proactively prepare for the challenges and opportunities

that lie ahead. These scenarios allow them to plan for resource allocation, skill development, and the incorporation of innovative ideas to remain adaptable.

Flexibility is a crucial innovation skill for public leaders. As they encounter a diverse range of equipment and materials in their work, they need to be open to exploring new tools and technologies. Embracing flexibility enables leaders to adapt to changes swiftly and encourages a culture of experimentation and continuous improvement within the organization.

Identifying and evaluating future improvements is a skill that helps public leaders refine and optimize their innovation initiatives continually. By collecting feedback, analyzing data, and assessing the outcomes of past innovations, leaders can identify areas for enhancement and fine-tune their approaches. This iterative process of improvement strengthens the organization's innovation capabilities over time.

Furthermore, public leaders must define clear and achievable goals to implement innovation effectively. Setting specific, measurable, and time-bound objectives ensures that the innovation aligns with the organization's mission and vision. Goals provide a sense of direction and purpose, motivating teams to work towards tangible outcomes.

An innovation strategy is a fundamental innovation skill for public leaders. Defining an innovation strategy involves outlining the organization's approach to fostering a culture of innovation, identifying areas for improvement, and selecting the most promising innovations to pursue. It requires a keen understanding of the organization's strengths, weaknesses, opportunities, and threats to ensure that the chosen innovations lead to meaningful impact.

Project management is a critical skill that empowers public leaders to execute innovation initiatives efficiently and effectively. Employing project management methodologies, such as Agile or Scrum, enables leaders to organize teams, allocate resources, and track progress throughout the implementation process. This structured approach enhances collaboration and ensures that innovation projects stay on track, delivering the intended results.

Lastly, context analysis is an essential innovation skill that allows public leaders to make informed decisions. Before implementing an innovation, leaders must thoroughly assess the organization's current state, identifying potential barriers and opportunities for successful implementation. Context analysis helps leaders understand the environment in which the innovation will operate, allowing them to anticipate challenges and devise appropriate strategies to overcome them.

Innovation skills are indispensable for public leaders to possess knowledge about methodologies for implementation, envisioning future developments, fostering flexibility, and mastering project management and context analysis, public leaders can drive meaningful and impactful innovations that advance the public interest and the well-being of society.

The research points out the importance of the digital skills and that digital literacy is a critical skill that encompasses the ability to navigate and understand various digital technologies. In today's rapidly advancing world, public leaders must be well-versed in these technologies to make informed decisions and effectively govern. Among the key technologies in the digital landscape are Artificial Intelligence (AI), Robotics, Augmented Reality (AR), Blockchain Technology, Cloud Computing, and Cybersecurity.

Artificial Intelligence (AI) has emerged as a transformative force in various sectors, including public administration. Understanding AI's potential and its applications allows public leaders to harness its capabilities for optimizing processes, improving service delivery, and data-driven decision-making. By embracing AI, leaders can address complex challenges more efficiently and offer innovative solutions to the public.

Table 4. Digital skills

Digital literacy	M = 4.91, SD = 0.67 Strongly agree = 37.7% Agree = 51.3%
Artificial Intelligence	M = 4.73, SD = 0.61 Strongly agree = 51.0% Agree = 37.2%
Robotics	M = 3.97, SD = 1.02 Strongly agree = 37.1% Agree = 32.5%
Augmented Reality	M = 4.01, SD = 1.21 Strongly agree = 34.2% Agree = 32.7%
Blockchain Technology	M = 3.17, SD = 1.34 Strongly agree = 32.1% Agree = 31.7%
Cloud Computing	M = 3.18, SD = 0.73 Strongly agree = 36.6% Agree = 32.1%
Cybersecurity	M = 4.67, SD = 0.86 Strongly agree = 40.7% Agree = 43.5%

The third skills dimension “Digital Skills” suggests Digital literacy, Artificial Intelligence and Cybersecurity the most important innovation skills. As indicated by Table 4, the experts’ opinion was largely overall in agreement with this position a) Digital literacy: M = 4.91, SD = 0.67, (strongly agree = 37.7%, agree = 51.3%); b) Artificial Intelligence: M = 4.73, SD = 0.61, (strongly agree = 51.0%, agree = 37.2%); c) Cybersecurity: M = 4.67, SD = 0.86, (strongly agree = 40.7%, agree = 43.3%).

Robotics is another essential aspect of digital literacy for public leaders. Robotics has the potential to revolutionize public services, ranging from healthcare to infrastructure management. Familiarity with robotics enables leaders to explore automation opportunities, enhance workforce productivity, and develop policies that support the responsible integration of robotics in public service delivery.

Augmented Reality (AR) is an emerging technology with diverse applications in public administration. Public leaders who grasp the potential of AR can use it to enhance citizen engagement, improve urban planning, and create immersive experiences in public services. By incorporating AR solutions, leaders can make public information more accessible and interactive for citizens.

Blockchain Technology is gaining prominence as a secure and transparent system for data management. Public leaders with knowledge of blockchain can explore its use in areas like digital identity verification, secure voting systems, and public record management. Implementing blockchain solutions can bolster data integrity, combat fraud, and promote transparency in government operations.

Cloud Computing is instrumental in modernizing government infrastructure and optimizing service delivery. Public leaders who understand cloud computing can leverage its benefits to improve data storage, accessibility, and scalability. Utilizing cloud-based solutions

can lead to cost savings, efficient data sharing, and enhanced collaboration among government agencies.

Cybersecurity literacy is essential for public leaders to safeguard sensitive data and protect critical infrastructure from cyber threats. Being well-informed about cybersecurity best practices enables leaders to develop robust security measures, safeguard citizens' privacy, and build public trust in digital initiatives.

In conclusion, digital literacy plays a pivotal role in the realm of public leadership, particularly in the context of rapidly evolving technologies. AI, Robotics, AR, Blockchain, Cloud Computing, and Cybersecurity are key areas where public leaders need to be knowledgeable to effectively govern and make informed decisions. Embracing these technologies can lead to more efficient public services, improved citizen engagement, and a stronger foundation for the digital future of governance.

Conclusion

A paradigm shift is forcing the way public organizations seek to develop the public servants innovation skills, as part of a commitment to help them to have more knowledge and be more efficient but considering the values that must be defended during the decision-making process, securing the principles of transparency, justice, independence and accountability.

Moreover, in the field of governance models for public administration, dynamic skills are essential for professionals to effectively respond to the ever-changing challenges and complexities of public service. These skills help public servants to adapt, innovate, and improve their decision-making processes. Some skills particularly valuable in this context, that emerged from the research are:

Innovation: The ability to think strategically innovation is crucial for public administrators to set long-term goals, identify key priorities, and design effective policies and programs that align with the overall vision of the government.

Digital Literacy: As technology continues to transform the public sector, administrators must be digitally literate to leverage digital tools, data analytics, and emerging technologies to enhance service delivery and efficiency.

Problem-Solving: Public administrators often encounter complex and multifaceted problems. Effective problem-solving skills enable them to break down issues, identify root causes, and implement viable solutions.

Collaboration: Successful public administration often involves collaboration with diverse stakeholders, including other government agencies, NGOs, businesses, and citizens. Building and maintaining strong networks and partnerships is crucial for achieving common goals.

Critical Thinking: Encouraging innovation in public administration can lead to more efficient and creative solutions. Administrators should foster an environment that encourages experimentation and supports innovative ideas.

Communication: Effective communication is essential for building public trust and understanding. Administrators should be able to convey complex information clearly and transparently to diverse audiences.

By developing these skills, public administrators can enhance their effectiveness, contribute to better governance models, and ultimately improve the delivery of public services to citizens.

For future studies it will be important to consider that public leaders must possess a range of organizational skills to excel in their roles within evolving governance models. Navigating uncertain and evolving situations demands adaptability, as leaders need to be open to new ideas, willing to learn from experiences, and ready to adjust their strategies as circumstances change. With the increasing importance of data-driven decision-making in public administration, proficiency in data analysis is essential for gaining valuable insights, identifying trends, and making well-informed choices. Upholding public trust is paramount, and ethical decision-making skills help administrators navigate complex moral dilemmas and ensure decisions are fair, just, and in the public's best interest. Crisis management is vital as administrators must remain composed under pressure and take swift and appropriate actions during emergencies. Given the frequent reforms and organizational changes in the public sector, strong change management skills enable administrators to facilitate smooth transitions and overcome resistance to change. To improve public programs and ensure they achieve their intended outcomes, administrators should understand how to evaluate existing policies and analyze their impacts through policy analysis and evaluation. Cultural competence is crucial for public administrators, as they must be sensitive to the diverse needs and perspectives of the communities they serve. Additionally, knowledge of public finance management ensures administrators can allocate resources effectively, manage budgets, and maintain fiscal responsibility. Lastly, conflict resolution skills are essential, as public administrators frequently encounter conflicts and disagreements, and the ability to address conflicts constructively and find common ground among stakeholders is vital for successful governance.

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Chapter 4

Transformational Leadership and Sustainable Development Goals: New Research and Challenges for Leaders in the 21st Century

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Abstract

Transformational leadership at work contexts has been traditionally related to performance, employee satisfaction or commitment with the work and the organization. However, the emergence of the positive psychology, the global changes due to the recent pandemic and the necessity to consider the Sustainable Development Goals (SDGs), make leadership to face new challenges that go beyond the mere work environment or group processes. Several leadership new approaches have come up to respond to actual social constraints and the necessity of organizations to include SDGs. Trust, ethics, or promoting well-being are important aspects for workers that leaders should address along with facilitating interconnected environmental, social and economic aspects to make the organization progress. In this chapter we analyze the contribution that transformational leadership, a both new and traditional style, can provide to this new perspective, the opportunities that this leadership style still promote in considering SDGs as sustaining well-being, justice, or gender equalities, among other, in work contexts, and the challenges that transformational leaders have to deal with (i.e., hybrid or telework context). To pull this off, we consider the job demands resources theory, as transformational leadership is a construct at a superior level influencing health and well-being, which corresponds to the 3rd objective of SDGs. Moreover, the transformational leadership approach has always considered the gendered approach to leadership and thus, the 5th SDGs objective is also addressed. In sum, we debate onto new research about the transformational leadership style as a modern style and fully operational, its influence in performance and the facing challenges in the 21st century.

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Introduction

Social media has disseminated concepts such as “The Great Resignation” and “Quiet Quitting,” without providing a robust academic peer-reviewed system (Marks, 2023). However, behind these popular terms there is an undeniable reality referring to the phenomenon of an increasing number of workers deciding to leave their jobs or doing the bare minimum, respectively. Thus, these terms are becoming increasingly established within academic discussions as they reflect the challenges of managing people in a post COVID-19 pandemic world (Ng & Stanton, 2023). In both cases, workers are dissatisfied and become disengaged in their current jobs (Harter, 2023) with a big quit contagion (Klotz, 2022), which implies lower performance. This demotivation has different consequences over countries and also depends on other individual differences (i.e., age or gender). The truth in all countries is that the pandemic has revealed the problems underlying the work (i.e., stress, conciliating work and personal life difficulties, bad job conditions...), and has led workers to actively choose re-thinking their priorities (Tessema et al., 2022). In response, they generally either leave or decrease their effort while suffering in silence.

In asking who can address this fundamental change, the answer is clear: the leaders. They were not prepared to face with the 2020 lockdown, but now most leaders view perceive that this disruption is an opportunity to invest in employees and to experiment with new and *sustainable* ways of working. Therefore, individuals and organizations come with an opportunity to reframe life and work conditions to emphasize the promotion of individuals' health as well as creating sustainable solutions for institutions by re-negotiating for space and time (Liu, 2023). In this sense, the question is: do these modifications imply a changing style in leadership into a more sustainable and positive style? In this chapter, we discuss on the mainstream under the positive psychology, the role of leadership in a job demanding context and the development of a transformational leadership (TFL) style as a resource creating trust, health and engagement in workers, as well as promoting Sustainable Development Goals (SDGs).

Positive Leadership in the 21st Century

In trying to respond to the challenges of the 21st century, positive psychology (Seligman & Csikszentmihalyi, 2000), referring to the study of human strengths and virtues, contribute significantly to our understanding of well-being and the factors facilitating/undermining it (Seligman, 2019). However, well-being does not depend exclusively on the individual, and researches concur that positive psychology had entered a third wave of research aimed at broadening beyond the individual to include systems, contexts, and cultures (Lomas et al., 2021; van Zyl et al., 2023). The positive organizational psychology is a sub-domain that research about the optimal human functioning in the specific context of work and organizations (Donaldson & Dollwet, 2013). This perspective is coherent with the definition of health as a

“state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (World Health Organization, 2004, p. 12).

A prominent topic investigated in this domain is positive leadership, as it has shown to be a work-related predictor of employee health, wellbeing, relationships, and performance (Cameron et al., 2017). However, there is not a unique positive leadership approach. The necessity to respond to the individuals demands of trust, ethics or sustainability goals has promoted the emergence of several leadership styles that focus on moral or ethical leadership (ethical, authentic, and servant leadership, Lemoine et al., 2019), but there are other leadership styles previously proposed, that have also yielded a clear impact on positive results and, thus, are considered positive leadership, i.e., TFL (Malinga et al., 2019). Indeed, TFL is still leading the way.

TFL, in fact, includes an ethical behavior (Bass, 1985) at the base of this proposal. In the past, cases of violation of the ethical requirement by the leader were labelled as pseudotransformational leadership (Barling et al., 2008; Bass & Riggio, 2006), promoting the emergence of other leadership styles to emphasize the positive ethical behaviors of leaders and associates (i.e., authentic leadership; Luthans & Avolio, 2003). However, positive leadership styles’ theoretical findings assert that there is evidence for overlap, and that these styles share some leader behaviors related to supporting a high moral perspective, modelling behavior, self-determination, and positive exchanges with employees (Decuyper & Schaufeli, 2021). In this sense, several studies show a limited contribution of these proposals beyond TFL (Hoch, et al., 2018; Lopez-Zafra et al., 2022), and, thus, TFL is still considered the prevailing leadership style in recent research and practice (Carasco-Saul et al., 2015; Thanh & Quang, 2022).

Transformational Leadership

TFL was proposed in the 1980s by Bass (1985, 1997) to address how changes in the work context needed a new leadership style in contraposition to autocratic or transactional, comprising further aspects than the democratic traditional style does. Bass explained that TFL represents moral and ethical leadership that serves the good of the group, organization, or country. According to Bass and Avolio (1997), the TFL style has four dimensions (see Table 1): idealized influence, intellectual stimulation, inspirational motivation, and individualized consideration. Idealized influence comprises both attributes and behaviors as, for example, sharing the vision, becoming role models for employees, or putting the collective interests first (Avolio & Bass, 2004). Intellectual stimulation involves the leader to empower others, to embrace creativity and innovation (Hackman & Johnson, 2018). Inspiring motivation refers to leaders that make employees aware of the importance of achieving the goals and motivate employees, increasing their confidence to realize the organization vision. Finally, leaders showing individual consideration care about the needs of employees and are respectful with individual differences. These dimensions generate positive change in followers.

At its core, it is suggested that leaders motivate followers to work beyond their own expectations and help them achieve high performance, inspiring high levels of involvement in the group (Lopez-Zafra et al., 2017). The positive effect of this leadership style has been extensively proven with positive relationships between TFL and subordinate performance across several individual criteria, this relation being stronger for contextual than task performance (Wang et al., 2011), suggesting that increases in TFL result in improvements in employee performance. Transformational leaders highly identify with the organization and are

committed with the goals, demonstrating confidence in their followers’ capability, and providing instrumental and emotional support to attain the goals (Steinmann et al., 2018). Other results include employees’ satisfaction, organizational citizenship behaviour (Nohe & Hertel, 2017), effectiveness and motivation in different cultural contexts (Hermosilla et al., 2016), and less turn-over intentions (Banks et al., 2018), or sick-leaves (Hauth, et al., 2023) among others. New research has demonstrated that transformational leaders instill commitment and trust by affective communication and their emotional intelligence (Kim & Kim, 2017; Pulido-Martos et al., 2023). In sum, the positive effect of transformational leaders on engagement, motivation and performance is a result of the interaction between the leader and the group members. This interaction creates a link between the transformational leader and each worker that is based on trust (Kramer et al., 2019), which helps avoiding the erosive effects of complex organizational cultures.

Nevertheless, the pandemic, as mentioned above, made the organizations and leaders change their priorities, and now they have to think about promoting mental health and well-being among their employees. In doing this, they emerge strengthened from this adversity and cultivate personal and organizational resources for resilience (Salanova, 2020). TFL assist in the achievement of this result by the investment in further resources to respond to contextual constraints (Tafvelin et al., 2019) helping workers to face the difficulties. This is possible due to the transference of resources between people (Hobfoll et al., 2018). However, a high increase in demands could hinder TFL and undermine team members’ resources also increasing demands (Stein et al., 2020). The job demands-resources model (JD-R; Demerouti et al., 2001) synthesizes knowledge from various theories of job stress and work motivation (two-factor theory; job characteristics theory, the job demands–control model, the effort–reward imbalance model, and conservation of resources theory), providing a more complete and comprehensive understanding of employee well-being and performance (Bakker et al., 2023).

In the following, we include a brief summary of this model and theory to understand the role that TFL has as a resource. This new research about the relevance of TFL in the employees’ well-being also reflects the final performance they attain. A healthy leadership promotes a healthy worker who has a better performance. Thus, healthy organizations need to consider their leaders style as the core of their politics and practices.

Table 1. The four “I”s of leadership overview (Bass & Riggio, 2006)

Idealized influence	Leaders serve as the best possible role model for the excellence desired in employee(s) and team member(s).
Inspirational motivation	Leaders create a consistent shared mission and vision with employee(s) and team member(s). They use verbal and non-verbal communication to promote enthusiasm.
Individualized consideration	Leaders actively seek opportunities to mentor and reward while empathizing with the employee(s) and team member(s) and raising the uniqueness of each of them. Thus, they act as a coach and mentor.
Intellectual stimulation	Leaders challenge their followers to think critically, and to generate new ideas and solutions. They build connections individually to provide goals, and pathways to success for performance and self-growth.

The Job Demands-Resources Model and Theory

The JD-R model (Demerouti et al., 2001) considers the balance between job *demands* (i.e., physical, psychological, social or organizational aspects that imply an effort) and job *resources* (i.e., physical, psychological, social, or organizational aspects that help to achieve a goal, to reduce demands, or to stimulate personal development) in obtaining *health* and motivational outcomes (i.e., engagement; Lopez-Zafra et al., 2022). Therefore, there could be negative results steaming from the job demands (i.e., burnout or a state of exhaustion) and to health problems (Bakker & Demerouti, 2007, 2013). The model has been used to predict negative (i.e., sickness or absenteeism; Clausen et al., 2012; Schaufeli et al., 2009), and/or positive consequences of these experiences and job performance (e.g., Bakker et al., 2008). However, positive aspects or resources could dampen the effect of demands on stress/exhaustion (Xanthopoulou et al., 2007) or help employees to achieve their goals and stimulate personal growth (Demerouti et al., 2001). As a consequence, workers with good resources will be able to deal positively with daily work demands (Bakker & Demerouti, 2013). From this model, Bakker and Demerouti (2017), proposed the JD-R theory which has received wide empirical support about the relationships between job resources and well-being, that has been resumed in several meta-analyses that confirm the effects of these resources of different natures, at different levels, and with different time frames (Halbesleben, 2010; Lesener et al., 2020; Nielsen et al., 2017).

Summing up this model/theory, we could assert that a high level of job demands implies a process of deterioration of health; whereas a high level of resources implies a motivational process that increase engagement, therefore improving well-being (Bakker & Demerouti, 2017; see Figure 1).

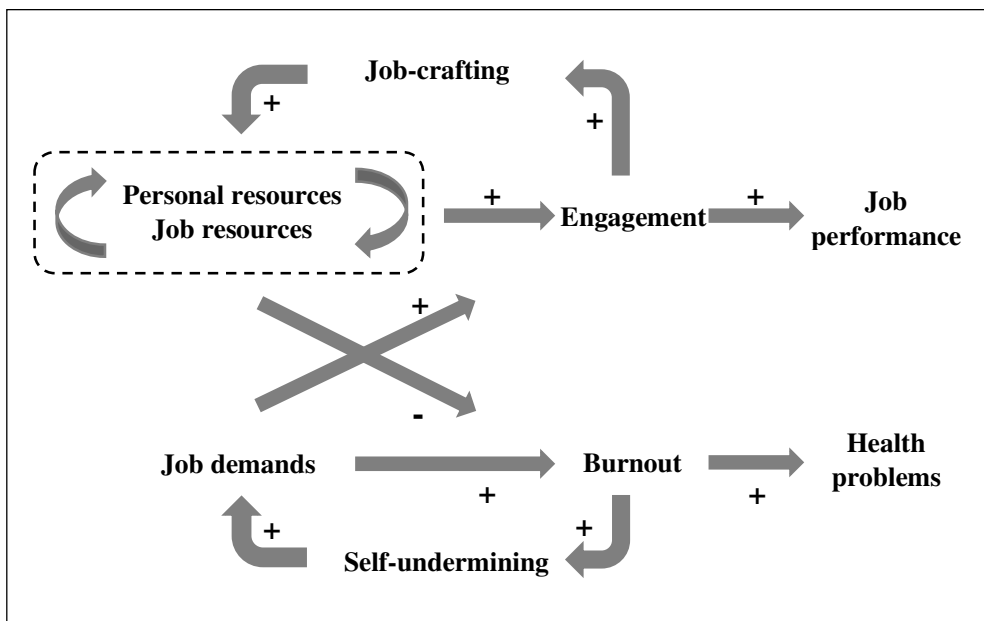


Figure 1. The job demands-resources theory (Bakker & Demerouti, 2017).

Where could we place leadership in this theory? Leadership can be considered an individual resource, a job resource or an organizational resource helping employees to attain a better health by reducing burnout and increasing engagement. The JD-R theory considers leadership a special factor, separated from the rest of the job resources by its capacity to transform the work context (Fernet et al., 2015). Its importance is so high that it is considered to act in a specific level: leader-level resources (Lesener et al., 2020). In fact, the multilevel approach of JD-R acknowledges that employees are nested in teams, which are nested in organizations. Thus, the managers determine the human resources practices through which organizations can select and develop their leaders. These leaders are responsible of influencing their teams' job demands and resources, and these actions indirectly impact employees' well-being and performance (see Bakker et al., 2023).

The Job Demands-Resources Theory and Transformational Leadership

Workers that are highly satisfied with work have a greater frequency of positive emotional experiences versus negative ones (Bakker & Oerlemans, 2012). These experiences in the work context also depend on the climate and relationships established. As mentioned above, the leaders influence work environments affecting the generation of job demands and resources; and ultimately results related to work, as well-being and performance (Bakker & Demerouti, 2017). This capacity to promote health and well-being makes this leadership style help in the achievement of SDGs, which is a social and political concern in this century. Thus, in the following, we focus on the TFL effects on two SDGs: promoting good health and well-being, which corresponds with the third objective of SDGs and gender equality, which corresponds with the fifth SDGs goal.

Transformational Leadership for Health and Well-Being

The 3rd Objective of SDGs

Considering good health and well-being in the SDGs is not only related to mortality rates or preventing diseases, but also a global aim that includes the strengthening and management of health risks in any context (United Nations Development Programme, 2023). In the work context, the impact of psychosocial variables, including discrimination and inequality, excessive workloads, low job control and job insecurity give rise to mental health problems (World Health Organization, 2022). Thus, including actions to reduce workers' psychosocial risks benefits sustainability at work. One of these factors that can promote or hinder a healthy work environment is leadership. A negative leadership style (i.e., abusive) hinders workers' psychological health and well-being (Ahmed et al., 2022; Simard & Parent-Lamarche, 2022); whereas a confident responsible leader with ability to manage change through trust, promotes a healthy work environment (Vidman & Strömberg, 2020).

As mentioned, leadership can be analyzed at different levels. Leaders may function as key job resources themselves (Bakker et al., 2023). By using transformational leadership components as charisma, individual consideration, and/or intellectual stimulation, leaders help

employees to deal with their constraints and further challenge job demands (Breevaart & Bakker, 2018). These characteristics correspond to a TFL style. Thus, different leadership styles have different effects on health, and TFL is the style that shows a well-established relationship with employee wellbeing in research (Arnold, 2017). For example, three recent meta-analysis emphasize the effects of TFL on well-being, in a positive way in which transformational leaders promote psychological wellbeing (Kim & Cruz, 2022; Teetzen et al., 2022); or by negative associations with negative aspects as burnout, stress, and affective symptoms (Montano et al., 2017; Teetzen et al., 2022). These meta-analyses confirmed the importance of leadership in developing employees' well-being, and furthermore the way in which work-related factors may mediate this relationship. But, they did not consider other context or personal variables that may moderate the effects of TFL and employee well-being. For example, due to the COVID-19 pandemic, the organizations, when possible, changed the contexts in which workers performed their job from a face-to-face to a telework or a hybrid format. In fact, there was a big change in the percentage of people in Europe, near 40% (Eurostat, 2020), teleworking full time as a result of the pandemic (Eurofound, 2020). This abrupt and unplanned transformation of the psychosocial environment at work has a considerable impact on the quality and quantity of labor demands and resources (Pulido-Martos et al., 2021). This could challenge the relationship established as highly satisfied with work workers, have a greater frequency of positive emotional experiences versus negative ones (Bakker & Oerlemans, 2012). However, this situation created an increase in negative experiences and demands, that is, overload, interruptions, misunderstandings, and conflicts, whereas it decreases emotional work, as the interactions with colleagues are deeply reduced. In terms of resources, telework can increase autonomy, but also decreases career advancement and social support (Demerouti et al., 2014). However, working from home can also allow teleworkers to conciliate with personal issues or favor social and labor support with other teleworkers (Collins et al., 2016). To contribute on this debate, we performed a study in which personal (vigor at work) and social resources (social support) were new research variables that were not previously included in the JD-R model, to analyze how they are affected depending on the modality of work, by comparing the face-to-face with the hybrid and telework modalities (see Pulido-Martos et al., 2021). Results showed that social support, both from peers and supervisors, is positively and significantly related to the level of vigor at work, indicating that perceived social support is a source of resilience to unavoidable challenges (Layous & Nelson-Coffey, 2021), such as the pandemic, confinement, and telework, increasing the level of vigor. However, the pandemic implied a specific period that workers "hoped" to be a short-last period, and thus, there could be differences depending on the context. In this study, the relationship between social support and vigor at work was lower when teleworking maybe due to the perception of a decrease in experimenting the vigor at work, by a reduction in the effect on feeling physically and cognitively active. This reduction in the perception of social support is mainly explained by the unexpectedly lock-down at home and thus, leaders were not preparing to act in this situation. In fact, telework may prevent transformational and health-oriented leadership in the remote setting from acting in a close relation and workers may feel a lack of social presence, limited informal chats, communication difficulties and lack of mutual trust (Tautz et al., 2022), which is essential to perceive the TFL style. Thus, this abrupt situation which has been profoundly researched, brings us some opportunities to learn. For example, albeit the majority of respondents are expected to back to the office, most of them consider they will be working in a hybrid model permanently (Statista, 2023). Thus, when promoting

teleworking conditions, hybrid or full, it is necessary reproduce a working environment with similar demands to those of the face-to-face model, and also to provide similar job resources, such as social support. This social support is higher when a leader displays a transformational style. In fact, Schoch et al., (2021) by distinguishing between individual and group levels found that workers perceived individualized consideration as a way of social support by their transformational leaders, whereas received social support by their transformational leader's sharing the vision had an indirect effect by the creation of a good working climate. In sum, social support is a social resource that is favored by a transformational leader, becoming also job resource.

Moreover, it is important to perceive this social support from the leader and from the organization. In fact, new research observes that when a group has a transformational leader the absenteeism at work is lower, with a higher influence of TFL in the short-term leaves, but this depends further on how supportive is the organization perceived (Hauth et al., 2023). Thus, the organizational context is relevant for effective TFL, and there should be a congruency in organization and leadership styles.

By considering the JD-R theory, we pose that TFL leads to the generation of job resources in the form of autonomy, social support, feedback, among other variables, that increase engagement levels (Tims et al., 2011) and, at the same time, allows to face the demands of work (Dóci et al., 2020). Thus, it functions as a resource for followers (Arnold, 2017; Hetland et al., 2018), strengthening subordinates' personal resources and reducing job demands (Hentrich et al., 2017), which, at the same time, allow to face daily job demands (Breevaart & Bakker, 2018) in a sustainable way (Breevaart et al., 2014). Therefore, in the JD-R theory, the TFL is mainly analyzed as a factor that influences both job resources and demands, producing changes in both positive and negative indicators of employee well-being.

Regarding the strengthening of the subordinates' personal resources, and given the implication of TFL on health and well-being through generating these resources, we carried out a study to test whether workers could be identified in different profiles of personal resources, which had played a crucial function on health in previous research; and the role that transformational leaders have on the probability to pertain to an identified profile (Cortés-Denia et al., 2023b). For the profiles, employee engagement, vigor at work, and physical activity were used for their multiple health benefits (Alves et al., 2016; Cortés-Denia et al., 2023a). According to the results, we found three different profiles of employees with: i) low vigor and engagement, and medium levels of physical activity; ii) high vigor and engagement, and medium levels of physical activity; and iii) high levels of resources. The second and third profiles were significantly related to better mental health; while the first profile, with low resources, was the opposite. TFL had a significant role on those profiles. Specifically, TFL determined and increased the probability of pertaining to the two identified profiles with more resources, therefore with better mental health. Thus, TFL promotes personal resources and motivational variables (Martinez et al., 2020) that could imply changes in the health of employees, in addition to contributing to optimal functioning in the organization (Fernet et al., 2015). In fact, burnout is reduced by transformational leaders' internal (vigor) and external (peer support) resources (Tafvelin et al., 2019). Its effect occurs through motivational processes of the transformational leader that generates a collective identity, trust in the team, vision of the future, among others. Furthermore, it provides support and confidence that generates a reduction of stress and workload preventing negative mental states (Stempel et al., 2023). In

addition, TFL buffers the impact of workload on employees' health moderating the relationship between workload and psychosomatic disorders (Grau-Alberola et al., 2022).

Given the central role of leaders for the well-being, along with other results as performance, and work design of their followers (Stein et al., 2020), the leader-follower relationship seems to be an essential mechanism for resource crossover within social relationships (Breevaart et al., 2014; Gutermann et al., 2017). Therefore, TFL constitutes a resource that can help to promote health and well-being in a holistic way (individual, group, organization) which is an important objective to attain a more sustainable world.

In sum, transformational leaders have shown a great capacity to adapt to different contextual situations. Albeit previous studies considered that leading needs face-to-face interaction and could not be simply transferred to the remote (Hoch & Kozlowsky, 2014), the pandemic put the leaders to the test with the telework scenarios. Transformational leaders had difficulties displaying their style due to general demanding working conditions (e.g., workload, time pressure, role conflicts) which becomes stronger in the remote context (Liebermann et al., 2021). However, in contexts of continuous changes, transformational leaders can increase change commitment and intention to support change through inducing self-efficacy as a valuable resource during an organizational change (Bayraktar & Jiménez, 2020) and TFL be an important aspect to generate resources, regardless the context. Therefore, in the practical arena, building resources is particularly important as resources may help buffer those aspects of the job demands that are not easily eliminated or reduced (Vignoli et al., 2017).

Transformational Leadership as a Gendered Approach: The 5th SDGs Objective

Gender equality is an important goal in itself (SDG 5). The definition of gender as a SGD includes the importance of women's empowerment as a way of achieving gender equality, which is transversal to each of the 17 goals (UN Women, 2018). However, women empowerment and its relationship to global sustainability, has a lot to be done to correct the many gender inequalities around the globe (i.e., glass ceilings and pay disparities, legal gender-based discrimination, lack of political representation, gender-based violence, cultural norms or obstacles to self-determination). One of these remaining problems has to do with their leadership possibilities and the necessity of women to be aware of their personal resources, which many times have been hindered. In fact, there is still a prejudice against female leaders in organizations due to people's expectations and perceptions based on their gender (Eagly & Carli, 2003, 2007; Garcia-Retamero & Lopez-Zafra, 2006). These expectations derive from the different attributions of characteristics or stereotypes ascribed to men and women which change in a slow pace (Lopez-Zafra & Garcia-Retamero, 2021). However, far from being a disadvantage, women at boards, through their different backgrounds, provide new experiences, perspectives, expertise, skills, networks, and valuable advice to the board (Campopiano et al., 2023). In general, research show that most female directors are more ethical and tend to comply with moral standards more often than their male counterparts (Cumming et al., 2015; Jain & Zaman, 2020). This is a reason for their higher presence in non-governmental organizations in which they strengthen a positive relationship between board diversity and financial sustainability (Hermes & Hudon, 2018). Bennouri et al., (2023) resume the positive effects of the presence of female directors on less corporate fraud, greater transparency of the firm, less tax avoidance, fewer financial restatements, and more ethical behavior. Moreover, when the

country figures reflect a higher proportion of women in boards, the levels of corporate social responsibility are higher (Fernandez-Feijoo et al., 2014), and thus, this is a contingent result of women participation at all levels of society. In the case of organizations, changes in the teams’ gender composition have been shown to alter the importance given to knowledge-based renewal strategy from buying to building knowledge capabilities (Post et al., 2022).

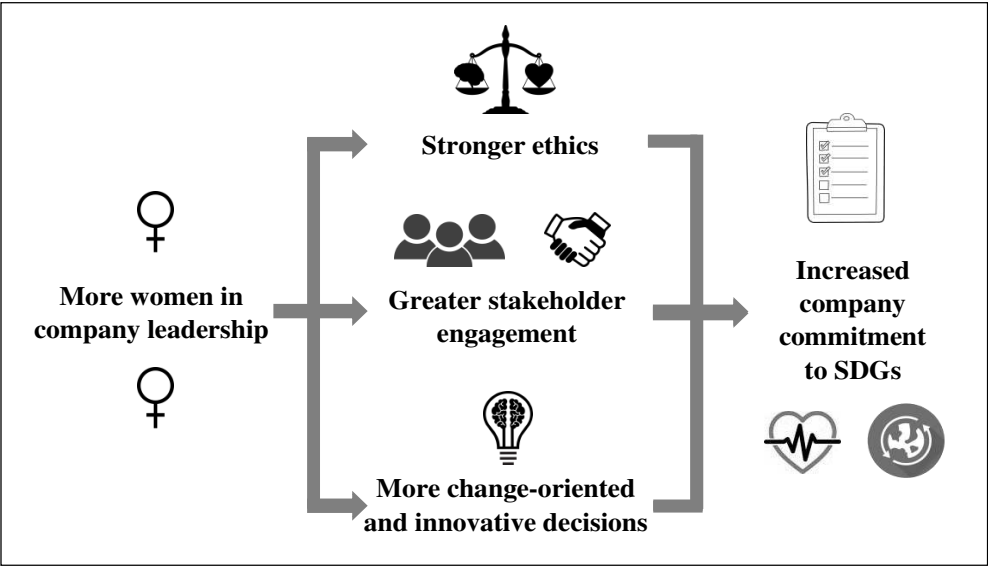


Figure 2. Female managers increase the organization’s commitment to the SDGs.

These trust and ethical behavior values are characteristic of TFL. Indeed, women are more inclined to adopt a TFL style than men, whereas employees believe that female transformational leaders are more effective than their male counterparts (Chen & Shao, 2022). As mentioned, TFL is more collaborative; it encourages knowledge and information sharing, effective communication, and collective problem-solving approaches (Post & Byron, 2015; Qu et al., 2015). These characteristics are perceived as more communal or typical of the female stereotype and thus, could be seen as a female leadership advantage (Eagly, 2007; Paustian-Underdahl et al., 2014). Other characteristics associated to TFL are that female directors act as role model for female employees, thus, contributing to enhancing their productivity and efficiency (Périlleux & Szafarz, 2022); they are less likely to adopt risky strategies that might enhance economic performance at the expense of social outreach; the presence of female directors has been reported to change dynamics within organizations and thus, women’s relational and TFL style is most essential during times of crisis (Bruce et al., 2022) making people feel better in these contexts and, therefore, promoting well-being. Women empowered to develop and use their skills and leadership attributes, make them more easily to opt and contribute in an organization and to apply their ethical and leadership attributes (Goyal et al., 2023). Apart from showing a female advantage in TFL, women are perceived as more competent in emotional intelligence than men (Lopez-Zafra & Gartzia, 2014) and the emotional component of TFL predicts leadership emergence (Lopez-Zafra et al., 2012, 2017). In fact, the meta-analysis by Hsu et al., (2022) contributes to explain the female advantage/disadvantage by proposing the existence of two sets of mechanisms in the gender gap, articulating and

supporting both a female TFL advantage (via emotional intelligence and communion), and a female TFL disadvantage (via agency) that also explain the gender gap in leadership self-efficacy/self-rated TFL, which could be prejudiced.

Summing up all the rationale shown above, we can posit that gender empowerment promotes gender participation in leadership contexts. Moreover, women show a higher TFL style that places workers first with an ethical performing and the improvement of employee contextual performance obtaining higher benefits and reducing costs. This performed TFL style is a more sustainable leadership increasing health and well-being. Therefore, gender can act as a personal resource in favoring this leadership style.

This is one approach to gender as a SDG but, there is another way of approaching this issue. The presence of women transformational leaders contributes to achieve other SDGs by the women's interests in a more sustainable world. This is perfectly suggested and researched by Kiefner et al., (2022) indicating that gender equality may also contribute achieving other SDGs due to the increase they perform in commitment to the SDGs (see Figure 2). Therefore, gender equality helps achieving a better world. This is a second approach to TFL and gender related to SDGs: problems of environmental sustainability and gender inequalities are one, and the same.

Discussion

Workplaces are not immune to the current political, social and economic instability worldwide. These factors, along with the enormous social and health crisis caused by the coronavirus pandemic, have had a negative impact on the situation of millions of workers. In fact, the negative impact of experienced well-being, job dissatisfaction and quit intentions have surfaced and expanded in recent years, becoming a silent epidemic within organizations. The search for organizational strategies and practices that prevent these unwanted effects, or that buffer their negative consequences, becomes a priority.

Therefore, and considering objective 3 of the SDGs of the 2030 Agenda for the prevention and promotion of mental health and well-being, the TFL constitutes a style of positive leadership capable of facing the present and future challenges of the 21st century, given their ability to adapt to crisis situations, challenging or simply novel, as well as their positive effects on the motivation and involvement of the employees. The JD-R includes leader-level resources to explain the high impact that leadership has in all resources and demands of the work environment, and thus, TFL acts as a catalyst for occupational health.

Including gender is another relevant perspective of leadership (SDGs Goal 5) to ensure equal opportunities for leadership within organizations. In fact, women managers are often attributed certain TFL characteristics by the gender stereotype itself, perceiving them more effective and with higher emotional competencies. This also allows the organization to show greater commitment to SDGs.

Conclusion

In conclusion, the TFL becomes a style capable of responding to a complex and highly turbulent environment, which has become in itself an area of study within leadership (Mathende & Yousefi, 2021), constituting a modern style, sustainable, operational and functional in this era, generating strategies and actions to protect the health and well-being of people employed within a framework of further promoting gender equality and empowering women workers. In addition, their contribution to the achievement of other SDGs can be found in the review of practices developed by companies to achieve these objectives (Castiñeira et al., 2020).

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Chapter 5

Bridging Hierarchy Levels For Strategic Planning:
A Top-Management Perspective

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Abstract

Although strategic planning remains a critical aspect of organization’s life, for it to be effective, all management levels must be aligned in the pursuit of strategic change. This alignment mechanism will result in a competitive advantage and increased efficiency for the organization. From a dynamic capabilities’ perspective, this study explores the limitations faced by top management that hinder strategic planning, as well as the need to adapt processes to engage individuals from different hierarchy levels in strategic planning for greater effectiveness. A qualitative approach was taken, and a bibliometric analysis was carried out using articles from the Web of Science and the B-On database to gather relevant information on the topic and the contributions of 26 top management executives that help us deepen the knowledge on the topic under study. On a practical level, this study addresses the lack of top management involvement and it focuses on external variables related to the organizational environment. This study offers insights into top management actions and critical competencies contributing to the organization’s success in addressing future challenges. Our findings highlight the efforts of employees in top management response, the impacts of positive relations, the integration of different perspectives to enhance strategic planning, and the organizational outcomes across hierarchical levels.

Keywords: dynamic capabilities, strategic planning, strategy, top management, teams’ management

Abbreviations

SP	strategic planning
DC	dynamic capabilities
CA	competitive advantage

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BA	bibliometric analysis
TP	top management
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

Introduction

Strategic planning is widely recognized as an important tool for organizational development in the current rapidly changing and uncertain world (Krier, 2022; Weston, 2022). This systematic and deliberate process assists organizations in the determination towards the achievement of a desirable future (Amrollahi, 2018).

Through strategic planning, organizations can adapt to new realities of the business environment and formalize their plans (Bolland, 2020). However, this formalization often means that strategic planning is primarily conducted by key executives rather than involving employees throughout the organization (Azapagic et al, 2016; Broman, 2017; Bolland, 2020; Afum et al., 2021). Top management plays a crucial role in translating goals into actions by establishing policies and restructuring the organization to ensure project success (Dubey, 2017; Liu, 2019).

However, due to the dynamic nature of top management’s role, there may be a lack of involvement in workforce-related issues (Boiral, 2009, Yiing, 2009, Renwick, 2012; Jabbour, 2013). Researchers have noted this gap in strategic planning, attributing it to the lack of commitment and participation of top management in decision-making and organizational activities (Khanin, 2020; Gallo, 2019; Netland, 2016; Bonn, 1996; and Mintzberg, 1994).

To address this issue and improve organizational effectiveness and performance, it is necessary to analyze the role of top management so that the outcome of financial success, the development of a strong competitive force and long-term growth for the organization can be achieved (Espinilla et al., 2013). This study understands the constraints faced by

top management that hinder strategic planning, as well as the need to adapt processes to engage individuals from different levels of management in the processes can enhance effectiveness. for greater effectiveness. A qualitative research design was used, gathering information from 26 figures related to top management. A bibliometric study using the PRISMA method was carried out to further analyze the topic, gather relevant data to support the literature review and triangulate with the data collected.

The findings will be triangulated and compared to a literature review leading to a discussion and conclusion. The study will also provide theoretical and practical implications and identify limitations and future research.

Theoretical Framework and Research Hypotheses

Strategic Planning Effectiveness

In the existing literature, it is possible to find countless definitions and theories of the strategic planning concept, which has been studied and become a part of several disciplines (Sousa, 2021). This administrative technique is often

long-term (Puglieri, 2022) competitive strategies avoiding internal weakness and external threats and retrieving the maximum inner strengths and external opportunities (Hernandez, 2022).

The effectiveness of strategic planning is translated into high-performance benefits, thus encouraging managers and policymakers to engage with it and ensure that their processes continue to be comprehensive and formal to enhance organizational competitiveness (George et al., 2019). Due to the efficacy that strategic planning brings to business organizations and environments its transition and formalization are translated into more concentration and processes by top management rather than mainstream employees (Bolland, 2020).

When applying the concept of strategic planning to the organizational context (Biswakarma, 2018; Milliman et al., 2018) the encounter definitions point out systematically to a process of determining the course or direction of actions for achieving the desirable envisioned future delineating the desired state and transparent path, and priorities in the form of a written set of goals, actions, objectives, and outcomes to achieve in the long run (Mintzberg, 1994; Elbanna, 2015; Weston, 2019).

Furthermore, 'to attain thorough and efficient planning, managers must incorporate a range of perspectives and inputs, such as knowledge sharing, resources, and assets, equitable partnerships, and collaboration (Oridota, 2023). Consistent with this notion, previous research has provided evidence for a positive correlation between effectiveness and the integration of multiple perspectives, which will enhance the definition and application of strategies, bolstering TM and team members satisfaction (Ku et al., 2015). Therefore, the subsequent hypothesis is:

H1: The synergistic integration of varied insights enhances the comprehension of an effective strategic plan.

Positive Relations Lead to Higher Effectiveness

The COVID-19 crisis has created new challenges for the strategic planning approach, necessitating thoughtful reconsideration to address the urgency and complexity of the emerging issues (Weston, 2022). In this context, an effective relationship with internal stakeholders has become vital for organizations and their leaders. TMT is comprised of a small group of leaders that are at the top of an organization and impact directly in strategic choices (Cho, 2006) in which, they perform several tasks that are non-routine and invariably complex (Nadkarni, 2008). Their primary job "as the head" of the organization is to allocate resources and developed a game plan for the implementation of their strategies (Mason, 1984).

Recent literature stressed the relevance of middle managers in strategic decision-making embracing the operating core and strategic apex (Glaser, 2021). The role of these middle managers can be related to the experiment with new practices and championing them as top management members (Fernández-Mesa, 2023). For last, the Lower management has the responsibility of ensuring that planning is applied, solving production problems, distributing resources to each team and individual, and anticipating situations that could affect the daily operation (Kaiser, 2011).

The main goal for these levels is to introduce new strategies and create a long-term profitable organization with competitive characteristics. However, some leaders argue that

effectiveness can be achieved by providing positive interaction with employees and engaging in socioemotional and person-oriented relationships. Such behavior characterized by positive relations and concern for employees needs, is typically as showing appreciation and providing support (Beck, 2009).

On the other side, the leader who presents negative task feedback and maintains a lack of relationship. This behavior contributes to a significant discrepancy between the actual and desired task-based performance (Cianci, 2010; Smither, 2002).

H2: Positive relations between management levels lead to higher effectiveness than a distant relationship with no attachment.

Top Management and Employee's Relationship for Higher Effort

Although most researchers tend to focus on top management perspectives (Hassi, 2015), the perceptions of the lower management had been largely ignored (Levenson, 2009). Yet, several studies have shown that employee's insights can be a telling indicator of the veridical contrast and the effects that have on organization's (Allen, 2007).

As a response to the disregard of employee insights and considering that employees are a group of stakeholders that are vital to the success of the organization (Edmans, 2012), it is constantly seeing that the lower level of quality in the workplace can feature and provoke a negative outcome, namely, a lower work satisfaction, lower job productivity, poorer health, higher mental fatigue (Bellini, 2015).

Also, after a review of top management behavior, it comes to Hight (2019) attention that on some occasions, there are managers that listen to employee feedback but rarely act upon that discussion, and those that were unapproachable are not open to any feedback. After this exchange occurred, the author stated that managers neglected to follow through with executing any changes to the department.

This process of suppressing internal conflict concerning the relationship between employees and employers (Mordi, 2020) it's a path that needs continuous improvement, in that matter Brockman (2020) gives its contribution affirming that organization's need to invest in their workforce to facilitate production and the creation of a reliable base which employees can express their dissatisfaction.

This state of disappointment is associated with the personal value system applied by top management and as a result, elevated costs for the organization in terms of recruitment, training new employees, and selection (Halkos, 2017).

From the perspective of establishing a new bridge between hierarchy levels enabling a better comprehension of the effectiveness of strategic planning, thereby allowing the establishment of more opportunities, sensing new dimensions, and reconfiguring organizational resources. For example, the employee and stakeholders' involvement and effort could lead to greater integration in problem-solving and discussions contributing to the drawing of their knowledge of customers, products, and practices (Karlsson, 2015).

Another finding related to the topic withdrawn from Engen's (2021) research suggests attention needs to be paid to how to leverage the outcomes of the workforce situated activities and engage them in activities on a broader scale. This leads to the following hypothesis (H3),

which puts the possibility for top management let employees participate in strategic planning (Dubey, 2017).

H3: In the presence of a higher effort from employees to acquire new skills contributing to the firm, top management feels more open to letting them participate.

Dynamic Capabilities Improvement from Various Levels

The dynamic capabilities approach addresses organization's abnormal returns under certain conditions of environmental change and uncertainty (Teece, 1997). Remarkably, this theory argues that acquiring strategic advantage hold of unique capabilities or resources is not enough, rather, it becomes necessary to reconfigure and relocate these abilities and resources to address environmental changes (Teece, 2007).

Zollo and Winter (2002) also used the concept of organizational learning to explain dynamic capabilities as a stable and learned pattern of cooperative activity through which the organization is systematically generating and modifies its routines in pursuit of better effectiveness.

In previous research, dynamic capabilities have shown an essential role concerning the organization capacity to seize opportunities, sense, and make the necessary resource base adjustments (Wilden, 2018). Cooper (2016) and Magistretti, (2021) also added that the goal is to assess the influence of a different set of capabilities on the value generated by the encountered solutions.

There were identified three stages in dynamic capabilities – (1) sensing the environmental impacts, (2) realigning and reconfiguring its resources, and (3) implementing effective strategies to respond to alignment changes (Chan, 2011). The first part of the process concerns the external (i.e., outside-in) organization, which the team needs to sense the opportunities available (Jadhav, 2022). The second alert the need for strategy and plans that may require it to make changes to, or reconfigure an organization's resources. For last, organization can acquire new skills, define new processes, develop new capabilities, assign new roles to respond to the changes and apply the designated strategy (Jadhav, 2022).

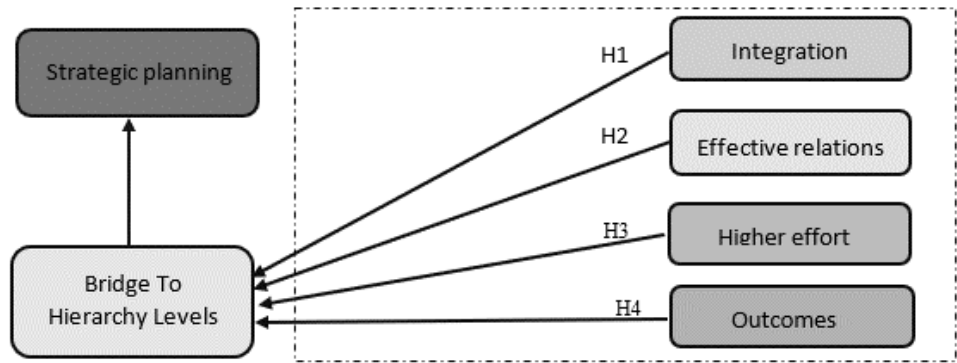
Although dynamic capabilities have been proven over time its diversification in literature, during our research, we could find that the so called dynamic managerial capabilities impacted the role of managers (Holzmayer, 2020), defined as the ability which each manager integrates, build, and reconfigure organizational competencies, and resources (Adner, 2003).

Thus, according to Petit (2012), it was possible to understand that there are two main aspects between dynamic capabilities and top management. The ability to renew an organization's competencies in the face of changes in business environments and the key role of top management in integrating, reconfiguring, and changing both resources and capabilities to address organizational changes.

As we continue to uncover dynamic capabilities, it becomes evident that this approach has improved organizational outcomes. However, for this to be effective, work each actor must contribute their part, ensuring that the goals outlined in strategic planning.

H4: Improved organization outcomes result from the contributions of individuals at various levels of the organizational hierarchy.

Based on these assumptions, we proposed the following hypothesis and research model (Figure 1):



Source: Own elaboration.

Figure 1. Conceptual framework of the study.

Methodology

Research Method

To determine the challenges and trends and map the contributions of top management in the field of strategic planning, Table 1 presents the following structure:

The problem definition (Step 1) allows us to elucidate our research questions:

RQ1: How do different hierarchy levels contribute to strategic planning effectiveness from a top management perspective?

RQ2: What in strategic planning processes needs to change to increase its effectiveness?

A systematic literature review will be carried out using the PRISMA methodology to address the issues raised in this research and to identify relevant literature. The analysis of the results is based on two methods. The first a bibliometric analysis and the second is a content analysis.

The literature review enables the mapping of the state of the art on the subject of study, allowing to uncover SP relations with top management leading to higher effectiveness, top management relationship with employees, and the aid of SP with dynamic capabilities improvement. The content analysis will allow us to identify essential topics and perspectives on the subject and understand the challenges that need to be addressed in a theoretical framework about top management.

Table 1. Research steps

Steps	Activities	Results
Step 1: Problem Definition	Gap identification (ii) Formulation of the research	The limitations faced by top management hinder strategic planning, as well as the need to adapt processes to engage individuals from different hierarchy levels in strategic planning for greater effectiveness.
Step 2: Systematic Literature Review	Prisma methodology (Table 1), according to the three main stages: (i) Identification: (a) Structuring the keyword from the thematic axes “Dynamic capabilities,” “strategic planning,” “strategy,” “top management,” and “team management.” (b) definition of the research protocol (search for the keywords, definition of the databases, publication type publication years, document types, categories); (c) deletion of duplicated papers; (d) inclusion and exclusion papers; (ii) Screening: (a) Reading the title and abstract of papers to identify those that are not aligned with the purpose of the papers and should be excluded; (b) Read the full papers to exclude those that have in consideration the purpose of this research; (iii) Included: (a) Description of the final pull of papers.	The final pull of papers: 81 papers. These explicitly discuss the challenges and contributions related to the subject of study.
Step 3: Bibliometric Analysis	Use the keywords to start the search, compiling/refinement the database; (ii) Development of tables for descriptive analysis; (iii) Export the database to Excel and a RIS file to VOSviewer; (iv) Generate the VOSviewer network.	Characterizing the paper portfolio (evolution of publications, main journals, and leading authors). And network analysis (full counting and authors).
Step 3: Content Analysis	Build the literature framework; (ii) Preliminary analysis of the main themes in the portfolio contribute to the mapping of keywords network; (iii) the discussion among researchers and data.	Analysis of 81 research papers and the creation of a network with the respective sub-groups. Consolidation of the theoretical framework identifying the hypothesis.
Step 5: Construction of the Framework	Selection of the results from previous steps, allowing the production of insights by the research team; (ii) Mapping the information regarding the study.	The unification of the results using a theoretical framework identifying strategic planning from a top management perspective.

Source. Own Elaboration.

Literature Review

Concerning the generation of results to be analyzed, one of the analyses performed is bibliometric, this method involves a qualitative analysis of publications (Ellegaard, 2015), allowing us to determine the state of the art on the subject. Treinta (2014) defines bibliometric analysis as identifying what has been produced by researchers and the scientific community, thus evaluating the trend in the subject area.

Data Gathering

The first stage (Identification) includes the identification of literature by searching the selected databases. For this work, the selected were Web of Science and Science Direct owing a high level of relevance in publications to the object of study. Only peer-reviewed articles were considered relevant.

The survey started by combining the search terms related to the article keywords: “*Dynamic capabilities*”AND “*strategic planning*” OR “*strategy*”AND “*top management*”AND “*team management*.” The variety of terms translates the search axes, the Boolean index “AND” was used to make the search connections and “OR” for the returns of alternative or synonyms terms in the same axes search. The use of Boolean indices improves the probability of searching relevant documents. According to the filters and other sources (papers references), the search in the databases was conducted in 2022 and did not have any specific duration time. Table 2 presents the search protocol, search strategy, search terms, database, document types, publication type, and language.

The collection of the initial search gives us a total of 2,093 results. Refinement of our search by Management categories gave a total of 1,178 articles. The refinement by document types, namely articles, gives a total of 969 results. Selecting English as the primary language gives 960 results. Filtered by publication titles (Table 3) we obtained 319 results.

The second stage (screening) included selecting the papers by reading the abstract and title and verifying if the research paper is related to the aim of the study. In this phase, we confirmed if the terms top management, dynamic capabilities, and strategic planning were mentioned, in addition to their synonyms, reducing the final pull of papers to 81 results.

Table 2. Research Protocol

Search Term (Title, Abstract, or Keywords).	“Dynamic Capabilities”; “Strategic Planning,” “Strategy”; “Top Management”; “Team Management.”
Search Strategy	“AND”; “OR”
Database	Web of Science and Science Direct
Publication Type	Reviewed Papers and Research Papers
Language	English
Date	1986-2023
Publication Titles	319 results/25 Journals
Search Period	Not Specific

Source: Own elaboration.

An important note regarding this selection is that the papers were found using a snowball method. Therefore, papers that contribute to and explicitly discuss the development of top management in strategic planning, considering this information, a total of 81 articles were selected. In Figure 2, we present the path to the final portfolio showing the qualitative data from the inclusion and exclusion files according to PRISMA methodology steps.

- Inclusion criteria

For this research, peer-reviewed journals were considered as a thrust source of knowledge. We kept out this study blogs, thesis, editorial notes, white papers, and book chapters. To maintain the study's publications and work an inclusion criterion was included corresponding to the selected keywords.

- Exclusion criteria

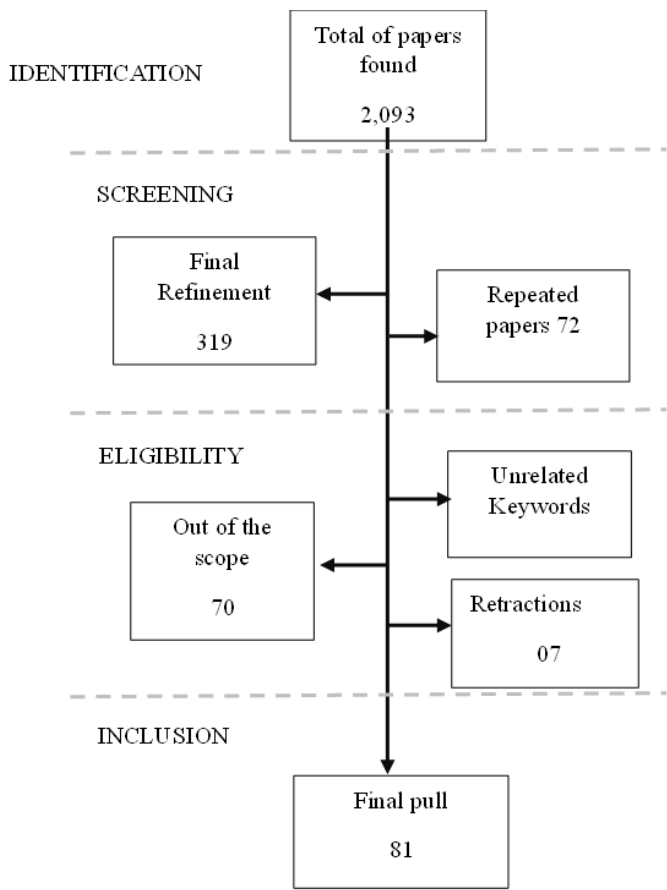
Considering the exclusion criteria, we rejected several articles that did not present any practical application of theoretical information that contributed to our research or to answer our research question, in that sense, we have ruled out:

- Ex1 Articles focused on strategic thinking;
- Ex2 Articles with specific relation to supply management;
- Ex3 Articles focus on medical research;
- Ex4 Articles with specific relation to a particular industry.

Table 3. Journals and number of articles

Journal	N° of articles
Long Range Planning	45
Academy of Management Journal	23
Sustainability	20
Management Decision	18
Journal of Business Research	32
Journal of Management	17
Strategic Management Journal	13
Science Organization	13
Journal of Small Business Management	11
European Management Journal	9
Journal of Strategy and Management	9
Business Horizons	8
Global Strategy Journal	8
Journal of World Business	8
British Journal of Management	7
Academy Management Review	6
Technovation	6
European Business Review	5
R D Management	4
Harvard Business Review	2
Economies	1
California Management Review	1
Management Science	2
Sage Open	2
Journal of Cleaner Production	2
25 Journals	319 results

Source. Own Elaboration.



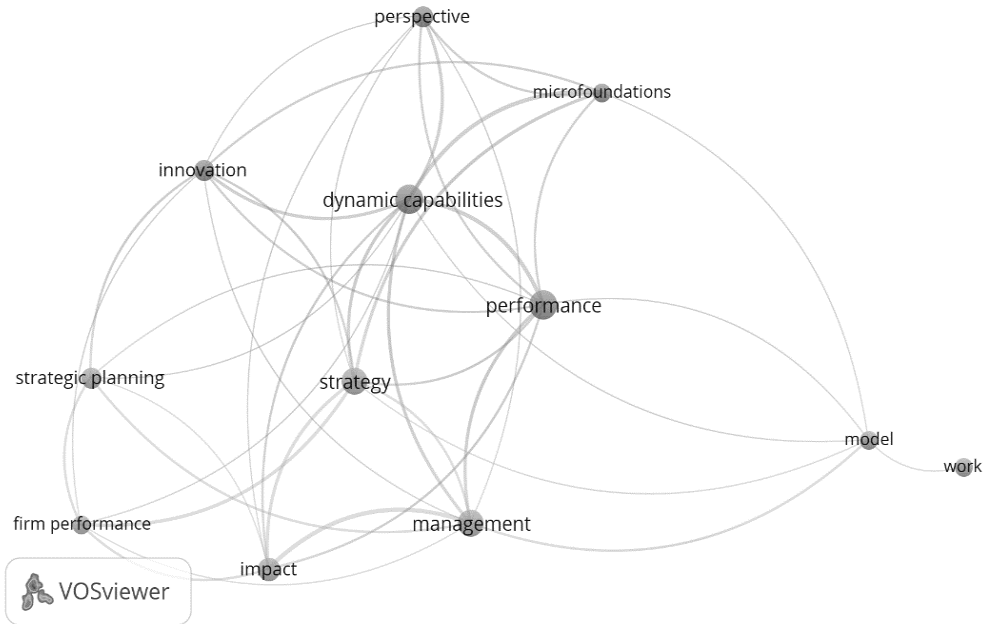
Source: Own elaboration.

Figure 2. Methodology phases.

Co-Occurrence of Keywords

This analysis of the co-occurrence of keywords was performed by VOSviewer (Version 1.6.17) software to understand the keywords used by the final pull of papers. The constructed co-occurrence of keywords created a network giving 447 keywords of which, only 12 meet the threshold (Figure 3).

From the formed network, it is possible to observe that the three large clusters (Red, Green, and Blue), show SP with 6 links, DC has 10 links, and Model with the weakest connection it has 6 links. However, that value is related to the other two clusters. Furthermore, while creating our map, it becomes perceptible that the keywords are related to our research demonstrating the level of connection to the research topic.



Source: VOSviewer (Version 1.6.17).

Figure 3. Co-occurrence of keyword.

Data Analysis

Design

To conduct this research, a qualitative method will be used through a descriptive phenomenological (Moser, 2017; Varpio, 2019) approach to understanding other peoples lived experiences and perspectives. Phenomenology aims to study the occurrences based on each understanding of human experience (Dowling, 2007) contributing to the future and effectiveness of the company. To consider subjective experiences, we assume a certain attitude of attentive openness and readiness for a proper understanding to properly understand the unique meaning of participants' organizational experiences (Norlyk, 2010; Dowling, 2007). Also, this method is ideal for interpreting and describing a particular setting while translating the understanding gained to other contexts (Spencer, 2009; Thomson, 2009).

Setting and Population

We used purposive sampling to recruit a diverse group of top managers who had vast experience in planning or conceptualizing planning in their company. We continued sampling and collecting data until the ongoing analysis revealed no new information (a phenomenon "known as information redundancy") (Moser, 2018).

Employer representative target: In our research, we count on top management, executives, and strategists who provide their insights on the subject of study discussing how to achieve

company objectives and potential changes in the company portfolio. Strategists who study the organizational theme profusely, and produce strategic plans. Executives that share their perspectives on achieving goals and creating relations with coworkers.

Sampling

We selected organization's with ≥ 100 employees to attach to several areas. The ages of these board members vary between 27 and 59 years old and all the interviewees were notified of the confidentiality and anonymity of their data. To achieve maximum variation, the organization's chosen were public, private, or non-profit, geographical dispersion (nation, local), and different economic sectors (Education, science and technology, food area, engineering, communications, installation, repair, and maintenance).

Three companies declined to participate in our study, evoking a lack of time to answer our questions and two were impaired due to a lack of representation.

Datta Collection

This study employed a phenomenological design and used semi-structured interviews with open-ended questions to capture the lived experiences of each participant. The question guide was developed based on a review of relevant literature and the researchers' insights. Prompts were used during the face-to-face interviews, zoom meetings, and workplace to encourage participants to provide more detail and to help resolve any remaining questions.

The interviews were conducted in Portuguese and English between November 2022 and January 2023. This study did not use other methods such as in-depth interviews and field research. Before the interview, every participant knew the rules and agreed with them, the median duration was 45 minutes. The interviews were audio-recorded, transcribed to Word, and identified the answers with relevant information.

The interviewer assured the quality of each transcription, starting with a simple question, re-listening, and starting the actual interview. After we identified the relevant topics and shared them with the interviewers, they realized that some changes needed to be made and that it was necessary to have another approach to some issues.

For our qualitative analysis, we use MAXQDA (Verbi GmbH) software for harmonization of the code and retrieving relevant information that allows us to have valued data.

Results

In Table 4. we present the participants characteristics. The selected companies varied in ownership (19 private, 6 public, and 1 non-profit), geographical allocation (7 national and 19 international), the size (17 small, 3 medium, and 6 large), regarding the economic sector, we could find that our respondents are integrated into areas like Education, Technology and Science, Communications, the Food industry, Installation, Repair, and Maintenance, Health, and Management.

Table 4. Organization characteristics

Organization's Characteristics	N° of organization's
Employer type (Ownership)	
Private	19
Public	6
Non-Profit	1
Geographical allocation	
National	7
International	19
Economic Size	
<500	17
500-999	3
>1000	6
Sector	
Education	3
Technology and Science	12
Communications	3
Food Industry	4
Installation, Repair, and Maintenance	1
Health	1
Management	2

Source: Own Elaboration.

In Table 5, we applied the participants characteristics. They were started by gender (8 Females and 18 Males), ages (15 with 18-25 years old, 6 with 26-35 years old, 3 with 36-45 years old, and 2 with 46-55 years old). The roles of each participant are divided by their role inside the organization (5 CEOs, 8 CEO representatives, 5 Executive Board members, and 7 Strategists).

Table 5. Participants characteristics

Interviewed Characteristics	N° of participants
Gender	
Female	8
Male	18
Age	
18-25	15
26-35	6
36-45	3
46-55	2
Role	
CEO	5
CEO representative	8
Executive Board	5
Strategist	7

Source: Own elaboration.



Source: Own elaboration.

Figure 4. Challenges, Practices, and Outcomes.

Figure 4 were identified some of the challenges, practices, and outcomes related to our sample. These were described by top management represent if no actions are developed. The first illustration identifies the challenges (Panel A) determined by our results, the second the practices related to those challenges (Panel B), and the Outcomes from different perspectives (Panel C).

Hypothesis Development

H1: The synergistic integration of varied insights enhances the comprehension of an effective strategic plan.

Strategic planning involves a systematic process of determining the direction or course of action to achieve the desired future for an organization (Elbanna, 2015; Mintzberg, 1994; Weston, 2019). While the core definition remains unchanged, perspectives and contexts have evolved over the years, prompting managers to make significant changes that facilitate organizational evolution. During our investigation, it becomes evident that not everyone is receptive to external insights, and not all individuals are willing to participate in company initiatives. However, we identified seven distinct perspectives that underscore the importance of participation in meetings and contributing ideas to build and improve projects (Perspective 1). These perspectives include the influence of each member in relation on a project development and product creation (Perspective 2), awareness of an investment reviewed technologies cybersecurity to ensure company infrastructure and safety (Perspective 3), enhancing product safety to build customer trust and soliciting feedback (Perspective 4), gathering data, setting verifiable goals, and building accountability (Perspective 5), placing individuals in suitable roles and fostering their growth and development (Perspective 6), and providing suggestions for new market areas to invest, as well as the development of new solutions, trends, and proactive approaches (Perspective 7).

H2: Positive relations between management levels lead to higher effectiveness compared to a distant relationship with no attachment.

Management relations are recognized as the initial step (Chaudhuri, 2018) in facilitating higher organizational effectiveness. According to this hypothesis, positive relations can foster better communication among management levels and increase accessibility to other opportunities. Communication, as a variable, has been identified as the most significant factor in increasing proficiency. Positive relations can also be observed among individuals working in the same area of expertise, as they share the same tribulations and experiences. Cooperation towards a common task or goal is another variable that can contribute to positive relations, ultimately benefiting the entire organization and enhancing its competitiveness. Considering this, it becomes apparent that although top management is often perceived as a distant and authoritative position relative to other management levels, they should make an effort to establish positive relationships. This is crucial to prevent distance or non-existent relationships among employees, which can result in diminished effort in their tasks, lack of involvement in organizational operations or planning, failure to fulfill responsibilities accurately, and an inability to meet deadlines.

H3: In the presence of a higher effort from employees to acquire new skills contributing to the firm, top management feels more open to letting them participate.

The above section discusses the efforts of employees to acquire new skills which in a long-term contribution to the organization, as well as the importance of recognizing employees by involving them in strategic planning or the most meaningful actions within the organization. This was verified by 69,2% of the sample, suggesting that the employee needs to show initiative and a strong willingness to help the company. The first step in this process occurs when employees acquire new competencies that can be applied to their job or other area related to the organization. Combining new theoretical knowledge with the acquired experience can maximize their performance. As a result, top management recognizes and values these actions, leading to increase participation and insights from employees within the organization. Moreover, when employees are credited for their contributions over time, the impact becomes increasingly positive for everyone involved as credit is giving thought to time the impact begins to be positive for everyone involved. This leads to a higher level of passion for projects and increased effort from employees, as they begin to believe that their effort is meaningful and worthwhile. This, in turn, creates a sense of progression, pride, higher focus, and goal-oriented.

On the other side, the remaining 30,8% require assistance in aligning their efforts with the organization or top management. In some cases, thrust issues may arise, indicating an unsuccessful long-term relationship and an inability, from the employee perspective, for top management to assume their mistakes and misjudgments.

H4: Improved organization outcomes result from the contributions of individuals at various levels of the organizational hierarchy.

In Figure 4 (challenges, practices, and outcomes), it becomes evident that various challenges related to management levels have a significant impact on the organization and how each member responds to them. To enhance effectiveness and bridge the gap between

management levels, communication between the levels is crucial. In certain situations, the implementation of ADM (accessibility for direct messages) is recommended, along with group messages that allow workers at all levels to stay informed about organizational developments. This initiative fosters the sharing of ideas and encourages openness to others' perspectives, accepting valid contributions that can be applied to the current situation. Both top management and middle management need to establish a culture of trust, providing clear guidance on employee techniques and task methodologies, and acknowledging and respecting efforts. Consequently, this will increase motivation levels and lead to greater employee satisfaction, ultimately creating new growth opportunities. The issue of wages should be addressed from a performance perspective, recognizing those who make significant contributions and actively seeking ways to benefit the organization. This recognition serves as an indicator of consistency and value.

Conclusion

The qualitative study aimed to contribute to filling the gap in understanding top management's perception of strategic planning, specifically focusing on (1) their perspective on different hierarchy levels and (2) the necessary adaptation and adjustments required at different management levels to enhance effectiveness. As we progressed with our research and analyzed the results, it became evident that organizations need to pursue competitive strategies by addressing internal weaknesses, external threats, and maximizing their internal strengths and external opportunities (Hernandez, 2022). This aligns with our first hypothesis, which identified seven perspectives emphasizing the importance of participation in meetings and contributing ideas to build and improve projects, ultimately the direction of actions toward desired goals (Mintzberg, 1994; Elbanna, 2015; Weston, 2019).

Additionally, our study confirmed the understanding among top management that positive relationships within the organization are essential for enhancing competitiveness (Beck, 2009). This was supported by our second hypothesis revealing that employees seek clarity on organizational goals and metrics to provide them with more opportunities and options, while top management desires greater cooperation and proficiency in the workplace, fostering a proactive attitude. To achieve this, top management recognizes that communication, cooperation, and relationship-building are key. It is important to note that relationships are an ongoing process that requires continuous improvement (Brockman, 2020), and addressing internal conflicts related to the top management-employee relationship is crucial (Mordi, 2020).

Considering our third hypothesis, we found that positive relationships often begin with the attitudes of employees, their proficiency, and their ability to contribute SP with their newly acquired skills. Throughout our research, we observed that top management values employees who demonstrate initiative and a strong willingness to help the company. This begins with the acquisition of knowledge and application of expertise in daily operations, ultimately contributing to a higher level of performance.

In Figure 4, we presented several challenges, practices, and outcomes that can impact the organization and influence the responses of individual members. Additionally, top management seeks to apply the concept of dynamic capabilities to enhance effectiveness, viewing it as a stable and learned pattern of cooperative activity through which the organization systematically generates and modifies routines (Zollo, 2002). Our fourth hypothesis supports this perspective,

suggesting that identifying scenarios that lead to positive outcomes, such as accepting contributions, increasing motivation, and linking wages to performance, can help achieve these goals.

Correlating our data with the concept of dynamic capabilities method, we gained insights into the challenges within the organization. It became apparent during our interactions with members that certain topics need to be addressed to enhance effectiveness and bridge theory and practice. Specifically, the communication breakdown between hierarchy levels can result in delays or incomplete information, leading to misinformation or poor decision-making. To address this gap, top management could consider implementing an online message board or a similar tool to facilitate direct access and information flow among internal stakeholders. This would provide an opportunity to review strategies, implement effective tools, and align organizational strategy with personal value to improve action plans and time-saving measures.

Theoretical and Practical Implications

On a practical level, our results provide valuable insights and emphasize the importance of adopting a proactive attitude and being able to change quickly while maintaining focus and competitiveness. Since the onset of the COVID pandemic, managers have recognized the need for improvement stakeholders' relationships, the creation of new instruments, and design of new models to develop strategies that can effectively address the current context or aspects of past situations. These factors align with the concept of dynamic capabilities (Teece, 1997), which highlights the ongoing need to utilize dynamic resources to organize and manage processes 'to achieve sustainability. In addition, our research holds theoretical implications as it involves longitudinal studies to examine various management variations and explore the bridge between top management and the remaining levels of management.

Limitations and Future Research

This study has identified certain limitations that need to be acknowledged and addressed. Firstly, it is important to recognize that generalizations or interferences about the culture and methodologies of other organization's should be made cautiously, as each organization operates within its unique context. Secondly, during the interview process, some representatives of the CEOs were hesitant to answer certain questions, either to safeguard leader's position or to avoid providing inaccurate information.

In terms of future search, it is crucial to explore how top management deals with various situations and how strategic planning (SP) is practiced as a key driver of competitiveness. Several subjects warrant attention in the SP agenda for future adaptations. These include examining the everchanging landscape of environmental sustainability and determining the significant measures (whether realistic or not) that organizations need to adopt and implement. Retaining employees is another important area that requires investigation, focusing on understanding the actions that both employees and employers can take to retain valued workers and assessing the impact of long-term organizational tenure on productivity. Lastly, it would be interesting to explore the potential contributions or limitations imposed by the government authorities on organizations' SP efforts and the benefits that can arise from such collaborations.

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability Statement

Not applicable.

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Conflict of Interest

The authors declare no conflict of interest.

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Chapter 6

Empowering Leadership and Quality Care in Health Organizations: A Bibliometric Analysis

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Abstract

Organizational leaders must make the required structural adjustments to ensure a return to activity that is competitive and viable. Using bibliometric analysis of literature, this study aims to understand the thematic evolution of the literature related to empowering leadership and quality care in health organizations in the context before and during an ongoing crisis. The analysis gives clear evidence of the scientific literature's theme evolution and shows associations between effective leadership and quality of care. Therefore, we advise managers of health organizations to make an effort to empower their organization's leadership in order to provide their patients with high-quality care.

Keywords: empowering, leadership, quality, performance, healthcare

Introduction

The world tries to get back to normal after the CoVid-19 pandemic and the Russia vs. Ukraine war, which created an economic catastrophe to the majority of countries worldwide. Governments are working to instill measures to support the recovery of the economy in crucial and impacted sector such as the quality of health care delivery. According to (Zhang & Bartol, 2010) the key is empowering leadership and quality of care, important issues in their own right, evolving different places in different settings (Rosen, 2018). However, how has empowering leadership and quality of care progressed in the scientific literature over time? Hence understanding the trend and relationship established in literature before the pandemic and

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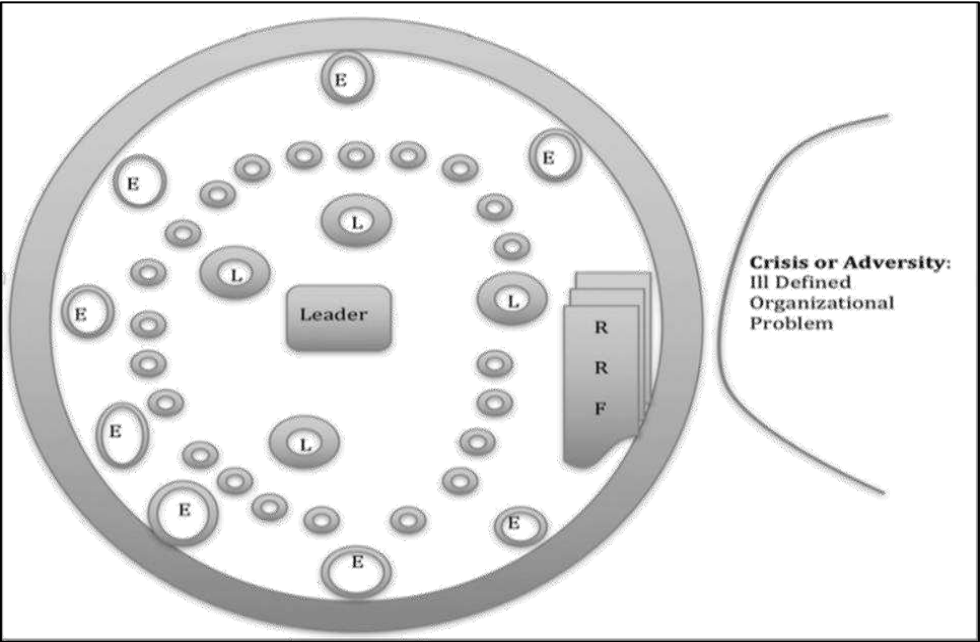
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during the pandemic will guild government in making well informed decision to get the economy back to normal in terms of the quality-of-care delivery. The purpose of this study is, at first, to make known the thematic evolution of the literature related to empowering leadership and quality care in health organization the context before and an ongoing crisis and war in Ukraine, and in a second instance, analyze whether the variables (Leadership and Quality of Healthcare) are related in order to benefit the current investments made in healthcare service. This chapter presents theoretical background, method, results, conclusions, recommendations and limitations.

Theoretical Background

In nineties of the past century the American military school invented an acronym named “VUCA” to describe the accelerated and unpredictable way, in which the world, the society in general and organizations are involved, classically described as “Volatile,” “Uncertain,” “Complex” and “Ambiguous.” The center of creative Leadership created a new acronym to face “VUCA” called “VUCA prime.” “VUCA prime” – is a set of customized strategies to face the uncertain and ambiguous environment described by “VUCA,” such as “Vision,” “understanding,” “clarity,” and “Agility” that leaders can use to make meaningful, ethical, and wise decisions. In this Vuca prime context, the organization is considered a complex adaptive system that supports leadership decision-making (Figure 1).



Note: Elkington, van Der Steege, Glick-Smith & Moss-Breen (2018).

Figure 1. Organization as Complex Adaptive System Supporting Leadership Decision-Making.

Support for decision-making and leadership comprises an organization conceived as an adaptive process, as illustrated in Figure 1, in which: The outer circle is the “shell” of the

organization represented by the organization's economic, political and legal framework, defining and protecting the organization as a living system. The Leader (ship) is no longer heroically positioned at the front lines of the organization but at its center, as the heart of the organization supporting and being supported by everyone in the organization. The decision-making process is the specific phenomenon in focus, in this complex adaptive system represented by the organization, conceived as social capital, and not just as a singular heroic leader (human capital), represented in the figure by the "L" circles of leadership. The Leader (ship) triggers critical thinking leveraging mechanisms at Rapid Reflection Force group (RRF) (Lagadec, 2009) represented by "RRF" in the Figure. RRF is a group of participants whose task is to help the Leader. This group knows how to face atypical situations and develop unconventional responses generating creative solutions under great pressure. In pandemic and crisis scenarios, the RRF group is very useful and essential, as it avoids the tendency of upper-echelon leaders to be invaded by tactical-technical micro-management issues, allowing them to remain more focused on the component more strategic. RRF makes meaningful decisions even with weak signals. For this purpose, it carries out tests and uses experimentation, using resources of various natures (financial, logistical, networks, and especially digital ones. These resources are represented in this figure in the margins by "E." Some organizations have many resources, others few.

Empowering leadership is an act of delegating authority and responsibility to followers, teams, or collectives through a set of leader attitudes and behaviors in order to increase employee internal motivation and achieve professional success (Amundsen & Martinsen, 2014; Sharma & Kirkman, 2015). The benefits of empowering leadership are frequently said to be mostly good, humanistic, and virtuous and in accordance with a stream of supportive studies (Zhang & Bartol, 2010; Chen, et al., 2022)

Quality of care requires describing the characteristics of the care offered as well as standards for what good care entails. Although there are many different types of activities involved in the management of health, those activities can be split into the following two categories: technological performance and management of the interpersonal relationship.

Technological performance "depends on the knowledge and judgment used in arriving the appropriate strategies of care and on skill in implementation of those strategies. The goodness of technical performance is judged in comparison with the best in practice" (Donabedian, 1988: 1743). This is possible through management of a human health condition using the science and technology of medicine and other health sciences.

The social-psychological elements of the doctor-patient relationship are included in the interpersonal components of treatment. "Through his exchange, the physician provides information about the nature of the illness and its management and motivates the patient to achieve collaboration in care" (Donabedian, 1988).

Despite the difficulty in defining what constitutes high-quality technical care, there is a substantial body of information in this field (Mulugeta et al., 2019). What is commonly forgotten, however, is that patients may contribute significantly to defining what quality care entails by deciding what values should be connected to certain outcomes. For these reason, Quality Interpersonal Care is harder to describe, but in general, it should adhere to socially prescribed standards for how people should behave. It's crucial to keep in mind, nevertheless, that the caliber of human interactions can have an impact on the standard of the technical treatment given. Donabedian has outlined three methods for evaluating quality: structure, process, and outcome observation. Structure describes the largely constant qualities of the

caretakers, their assets, and the institutional and physical environments in which they operate. However, the judgment of quality is based on what is understood about the linkages between process and the consequences of process for the health and welfare of individuals and society. The actual process of care is the main object of assessment. The standards of scientific medicine, as well as the ethics and values, are used to define the quality of the care process. There are several reasons to emphasize outcome measures more. The most prevalent outcome metrics, including mortality, are frequently too rare to identify slight variations in care and frequently show up too late after the care to be helpful.

Burdett Trust for Nursing established in 2002 with the aim of making charitable grants to support the nursing contribution to healthcare, shows that leaders who have brought quality care to the fore have skills, confidence and tenacity that have enabled them to achieve this against competing interests. Thus, the development of leadership (Empowering Leadership) seems to be a relevant factor (Bate & Robert, 2007) in the quality of health care provided in organizations. Employees perform creatively at work because they feel empowered to exercise influence (Joo B-K (B), Yoon & Galbraith, 2023). According to (Thi Vinh Tran Nguyen, Hoai Than Nguyen, Thi Xuan Nong & Thi Thanh Truc Nguyen, 2022), this creative performance involves coming up with original and helpful ideas, which calls on employees to take risks, come up with solutions, seek out information, and be proactive.

However, does empowering leadership reach its expected outcome of ensuring delivery of quality care in the health system? Although there is an intuitive linkage between empowering leadership and quality of service, research findings in different samples and contexts are not consistently supportive of this linkage (Zhou & Hoever, 2014). ‘Empowering leadership might not always be the best “fit” for particular work settings or based on follower differences’ (Sharma & Jain, 2013: 221). These inconsistent findings in the literature suggest the need of more search trying to make known the thematic evolution of the literature related to empowering leadership and quality care in health organization and because we have been going through a crisis since the CoVid-19 pandemic and currently extending to the Russia-Ukraine war, know, if possible, the time before and during the crisis. And analyze whether the variables (Leadership and Quality of Healthcare) are related in order to benefit the current investments made in healthcare service.

Methodology

A systematic quantitative approach to map and review existing healthcare studies concerning empowering leadership and quality of care following was used. To register the number of studies included and excluded at different stages of literature search, a reporting Prisma flowchart (Navathe et al., 2013), was applied.

Specifically, a systematic scientific literature review searching of publications on the Web of Science (WoS) database from Clarivate Analytics was made.

The authors applied the eligibility criteria associated with “Booleans” operators, in English or Portuguese (Languages) of every country. The search strategy included all publications dated from 01/01/2012 to 31/12/2022. We exported all accessible results, including citation information, bibliographic information, abstracts, and keywords, to an excel file. EndNote X8.2 software was used to eliminate duplicate publications and manage the database. After that, the final refined file was exported RStudio (a free software integrated development environment

for R). This programming language for graphing and statistical calculations enabled to focus on objective and quantifiable facts about knowledge structures, social, intellectual, and conceptual framework to understand the scientific field's trajectories.

To classify eventual associations between empowering leadership and quality of care, a method developed by (Teixeira, Carraca, Markland, Silva & Ryan, 2012) was adopted, as follows: positive (++) or negative (--) for percentage $\geq 75\%$ and (+) or (-) for percentage between 50–75% showing associations in both BA and MA; 0/+ or 0/- when the evidence was split between no association (0) and positive or negative associations, respectively; and (?) for results indicating inconsistent findings or indeterminate results due to a small number of studies available.

Discussion and Conclusion

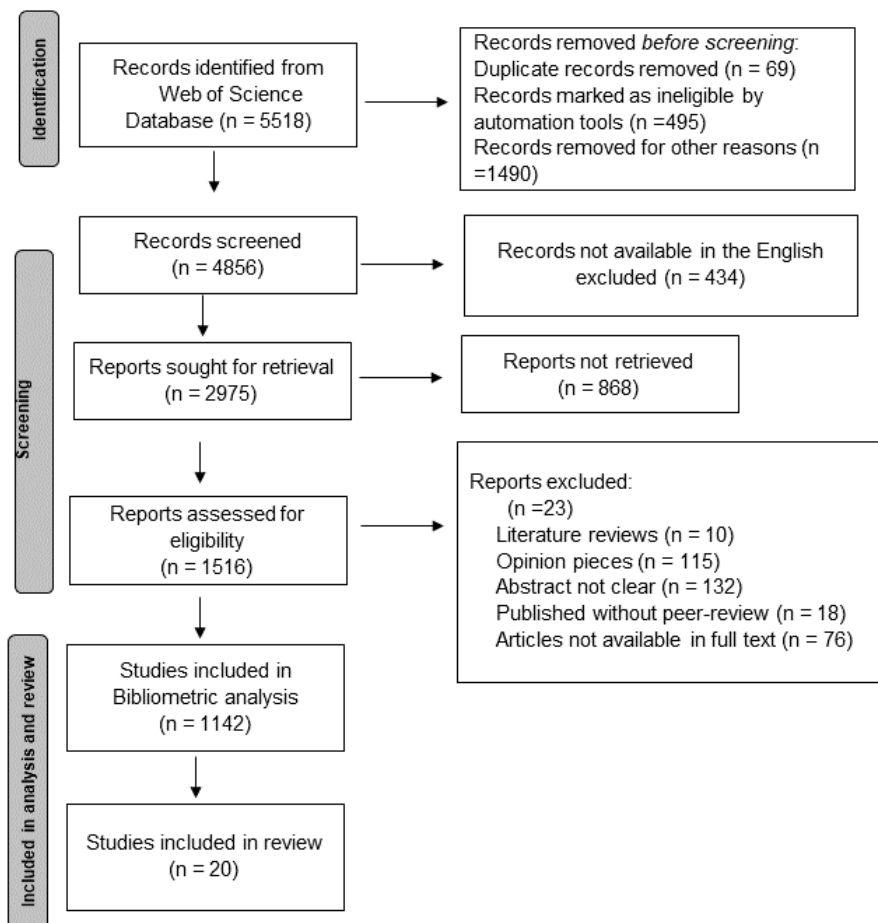


Figure 2. The PRISMA flow diagram for the systematic literature review which included searches of Web of Science database.

From the search of keywords; ‘Empowering Leadership,’ or ‘Empower leadership’,’ or ‘Leadership’; or “support’,’ or “support’,’ or “supervision’,’ and “Quality of Healthcare ‘,’ or “patient satisfaction” in WoS, we obtained a total of 5,518 publications. After applying the eligibility criteria, combined with the “booleans” operators, we obtained a total of 426 articles, according to Figure 2. The bibliometric data were then exported for further analysis in R using the package bibliometrix and the command biblioshiny.

Main Information from Search Results

We found 1142 articles published by 5645 authors in 268 sources from Web of Science (WoS) database for the period 2012–2022 were selected. 44 of these research articles were authored by single authors and the remaining articles were coauthored. The annual growth rate of these articles was found to be 2.14 per year.

Countries Scientific Productivity

In general, we identified the contribution of 64 countries. The USA is the country with the highest number of publications with 513 articles out of which 454 are Single Country Publication (SCI) and 59 are Multiple Country Publications (MCP). The United Kingdom followed with 172 articles of which 124 are SCI and 48 are MCI followed by Australia, Canada and the Netherlands with 69, 54 and 30 publications, 60, 45, and 26 SCI articles and 9, 9 and 5 MCI articles respectively as shown in Figure 3.

Also, through the collaboration networks, the social structure analysis shows a close relationship between authors, institutions, and countries. We also found a strong collaboration between the USA and the United Kingdom with 36 publications, followed by USA and Canada with 18 publications as shown in Figure 4. The United State of America, Australia, and Canada were found to be at the center of the collaboration cycle, serving as a link between other continents and countries.

Countries Keywords and Keywords-Plus

The researchers listed the 1142 articles with 2570 keywords and 1688 keywords-plus by WoS. Keywords-plus are more efficient than the author’s keywords for bibliometric analysis purposes when looking at the knowledge structure of scientific areas, but they are less thorough in expressing an article’s content. The term in the spotlight from WoS keyword-plus was “quality,” which appeared 196 times, followed by “care,” “healthcare,” “Impact,” and “leadership,” which appeared 179, 147, 130, and 129 times, respectively. Two tag clouds (Figure 5) with the top 50 keywords and keywords-plus were constructed to make it easier to grasp the critical phrase and compare the various sources.

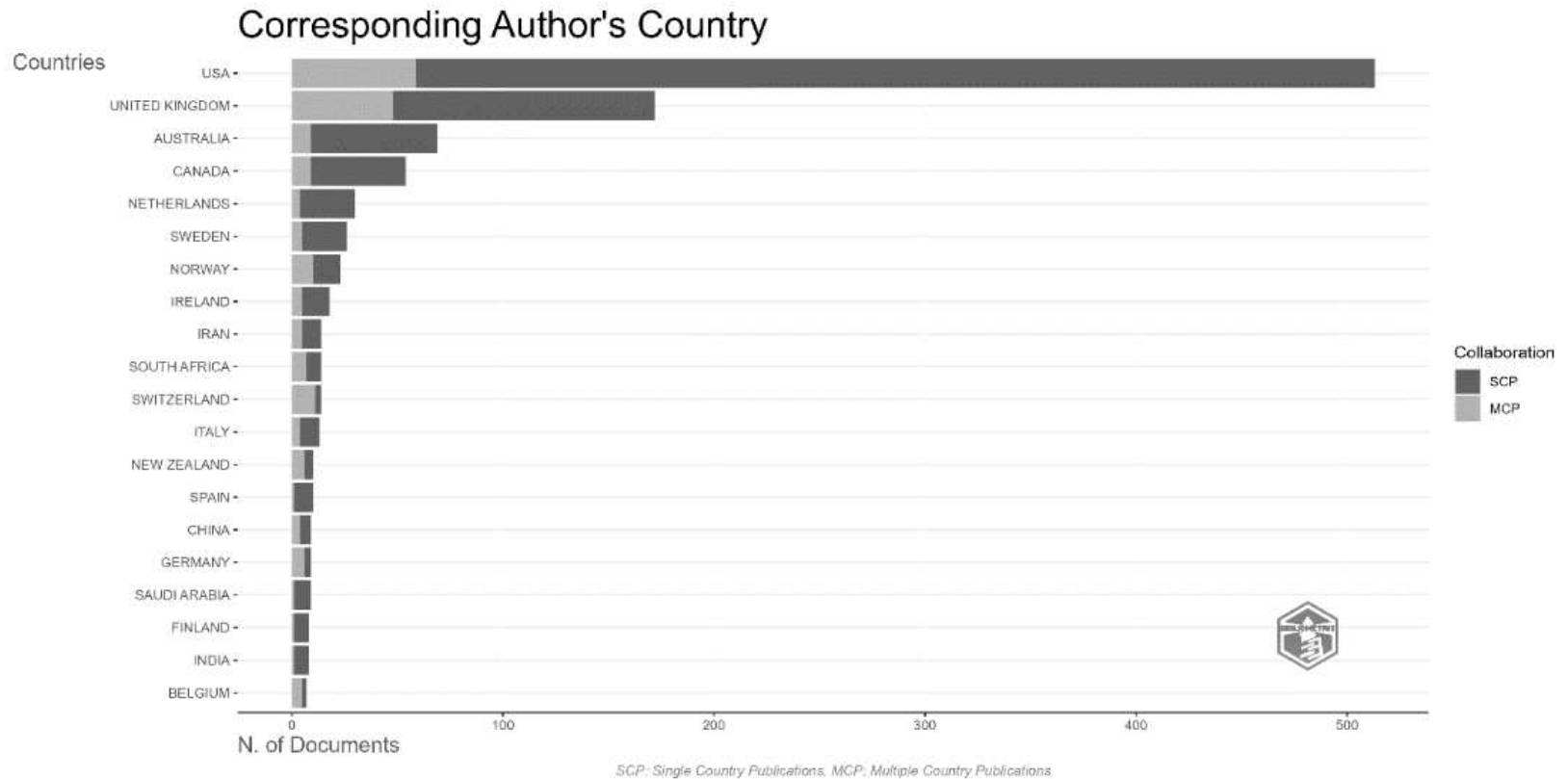


Figure 3. Trends and comparison between Single Country Publications (SCP) and Multiple Country Publications (MCP) for countries' productivity over the last decade.

Country Collaboration Map

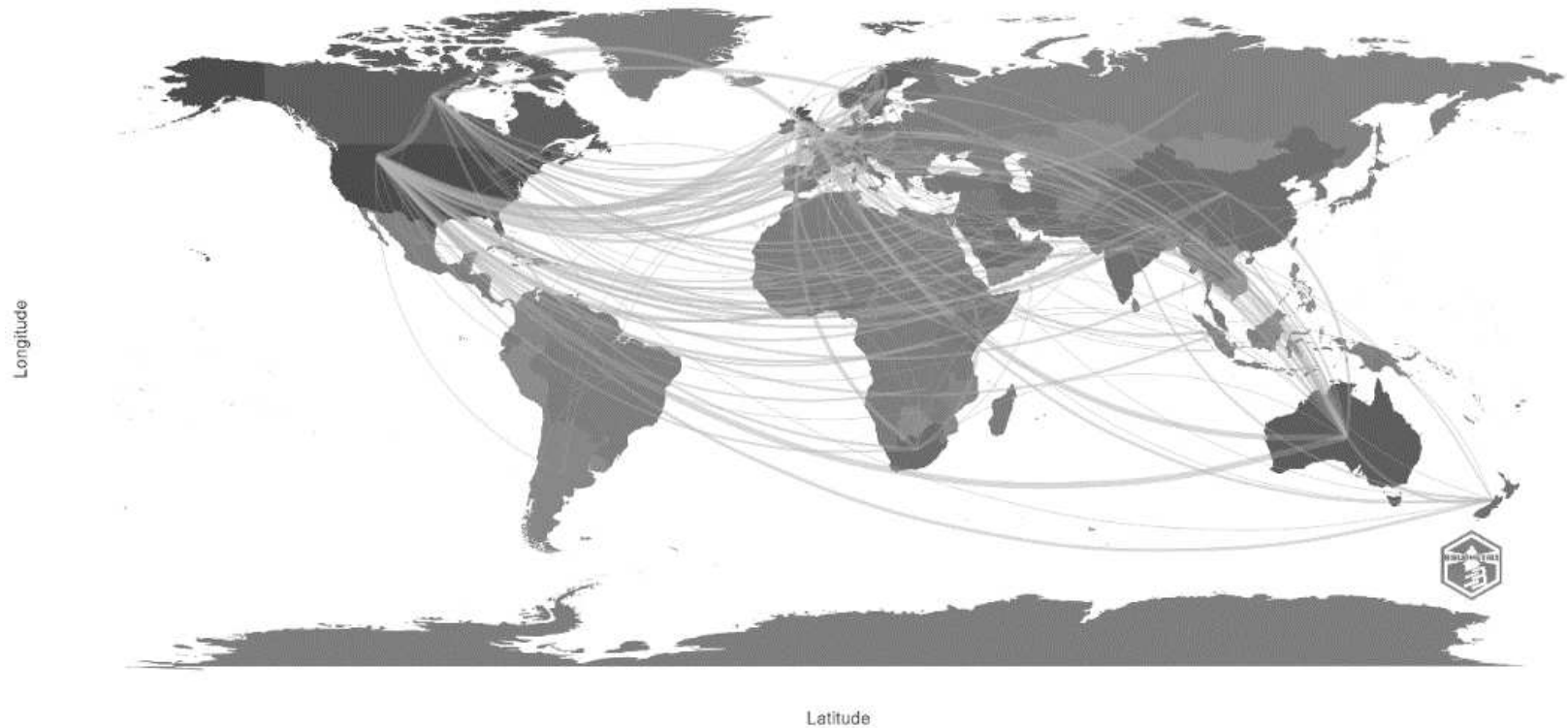


Figure 4. Trends and comparison between Single Country Publications (SCP) and Multiple Country Publications (MCP) for countries' productivity over the last decade.



Figure 5. Two tag word clouds of the top-50 keywords-plus (left) and keywords (right).

Thematic Evolution of Scientific Literature, before and during the Crises Period (COVID-19 and War in Ukraine)

Despite the fact that the time frame under study is between 2012 and 2022, we highlight two periods: 2012 to 2018 (which represents the time before the pandemic) and 2019 to 2022 (which represents the crisis period) in order to better understand the evolution of the scientific literature during COVID 19 and the war in Ukraine. Then, for these two eras, we examine the output of scholarly writing, international partnerships, knowledge structure, and changes in the use of keywords-plus. We found 686 articles published by 2905 authors in 192 sources with an annual growth rate of 13.19% before the crisis period while 456 by 2980 published in 170 journals from WoS database with an annual growth rate of 16.83% were found during the crisis period. The percentage of international co-authorship articles increased from 20.12% before the crisis to 24.12% during the crisis.

Thematic Evolution of Keyword-Plus

The analysis of the evolution of keyword-plus shows a change in the use of keyword-plus over the years (Figure 6). As we can see, themes based on keywords Plus have evolved throughout time. Thematic evolution of keyword plus shows four primary topics between 2012-2018, which then transitioned to a series of new themes between 2019-2022. Specifically, between 2012-2018, “quality” and “impact” were the major prevailing words which have remained a key area of research. Between 2019-2022, “quality” continued to prevail but split into other areas such as safety, continuity, networks, systems, education, perspective, centered care, skills and needs. “impact” on the other hand followed the same split with the addition of new research areas such as women and bias. Although “intention” and “climate was major” focus in 2012-2018, and in 2019-2022, these research areas gave way to safety, impact needs and skills.

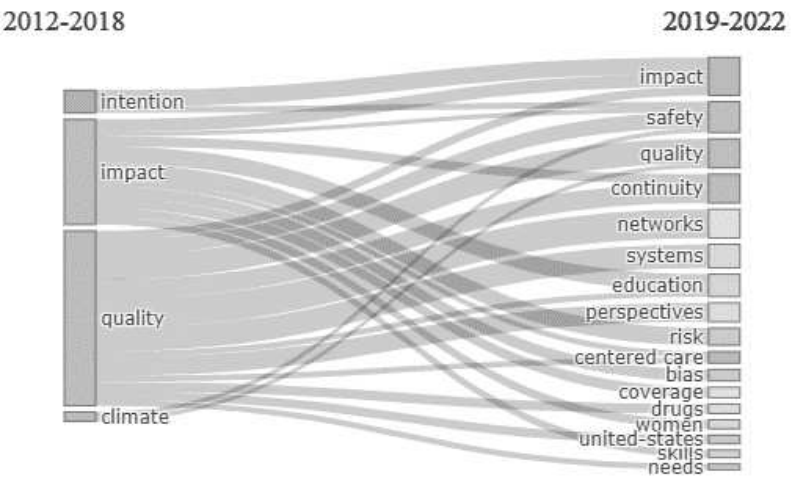


Figure 6. Thematic evolution of Keyword-plus over the last decade.

Cumulative Occurrence and Dynamics in Keyword-Plus

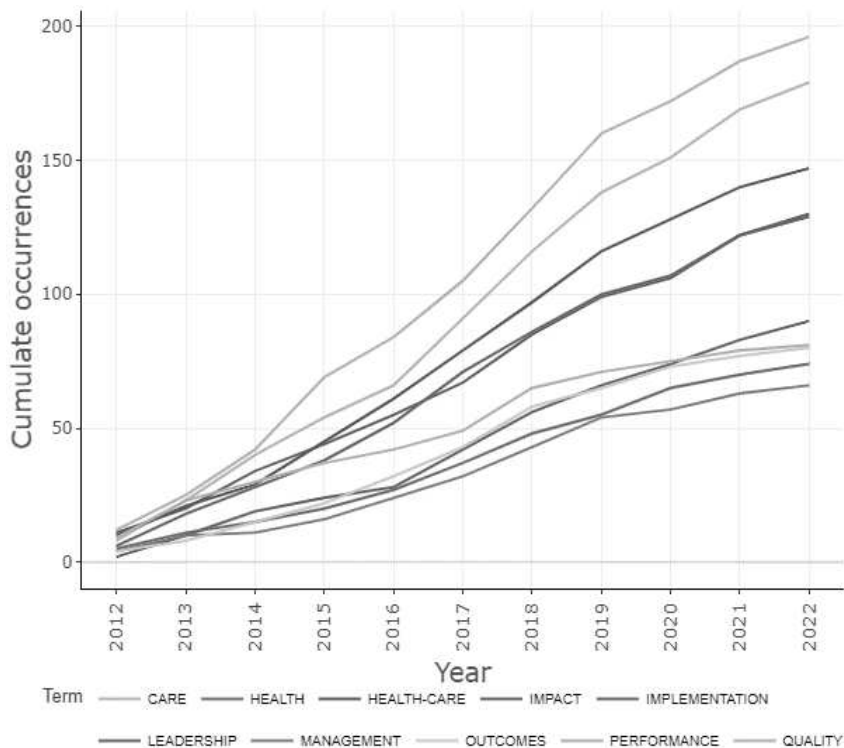


Figure 7. Cumulative occurrence and dynamics in keyword-plus.

Analysis of the top 10 keywords plus shows growth in the use of these words over the year (Figure 7). The number of all these research areas per year increased over time, but some grew more dynamically than others. The terms with the highest increase in occurrences over time

were ‘quality’ which has an increased occurrence rate per year of 98.8, followed by “care,” “Healthcare,” “impact,” “leadership” and “implementation” with an occurrence rate of 85.6, 72.6, 64.8 and 40.4 respectively.

Structures of Knowledge

To identify the structure of knowledge in this bibliometric analysis, we examine the conceptual, and social structure of knowledge over the past decade taking into account the pre-crisis and the crises era.

The Conceptual Structure of Knowledge

We utilized the conceptual framework to study the links between concepts and words in a series of publications in order to map what the scientific community is looking at and examine the numerous themes produced by research. We used the conceptual organization of the keywords associated with the articles studied in this study condensing voluminous data containing a variety of variables into a low-dimensional space to produce a comprehensible two-dimensional graph that uses plane distance to depict keyword similarity. In recent years, there has been a lot of interest in keywords pointing in that direction (Xie, Fu, Jiang & Che, 2020). The distribution of the points along the dimensions and their relative placements are used to interpret the results; the more similarly distributed words are shown on the map, the closer the words are shown on the map. A comprehensible two-dimensional graph is produced by compressing a lot of data with different variables into a low-dimensional space using the conceptual structure of the keywords associated with the articles included in this study. Based on the relative positions of the points and their distribution along the dimensions, the results are interpreted; the closer words are represented in the map, the more similar their distribution is (Aria & Cuccurullo, 2017).

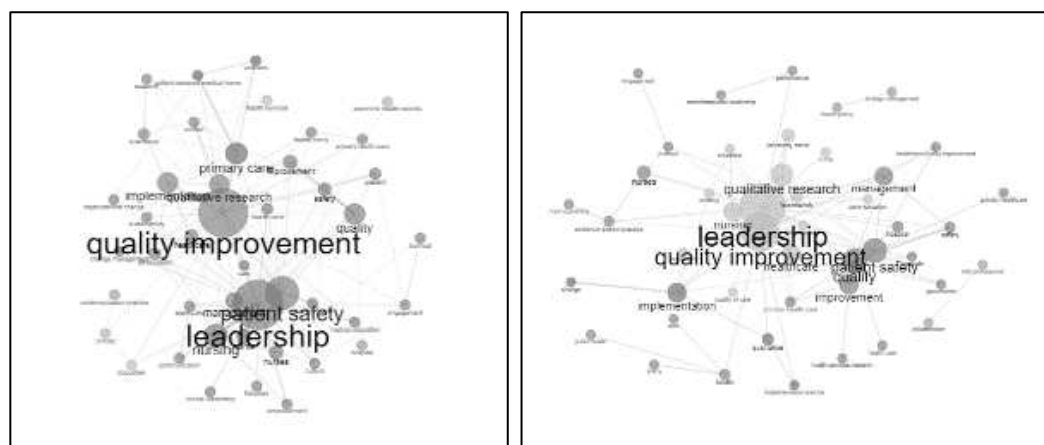


Figure 8. Authors co-word network.

The mapping of authors’ keywords (Figure 7) revealed that keywords such as quality improvement and leadership are closely related and frequently co-occur in publication before the crises (Figure 7 left) and during the ongoing crises (Figure 8 right).

Social Structure of Knowledge

Social Structure of Knowledge Before and After the Crisis

We identified the contribution of 46 countries that have collaborated to produce 222 articles before the crisis period. The USA is the most outstanding country with the highest number of publications and collaborations with other countries in the world. Countries such as the Netherlands, Spain, Poland Germany and Norway were also found to form a cluster of research collaboration between themselves with multiple papers although there are occasional collaborations with other countries, the collaboration is stronger within these countries. In another cluster, African countries south Africa was found to be the pivot for collaboration with other African countries such as Nigeria and Ethiopia as well as India, Canada and New Zealand. Portugal was found to have collaborated with only Germany as shown in Figure 9.

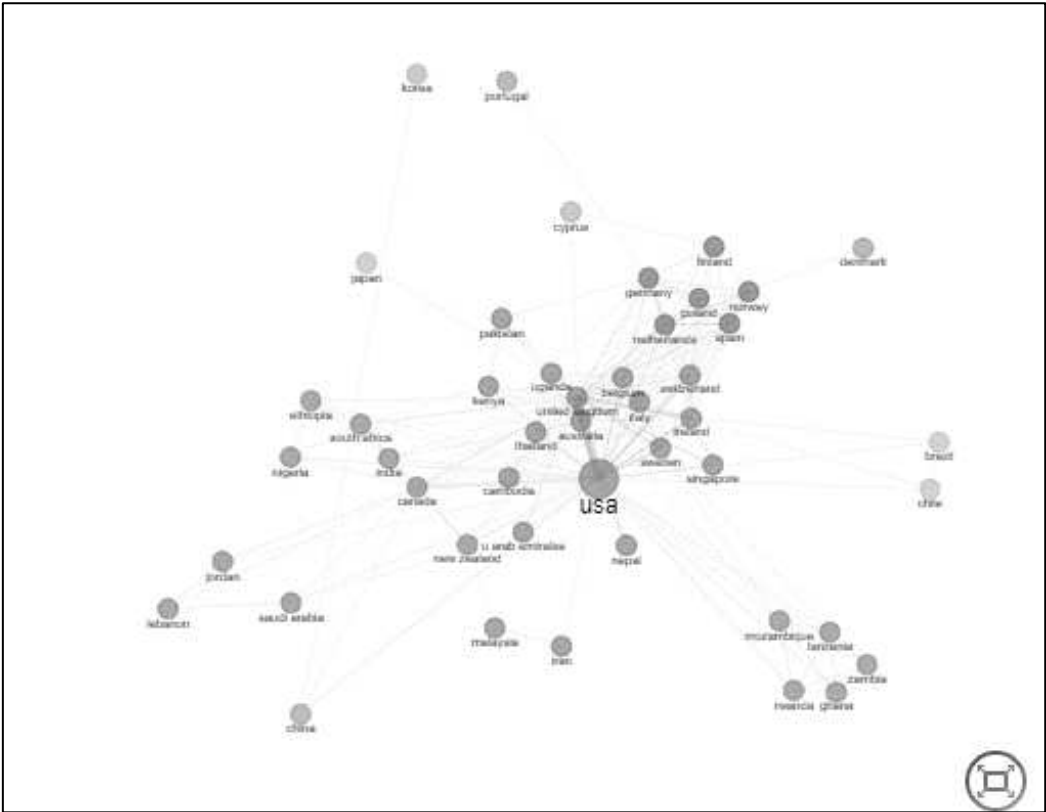


Figure 9. Country collaboration networking before the crisis.

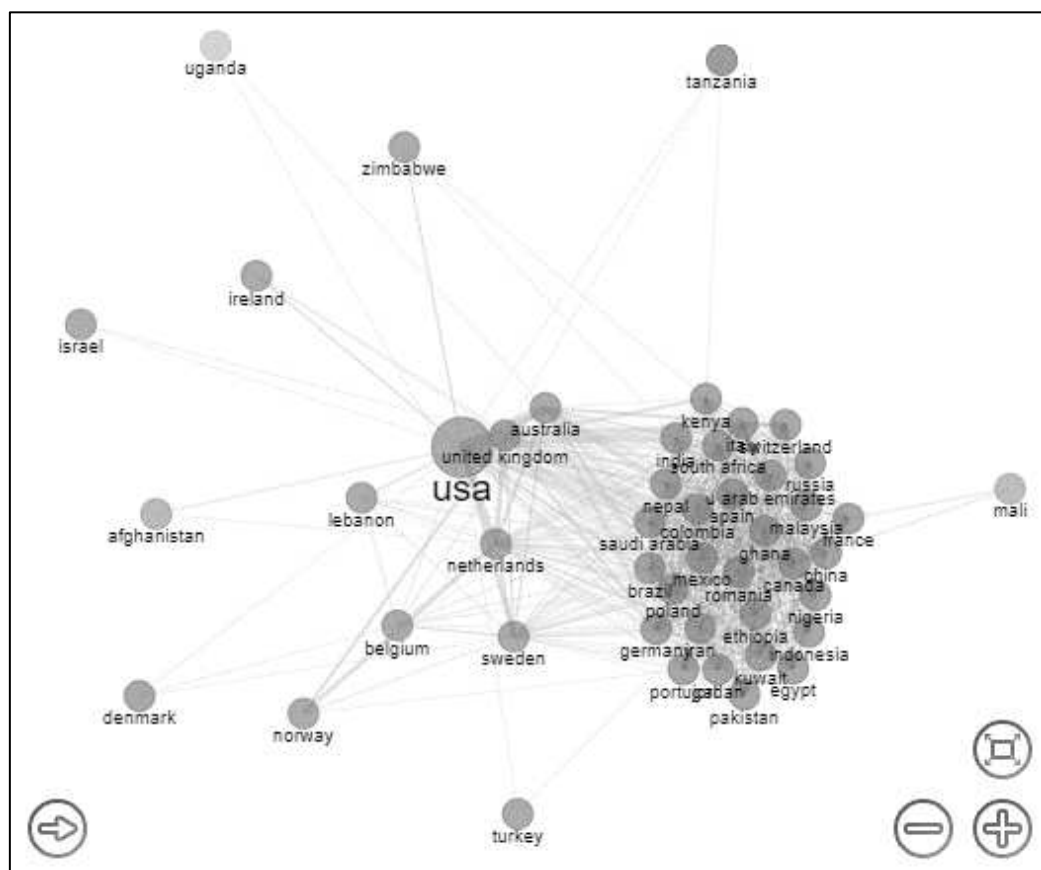


Figure 10. Country collaboration networking during the crisis.

Our analysis of country collaboration networking during the crisis identified the contribution of 47 countries who have collaborated to produce 245 articles in this field during the crisis period. Although the social structure analysis shows a close relationship between European countries, we found the USA to be at the center of these collaborations as shown in Figure 10.

Association between empowering leadership variable and quality of care variables. The 20 articles included in this review comprised a total of twenty independent samples. Although none of these articles examined the direct relationship between empowering leadership and quality of healthcare most of the studies examined the relationship between empowering leadership and other variables such as: Experience, patient safety, innovation, performance and satisfaction where a strong positive relationship was found as shown in Table 2. With regards to Quality of care, a strong positive connection was found with leadership, Experience, primary care, communication, policy and satisfaction, while an inconclusive result was found with patient safety, implementation and management as shown in Table 1.

Table 1. Summary of variables related with empowering leadership and quality of care tested in 20 reviewed articles

Variables	Empowering Leadership					Quality of care				
	N	+	-	0	Outcome	N	+	-	0	Outcome
Leadership	19	12	6	1	+	18	13	3	2	++
Experience	17	13	3	1	++	19	17	0	2	++
Primary Care	19	11	4	4	+	14	11	1	2	++
Patient Safety	16	14	0	2	++	4	2	0	2	?
Healthcare	6	3	1	2	?	8	7	0	1	++
Implementation	12	7	2	3	+	19	9	5	5	?
Management	11	5	1	5	-	9	4	1	4	?
Communication	11	4	3	4	-	11	10	0	1	++
Innovation	9	7	1	1	++	9	3	3	3	--
Policy	6	2	4	0	-	6	5	1	0	++
Performance	18	15	0	3	++	17	9	4	4	++
Satisfaction	13	11	1	1	++	12	4	8	0	--

Note: All results derived from multivariate analysis are in (parenthesis). N= Number of articles, (+) = positive association between variables, (-) = negative association between variables (o) = association not significant (?) inconsistent findings or undetermined results. Under outcome: Positive (++) or negative (- -) for percentage > or = 75%, Positive (+) or negative (-) for 32 percentage between 50-75% showing associations, (0/+) or (0/-) when the evidence was split between no association (0) and positive or negative associations, (?) Inconsistent findings or identifiable results due to a small number of studies available.

Conclusion

The objectives of this study were, at first, to make known the thematic evolution of the literature related to empowering leadership and quality care in health organization the context before and an ongoing crisis and war in Ukraine, and in a second instance, analyze whether the variables (Leadership and Quality of Healthcare) are related in order to benefit the current investments made in healthcare service. In the first instance to answer the first objective. This objective was achieved as this systematic review offers strong evidence for the proposition that the number of authors, publications, and journals, as well as the collaborative network between nations, increased during the crises period compared to the period prior to the crises. The study shows a change in the usage of keyword-plus over time, which provides clear evidence of the scientific literature’s thematic evolution both before and during the crises period. Thematic evolution of keyword plus is illustrated by four main topics from 2012 to 2018, which were followed by a number of new themes from 2019 to 2022. This implies that the transformation in literature relates to the transformation and the dynamic nature of people, hence employees should update themselves with the current state of knowledge so as to be able to meet and improve upon their

organizational culture. For the second objective, the relationship between “Empowering Leadership” and “Quality of care” was not found because “Empowering Leadership” is a composite concept. However, relationship between “Leadership” and “Quality of Healthcare” was found. The study also provides convincing evidence for the strong positive relationship between some mutual variables of Empowering Leadership and Quality of Healthcare. Strong correlations were found between empowering leadership and Quality of Healthcare in the areas of leadership, experience, primary care, patient safety, and Healthcare. We therefore, recommend that managers of health organizations should endeavor to pay attention to empowering the leadership of their organization in order to deliver quality healthcare to their clients. The study found a that variables such Leadership, Experience, Primary Care, Patient Safety, and Healthcare were strongly associated with both empowering leadership and quality of care, the increase in these variables contributes to the increase in quality of care so companies must adopt strategies to empower their leaders, improve their experience in the areas of primary care and ensure the safety of their patients. 37 Limitations of the study This systematic review relied on a relatively limited number of databases for the identification of potentially eligible studies, although WoS is a comprehensive database it is not absolute, hence we may have missed other relevant data that are not indexed on Web of Science database. Future research recommendations We recommend that future research aimed at understanding the type of leadership style that promotes the delivery of quality care be carried out.

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Chapter 7

Neuro-Leadership: A New Paradigm in Leadership Thought

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Abstract

Leadership is not a static occurrence. It is a dynamic one that constantly evolves. Leadership is seen as a means to enhance one's personal, professional, and social lives. Organizations believe that leaders bring in unique assets to the organization; which contribute to the bottom line of the company. The conclusions drawn from research findings on leadership portray an image of a process that is far more sophisticated and complex than the condensed view, popularly accepted. This chapter will provide a comprehensive evaluation of different approaches to leadership and highlight the importance of a new paradigm. Ground breaking insights have started to surface regarding neurosciences and brain functioning that has significantly influenced leadership thought. The traditional approaches of leadership could not adapt to the world of unlimited information which needed continuous evolution; however, our brain can adapt and change leading to the emergence of neuro- leadership. The chapter will trace the journey of neuro-leadership and its increasing relevance in the current scenario, especially in terms of employee and organization performance.

Keywords: neuroscience, leadership, theories, neuroleadership

Introduction

The concept of leadership has been extensively argued and explored in a variety of contexts, including business, politics, education, and sports, among others. While definitions may differ, it primarily refers to the ability of an individual to influence, inspire and guide others towards

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a common goal or vision (Lee, 2014). Good leadership is essential for the success of any organization, team, or community. However, defining and describing good leadership is easier said than done.

Research suggests some desirable characteristics in leaders. One of the most important characteristics of a good leader is the ability to communicate effectively. Leaders must be able to convey their message clearly and concisely to their followers, as well as listen actively to their ideas and concerns (Landry, 2019). Communication is a two-way street, and effective leaders understand that they need to establish a rapport with their followers to gain their trust and support.

Leaders also need to be able to adapt their leadership style to different situations and contexts. There are many different leadership styles, including autocratic, democratic, transformational, and servant leadership, among others. Autocratic leaders make decisions without input from their followers, while democratic leaders involve their followers in the decision-making process. Transformational leaders focus on inspiring and motivating their followers, while servant leaders prioritize the needs of their followers above their own (Nawaz & Khan, 2016). Effective leaders know when to use each of these styles depending on the situation. For example, in a crisis situation, an autocratic leadership style may be necessary to make quick decisions and take decisive action. However, in a collaborative environment, a democratic leadership style may be more effective in ensuring that all voices are heard and all perspectives are considered.

Another important characteristic of effective leaders is their ability to inspire and motivate their followers. Leaders who can create a shared vision and purpose for their team or organization can inspire their followers to work towards a common goal (Chai et al., 2017). They also need to be able to motivate their followers through positive reinforcement, recognition, and rewards. Effective leaders also lead by example, demonstrating the values and behaviors they want their followers to emulate (Jung & Avolio, 2000).

Additionally, given the increasingly global nature of our workplaces, effective leaders need to be able to navigate cultural differences and promote diversity and inclusion within their organizations. They need to be able to understand and respect different perspectives and backgrounds, and create an inclusive culture where all members feel valued and supported (Kugelmass & Ainscow, 2004).

Leadership has become all the more important in today's complex and rapidly changing world. The volatile, uncertain, complex and ambiguous world requires leaders who can anticipate and respond to changes in the business environment, technology, and society, among other factors (Rimita, 2019). This places emphasis on the need for a more agile and adaptive approach to leadership, one that can find its foundation in neuroscience. Given the adaptive and agile nature of the brain, a neuroscience approach to leadership, neuroleadership, appears to be an apt solution.

The Evolution of Leadership Theories

Many concepts and theories in leadership are attracted to research on leadership effectiveness. Due to its significance and effects on organizational structures, leadership theory has received a lot of attention in research. It crosses many different academic fields and contributes to the effectiveness of techniques and systems. (Nohria & Khurana, 2010; Khan et al., 2013). New

leadership theories are continually being put forth by researchers. Changes in personnel characteristics and evolving leadership expectations are to blame for this shift in leadership style. A quasi-military leadership style based on command and control can never elicit a response from today's information workers. As a result, new leadership ideas and methods are continually being developed as a result of how leaders act, treat, and perform. Each theory represents a certain school of thinking and has contributed to the development of leadership studies. Some of the key theories have been discussed below.

The Great Man Theory and the Trait Theory of Leadership

The great man theory was the first theory in the subject of leadership, and it was put forth by Carlyle in his book "on heroes, hero worship, and heroic in history" in 1841 (Carlyle, 1841). His hypothesis is based on the idea that effective leaders are born with particular qualities. The leaders are distinctive and extremely influential people whose inherent qualities make them exceptional leaders from birth. Herbert Spenser harshly opposed Carlyle's view, which claimed that great persons were essentially products of their social milieu (Spencer, 1896).

The Trait based theories proposed that leaders were born and not created. Gordon Allport defines traits as "a generalized and focalized neuropsychic system (peculiar to the individual) with the capacity to render many stimuli functionally equivalent and to initiate and guide consistent (equivalent) forms of adaptive and expressive behaviour" (Allport, 1937). Kirkpatrick and Locke (1991) define traits as "personal characteristics such as capacities, character, and motives that effective leaders possessed."

Trait can also be defined with Five Factor Model (FFM) also popularly known as OCEAN traits, namely, openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism. However empirical studies revealed no single traits or group of characteristics connected with leadership. Soon researchers and practitioners learned to analyze and understand the mental, physical and social characteristics of effective leaders (Riggio & Reichard, 2008). This paved the way for behaviorists theories.

Behaviorist Theories

Pfeffer, 1981 tried to understand leadership in terms of source and amount of power they commanded and how it had to be used. While power influence is certainly present in contemporary leaders, the dictatorial, authoritarian and controlling nature of this type of leadership is no longer considered appropriate. This unidirectional exertion of top-down influence without keeping in mind the follower's interests is not suitable in today's world.

This challenge gave birth to behavioral theories, where it was said that leaders' capabilities can be learned and not necessarily be inborn (Organ, 1996). Behavioral theorists identified three major leadership styles; autocratic, democratic, and laissez faire (Lewin et al., 1939). Their primary hypothesis was that leaders are created by their behaviour and not their traits. They proposed that effective leaders manage people by understanding human nature and human motivation (Herzberg, 1976). Blake and Mouton (1984) proposed that leaders are either task oriented or people oriented. While task-oriented leaders place more emphasis on job accomplishment, people-oriented leaders prioritize the relationships they build with their

followers. Successful people's behaviours were studied, and researchers proposed that leaders were created, not born. Those who have received the appropriate training and development could fill the position of leader (Blake et. al., 1962). This was a significant step in the evolution of leadership theory because it enjoyed empirical support. It could also be implemented by practicing managers to improve their leadership effectiveness.

However, as research into subordinate behaviour grew, it was seen that leaders do not directly cause subordinate behaviour but rather provide the conditions and stimulus for appropriate behaviour. According to Maccoby (2004) people choose leaders based on rational and irrational reasons. Former is about dealing with the unknown, which could be interpreted as the future. Leaders can provide stability and certainty when dealing with unknown situations. They can give succor and help lead the path. However, for irrational reasons, people follow the leader without being consciously aware of it. This could be a natural response to difficult situations. This automatic willingness to follow leaders emerges from emotions and images in our unconscious mind that are projected onto our relationships with leaders (Maccoby, 2004). This led to a shift in focus to the characteristics of the follower. Additionally, it was proven that the efficacy of the leader is influenced by a variety of contextual elements and this gave rise to the contingency theories of leadership.

Contingency Theories of Leadership

The situational theory acknowledged factors beyond the leader and the subordinate were responsible in deciding the effectiveness of the leader (Bass & Stogdill, 1981). In his Contingency Theory, Fiedler (1978) claimed that position power, task structure, and leader-member connections moderate the relationship between a leader's qualities and effectiveness. Effective leadership was contingent on one or more factors of behaviour, personality, influence and situation. They proposed a situational moderator variable, which revealed which leadership style to use. Leaders were found to be effective in different situations, indicating that the leader's strengths and qualities must be aligned with the situation for the leader to be effective (Vroom & Jago, 2007). While the situational leadership theory proposed by Hersey and Blanchard (1969) is the most prominent contribution of this school of thought, other theories were also proposed. Adair (1979) proposed the 'task- team- individual' model and included the variable of team work as one of the situational factors that could predict leadership effectiveness. Suffice to say that all the researchers were unanimous in their proposition that in addition to the leader and follower traits and behaviours, leadership styles and effectiveness were dependent on the situational factors as well.

However, there again came a shift the approach to understanding leadership effectiveness somewhere around the late 20th century onwards (Hannah et al., 2014). A paradigm shift from the individuals in the equation to the relationship between the key parties. This brought about a new set of theories in the form of transactional and transformational leadership.

Transformation and Transactional Leadership

The new set of theories categorized leadership styles based on the relationship between the leader and the follower. Transactional leadership viewed the relationship as a set of transaction;

give and take. In order to encourage the desired behaviour and discourage negative behaviour, leaders were said to use reinforcements (Burns, 1978; Bass, 1997; Malos, 2012). This consisted of both negative and positive reinforcement. The appropriate use of rewards was crucial to the success of the leader. The leader was encouraged to use rewards and punishments to create the right environment for individual and organizational success.

One of the key theories during this time was the Leader Member Exchange Theory (LMX theory) by Graen and Biehn (1996). They proposed that the relationship between the leader and the members was not stagnant and was constantly changing and evolving. The phases through which the relationship passed included Role Taking, Role Making and Routinization. However, they also viewed the relationship as a set of simple transactions between the leader and follower.

However, at the same time that Burns (1978) proposed the transactional leadership style, he also defined a transformational leadership style. Transformational leaders were known to prioritize the relationship with the follower. They were defined as the leaders who took into account the morale, morals and motivation of their followers. Burns (1978) clearly distinguished between the two styles. According to him, a transformational leader would emphasize on what you can do for your country, while a transactional leader would be concerned about what the country can do for you.

While Burns (1978) admits that evaluation of individuals would reveal that all leaders exhibit both transactional and transformational styles, but the profiles would also reveal a greater tendency to display any one style; a dominant style. Bass and Avolio (1991) studied effective leaders and found that in terms of satisfied followers, leaders whose dominant style was transformational were far more effective than transactional leaders.

The earlier theories of leadership, viewed the leaders as rigid, inflexible and dictatorial in nature. Traditional leadership theories focus on stability and predictability and place a strong emphasis on hierarchy and top-down decision-making (Marion & Uhl-Bien, 2007). Transactional and transformational leadership styles provided insights on what followers believed to be an effective leadership style. However, the current scenario or the so-called VUCA environment is a rapidly changing and unpredictable world. Today we need leaders who are able to adapt quickly and make decisions in a constantly shifting landscape. But in a VUCA world, this approach may be too slow and inflexible. In a VUCA world, leaders may need to be more collaborative and open to input from multiple sources in order to respond quickly to changing circumstances. Today's leaders need to be more comfortable with ambiguity and able to pivot quickly as circumstances change (Krawchuk, 2018). They need to be able to make decisions with incomplete information and adjust their strategies as new information becomes available. In other words, there is a need for leaders to be more adaptive.

Neuroscience and Leadership: An Adaptive Approach

In this approach, the leaders see organizations as complex systems that are constantly evolving and therefore adapting. In organizational science the impact of engaging leadership behaviors on success has been empirically proven (Higgs & Rowland, 2011). Yet there is a long way to go understand the phenomenon in its entirety. This could be because leadership is not a static occurrence but a constantly evolving phenomenon and a dynamic approach would better help understand leadership. There is a need to expand our horizons to include new forms of emerging

knowledge. In this pursuit, the real breakthrough today is neuroscience. Over the last two decades, significant advancements in technology have aided neuroscientists in their studies to understand the human brain better. Cutting edge insights started to emerge regarding neuroanatomy, synaptic development and brain functioning that significantly contributed to our understanding of the brain. In the process, neuroscience has immensely contributed to the understanding of leadership also. Neuroscience has had a significant impact on business related field such as marketing and communications, however focus now is on its effect of leadership or what Rock and Ringleb (2009) named neuroleadership.

Neuroleadership is defined as the study of the biological micro-foundations of the influence-based relationship among leaders and their followers. Through the insights gained through neuroscience about brain functioning, leaders can increase their capacity to engage themselves and their followers and enhance performance (Rock & Tang, 2009). Leaders become more efficient when they harness the brain capacities of themselves and their followers. This can be done, mainly, by increasing individual brain strengths, cultivating healthy relationships and developing high quality collective thinking (Henson & Rossou, 2013).

Thus, neuroscience unlocks new pathways for understanding leadership. This has been facilitated by imaging technologies (such as functional Magnetic Resonance Imaging, fMRI and other neural biometric and brain wave capturing technologies that have contributed dramatically to the way the brain is being studied (Willimson, 2019). As a result, current insights about neural processes developments and connectivity have been discovered. These findings have increased our understanding of social phenomena such as leadership and change in organizations. Also, these new findings are challenging traditional approaches and reassessing leadership programs from a neuroscience lens.

The previous approaches of leadership were bureaucratic in nature where the source of power is positions and offices. This has now been replaced by infocracy (Clawson, 2011), where power lies in the possession of information. This approach requires continuous adaptation. This approach elevates people as a critical component of any social system. Leaders need to understand that they play a crucial role in dealing with the VUCA world around us. However, they need to develop new skills of adaptation. Fortunately, the brain also has a capacity to change, to adapt, be trained, grow new neural connections or degrade the existing ones. Even in our adult and later years of our life, our brain can constantly adapt (Hood, 2014). Neuroleadership focuses on applying neuroscience to leadership development, management training, change management education and consulting and coaching.

Vision and the Leader

One of the key characteristics of effective leaders is the ability to share a vision with their followers. The concept of good vision also has a neuroscience underpinning. Vision can be delineated in terms of socialized versus personalized continuum (Waldman et al., 2011). Socialized vision includes elements such as altruism and social responsibility, the inclusion of empowered followers as an essential component to organizational progress and the emphasis on serving the interests and goals of the greater collective. Socialized vision leads to outcomes and processes that aid followers as well as outside stakeholders such as larger communities or even the country in which the organization resides. Leadership theories have tended to view socialized vision as prototypical of the type of visionary communication that can inspire

followers. Personalized vision is largely narcissistic in nature and is characterized by self-interest and an over emphasis on the need for achieving dominance over competition.

Studies have shown that leaders who profusely used social language in their vision and mission statements were more likely to have greater coherence in the right frontal part of the brain than leaders with more self -language. Leaders who employ more social language were also seen by the workplace as being more motivating and appealing in their leadership styles. In effect, workers viewed leaders who had more frontal coherence as being more powerful leaders due to the social language they used. Thus, individuals with enhanced right frontal coherence will be able to balance of concerns of multiple constituent groups and deal with potential emotional strains, moral issues and uncertainties. Positive emotions in others can also be enhanced through visions that emphasize more socialization as opposed to personalized content (Waldman et al., 2011).

Resonant Leadership

The most effective style of leadership, as suggested by neuroscience, is resonant leadership. Leaders can either send out positive or negative wavelengths, which reverberate throughout the organizations (Thomas, 2021). Resonant leaders know that their actions have the ability to influence others and use emotional intelligence to lead others. The focus of neuroscience is on people rather than management or leadership functions and it stresses how we connect and relate with one another. It concerns the social emotional role of leadership and not the task-oriented role of management. It stresses on support, loyalty, responsibility and discretionary effort. It facilitates high performance, innovation and teamwork (Gkintoni et al., 2022).

Research done at Case Western Reserve University identified an association between resonance and effective leadership (Babu, 2016). Resonant style denotes the compassionate nature of the leader and levels of emotional intelligence while being dissonant is more dictatorial and objective (Ali & Kashif, 2020). Using fMRI scans scientists asked managers to think about their interactions when the leader was resonant or dissonant. Fourteen areas of the brain reacted when they reflected about resonant leaders as opposed to only six when the subject thought about dissonant leaders. Eleven areas were disengaged when the subjects thought of dissonant leaders. Resonant leaders trigger attention, social consciousness and positive connections in their employees. Dissonant leaders activate disrespect, negative emotion, restricted attention and reduced social consciousness (Boyatzis et al., 2005). Resonant leadership styles also help in developing trust through the release of oxytocin. In the brains of their audience, oxytocin plays a vital role in social recognition and bonding leading to formation of trust and general psychological stability.

Conclusion

Neuroscience suggests that the brain is relatively plastic in terms of its capability to change the nature of electrical brain activity. Neuroscience explains neuroplasticity as a result of a form of operant conditioning. The brain unconsciously learns to adapt to the desired patterns by repeating the process. the brain learns the desired pattern in response to the stimuli leading

toward optimal functioning. Business executives and top athletes are using neurofeedback as a “coach” for their minds (Peterson et al., 2008). It aids the brain to focus and be present in the moment with employees, customers and team mates (Waldman et al., 2011).

The purpose of neuroleadership is to enhance leadership effectiveness keeping in mind the physiology of the brain. With this knowledge, we can create conditions for follower success. We can adopt a new leadership style based on the awareness of how the brain functions and make suitable strategies. There is clear evidence that the brain is the foundation on which effective leadership is built. The present model of one size fit all leadership is longer effective. It must be a customized approach wherein we identify specific neurological underpinning associated with inspirational leadership and use this knowledge for development purposes. The leadership development program must be customized to fit the unique neurological blueprint of each individual leader. Leadership training must become a personalized, brain-based approach helping individuals identify their problems and unravel their true potential.

Disclaimer

None.

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Chapter 8

The Central Role of Middle Leaders

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Abstract

The study seeks to emphasise the importance of middle leadership with a dual role of buying from the top and selling to its employees a new organizational project, and to deepen the study of the implication of middle leadership in change processes.

It highlights the need for mediation between the top and the bottom, with middle leadership playing the role of a consistent and creative active group, as well as evaluating the consequences of the paradox between the demands of flattening the structure and the role of middle leadership, and the need to manage the “neutral zone” (Bridges, 1986) whose role of middle leadership is central to the balance of emotions and reasons (Doltich et al., 2005).

The neglect or insufficient involvement of middle leaders often contributes to the failure of changes, since they are the ones who convey the meaning of the transformations. The concern with managing the “symbolic,” with the middle leader being someone who generates and manages meanings, as a meaning-maker. (Conger and Kanungo, 1998) project. (Manz et al., 2002).

Keywords: leadership, culture, organizational change

Introduction

The starting point of our research was the existence of a movement in the literature which stresses the importance of leadership in management. According to Bennis and Nanus (1985), and Fishman and Kavanagh (1989), the culture of an organization and how people respond to the challenges of change and innovation are highly influenced by the leaders’ behaviors. In line with this idea, Schein (1992) argues that organizational leadership is one of major sources of influence in organizational cultures. However, empirically, this issue still needs further research.

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As opposed to the theories of the “culture shock,” the studies by Beer, Eisenstat and Spector (1990) underline the role of the facilitating change agents and, above all, the vital role played by intermediate leadership in these cases. In his studies about the creation of a new structure based on one or more existing structures, Balogun (2003) also stresses the decisive but usually concealed role of middle managers, who are considered the translators of change in their role of buying and selling the project. According to this author, neglection or insufficient mobilization of these managers leads in most cases to an unavoidable failure, since they convey to their collaborators the meaning of the necessary transformations. Nonaka (1994) also argues that intermediate leadership is an agent of change, defending that this change should not be achieved through a top-down management or a bottom-up management, but rather through the leaders. On its turn, Kanter (1997) also claims that middle management can be a catalyst for innovation, competition and change in the organizations.

Leadership

The traditional theoretical approach to leadership is based on two autonomous and relatively opposing paradigms: the functionalist paradigm and the genetic paradigm. The functionalist paradigm emerged before 1940 and it continued until around 1960. It is mainly focused on the leader’s characteristics, trying to establish a correlation between their characteristics and the efficacy of leadership. This approach attempted to identify a “universal leader,” whose psychological profile (until 1940) or behavioral characteristics (between 1940 and 1960) defined a leadership style. These styles ranged from the “most authoritative style to the most democratic style.” From this perspective, the universal leader would be effective in any situation or context. However, no reliable and valid conclusions have been drawn from the current scientific studies.

The genetic approaches, the so-called “theory of personality traits,” were also very important until the end of the 1940s. Many authors have conducted literature reviews about this issue and have concluded that, unlike the functionalist perspective, these approaches are mainly focused on the leadership process itself, and, rather than placing the emphasis on the leader, they focus on the role of the group and on the power resulting from this exchange relationship.

This line of thought aimed to understand the relationship between leaders and followers, and establish the necessary correlations between both styles and the collaborators’ productivity and satisfaction, and then establish a connection between leadership and efficacy in the organizations. It stressed the idea that ideal leaders have a good relationship with the collaborators and, at the same time, are effective in managing and controlling their activities.

Within this line of thought, Blake and Mouton’s “Managerial Grid” (1964) aimed to adjust the leaders’ behavior through training, better adapting them to the functions that they would perform. Later on, according to the same authors¹, the Ohio school also analyzed this issue and identified two distinct factors in leadership: the level of concern with the people and how the tasks were performed.

However, despite the research which had been conducted, the studies showed some weaknesses which needed to be overcome. Thus, the contingency approach emerged (between

¹ Because of this School the organizations tried to develop and train their leaders’ behaviors to better meet the needs of their position and organization.

1960 and 1980) with a new leadership perspective, which also included the context in which the function was performed. These researchers considered it important to identify the specific characteristics of each situation. For them, the leader should interact with the environment to be effective, adapting his/her conduct to each situation and taking into account the contingencies of the moment. This new interest for the contingency models of leadership gained more importance with the studies by Hofstede (1997), who observed that contingency was a result of the national culture rather than the subordinates' maturity.

In the search for the historical evolution of leadership, in the 1980s different schools and lines of thought were concerned with building a theoretical framework to allow for the emergence of new approaches to leadership, more in keeping with the new realities in an organizational environment characterized by new challenges. This concern influenced some research studies which exposed new ideas, such as the need for "a new contingency approach to the leader's traits," thus avoiding the traditional approach which "can be reductionist," and, at the same time, suggested the possibility for a new "functional-genetic" approach.

According to this perspective of leadership, different contexts of change require different leadership styles, such as the "invisible leader" in the periods of incremental growth, and the "active leader" in times of radical changes, reinforcing the idea and avoiding disaggregation. This approach highlights the relationship of interdependence between leaders and followers, while emphasizing the importance of the surrounding organizational environment. The promotion of this interdependence is vital to achieve a greater association between the effectiveness of the business and the leader's charismatic profile.

Following this "functional-genetic" approach and opening at the same time "room for the notion of leadership team," Pitcher (1997) raises some relevant and innovative questions regarding the nature of the leadership phenomenon. She found some similarities between the artistic phenomenon and the ideal concept of leadership, in which the leader has a "visionary and charismatic personality." Despite being very pompous, it is only one of many types of leadership, and it is surely not the most appropriate one in certain evolutionary stages of the organization. Pitcher defines three major types, each of them divided into three sub-types.

Pitcher's approach is focused on the paradigm of the leaders' selection, and it argues that an appropriate choice of leaders is the basis for successful critical decisions within the organizations. The importance of the paradigm of training is partially refuted and pushed into the background. Pitcher (1997) states that it is possible to teach new behaviors; however, it is still unknown if there is any possibility of teaching someone a new character.

The three leadership types of Pitcher's model (1997), which are referred to as "constellations," are the following:

- Artist – seen as a visionary leader;
- Craftsman – seen as a leader/architect of ideas and relationships;
- Technocrat – seen as a leader who favors the technical issues.

These three types of leaders are considered as archetypes, whose traits emerge from a single entity and have different ways of observing, feeling, thinking and acting. Within each type of leadership or "constellation," three other sub-types emerge with different characteristics. In total, there are nine original profiles according to the specific characteristics of each leader. In

this order of presentation, they can be red in sequence and in circle, with the Authoritative Artist being contiguous to the Brilliant Technocrat (Table 1).

Table 1. Pitcher’s Model

Constellations/Configurations	Character Traits
Authoritarian Artist	Brilliant, determined, analytical, with ideas/projects that he/she does not know how to share.
Pure Artist	Unpredictable, imaginative, bold, intuitive, exciting.
Kind Artist	Brilliant, warm, little steady, has difficulties in accomplishing his/her projects.
Creative Craftsman	Steady, reasonable, realistic, trustworthy, knowledgeable and creative in the continuity.
Pure Craftsman	Steady, reasonable, realistic, trustworthy and knowledgeable, seeks individual contribution.
Regimental Craftsman	Reasonable, realistic, trustworthy and knowledgeable, but very attached to convictions.
Worker Technocrat	Stiff, dogmatic, inflexible, hardheaded, the Spartan way of life should be underlined.
Pure Technocrat	Cerebral, inflexible, stiff, hardheaded and detail-oriented.
Brilliant Technocrat	Cerebral, inflexible, dogmatic, stiff, hardheaded, but can also be brilliant.

Source; adapted Pitcher (1997).

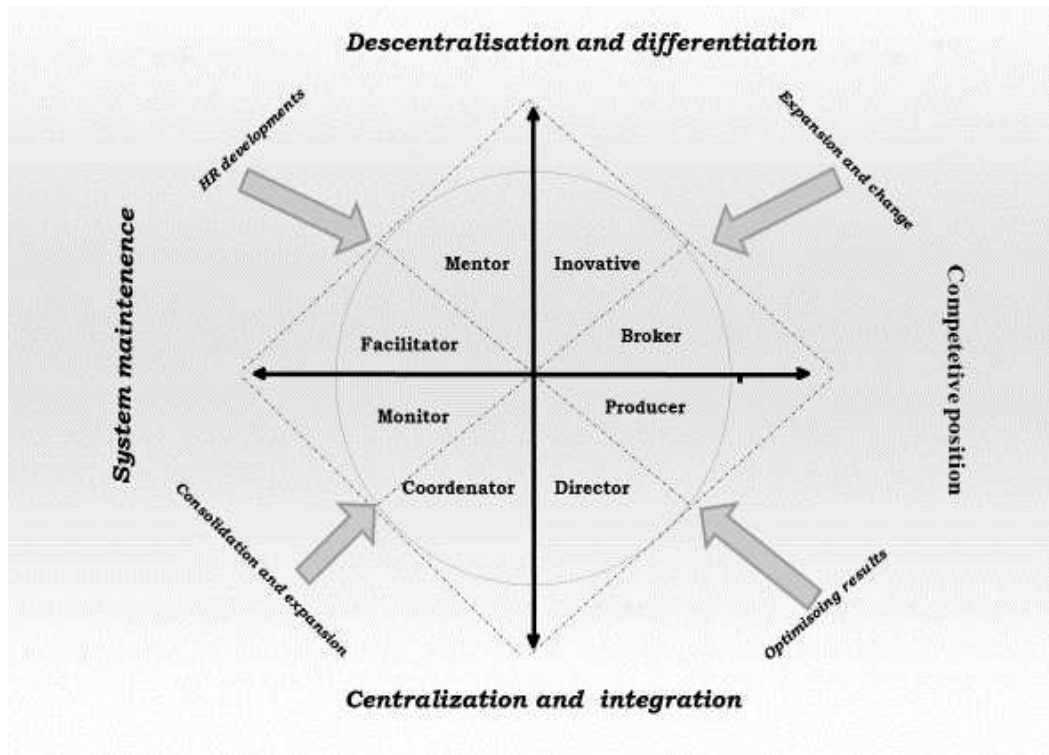
Conceptually, Pitcher’s model (1997) is based mainly on the intrinsic characteristics of the leader’s character, pushing the behavioral characteristics to the background. Therefore, it is hard, not to say impossible, to change the leader’s characteristics. As it was previously mentioned, this model demystifies the idea of the “individual universal leader,” pointed out by the traditional models as having an ever effective behavior, regardless of the situations. For them, the leader’s selection should take into account the changing organizational context in which the leader will perform its duties. In this case, the additional competences of the management team are considered necessary to a successful leadership.

Many researchers have contributed to finding an integrated model which met the “optimal set of effective leadership skills.” However, two models should be highlighted: Mintzberg (1989: 33) identified 10 leadership roles using a “management skills inventory,” based on which he concluded that “the manager’s role may be described by organized sets of behaviors identified with a position,” whereas Quinn (1988) identified 8 managerial roles, dividing them into 3 specific groups of skills.

Quinn’s model of leadership (1988) is based on the “competing values framework” developed by Quinn and Rohrbaugh (1983), which is recurrently used in Quinn’s works on organizational performance. It combines four classic management models: the Rational Goal Model; the Internal Process Model; the Human Relations Model; and the Open Systems Model. These dimensions take into account the dynamics underlying each one of them in terms of flexibility/order in the vertical axis, internal focus /external focus in the horizontal axis and their theoretical models.

The dimensions implicit in each of the quadrants allow us to connect the structures with the functioning of each sub-culture so as to understand the values and guidelines adopted by the organization as it evolves, and also to create a reference framework to analyze the different

managerial roles. These, in turn, are adjusted to each model and to the definition of their competencies, as shown in Figure 1.



Source: Adapted from Competing Values Framework of Quinn (1988).

Figure 1. the Human Relations Model; and the Open Systems Model.

The set of leaders' roles and their specific skills help us redefine the concept of competence, simplifying it while increasing its subjectivity, and considering it the art of "articulating knowledge and skills to perform a given task or role." The consensus over Pitcher (1997) is clear, since this author also advocates the need for a leader to possess certain characteristics of his/her own to be a successful leader.

In terms of education, the differences between both models (Quinn and Pitcher) are obvious and they should be addressed, especially because they are related to intermediate leadership and its role in a very peculiar and rare process of change in the life of each organization, if taken as a phenomenon of organizational life in its broadest sense.

The Role of Intermediate Leadership in the Processes of Change

The relevant literature on leadership in changing organizations underlines three leadership styles which fall under the following categories: a) the literature that focuses on the importance of the leader as visionary, someone who conveys the vision and direction of the process of change; b) the literature that focuses on the leader as participative, someone who seeks to involve all members of the organization; and c) the literature that focuses on the leader as

transactional, someone who promotes an interaction with and involves the subordinates, by awarding and punishing them, and someone who is constantly aware of the changes.

Visionary leadership, which can be found in Aristotle’s teachings some 2300 years ago, emphasizes the importance of this leadership style for its credibility, for how it meets the group needs, for the vision conveyed and for the way in which the leader communicated to achieve group cohesion. Transactional leadership underlines the mutual influence between leaders and their followers. This relationship is not restricted to top management; on the contrary, it should be more present in the hierarchical level that is closer to what is happening in practice and in daily life, i.e., those who are in direct contact with the operational level (intermediate leadership) to promote acceptance of change. Participative leadership encourages the participation of followers in the working and decision processes, facilitating and promoting change and the commitment of the organization members. Table 2 compares these three types of leadership:

Table 2. Comparison of Leadership Perspectives in changing organizations

Perspective of leadership	How to influence the processes	Type of involvement
Visionary	Top-Down	Identification
Transactional	Mutual	Acceptance
Participative	Bottom-Up	Internalization

Source: Adapted from Manz et al., (2002).

Table 3. Comparison of Leadership Perspectives by Manz and Pitcher

“Manz” perspective of leadership	“Pitcher” type of involvement
Visionary	Creative
Transactional	Technocrat
Participative	Craftsman

Source: Original adaptation.

In a study carried out by Manz, Bastien and Hostager (2002), applied to the analysis of a Minnesota Innovation Research Program (MIRP) case, which aimed to understand the influence of these three leadership styles in processes of change, the authors proposed a “bi-cycle” leadership model. The functioning of this model is similar to a bicycle in that the rear wheel corresponds to the participative cycle, involving and encouraging the followers to interiorize the need for change. The front wheel corresponds to the transformational cycle, which supports the leadership actions that aim to stimulate the process, creating conditions for changes, and to make followers accept the process. Finally, between these two wheels, there is a toothed wheel, which represents visionary leadership, continuously providing energy to move the process forward, renewing and expanding the vision so that people identify themselves with the change. This approach is similar to the one by Pitcher and Mintzberg, as shown in Table 3.

According to these authors, the problem is that intermediate leadership is asked to play an important role from a transactional perspective. When analyzing the process of change as a “bicycle,” the middle wheel needs to be permanently moving, i.e., the visionary cycle, so that people do not lose the sense of change. Therefore, they believe that those who should permanently “oil” the toothed wheel are the leaders that are in direct contact with the operational base. According to Weick (1995), these are the translators of change and, therefore,

the key players in the cycle of change. From this point of view, there is no visionary leader if the vision is not translated by the intermediate players. This is an interesting conclusion which helps sustain our starting point.

Mergers, although they are a common phenomenon nowadays, and their legal, procedural or even economic/financial implementation pose no major difficulties. However, according to Dotlich at al. (2005), the major difficulty arises from the management of the “neutral zone,” as we have previously mentioned. This gap characterizes the impasse between the old and the new reality in which the two cultures “depart” and emotions and reason are entwined. When the most central and distinct elements of a public organization are lost, a public identity emerge (Palma at al 2010). Thus, a new type of leadership is needed to help a new reality to emerge, rebuilding values, redirecting attitudes and strengthening self-concept. For Dotlich et al., (2005), the role of intermediate leadership is essential to ensure that this transition is successful.

The role of intermediate leadership in disseminating and integrating the organizational culture in processes of profound change has also been studied recently by Valentino (2004). The author developed a matrix which tries to combine the major steps in a process of change from Schein’s perspective (1999) with the skills identified by Bennis (1989) that leaders need to possess to allow the members of an organization to interiorize change (Table 4).

Table 4. Bennis’s competencies and Schein’s steps

Competencies – Bennis	Steps – Schein
a) Leading by communicating the vision; Ability to establish a bridge between the old vision and the new vision.	a) Create a positive vision;
b) Leading with meaning; Ability to communicate the meaning of the vision to the organization members.	b) Coach and provide feedback.
c) Leading by generating trust; Ability to bring reality to the surface, demonstrate constancy in the decisions and give examples.	c) Have a positive role.
d) Leading by calling for self-management; Ability to make the decision process participative, promote self-management.	d) Provide training opportunities.
	e) Create in employees a sense of change and self-learning.
	f) Create interdepartmental groups and matrix teams.
	g) Provide support groups.
	h) Align the organizations with new ways of working and thinking.

Source: Adapted from Valentino (2004).

Based on both these perspectives, this author focuses on explaining how we can create the vision needed to manage change. The author emphasizes the importance of the skill “leading with meaning” which essentially aims to convey the mission and the vision to the members of the organization. She advocates the creation, for example, of a “pull” of influence, following Kotler (2000), which attracts, promotes and integrates people into new working methods and new routines, making them feel as an important part of the new organization. This reflects the decisive contribution of intermediate leadership to achieve this purpose.

Haneberg (2005) stresses the importance of this mediator, and presents a new paradigm of intermediate management based on five points: the change of role by encouraging active participation; the transmission of more information more often; the clear definition of the missions; the guarantee that training follwos this new paradigm; and the promotion of visible changes within their work team. The author states that the traditional view of intermediate leaders as victims in the organizations should give place to the new view of implementers of

strategies coming from the top, which is contrary to most traditional views that shape the minds of decision-makers.

The idea to relocate the role of intermediate leadership is also pointed out by Huy (2002) who says that the alignment of intermediate leaderships with the top leadership is essential to facilitate change. Balogun (2003) states that intermediate leaders are not in any way blocking forces, but rather important strategic partners to implement processes of change. For this purpose, intermediate leaders should “buy” the ideas from the top and “sell” them to the base, as if it were an intermediation process. The “price” is that one can also sell to the top the ideas bought to the base, which contradicts the practice of instability in the processes of change.

The challenge for this new positioning of intermediate leaders, according to Klagge (1998), focuses on three major factors: today’s emphasis on quality, the ever-increasing use of teamwork, and the wide-ranging notion of the limit of control. Zemke (1994) had already mentioned three key points: loss of control, the growing importance of information and the enhancement of employees’ skills. For O’Toole et al (2006) public management has performance-relevant impacts and managerial networking outward can be an important contributor to the achievement of public objectives.

Ellinger, Ellinger and Keller (2003) argue that organizational practices are becoming more focused on the employees, the customers and the processes, and that these are the backbone of competitive advantage. Therefore, one should call for a more intense intervention of intermediate leaders to become the “coachers” of their teams.

Conclusion

The role of intermediate leaders has even been underrated because they are a potential obstacle to the communication between the top and bottom levels in the organizations. Regarding the optimization of organizational structures, Mintzberg has often been cited to reduce the importance of these leaders because of their fragmentizing function, generator of difficulties to the necessary mainstreaming of the organizational structures. However, this author also claims that their action is necessary and even crucial.

Only a few research studies on organizational change have consistently raised the need for mediation between the top and bottom levels of organizations, hence underlining the problem of intermediate leaders having a double role of purchasing a new project organizational to the top and selling to their collaborators (Weick, Quinn, Balogun, Nonaka, Mintzberg). The “selling” process is an important mechanism to promote initiatives of change within the organizations. Intermediate leaders take on a central role in the analysis of the organizational context, as they are the barometer of the good and bad aspects in situations of profound change (Dutton et al, 1997).

This role of detecting anchor points in the change levers is only within the reach of intermediate leadership, as a mediating agent and translator of the cultural values of the top and bottom levels. Therefore, the intermediate level can establish the necessary connections with the top and become a translator and interpreter between the top and the bottom. The intermediate level will adopt the vision from the top, and ask the bottom levels to search for better ways to operationalize it based on the ongoing aspirations and experiments, which are often present in an informal way. According to Weick (1995), intermediate leaders are the

translators of change and, therefore, key players in the cycle of change. From this point of view, there is no visionary leader if the vision is not translated by the intermediate agent.

It should be noted that Mintzberg (1983) had already pointed out the need to turn the hierarchical pyramid around in situations in which the experts are the ones guiding the top. Since the top has political legitimacy, as it is the case, dismissing the intermediate leaders in a process of profound change is equivalent to dismissing the guide in an unknown and hostile territory.

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Chapter 9

Performance Models Should Be Adopted to Train New Leaders in Public Administration

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Abstract

The technology era's digital alterations and transformations have been sketching a dynamic scenario that reflects the steady organizational development in the commercial sector. However, there are still traces of management methods that were prevalent in the previous century within the context of public organizations. In this situation, public organization leaders play a major part in replacing outdated paradigms. The issue raised in this chapter becomes apparent in this situation: Which performance models ought to be used to train future public administration leaders? Thus, the objective of this article is: To map the action models for the formation of new leaders in public administration. To this end, an integrative review was conducted based on a systematic search in the Web of Science database. It was found that the performance model to be adopted may use all leadership styles, according to the need, the task and the people. It is up to each good leader to know how to balance these practices and when to apply them.

Keywords: technology, transformations, public administration, leaders

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Introduction

According to Andrade and Amboni (2018), the field of research on leadership in organizations is characterized by the gradual presentation of many methods. When Melo (2004) mentions that leadership is performed in accordance with a certain set of circumstances, at a specific time, showing itself, therefore, as a dynamic process that varies according to the context, he raises this question. Effective leadership is defined as that in which the leader is able to recognize the realities of the environment and adjusts his or her style to fit the situation (Schein, 1982).

The early ideas on the subject were derived from the theory of personality traits and their conception of the inherent qualities of the leader, which were innate in only some people (Andrade & Amboni, 2018). Behavioural approaches, two-dimensional models, and situational theories highlight the evolution of ideas (Melo, 2004). Even in the twenty-first century, scientific findings do not point to a particular leadership style that can be used in all situations (Melo & Silva, 2019).

In private institutions, the focus of the leader has been on coaching or mentoring, which aims to encourage personal development and maturation (Barreto et al., 2013, 2013). However, in the context of public organizations, leadership refers to a social representation in which the presence of the leader is associated with an effective management, capable of monitoring changes in the external environment and promoting changes in the internal structure and st Managers face a problem when deciding on the best leadership style because of the organizational environment's potential for interference from superiors, coworkers, subordinates, job requirements, and situational considerations.

However, administrators of Brazilian public institutions have continued to concentrate solely on violations of the established rules and standards, implementing fines, or acting only when the predetermined goals are not reached out of convenience or *modus operandi*. The more intimidating posture of leaders is warranted by the roles they hold, say Oliveira, Sant'Anna, and Vaz (2010), which has had a negative impact on team motivation. Due to the fact that the transactional leadership style, which now dominates, only requires employees to be productive in exchange for rewards, it is vital to reconsider the role of managers in public initiatives.

The literature cites studies based on theories of new leadership, charismatic leadership, and transformational leadership as ways to reconsider this dominant leadership. However, even though they are viewed as outmoded, traditional theories like the situational approach are still demonstrated to be compatible in developing nations, which share traits like historical colonialism, economic inequality, and ineffective legal systems (Turano & Cavazotte, 2016).

From this perspective, the present study aims to map the action models for the formation of new leaders in public administration.

Models to Manage Employee Performance

Human Resources Management (HRM) performance models serve as structured frameworks that organizations employ to assess, measure, and optimize the effectiveness of their HR functions. These models facilitate the alignment of HR processes, practices, and initiatives with the overarching goals of the organization, ensuring the efficient management of human capital.

One such model is the Balanced Scorecard, a strategic management framework that integrates financial and non-financial performance measures (Kaplan & Norton, 1992). Within HRM, it establishes a cohesive link between HR activities and the broader business strategy, tracking key indicators such as employee satisfaction, recruitment outcomes, training and development effectiveness, and prudent HR cost management.

Another approach, the Human Capital ROI model (Boudreau, & Ramstad, 2007), centers on quantifying the return on investment of HR initiatives. By measuring the value HR activities bring to the organization, this model assists in demonstrating the impact of HR programs on critical business outcomes, such as revenue growth, reduced turnover, and heightened productivity.

The High-Performance Work System (HPWS) Model (Boxall & Macky, 2014) emphasizes the harmonization of HR practices to create a synergistic effect that elevates employee skills, motivation, and performance. It encompasses various elements, including targeted hiring, comprehensive training, performance-based compensation structures, and active employee involvement.

HR Analytics and Metrics involve the strategic application of data and analytics to evaluate HR-related metrics (Lawler, Levenson, & Boudreau, 2004). By tracking key performance indicators like turnover rates, time-to-fill vacancies, training efficacy, and diversity statistics, organizations can make well-informed decisions that drive operational improvement.

Meanwhile, the Capability Maturity Model (CMM) offers a systematic approach to evaluating the maturity of an organization's HR processes (Turner & Ledgard, 2006). It guides organizations from ad hoc practices to fully optimized and standardized procedures, fostering a continuous improvement mindset.

Employee Engagement Models focus on gauging and enhancing employee engagement, which directly correlates with improved performance, productivity, and job satisfaction (Bakker & Albrecht, 2018). Through tools like engagement surveys, organizations assess factors such as job contentment, communication effectiveness, work-life balance, and employees' commitment to the organization.

Performance Management Systems represent another crucial model, involving the design and implementation of robust performance appraisal and feedback mechanisms (DeNisi & Murphy, 2017). By setting clear performance expectations, providing consistent feedback, and aligning individual goals with overarching organizational objectives, these systems contribute to improved performance outcomes.

Lastly, Talent Management Frameworks concentrate on attracting, nurturing, and retaining top talent (Collings & Mellahi, 2009). These models encompass various facets, including recruitment strategies, succession planning, leadership development, and the establishment of structured career pathways.

Organizations adapt and tailor these models to their unique contexts, industries, and corporate cultures. The ultimate aim of these HRM performance models is to optimize HR practices, thus driving comprehensive organizational performance and advancing the realization of strategic ambitions.

Human Resources Management (HRM) performance models are frameworks or approaches used by organizations to assess, measure, and enhance the performance and effectiveness of their HR functions. These models provide a structured way to evaluate various HR processes, practices, and initiatives to ensure alignment with organizational goals and to optimize the management of human capital.

Here are a few commonly used HRM performance models:

Balanced Scorecard:	
The Balanced Scorecard is a strategic management framework that includes financial and non-financial performance measures. In the context of HRM, it aligns HR activities with the overall business strategy and tracks performance in areas such as employee satisfaction, training and development, recruitment and retention, and HR cost management.	Kaplan, & Norton (1992); Kaplan, & Norton (2001); Ittner, Larcker, & Randall (2003); Hoque, & James (2000); Malina, & Selto (2001); Hoque, (2004); Van der Stede (2000); Bititci, Carrie, & McDevitt (1997).
Human Capital ROI:	
This model focuses on measuring the return on investment (ROI) of human capital initiatives. It assesses the value that HR activities bring to the organization by quantifying the impact of HR programs on business outcomes, such as increased revenue, decreased turnover, and improved productivity.	Becker, Huselid, & Beatty (2001, 2009); Boudreau, & Jesuthasan (2011); Boudreau, & Ramstad (2005); Boudreau, & Ramstad (2007); Cascio, & Boudreau (2010); Fitz-enz (2000, 2009); Huselid, Jackson, & Schuler (1997); Lawler, & Boudreau, (2012).
High-Performance Work System (HPWS) Model:	
HPWS emphasizes the integration of HR practices to create a synergistic effect that enhances employee skills, motivation, and performance. It encompasses various elements such as selective hiring, extensive training, performance-based compensation, and employee involvement.	Appelbaum, Bailey, Berg, & Kalleberg (2000); Boxall, & Macky (2014); Boxall, & Purcell (2003); Delery, & Doty (1996); Huselid, (1995); Huselid, Jackson, & Schuler (1997); Lawler, & Mohrman (2003); Purcell, Kinnie, Hutchinson, Rayton, & Swart (2003); Subramony, M. (2009).
HR Analytics and Metrics:	
This model involves the use of data and analytics to measure and analyze HR-related metrics. It allows organizations to make informed decisions by tracking key performance indicators (KPIs) such as turnover rate, time-to-fill vacancies, training effectiveness, and diversity metrics.	Becker, Huselid, & Ulrich (2001); Boudreau, & Cascio (2017); Boudreau, & Ramstad (2005); Cascio (2003); Casio, & Boudreau (2011); Fitz-enz, (2001, 2018); Huselid, & Becker (2011); Lawler, et al., (2004); Marr, & Neely (2004); Rasmussen, et al., (2017).
Capability Maturity Model (CMM):	
The CMM assesses the maturity of an organization's HR processes and practices on a defined scale. It provides a structured approach for organizations to continuously improve their HR capabilities, moving from initial ad hoc processes to fully optimized and standardized practices.	Paulk, et al., (1993, 1995); Chrissis, Konrad, M., & Shrum (2011); Radhakrishnan, & Mathirajan (2010); Turner, & Ledgard (2003, 2006); Manzi (1996); Humphrey (1989); Daley (2002); Hutchins, & Sutherland. (2008).
Employee Engagement Models:	
These models focus on assessing and enhancing employee engagement, which is linked to improved performance, productivity, and job satisfaction. Employee engagement surveys and assessments are often used to measure factors such as job satisfaction, work-life balance, communication, and organizational commitment.	Albrecht, et al., (2015); Bakker, & Albrecht (2018); Harter, Schmidt, & Hayes (2002); Kahn (1990); Macey, & Schneider (2008); Maslach, & Leiter (2008); Rich, Lepine, & Crawford (2010); Robinson, Perryman, & Hayday (2004); Saks (2006); Schaufeli, et al., (2002); Shuck, & Wollard (2010).
Performance Management Systems:	
This model involves designing and implementing effective performance appraisal and feedback systems. It emphasizes setting clear performance expectations, providing regular feedback, and aligning individual performance goals with overall organizational objectives.	Aguinis, & Gottfredson (2010); Aguinis, & Kraiger (2009); DeNisi, & Murphy (2017); Fletcher (2001); Kluger, & DeNisi (1996); Lawler III, Levenson, & Boudreau (2004);

	Murphy, & Cleveland (1995); Pulakos (2009); Pulakos, & O'Leary (2011).
Talent Management Frameworks:	
Talent management models focus on attracting, developing, and retaining top talent within an organization. They encompass recruitment, succession planning, leadership development, and career pathing.	Berger, & Berger (2004); Caldwell (2013); Cappelli, (2008); Collings, & Mellahi (2009); Collings, Scullion, & Vaiman (2015); Lepak, & Snell (1999); Ready, & Conger (2007); Scullion, & Collings (2011); Vaiman, Collings, & Scullion (2012).

It's important to note that organizations may adopt or adapt these models based on their specific needs, industry, and organizational culture. The goal of these models is to optimize HR practices to drive overall organizational performance and contribute to the achievement of strategic objectives.

Training New Leaders in Public Administration

Public administration serves as the pivotal support system for governmental functions, being instrumental in policy execution, provision of public services, and stewardship of public assets (Denhardt & Denhardt, 2015). The intricate domain of public administration demands a distinct combination of abilities and expertise. Individuals leading in this sphere bear the responsibility of overseeing public assets, executing policies, and making choices that have significant implications for a vast number of people (Rainey, 2014). Consequently, the demand for proficient and impactful leaders in this sector is vast. In the dynamic and ever-changing field of public administration, preparing new leaders is intricate and demands a thorough and diverse strategy. Leadership training is the mechanism through which leaders acquire the essential skills and knowledge to manage the intricacies of public service. Furthermore, the purpose of leadership training in public administration extends beyond mere knowledge transfer. It aims to developing leaders capable of inspiring their peers, making judicious decisions, and activating significant transformations (Van Wart, 2013).

Public leaders hold a pivotal role in influencing the lives of citizens and stand at the core of political systems, thereby forming a unique privileged group that frequently comes under scrutiny and criticism. With the escalating demand for transparency and accountability, public administrations have relinquished the notion of anonymity and are now demanded to be represented by model public leaders. While there isn't a straightforward formula to discern and enhance the skills of public leaders, the tolerance for a deficiency in leadership skills and aptitudes among those in leadership roles is progressively diminishing (Larat, 2017).

Public administration leaders are charged with steering through a rapidly evolving environment characterized by growing calls for openness, responsibility, and effectiveness. Those in leadership roles should possess the ability to navigate these multifaceted spheres, make balanced decisions that consider the interests of diverse stakeholders, and handle resources with efficiency and effectiveness. Therefore, it is essential to expand the range of knowledge and skills that future leaders need to possess, empowering them to make and carry out decisions in intricate and multifaceted environments, as highlighted by Bouckaert and DeVries (2013). This involves a discussion on the specific abilities that leaders need to cultivate to thrive in such complex settings. Their roles involve guiding teams, overseeing resources, and

making impactful decisions for the communities they serve. Moreover, leaders of public organizations are urged to enhance public accountability and performance, carry out restructuring, transform public bureaucratic institutions, redefine the organizational mission, modify bureaucratic procedures, and decentralize the policy return process (Peter, 2018). Hence, it's crucial to facilitate leadership training to provide these leaders with the requisite skills including strategic thinking, problem-solving, effective communication, and the capacity to make ethical decisions. (Van Wart, 2017).

The preparation of leaders in public administration has undergone substantial development over time, mirroring the shifting demands of public sector institutions and the broader community. Organizations tasked with preparing future leaders must ensure that these individuals are not only prepared with the necessary knowledge and skills for effective execution of tasks, but also uphold the ethical integrity and professional standards required to meet their responsibilities (Larat, 2013).

The effectiveness of leadership training has been critically examined and validated in prior research (e.g., Lacerenza et al., 2017). Furthermore, leadership training has proven to be significantly more impactful than what was initially believed, resulting in enhancements in areas such as responses, learning, application, and outcomes (Lacerenza et al., 2017). Furthermore, the impact of leadership training in fostering knowledge sharing was quite significant (Tamsah, 2020).

Several strategies may facilitate the training process of new leaders in the public administration. For example, mentorship programs may serve as a beneficial platform for new leaders in public administration, offering them the chance to gain knowledge from experienced professionals in the sector. Such programs impart practical insights and guidance, equipping these emerging leaders with the tools to effectively navigate the intricacies of public administration. The practice of solid mentoring relationships forms the foundation for the development of proficient leaders. These leaders are equipped with the necessary adaptability and mindfulness to manage intricate dynamics (Rodríguez et al., 2021). Another strategy may be linked with leadership development workshops since it serves as valuable resources for educating and connecting emerging leaders in public administration. They facilitate learning about current trends and best practices, and foster opportunities for professional networking and collaboration. According to Willgerodt (2020), four thematic categories emerged as participants discussed the ways in which participation in leadership workshops impacted them as individuals, on interactions with others and on team functioning: 1) providing structure, 2) expanding their repertoire of knowledge and skills, 3) widening perspective, and 4) behavior change. Finally, academic, and online training programs may also have an important role in leadership development. On one hand, higher education institutions such as universities and colleges provide public administration programs that merge academic theory with practical abilities. These programs frequently incorporate internships, offering students the opportunity for direct, practical experience in the field. On the other end, as technology has evolved, online training programs have seen a surge in popularity. These programs provide adaptability and can be customized to align with the unique requirements of each person. According to Moldoveanu and Narayandas (2019), the expanding collection of online courses, social and interactive platforms, and learning tools from both established institutions and newcomers, which collectively form what they term the “personal learning cloud” (PLC), provides a promising solution for leadership development. Organizations can choose elements from the PLC and customize them to suit the needs and behaviors of individuals and teams. The PLC is

adaptable and instantly available, facilitating employees to acquire skills in the context where they will be applied. Essentially, it represents a modern, 21st-century version of learning while working.

The preparation of new leaders in public administration is a crucial undertaking that requires a diverse strategy. This includes not just the sharing of essential knowledge and skills for effective task execution, but also the inculcation of ethical integrity and professional norms crucial for the fulfillment of their duties. Utilizing resources such as mentorship initiatives, workshops, academic courses, and online training is part of this process. Previous research has scrutinized and validated the effectiveness of leadership training, highlighting its pivotal role in molding competent and ethical leaders. As the landscape of public administration continues to transform, it becomes imperative to persistently refine and adapt our training methodologies to ensure the development of leaders capable of navigating this complex field.

Methodology

In order to increase knowledge, measure and analyse the publications scientific literature on trust in the field of digital education, bibliometric analysis was carried out, starting with a search in the scopus database and Web of Science (WoS) by Clarivate Analytics. The study was developed using a strategy consisting of three phases: execution plan, data collection and bibliometry. To further appreciate the results for the bibliometric analysis, the results were exported to a bibliographic management software called EndNoteWeb[1]. These data provided the organization of relevant information in a bibliometric analysis, such as: temporal distribution; main authors, institutions and countries; type of publication in the area; main key words and the most referenced papers [1].

Scientific mapping allows investigating and drawing a global picture of scientific knowledge from a statistical perspective. It mainly uses the three knowledge structures to present the structural and dynamic aspects of scientific research [2]. Therefore, the main research question of bibliometric analysis is:

RQ1: Which performance models should be adopted to train new leaders in public administration?

Data Collection and Research Strategy

Considering the research problem: Which performance models should be adopted to train new leaders in public administration? during the planning phase, the search terms were defined, namely “leaders” and “public administration.” And, as a basic principle for the search, it was decided when planning the search to use the terms in the “title, abstract and keyword” fields, without delimiting temporal, language or any other restriction that might limit the result.

Results

As a result of this collection, it was found that the 452 papers identified in the search were written by 887 authors from 62 different countries. A total of 1165 keywords were used. Table 1 shows the results of this data collection in a general bibliometric analysis.

Table 1. Bibliometric data

Description	Results
Timespan	2002:2023
Documents (Articles)	452
Author's Keywords (DE)	1165
Authors	887
Countries	62

The eligible articles in the Web of Science database were published in the period from 2002 to 2023. It was found that in the year 2022, there were more publications making up 13%, or 61 published documents. In second place with 12% of publications is the year 2020, with 53 publications. In third place is the year 2021, with 10% of the total publications, making up 47 published articles, as shown in Figure 1 below:

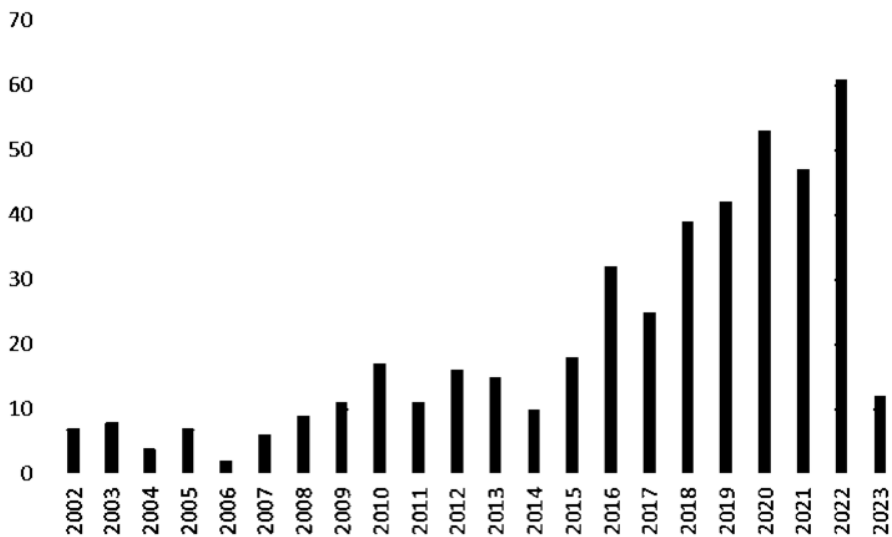


Figure 1. Temporal distribution.

From the 452 papers, it is observed a varied list of authors, institutions and countries that stand out in the research on performance models to train new leaders in public administration. When analyzing the 62 countries with the highest number of citations in the area, it can be seen that the USA stands out with 58% of total citations, a total of 5016 citations. In second place, the UK stands out with 12% of citations, as shown in Figure 2.

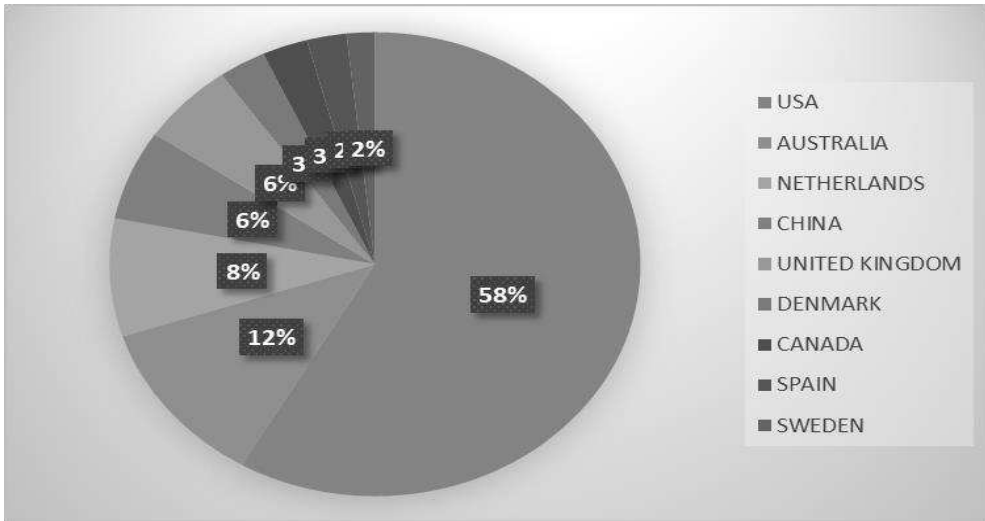


Figure 2. country distribution of the papers.

Figure 3, presents the intensity of publication by country and the relationship established between them, through citations between published works, the continents: North America, Central America, Latin America, Europe, Asia and Australia, as shown in Figure 3 below.

Country Collaboration Map

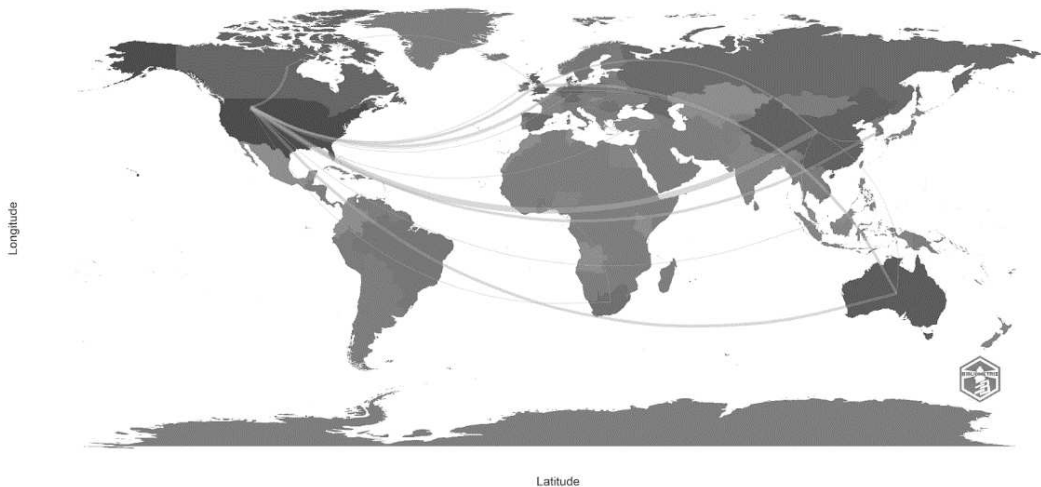


Figure 3. Spatial distribution and relationships of publications.

Another analysis carried out is related to the identification of authors. The authors who have more production in the theme are: Donald Moynihan with eight documents and Lotte Bogh Andersen with six publications in the area, according to Figure 4.

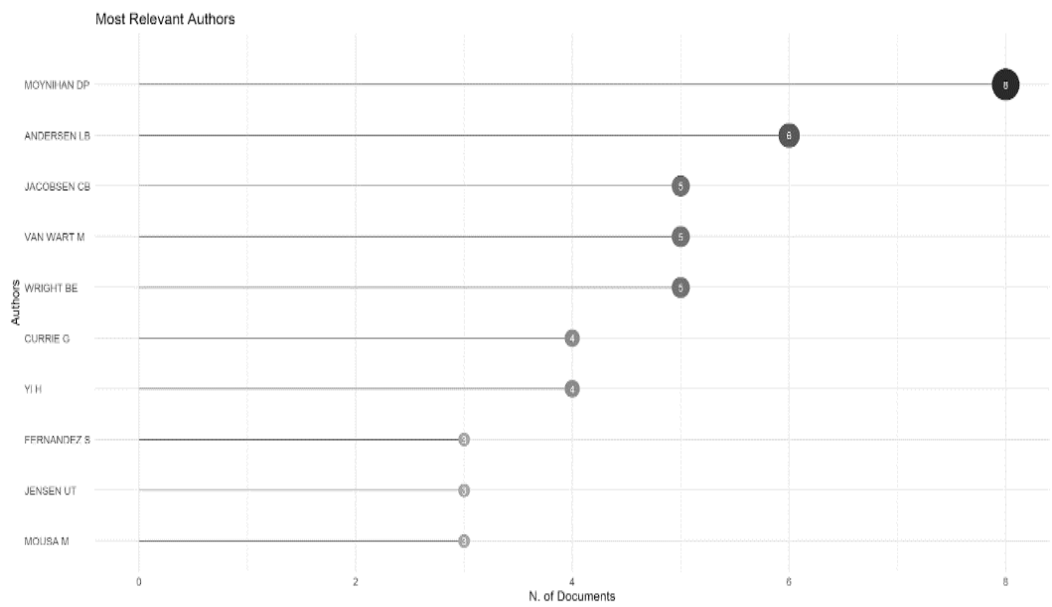


Figure 4. Authors with the most published papers on the subject of the search.

The most cited authors globally were: Davide Christian Orazi, Alex Turrini and Giovanni Valotti with ten citations each in the area, as illustrated in figure 5.

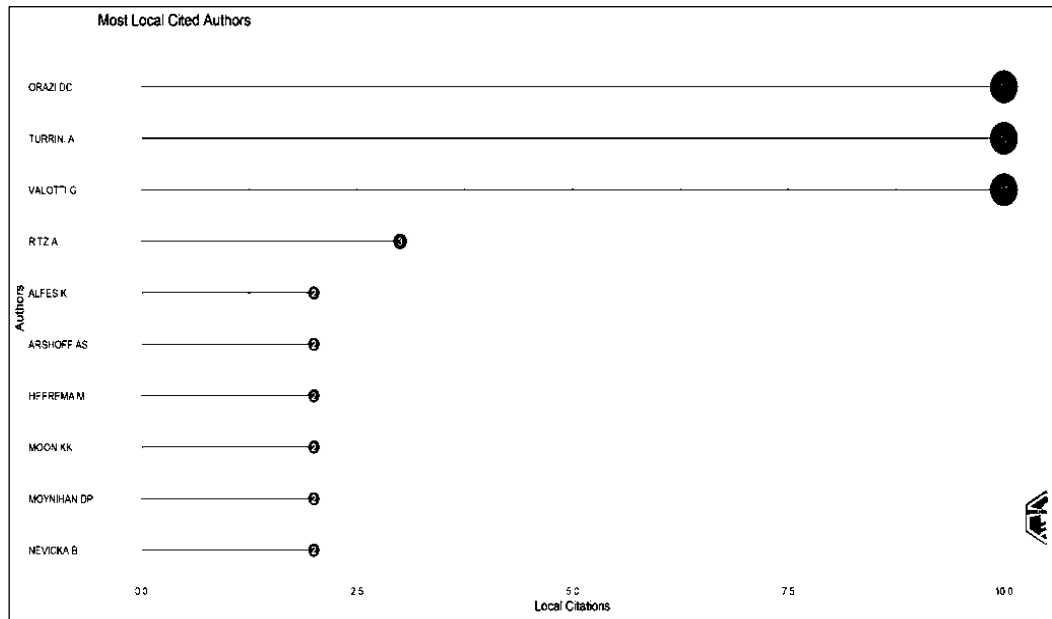


Figure 5. Most cited authors globally.

Figure 6 illustrates the productivity and importance of the primary writers’ output over time. The point size corresponds to the number of publications, and the color intensity to the

number of citations of the annual articles. It has been noted that publications' productivity and relevance change with time.

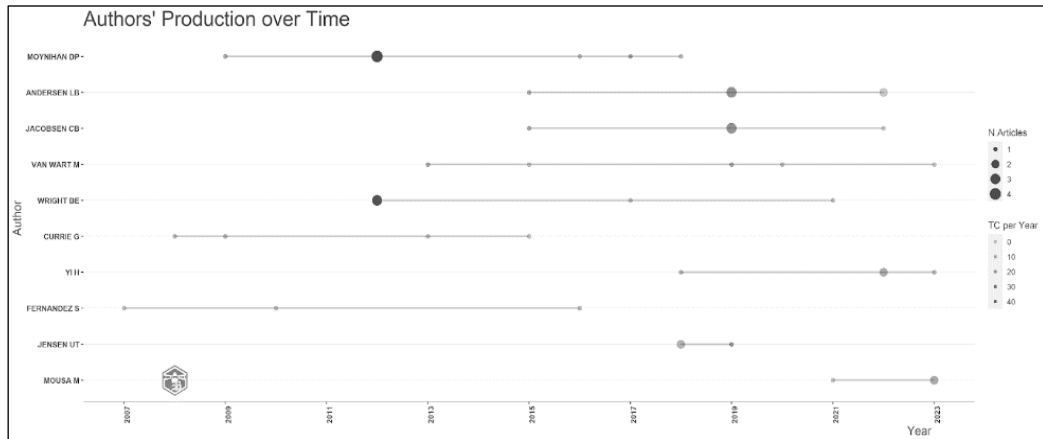


Figure 6. Productivity and relevance of publications by author.

The ten most relevant sources where the 452 studies were published were: Public Administration Review, Public Administration, American Review Of Public Administration, Journal Of Public Administration Research And Theory, Australian Journal Of Public Administration, International Journal Of Public Administration, Public Administration And Development, Canadian Public Administration-Administration Publique Du Canada, International Journal Of Public Leadership and Administration & Society. 29% of the papers are published from the Public Administration Review, with 73 documents, as per Figure 7, below:

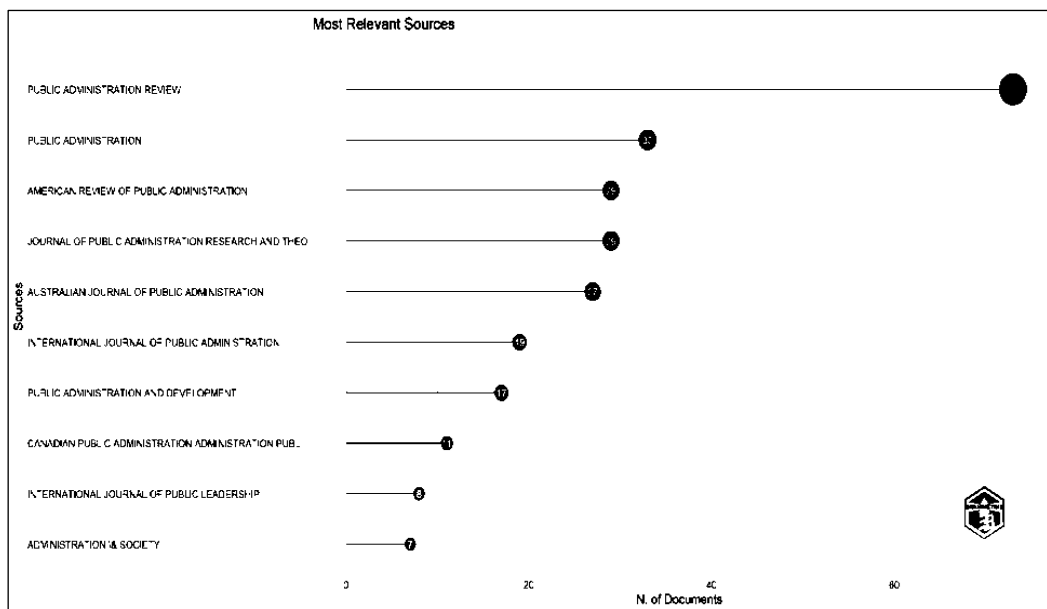


Figure 7. Scientific sources with the most publications.

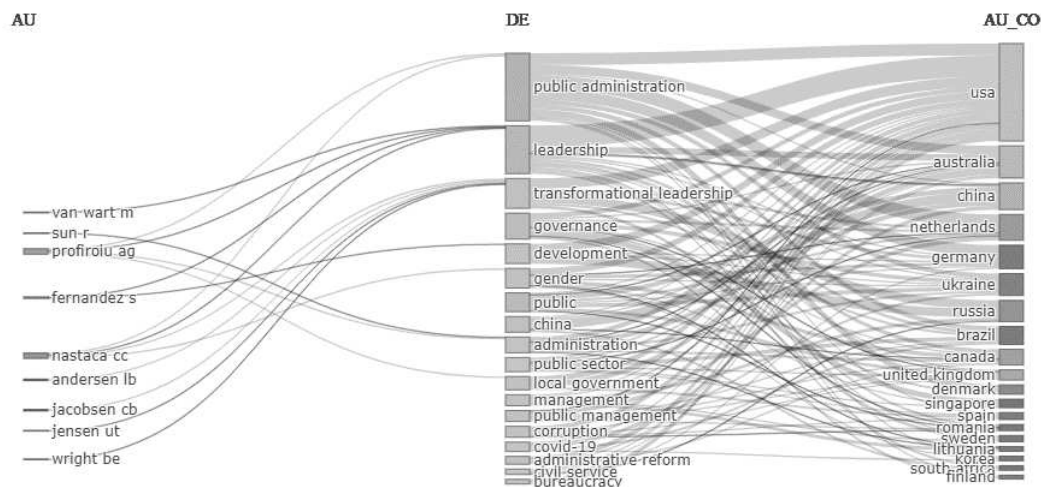


Figure 8. Three-Field Plot, with author vehicles, keywords and countries.

Figure 8 represents an innovative three-field graph in which, in the observed columns, from left to right, the interactions between author, keyword and most relevant countries were shown.

From the bibliometric analysis, based on the work group retrieved from 1165 keywords indicated by the authors, management stood out with 83, performance with 67 occurrences, as per Figure 9.



Figure 9. The authors' tag cloud.

Leadership” is also highlighted, which leads to the conclusion that it is an area of application for the training of new leaders in public administration that has been widely explored in the literature.

Performance Models Adopted for the Training of New Leaders in Public Administration

Performance models are essential tools for preparing individuals to take on leadership roles effectively in various organizations, including public administration. These models provide

structured approaches to leadership development, helping new leaders acquire the necessary skills, competencies, and knowledge. Here, we'll explore eight prominent performance models used in leadership training, taking into account the Balanced Scorecard, the Human Capital ROI model, the High-Performance Work System model, HR Analytics and Metrics, the Capability Maturity Model, and the Employee Engagement Model, Performance Management Systems and Talent Management Frameworks.

The Balanced Scorecard Model

The Balanced Scorecard (BSC) model, developed by Robert Kaplan and David Norton, focuses on aligning leadership training with organizational strategy and performance objectives. It recognizes that leadership effectiveness extends beyond financial metrics and encompasses various perspectives: financial, customer, internal process, and learning and growth (Kaplan & Norton, 1992).

In the context of leadership training, the BSC model has several important implications: (i) **Alignment with Organizational Goals:** The BSC model ensures that leadership training programs are closely aligned with the organization's strategic objectives. New leaders are not only taught about their roles but also how their roles fit into the broader strategic framework of the organization; (ii) **Balanced Skill Development:** Leaders in training learn to balance their development efforts across the four perspectives. They understand that leadership effectiveness requires a combination of financial acumen, customer focus, process improvement skills, and personal growth; (iii) **Strategic Thinking:** The BSC model cultivates strategic thinking among new leaders. They learn to consider both short-term and long-term objectives, recognizing that decisions made today can have a significant impact on the organization's future performance; (iv) **Holistic Leadership:** By emphasizing the holistic nature of leadership, the BSC model encourages leaders to view their roles as interconnected with various aspects of the organization. This perspective promotes a more integrated approach to leadership.

In leadership training, the BSC model ensures that new leaders understand the connection between their roles and organizational goals. They learn how to set and align goals that contribute to financial success, improve customer satisfaction, optimize internal processes, and foster personal and team growth. This model cultivates leaders who can think strategically, balance short-term and long-term objectives, and comprehend the holistic nature of leadership within the organization (Kaplan & Norton, 1996).

Numerous organizations have successfully applied the BSC model in leadership training and development. For example, healthcare organizations have used the BSC to train clinical leaders to improve patient satisfaction, streamline medical processes, manage costs, and enhance the skills and knowledge of medical staff. In the public sector, government agencies have used the BSC model to align leadership training with public service goals. Leaders in public administration learn to balance financial stewardship with citizen satisfaction, internal process efficiency, and workforce development.

The Human Capital ROI Model

The Human Capital Return on Investment (ROI) model emphasizes the value of investing in leadership training (Boudreau, & Cascio, 2008). It seeks to quantify the impact of leadership development on organizational performance and outcomes. In leadership training, this model underscores the importance of assessing the return on investment in terms of leadership development. New leaders are taught to evaluate how their actions and decisions contribute to measurable improvements in employee productivity, engagement, and overall organizational performance. This model encourages leaders to view training not just as an expense but as an investment that yields tangible returns in the form of increased human capital effectiveness (Carmeli, Meitar and Weisberg, 2006; Cascio and Boudreau, 2016).

In leadership training, the model begins by evaluating the resources invested in leadership development programs. This includes the cost of training, materials, and the time and effort of both trainers and trainees.

To measure the ROI of leadership training, organizations and new leaders identify specific key performance indicators (KPIs) that are relevant to their objectives. These KPIs can vary but often include metrics related to employee performance, engagement, and organizational success (Boudreau & Ramstad, 2006).

The Human Capital ROI Model offers several benefits and implications in leadership training and development: (i) Strategic Focus: by emphasizing ROI, organizations prioritize leadership development initiatives that yield the greatest returns. This encourages the alignment of training programs with organizational goals and objectives; (ii) Accountability: leaders undergoing training are held accountable for applying their newly acquired skills effectively to drive measurable improvements. This accountability fosters a results-oriented approach to leadership; (iii) Resource Allocation: the model guides organizations in allocating resources more effectively by investing in programs that demonstrate a positive ROI. It helps in optimizing the allocation of budgets for leadership development; (iv) shift in perspective: Organizations and leaders begin to view training as an investment rather than an expense. This shift in perspective underscores the long-term value of leadership development.

The High-Performance Work System Model

The High-Performance Work System is a strategic approach that aims to create an organizational environment where leadership and employee performance are maximized through various interrelated practices, including recruitment, training, performance appraisal, and employee involvement (Becker, Huselid & Ulrich, 2001; Boxall & Macky, 2014). In leadership training, this model emphasizes the importance of understanding and implementing high-performance work practices. New leaders learn how to foster a culture of continuous improvement, teamwork, and employee involvement, which are essential for achieving high performance. Leaders trained in this model can create and sustain a work environment that promotes efficiency, innovation, and employee satisfaction, resulting in improved organizational performance.

In the context of leadership training, the HPWS model has several significant implications: (i) New leaders are introduced to the principles and practices that contribute to a high-performance work system. They learn about the importance of aligning organizational

objectives with leadership behaviors and practices; (ii) **Fostering a Culture of Continuous Improvement:** The model instills in leaders the value of continuous improvement. Leaders are trained to identify areas for enhancement, streamline processes, and drive innovation. This proactive approach contributes to organizational agility and adaptability; (iii) **Teamwork and Collaboration:** HPWS emphasizes teamwork and collaboration as essential components of high performance. Leaders are taught how to build and lead effective teams, promote cooperation among team members, and harness the collective intelligence of their teams; (iv) **Employee Satisfaction and Engagement:** The model recognizes that employee satisfaction and engagement are critical for achieving high performance. Leaders trained in the HPWS model are equipped to create a work environment where employees feel valued, motivated, and engaged in their roles.

HR Analytics and Metrics

HR Analytics and Metrics represent a cutting-edge approach to HR and leadership development, emphasizing the role of data-driven decision-making. HR Analytics and Metrics focus on data-driven decision-making in HR and leadership development. It involves collecting, analyzing, and interpreting HR data to drive informed strategies. In this model, the collection, analysis, and interpretation of HR data drive informed strategies (Lawler, Levenson, & Boudreau, 2004).

In “Achieving Strategic Excellence,” Lawler, Levenson, and Boudreau (2004) delve into the critical role of HR metrics in assessing the effectiveness of HR organizations and practices. They argue that HR professionals should move beyond being mere administrators and become strategic partners by leveraging data and metrics to demonstrate HR’s contribution to organizational success. Furthermore, Boudreau and Cascio contributed to the development of ROI metrics in HR and talent development. Their work emphasizes the importance of measuring the return on investment in leadership development initiatives, aligning with the broader concept of HR Analytics.

In leadership training, this model incorporates data literacy and analytical skills. New leaders learn how to use data to assess performance, identify areas for improvement, and make data-driven decisions related to talent management and development. Leaders trained in HR Analytics and Metrics can make more informed decisions, tailor development programs to specific needs, and measure the impact of leadership training on organizational outcomes. Within the context of leadership training, HR Analytics and Metrics offer new leaders a powerful set of tools to harness data for enhancing their own performance and shaping talent management and development initiatives.

In the context of leadership training, HR Analytics and Metrics have several implications: (i) **Data Literacy and Analytical Skills:** New leaders are trained in data literacy and analytical skills. They learn how to collect and analyze relevant data to assess their own performance, identify areas for improvement, and track their progress over time; (ii) **Tailored Development Programs:** Data-driven insights enable organizations to customize leadership development programs to meet the specific needs of individual leaders. Leaders receive targeted training and resources to address their unique challenges and opportunities; (iii) **Continuous Improvement:** Leaders are encouraged to use data to drive continuous improvement. They learn how to set performance benchmarks, monitor progress, and adjust their leadership strategies based on

data-driven insights; (iv) Talent Management: HR Analytics and Metrics play a crucial role in talent management. Leaders can use data to identify high-potential individuals, succession planning, and workforce planning. This ensures that organizations have a pipeline of skilled leaders for the future.

The Capability Maturity Model (CMM)

The Capability Maturity Model (CMM) stands as a structured framework that evaluates an organization's maturity across various capabilities, encompassing vital domains like leadership and management. CMM segments maturity into distinct levels, ranging from the initial stage (undeveloped) to the pinnacle of continuous improvement (optimized). Its primary aim is to facilitate organizations in a systematic assessment of their capacities and, more crucially, in their pursuit of enhancement.

In the context of leadership training, the CMM model emerges as an invaluable guide for burgeoning leaders.

Turner and Ledgard (2006) have explored the application of the CMM model in leadership and management contexts. Their work sheds light on how organizations can leverage the CMM framework to systematically improve leadership processes, ultimately leading to enhanced organizational performance. It not only empowers them to comprehend their organization's current state of leadership maturity but also furnishes them with a comprehensive roadmap to transition from erratic, ad-hoc leadership approaches to robust, well-defined leadership practices. Leaders who undergo training via the CMM model emerge as strategically adept individuals, capable of orchestrating a profound transformation in leadership processes within their organizations (Turner & Ledgard, 2006).

In leadership training, this model guides new leaders in understanding the maturity level of their organization's leadership practices. It provides a roadmap for developing leadership capabilities and processes, moving from ad-hoc approaches to mature, well-defined leadership practices. Leaders trained using the CMM model can strategically improve leadership processes, ensuring they are well-established, repeatable, and continually improved.

The Capability Maturity Model bears substantial implications: (i) Assessment of Leadership Practices: Novel leaders are provided with the tools to evaluate their organization's prevailing leadership practices, guided by the maturity levels defined by CMM. This introspection facilitates the identification of both the strengths and weaknesses within leadership processes; (ii) Path to Improvement: The model meticulously lays out a coherent pathway for the development of leadership competencies. It empowers leaders to evolve from ad-hoc, arbitrary approaches to adopting mature, well-defined leadership practices, meticulously aligning them with organizational objectives; (iii) Incorporating Best Practices: Leaders exposed to training via the CMM model have access to a repository of established best practices. They can draw inspiration from the experiences of organizations that have ascended to higher maturity levels in leadership, thus enabling the implementation of tried-and-tested strategies and approaches; (iv) Consistency and Replicability: CMM places paramount importance on the concepts of consistency and replicability within leadership processes. Leaders are instilled with the ability to standardize their leadership practices, ensuring that these practices can be consistently applied across diverse contexts and situations.

Employee Engagement Theory

The notion of employee engagement is a foundational framework designed to cultivate a work environment where employees are not just content but motivated, deeply committed, and enthusiastic about their roles and the organization's mission (Macey & Schneider, 2008; Schaufeli, Salanova, Gonzales-Roma, & Bakker, 2002; Kahn, 1990). This model takes center stage in leadership training by spotlighting the pivotal role of leaders in nurturing an engaged workforce. New leaders, under this model, are equipped with the skills to build strong relationships, communicate effectively, and recognize and reward employees, thereby bolstering employee engagement. Leaders trained through this model emerge as potent catalysts for higher employee morale, increased productivity, and enhanced retention. This virtuous cycle, in turn, catapults organizational performance and success to new heights (Bakker & Albrecht, 2018).

In leadership training, this model emphasizes the role of leaders in creating an engaged workforce. New leaders learn how to build strong relationships, communicate effectively, and recognize and reward employees to enhance engagement. Leaders trained in this model can drive higher employee morale, productivity, and retention, ultimately leading to improved organizational performance and success. Leaders are trained to view themselves as “engagers” rather than mere managers. They learn that their leadership extends beyond task delegation to creating an inspiring and engaging work environment (Macey and Schneider (2008) In sum, by empowering and encouraging the employees to take part in parts related to the “bigger picture,” leaders not only manage but truly lead, instilling in them the skills to cultivate engagement, build meaningful relationships, communicate effectively, and recognize and reward employee contributions (Saks, 2006; Solansky, 2008; Straub & Kirby, 2017). Leaders trained through this model become champions of higher employee morale, productivity, and retention, driving organizational performance and success to new zeniths.

Performance Management Systems

Performance Management Systems represent a comprehensive framework that encompasses processes, tools, and methodologies to harmonize individual and team performance with an organization's overarching goals and objectives. It encompasses processes, tools, and methodologies to align individual and team performance with organizational goals and objectives. As DeNisi and Murphy (2017) emphasize in their research, a well-structured Performance Management System not only enhances individual and team performance but also contributes significantly to an organization's competitive advantage. It fosters a results-oriented culture where feedback, development, and recognition are integral components. Through this approach, organizations can adapt swiftly to changing market conditions, innovate more effectively, and achieve their strategic objectives with greater precision. Under this model, budding leaders gain the expertise to set performance expectations, provide constructive feedback, conduct performance appraisals, and formulate performance improvement plans. Leaders who undergo training in this model emerge as adept architects of performance management systems that not only boost employee motivation and development but also ensure alignment with the organization's strategic aspirations. This model equips new leaders with skills to design, implement, and oversee performance management systems. They learn how to

set expectations, provide feedback, conduct performance appraisals, and develop performance improvement plans.

Talent Management Frameworks

This model focus on the identification, development, and retention of top talent within an organization. Boudreau and Ramstad (2005) have made a significant contribution to the discourse on talent by elucidating how talent and strategy are intricately connected. They take a step further by proposing the need for a systematic talent decision science, similar to the established domains of finance and marketing. This move transcends the mere acknowledgment that strategic factors influence talent decisions, as suggested by prior works (Jackson & Schuler, 1990; Tichy et al., 1982), or the categorization of talent based on labor market or resource-related criteria (Barney, 1991; Zuboff, 1988). Their approach opens up the exciting possibility of developing robust, interconnected models that integrate talent and strategy seamlessly. When business leaders grasp the idea that investments in talent can proactively create strategic advantages rather than being solely reactive responses to strategic decisions, it paves the way for the Human Resources function to finally assume its rightful place of influence and importance within the organization (Boudreau & Ramstad, 2005).

In the context of leadership training, this model emphasizes the role of leaders in talent management initiatives. Talent Management Frameworks focus on the strategic identification, development, and retention of top talent within an organization. In leadership training, this model emphasizes the role of leaders in talent management. New leaders learn how to identify high-potential employees, provide targeted development opportunities, and create succession plans. Leaders trained in Talent Management Frameworks can ensure the organization has a pipeline of skilled leaders, fostering continuity and sustainability (Collings & Mellahi, 2009).

Conclusion

Training new leaders in public administration is an integral task that demands a multifaceted strategy. Given the continually evolving nature of public administration, there is a critical need to continually refine and adapt training methodologies to ensure the development of leaders proficient at navigating this complex field. Our bibliometric analysis underscores the escalating interest in this subject, signifying an urgent need for comprehensive training approaches that equip future leaders with the competencies required for effective leadership in public administration.

Our bibliometric analysis has identified a burgeoning body of research focused on the training of new leaders in public administration, with a notable uptick in publications commencing from 2020. This proliferation in literature mirrors the dynamic needs of public sector institutions and the wider community, emphasizing the indispensable role of training in addressing these demands. The United States is predominant in terms of citations, indicative of robust interest in leadership training within the domain of public administration.

In the realm of leadership training in public administration, several strategies have emerged as efficacious. Mentorship programs are esteemed for their provision of practical insights and

guidance, deriving from the experience of seasoned professionals. Leadership development workshops are instrumental in imparting knowledge on contemporary trends and best practices, while simultaneously fostering professional networking and collaboration. Academic courses, as offered by higher education institutions, furnish a balanced amalgamation of theoretical knowledge and practical skill acquisition. Online training programs, constituting the “personal learning cloud,” offer adaptability and customization to cater to individual requirements.

The findings of this study contribute to the understanding of the significance of, and methodologies for, leadership training in public administration. It accentuates the necessity for diverse training strategies that extend beyond mere knowledge and skills transfer, encompassing the inculcation of ethical integrity and adherence to professional standards. As the public administration landscape continuously evolves, it is imperative that the preparation of new leaders remains adaptive and responsive to ensure the cultivation of capable leaders.

Our research underscores the critical importance of fostering strategic thinking, problem-solving acumen, effective communication skills, and ethical decision-making capacities in prospective public administration leaders. These skills are fundamental for competently navigating the intricacies of public service, managing resources judiciously, executing impactful decisions, and enhancing public accountability and performance. A broad spectrum of training resources, including mentorship initiatives, workshops, academic courses, and online training programs, forms an integral component of this process. The validation of the efficacy of leadership training through prior research emphasizes its pivotal role in the formation of competent and ethical leaders.

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Chapter 10

Beyond the Bully: Exploring the Surprising Performance-Related Outcomes of Abusive Supervision

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Abstract

The common definitions of leadership include positive qualities such as vision, ethics, responsibility, respect, and trustworthiness. However, recent studies revealed an increase in unethical behaviors performed by organizational leaders, prompting academics to investigate the harmful types and impacts of leadership. One area of focus has been abusive supervision, which was found to have both positive and negative effects on organizational outcomes including subordinate and supervisor performance. While the harmful effects on subordinates have been a major focus in studies on abusive supervision, some scholars suggested that supervisors' abusive behaviors may yield temporary functional results and be used as a strategy for leaders to improve work performance. To illustrate, researchers demonstrated the positive association between abusive supervision and work performance when subordinates attribute abusive behaviors to an effort to increase motivation rather than an intention to harm the employee (Li et al., 2022; Liao et al., 2021; Tepper et al., 2015). However, there is limited knowledge about these destructive behaviors' impact on supervisors. One of these few studies showed that engaging in abusive supervisory behavior was positively correlated with supervisors' recovery levels. Moreover, abusive supervisory behavior indirectly contributed to increased work engagement through its positive effect on the recovery level (Qin et al., 2018). The present chapter provides a comprehensive overview of the effects of abusive supervision on work performance, outlining both the negative and positive work-, employee-, and supervisor-related outcomes. Additionally, this chapter unfolds potential directions for future research regarding the relationships of abusive supervision with in-role and extra-role performance.

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Finally, we present practical recommendations for leaders and organizations to minimize the detrimental effects of abusive supervision. The literature findings will be presented in conjunction with various theoretical explanations, concepts, and propositions.

Keywords: abusive supervision, work performance, extra-role performance, organizational outcomes

Introduction

As abusive leadership behaviors are becoming increasingly widespread, leadership research has shifted from focusing on positive attributes and behaviors of leaders to studying abusive leadership behaviors; this has led to an increase in research on abusive leadership (Ronen & Donia, 2020). In many surveys, it has been found that approximately 65% to 75% of employees in any organization cite their immediate supervisor as the most challenging element of their job (e.g., Hogan & Kaiser, 2005). It is important to highlight the long-term economic effect of negative leader behavior since the abusive management style employed by managers has been estimated to severely hurt business each year, causing significant harm and affecting numerous employees (Tepper, 2007). Abusive supervision can be defined as how subordinates interpret their supervisors' ongoing exhibit of aggressive verbal and nonverbal behavior (i.e., yelling, withholding important information, etc.), except physical contact. The portrayal of abusive supervision suggests it as a form of non-instrumental hostility, targeting easy and blameless victims when retaliating against the actual source of one's frustration is not viable or practical. In particular, supervisors may think that they can use abusive behavior as a strategy to motivate their subordinates to achieve outstanding performance or to firmly establish a zero-tolerance stance towards mistakes (Tepper, 2007, Tepper et al., 2017). Notably, when supervisors perceive their employees as underachievers, abusive supervision may emerge as a purposeful reaction, serving as a tool to tackle the perceived performance issues (Kräkel, 1997).

Tepper Moss and Duffy (2011) found that supervisors were more inclined to experience relationship conflict with and display abusive behaviors towards subordinates with whom they perceived "deep-level dissimilarity," indicating differences in deeply held values and attitudes. Furthermore, subordinates who perceive their supervisors as low on leader-group prototypicality may also perceive higher levels of abusive supervision compared to subordinates who view their supervisors as highly prototypical. The same logic can be applied when examining supervisors' choices regarding whom to target with abusive behaviors from a strategic perspective. According to Pan and Lin (2018), LMX mitigates the link between supervisors' negative affect and abusive supervision. This is because high-LMX subordinates possess valuable resources that could enhance work unit performance and help supervisors achieve their personal career goals, making it more strategic for supervisors to direct negative affect toward low-LMX subordinates rather than high-LMX subordinates.

Previous research in the literature has demonstrated that detrimental leadership can lead to various adverse outcomes for subordinates. These consequences encompass absenteeism and turnover, stress and emotional exhaustion (Harvey et al., 2007), anxiety, inflated work-family conflict (Martinko et al., 2013; Nauman et al., 2018), and engagement in deviant workplace behaviors such as Counterproductive Work Behaviors (CWBs) (Jiang et al., 2017). Adding to the concept of unintentional harm caused by leaders, researchers have proposed that leaders

might intentionally display abusive behavior to achieve certain functional, albeit short-lived, outcomes from subordinates, such as temporary performance improvements (Ferris et al., 2007; Tepper et al., 2012).

Effects of Abusive Supervision on Subordinates' Work Performance

Working with an abusive supervisor is likely to kill subordinates' work motivation which refers to the drive for putting effort into work tasks. Deci and Ryan (2000) define work motivation as multidimensional and according to the authors, autonomous motivation involves individuals voluntarily engaging in an activity with a genuine sense of choice and willingness, while controlled motivation, driven by contingent rewards or power dynamics, narrows employees' efforts and yields momentary gains. Amotivation can be defined as the absence of any motivation or lack of desire to engage in a particular action or activity. Abusive supervisory behaviors lead to decreased autonomous motivation, heightened controlled motivation, and a rise in employee amotivation (Ronen & Donia, 2020). Abusive supervision has been associated with decreased levels of personal and group morale, impaired executive functioning, and compromised psychological well-being. It is linked to decreased employee engagement (Barnes et al., 2015), and decreased perceptions of organizational justice (Tepper, 2000). Furthermore, it is linked to heightened rates of counterproductive work behavior (CWB), heightened turnover rate (Tews & Stafford, 2020; Tepper, 2007), decreased employee engagement (Barnes et al., 2015; Lyu et al., 2016), and a negatively associated with organizational justice (Tepper, 2000). Moreover, it results in subordinates' proneness to experiencing drinking problems (Bamberger & Bacharach, 2006; Pyc et al., 2017).

According to Klasmeier and others (2022), despite its many detrimental effects, a certain amount of social interchange and orientation can still be provided for followers through abusive supervision. For instance, abusive supervision was found to have a dual impact on innovative behavior, dampening it by lowering subordinates' psychological safety, while paradoxically fostering innovation by increasing challenge-related stress (Zhu & Zhang, 2019). Furthermore, after being subjected to daily abusive behavior from their supervisors, subordinates might exhibit functional alterations in their task performance (Liao et al., 2021).

When evaluating the effects of abusive supervision on employees' job performance, it is crucial to determine whether employees perceive their leaders' behaviors as abusive or not. The same individual can perceive the behavior of a supervisor differently according to the context, it is also possible for two subordinates to evaluate the same supervisory behavior very differently (Tepper, 2000). According to Tepper and colleagues (2017), employees who experience abusive supervision are more prone to view their supervisors as abusive if they believe they should receive special treatment (such as having high narcissism or psychological entitlement) or if they are particularly sensitive to the idea of others intending harm towards them (such as having low dispositional trust or high trait paranoia). Liang and colleagues (2016) argue that leaders' exhibition of abusive supervision behaviors may be perceived as a response to subordinates' underperformance. Subordinates' differing attribution tendencies for the same abusive supervisory behavior may significantly influence their momentary responses to relevant actions, potentially provoking constructive responses despite their negative nature (Liao et al., 2021). According to Yu and Dufy (2020), abusive supervision is more likely to generate anger and lead to increased deviant behaviors and reduced organizational citizenship

behaviors or extra-role performance when subordinates perceive that the abusive supervisor aims to cause harm, while it is more likely to evoke guilt and results in fewer deviant behaviors and more extra-role performance when subordinates believe the abusive supervisor's motivation is to improve performance. As such, it was discovered that employees with low dispositional forgiveness were less likely to perceive abusive supervision as intended to promote employee performance, while those with higher levels of dispositional forgiveness attributed performance-promoting motives to abusive supervision, resulting in enhanced subsequent job performance (Yang et al., 2020).

Ferris and colleagues (2007) indicated that applying abusive supervision to male employees might have a beneficial short-term effect on their performance, but in the long run, it leads to a decline in their overall performance. In addition, among employees with a high level of job performance, a clear U-curve relationship was found between abusive supervision and innovative behavior; however, for those with a low level of job performance, an inverted U-curve relationship is observed between abusive supervision and innovative behavior (Yuan, Ng, & Wu, 2022). More specifically, with a low level of abusive supervision, subordinates experience subsequent low levels of psychological burden and insecurity; while those with high job performance show increased confidence and ease in implementing innovation. On the other hand, individuals with low job performance and high levels of risk aversion are less inclined to engage in innovative tasks, which strongly inhibits their innovative behavior compared to high-performing counterparts. According to Li and colleagues (2022), abusive supervision positively impacts job performance by serving as a means for managers to motivate subordinates to work harder and reduce mistakes; however, individuals who comprehend the supervisor's intentions may experience guilt, leading them to adopt strategies to mitigate this guilt, thereby improving their job performance. In addition, primary psychopathy was found to be positively correlated with both positive affect and engagement in challenging work environments characterized by poor leadership, suggesting that individuals who score high on primary psychopathy may not perform worse than their peers and may even benefit from such leadership practices (Hurst et al., 2019).

The impact of cultural background is another significant factor that is often overlooked in the examination of the relationship between abusive supervision and employee performance. For example, Lian and colleagues (2012) demonstrated that subordinates with a high power distance orientation, due to their greater tolerance of supervisory mistreatment, would be less inclined to perceive abusive supervision as being interpersonally unjust. According to Hon and Lu (2016), abusive supervisory behavior was negatively correlated with service performance; however, the study found that in teams with strong traditional cultural values and high power distance, the negative impact of abusive supervision on service performance was mitigated. As such, Vogel and colleagues (2015) observed that the detrimental impact of perceived abusive supervision was less pronounced among subordinates in Asian culture compared to those in Anglo cultures. In addition, subordinates from the Anglo cultures perceived the abusive supervision to be less equitable than those from the Asian culture. For example, in China, where subordinates and superiors share a close bond, and even in cases of abuse by superiors, subordinates perceive it as a form of help and education, leading them to work harder as a way of reciprocating their leaders' care and support (Li et al., 2022). On that note, leadership styles such as paternalistic leadership (PL), which are deemed effective in some cultures, may not be evaluated as equally effective in others. PL is a leadership style that merges benevolence with authoritarianism (Pellegrini & Scandura, 2008). In Western countries, paternalistic leaders'

involvement in employees' non-work life might be viewed as an invasion of privacy, whereas in non-Western cultures with high collectivism and power distance, such behaviors are regarded as valuable and desirable (Aycan, 2006). In line with this, a study conducted in Türkiye revealed that similar to the positive relationship between PL and organizational citizenship behaviors (OCBs), there was a positive relationship between abusive supervision and OCBs, possibly because abusive leaders induce employees to engage in impression management, leading to possible favorable outcomes, including the display of OCBs (Onaran & Göncü-Köse, 2022).

Furthermore, the response to abusive supervision may vary depending on the specific work environment and the nature of the job. To illustrate, abusive supervision had a significant positive impact on police trainees' job performance because the trainees perceived their supervisor's intentions as aimed at enhancing performance rather than causing harm (Hameed et al., 2021). In addition, a study by Yu and Dufy (2020) has found that military contexts are particularly suited for examining abusive supervision, due to the fact that military social norms frequently deem supervisory mistreatment as an effective method of leadership. Through a sample of voluntary military officers in Taiwan, Liang (2022) revealed that abusive supervision was positively correlated with performance improvements, as it instigated a sense of shame among the participants.

Another interesting domain to investigate is to examine the effects of abusive supervision from the perspective of third parties since there are conflicting results regarding this topic. Mitchell and colleagues (2015) showed that if victims were perceived as deserving of abuse, it became easier for observers to rationalize the abuse and feel comfortable with the situation. Consistently, according to Qiao and others (2021), when their peers suffer abusive supervision, bystanders may experience "schadenfreude," which refers to the experience of pleasure or satisfaction that occurs when someone else suffers a significant loss, and this increases their work engagement levels. Moreover, witnessing a leader engaging in bullying may lead audiences to modify their behavior or boost their productivity to avoid becoming targets themselves (Ferris et al., 2007).

Tepper and colleagues (2017) present a thought-provoking perspective. They posit that abusive supervision can engender emotional, cognitive, and even physical depletion among employees, fostering the imitation of such deleterious behaviors, disrupting positive team dynamics and cohesion, and ultimately engendering diminished job performance. Conversely, certain employees may react distinctively, strategically channeling their focus towards their work to avoid their aggressive and pessimistic manager, endeavoring to refute the manager's unjust criticisms, actively seeking alternative job prospects to liberate themselves from the hostile environment, or displaying a fervent desire for self-improvement to unlock better career opportunities. In these circumstances, these resourceful employees may even demonstrate heightened levels of job performance. Furthermore, the researchers indicate that daily manifestations of abusive leadership behavior may lead to an immediate but transient increase in productivity (Liao et al., 2021).

Effects of Abusive Supervision on Supervisors' Own Performance

Despite researchers having explored abusive supervision from the viewpoint of subordinates, there is limited understanding regarding its impact on supervisors (Ju et al., 2019; Kleshinski

et al., 2021). Exploring this research topic is essential in gaining a thorough understanding of how abusive supervision operates. It can provide both theoretical insights and empirical evidence into how supervisors might benefit from or be adversely affected by mistreating subordinates (Foult et al., 2018). Recently, there has been a growing acknowledgment among researchers about the significance of investigating abusive supervision from the viewpoint of the individuals involved (Liao et al., 2018; Shum et al., 2020). Studies investigating the factors leading to abusive supervision have revealed that it is influenced by various elements, including factors related to supervisors, situational factors, and factors associated with subordinates (Tepper et al., 2017; Zhang & Bednall, 2016).

The existing body of research indicates that followers tend to face negative outcomes when subjected to abusive supervision, however, there is limited knowledge regarding the repercussions faced by the supervisors responsible for the abuse (Shum et al., 2020). For example, according to a study by Liang colleagues (2016), when subordinates perform poorly, supervisors are more likely to display increased abusive behaviors toward employees. Their choice to mistreat employees can be seen as a way of “repaying” the disrespectful actions they have been subjected to (Mitchell & Ambrose, 2007). On the other hand, dealing with subordinates who exhibit deviant behavior towards the supervisor, such as engaging in gossip or insult can increase the likelihood of supervisors responding with abusive actions in return (Lian et al., 2014; Mawritz et al., 2017), which, in turn, leads to higher levels of emotional exhaustion among the leaders (Shen et al., 2021). Abusive supervisory behavior may also have detrimental effects on leaders’ overall well-being, mainly due to the negative responses it elicits from their followers. In turn, it is likely to decrease abusive supervisors’ need fulfillment and the ability to relax at home. In addition, negative reactions pose a threat to the leaders’ future authority and impact on the group (Foult et al., 2018). For instance, when employees experience daily abuse, they may respond by reducing their dedication to their work, thereby limiting the leaders’ effectiveness (Barnes et al., 2015).

Studies focusing on abusive supervision from the perspective of the individuals involved have shown that abusive acts lead to immediate cognitive and emotional effects on supervisors (Chen et al., 2021).

Prior studies have demonstrated that supervisors are prone to mistreat their subordinates when faced with stress, as stress can trigger aggressive urges and impulses (Burton et al., 2012). The literature also suggests that coping behaviors triggered by stress, including abusive supervisory behavior, are more advantageous when they do not introduce further stressors (Halbesleben et al., 2014). In other words, restraining the inclination to engage in abusive behavior would result in additional resource depletion. To empirically support this claim Qin and colleagues (2018) posit that abusive supervisory behavior represents an action that could prevent the depletion of personal resources and allow supervisors to acquire new resources. Consequently, this behavior enables supervisors to achieve an adequate level of recovery. In other words, abusive supervision yields certain immediate advantages for supervisors, elucidating the persistence of such behavior despite its detrimental impact on subordinates. They revealed that engaging in abusive supervisory behavior is associated with an enhanced level of recovery. Furthermore, this behavior indirectly fosters higher work engagement through the improved recovery level. However, these positive effects are transient, as over extended periods (e.g., one week and beyond), abusive supervisory behavior becomes negatively correlated with supervisors’ recovery level and engagement. The magnitude of these short-lived benefits is also contingent upon personal and contextual factors. Specifically,

empathic concern, as a personal trait, and job demands, as contextual elements, moderate the observed effects. Supervisors with high empathic concern or low job demands experience fewer benefits after engaging in abusive supervisory behavior.

Ju and colleagues (2019) suggest that abusive supervisors tend to perceive that they have control over valuable resources and goals that subordinates depend on, leading to an amplified sense of power within their state of mind. They claim that abusive supervision could offer certain benefits to supervisors, with a noteworthy positive correlation between abusive supervisory behavior and a sense of power, and managerial self-efficacy found only in the short term (i.e., these associations eventually turn negative after one week). These positive self-perceptions, in turn, drive abusive supervisors towards displaying task-oriented leadership behavior. On the other hand, when leaders experience psychological power, they are more likely to display abusive behavior and perceive increased incivility from others on those particular days compared to days when they do not experience such psychological power (Foulk et al., 2018).

Although engaging in abusive behaviors may lead supervisors to experience a decline in their self-esteem, those with psychopathic tendencies may be less affected and not feel as negatively about themselves after behaving abusively (Priesemuth & Bigelow, 2020). However, abusive supervisors may experience feelings of embarrassment since their behaviors are unethical, leading them to utilize apologies as a means to manage their public image (Shi et al., 2023). As a result of the shame after abusive behaviors, supervisors may try to compensate for their negative reputation by exhibiting constructive leadership actions to their employees (Liao et al., 2018; Shum et al., 2020), despite their manners can be motivated by concerns about their public image (McClellan et al., 2021).

On the other hand, what if abusive supervisors feel like they are supported or validated by their colleagues? Another study that examines abusive behaviors from an actor-based perspective was conducted by Chen and colleagues (2021). They claim that when supervisors share their abusive behaviors with other colleagues, which they define as “abusive supervision talk,” these discussions exacerbate supervisors’ hostility towards the subordinates, consequently leading to an amplification of abusive supervision behavior. The reason behind this scenario is that abusive supervision talk intensifies their personal experience of abusive behavior (Berger & Luckmann, 1966) and such discussions may even foster a sense of support and validation for their abusive actions (Burleson, 1994; Burleson & Goldsmith, 1996). This indicates that abusive supervision talk plays a crucial role in influencing supervisors’ attitudes and behaviors, contributing to a deeper understanding of the dynamics of abusive workplace relationships.

Conclusion

This chapter aimed to comprehensively address abusive supervision behaviors implemented by organizational leaders, discuss the research findings in the literature on this topic, and provide a sort of guide to practitioners and/or researchers interested in contributing to this field in the future. Despite considerable exploration of abusive supervision from the subordinates’ viewpoint, the understanding of its implications on supervisors remains limited. Delving into this research area is essential for gaining a thorough understanding of the operational mechanisms of abusive supervision. It not only offers valuable theoretical insights but also

provides empirical evidence concerning how supervisors might experience benefits or adverse outcomes as a consequence of their mistreatment of subordinates.

In summary, while abusive supervision might yield certain immediate benefits for both supervisors and subordinates, it ultimately proves to be harmful in the long run. This chapter emphasizes the significance of considering the timeframe when studying abusive supervisory behavior, as the duration of time and supervisors' perceptions determine whether such behaviors have positive or negative effects on supervisors.

In many studies examining the antecedents or outcomes of abusive supervision, measures include evaluations by subordinates of their supervisors' behavior. In future research, data related to abusive supervision can be collected from multiple sources, including employees, peer coworkers, and superiors themselves. Likewise, a considerable number of performance measures utilized in the literature are based on subordinates' self-perceptions. In future investigations, it would be worthwhile to examine whether the evaluations of performance by subordinates and supervisors are linked differently to perceptions of and responses to abusive supervision. It is highly advisable for more empirical studies, employing either experimental or longitudinal designs, to investigate the hypotheses put forth on abusive supervision research. Such investigations are crucial to understanding the causal relationship between abusive supervision and employee performance over both short and long periods. In many studies, data on employee-supervisor dyadic tenure is lacking, and the possibility of supervisors' rotation, promotion, or departure leading to employees reporting to different supervisors during the research period could be a reason for non-significant findings regarding abusive supervision. To account for the potential impact of the duration of employee-supervisor interaction on perceptions of abusive supervision, it is essential to control for dyadic tenure between employees and supervisors in future research (Shin et al., 2022). Additionally, there remains a substantial requirement for more extensive research conducted in diverse national contexts and workplace sectors to enhance the overall applicability of the study findings within the abusive supervision literature.

Understanding the potential effects of abusive supervisory behavior on individuals is valuable for crafting leadership training initiatives aimed at mitigating such conduct in the workplace. For instance, being aware of the possible advantages supervisors may perceive from such behavior allows for the exploration of alternative, less harmful approaches to provide supervisors with similar benefits. Consequently, there is significance in investigating how and when engaging in abusive supervisory behavior impacts the supervisors themselves.

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Chapter 11

A Comparative Investigation of the Leadership Styles That Prevail in Public Companies vs. Private Companies

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Abstract

This study aimed to test to what extent leadership styles influence organizational performance in public and private organizations, as well as to understand which leadership styles predominate in both organizations, public and private, which competencies leaders should acquire to improve organizational performance, and what are the consequences of leadership styles on the organizations' service delivery. To this end, we hypothesized: 1) Leadership style (transformational and transactional) has a significant and positive effect on perceived performance; 2) Sector (Public or Private) has a moderating effect on the relationship between leadership style (transformational and transactional) and performance. It is expected that for private sector participants when compared to public sector participants, leadership style becomes relevant in enhancing their performance.

The sample consists of 240 participants working in organizations based in Portugal. The results indicate that both transformational and transactional leadership have a significant and positive effect on performance. As for the moderating effect, the moderating effect of the sector (public or private) on the relationship between transformational leadership and performance, as well as on the relationship between some of the dimensions (inspirational motivation, idealized behaviours, and contingent rewards) and performance, was proven.

Keywords: leadership, transactional leadership, transformational leadership, organizational performance, public and private sector

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Introduction

The main objective of any organization is to achieve success to become competitive and counteract this economic recession. This success will only be possible through good leadership, one of the key aspects that can lead to greater productivity.

The concept of leadership has been subject to various definitions as the subject has been developed, and new ways of understanding leadership as an essential factor in the success of any organization, whether public or private, have been created. This has led to the emergence of several theoretical perspectives on the concept, although all of them, in the end, conclude that leadership has become and remains a key factor for building better human relationships within organizations and a way for them to achieve the defined objectives.

One of the main objectives of the leader is to keep the followers motivated so that they can perform their work properly and achieve the results expected by the organization (Avolio et al., 2009). For Malheiro (2009), one of the leaders' duties is to acquire new knowledge, whose objective will be to perform their function in the best possible way and thus lead their employees and teams to achieve the desired goals. A good leader decisively influences the direction of the followers' behaviour, becoming a driving element for good organizational performance (Dimas et al., 2016).

This study aims to determine how leadership style (transformational and transactional) influences the perceived performance of employees, as well as to test whether the sector (public or private) moderates this relationship.

This study is organized into several sections, starting with the literature review, which seeks to address more deeply the concept of leadership (especially the transformational and transactional styles) and the perceived performance of employees. In the methodological section, the sample of this study is characterized, and the instruments used in data collection are described. Then, in the results section, the hypotheses formulated were tested after testing the metric qualities of the instruments used. Finally, the main conclusions drawn from this study are presented and discussed.

Literature Review

Leadership

The study of leadership has been a constant concern practically since the dawn of modern civilization, and it is a universal phenomenon that concerns humans and many other animal species (Bass, 1990). If we think about the genesis of leadership, it can be seen from the perspective of human origins and as a resource for group survival (Van Vugt et al., 2008). As Kaiser and Hogan (2010) point out, the solution to most survival problems faced by early humans required collective action - to hunt on a large scale, to ward off predators, or to repel invading tribes.

Leadership has come to have different definitions over time. After decades of dissonance, researchers have reached a consensus: leadership is a complex concept for which only one definition will be insufficient (Northouse, 2013).

In an organizational context, leadership is fundamental to individuals, teams, and organizations (Avolio et al., 2009). When talking about organizations, it is always important to talk about leadership, which is seen as fundamental, given its impact on the contexts in which it is inserted. Before focusing on the impact of leadership in organizational contexts, it is important to know what leadership means, its evolution over time and the most important theories.

Burns (1978) states that leadership is a process of mobilizing people and economic and political resources in conflict and competition to achieve the goals set by the leader and the employees. According to the GLOBE (Global Leadership and Organizational Behaviour Effectiveness) project, leadership can be defined as the ability of an individual to influence, motivate, and enable others to contribute to the effectiveness of the processes of the organizations to which they belong (House et al., 1999).

For Ferreira (2001), leadership integrates personality traits to induce obedience and influence, adopting specific behaviours such as persuasion and power relations to achieve objectives. Robbins (2004) defines leadership as influencing a group toward achieving objectives. According to this author, leaders may arise naturally within a group or by formal appointment, and their main qualities are intelligence, charisma, decisiveness, enthusiasm, strength, courage, integrity, and self-confidence.

For Northouse (2013), leadership is a process in which an individual influences a group to achieve a common goal. It can also be seen as a process by which an individual influences the conduct of others to achieve a common goal. In other words, leadership can be conceived as a relationship of influence between leaders and their followers, through which these two parties intend to achieve changes and results, being the relationship guided by purposes shared by them (Faría, 2010).

Consequently, these authors see leadership as an adaptive solution for the coordination of collective efforts, believing that leadership emerges as a mechanism to influence individuals to transcend their short-term selfish interests and work together for the long-term well-being of the group. According to this view, leadership involves building a team and leading it to achieve common goals and outperform the competition (Hogan and Kaiser, 2005; Van Vugt et al., 2008).

Currently, two styles can be considered dominant in the most recent leadership theories: transactional leadership and transformational leadership. Burns (1978) argued that leadership manifested itself in these two ways, i.e., transactional, or transformational.

Transformational Leadership

Of the multitude of leadership concepts in the literature, one predominant style stands out for its important role in organizational success, transformational leadership (Conger, 1999; Hobman et al., 2011).

For many researchers of this topic, the concept's genesis is due to James McGregor Burns referring to leaders who inspire superior values capable of profound societal and political changes (Judge and Piccolo, 2004).

These concepts were taken up by Bass (1985) and applied to the organizational context, with some variations (Judge and Piccolo, 2004). For Bass (1985), transformational leaders are change agents capable of implementing radical changes in the organizational environment,

instilling in their follower's high moral values such as trust, loyalty and commitment, and the need to overcome personal interests for the sake of the collective, promoting high performance. For Bass (1995), this extraordinary performance is achieved through multiple factors, highlighting 3:

1. motivating employees' efforts beyond what was initially expected,
2. raising their level of awareness about important issues (e.g., importance of results) and
3. changing the priority of their needs, i.e., transcending their interests in favour of the collective.

Transformational leaders are characterized by creating and sharing a vision with their followers, leading, and inspiring them to achieve organizational goals (Bass, 1999; Bass and Riggio, 2006), promoting the creation of quality relationships with their followers (Carter et al., 2012), and giving new meaning to the work developed by their followers (Puranova and Bono, 2009), thus contributing to organizational success.

Bass and Avolio (1993) suggest that transformational leaders use higher-order influence processes when compared to transactional leaders. Transformational leaders do not simply react to problems as they are received. They question themselves to contribute to building a collective goal.

The purpose of leaders' influence through the transformational process is to change how subordinates perceive themselves, emphasizing the opportunities and challenges that the environment presents them (Bass and Avolio, 2004). Transformational leaders are seen as proactive individuals: they strive to optimize the development and innovation of the individual, the group, and the organization; they do not just seek to achieve expected performance. They convince 'subordinates' to achieve high levels of performance and high moral and ethical standards. Transformational leadership "through idealized influence (charisma), inspiration, intellectual stimulation, or individualized consideration allows 'subordinates' to rise above their interests. It raises [subordinates'] ideals, maturity level, and the needs for achievement, self-actualization, and the well-being of individuals, the organization, and society." (Bass, 1999, p. 11). Popper et al., (2000) takes a different level of analysis in studying the transformational process, focusing on the psychological structure of transformational leaders. The authors present a theoretical approach to describing and understanding the "inner world" (psychological structure) of transformational leaders based on four propositions. The first proposition states that "the desire to influence and to be self-effective are essential characteristics for assuming various types of leaders (including transformational leaders). The second is that "transformational leaders are individuals with the ability and strong desire to give," showing concern for others. The third states that "transformational leaders are optimistic."

Finally, the fourth states that "a high level of curiosity and openness to experience characterizes transformational leaders." In summary, the psychological structure of transformational leaders involves a disposition for social ascendancy, a belief in the ability to influence others, motivation, and the ability to treat others in a positive and encouraging manner. As role models, they exhibit a positive orientation toward themselves and others, intellectual openness, curiosity, and flexibility. In summary, the leadership process must integrate a sense of individual self-fulfilment on the one hand, and a sense of collective efficacy on the other, motivating subordinates to achieve involvement and commitment to the task.

Transformational leadership points to high levels of identification and commitment to the goals of the leader and the organization (Bass and Avolio, 2000).

Transactional Leadership

Alongside transformational leadership, Burns (1978) introduced the concept of transactional leadership (Judge and Piccolo, 2004). Bass (1997) refers to this leadership style as a process of extrinsic exchanges and rewards between leaders and those they lead, through which the leader clarifies the expectations and objectives to be achieved, as well as the rewards for pursuing them.

The fundamental idea that underpins transactional leadership is the process associated with recognizing achievements. The needs and desires of the subordinates are satisfied and recognized if the subordinates make the necessary effort to carry out the task. “Transactional leadership refers to the exchange relationship between the leader and subordinates to respond to their interests” (Bass, 1999, p. 10). This type of motivation provides energy and directs people towards accomplishing assigned tasks. Although widely used in training situations, this approach is characterized by positive or negative contingent reinforcement and is limited to first-order exchange factors (Bass and Avolio, 2004). In the military, praise, rewards and disciplinary action are listed in the regulations as procedures for achieving the mission. A reward is contingent if the subordinate performs the role and tasks previously indicated. In its constructive form, the leader works with his subordinates, establishing agreements for accomplishing tasks based on negotiation and mutual understanding, specifying the expected reward if the expected result is achieved (Bass and Avolio, 1997). In its corrective form, objectives are monitored, waiting for or anticipating errors and deviations from the established norm. Contrary to Burns, Bass believes that transactional leadership, although independent of transformational leadership, is a prerequisite for effective leadership (Antonakis and House, 2002; Bass and Avolio, 2004).

Transformational leaders do not replace the transactional process but enhance its effects, as demonstrated in three meta-analyses using the Multifactor Leadership Questionnaire2 (Dumdum et al., 2002; Lowe et al., 1996). It should be noted that the transactional process based on clarifying what needs to be done to obtain the reward is still seen as an essential component of the extended leadership model. The two processes are not antagonistic, but complementary. However, transactional leadership is associated with lower levels of performance, particularly when its passive form (management by passive management) is used, as shown by various studies in the military, industrial, governmental, and religious sectors (Avolio & Bass, 1988; Bass & Avolio, 1993; Lowe, et al., 1996). The new transformational leadership paradigm is relevant to volunteer-based organizations, where rewards are based more on personal recognition and commitment to values and ideals (Bass & Avolio, 2004).

Organizational Performance

The business world is increasingly competitive. For a company to be financially successful, it must be efficient and adapt dynamically (Yukl, 2008). From an organizational perspective,

performance can be assessed differently depending on the objectives, values, and interests of those conducting the analysis.

Terms such as performance, effectiveness or efficiency often need clarification. However, the meanings are different (Lebas and Euske, 2002). Efficiency is defined by Yulk (2008) as a concept that corresponds to how specific results or objectives are achieved, with a method being more efficient if it requires less expenditure of resources. Effectiveness is how the objective is achieved and whether it is right (Robalo, 1995). Performance is defined by Lebas and Euske (2002) as the sum of all the processes that will result in managers making decisions to create a more valuable company in the future.

Organizational performance can be considered a strategy to increase organizational efficiency and effectiveness (Chen and Barnes, 2006), and is a fundamental characteristic in the management of an organization.

According to Hurduzeu (2015), organizations can have different criteria for measuring performance: the ability to achieve the organization's objectives to take advantage of high-value scarce resources.

For Scott and Davis (2007), flexibility and the organization's ability to take advantage of resources (internal and external) are performance indicators, as are strategic initiatives focused on organizational performance.

Previously, organizational performance was mainly assessed through performance measures based on financial resources, such as return on assets (ROA), return on investment (ROI), return on equity (ROE), market share, sales growth, and profitability (Ha et al., 2015). Even though these indicators are still crucial for measuring the performance of organizations, in modern organizations, more is needed (Gomes et al., 2004).

In the field of performance, contextual performance stands out (Wang et al., 2011:242), which can be translated into voluntary work behaviours that go beyond what is prescribed in the functions, but which contribute to the psychological and social context surrounding the work (e.g., CCO) (Borman and Motowidlo 1997), and its recognition by the formal reward system is unlikely (Wang et al., 2011).

Organizational performance should be considered a multidimensional construct (Richard et al., 2009) and can only exist by integrating systems, operations, people, customers, partners and management (Jyoti and Sharma, 2012). It is, therefore, necessary for organizations to also include non-financial performance measures such as customer satisfaction, employee satisfaction, innovation capacity, internal business process efficiency and intangible asset improvement performance in the implementation of the strategy and to trace the causal influence of some factors on others within the organization (Kaplan & Norton, 2001).

Venkatraman and Ramanujam propose three dimensions for assessing company performance: financial, business, and organizational efficiency. Financial performance is based on ROA, ROS, and ROE, which assess the company's profitability. Business performance is based on operational measures such as market share, sales growth, and the development of new products, which assess the growth and future positioning of the organization.

Although they show different behaviours, the two styles of leadership complement each other (Bass and Avolio, 1993). In the field of performance, although transactional leadership is the most common in organizations, transformational leadership is the most relevant, a fact evidenced in the literature by the numerous studies that identify positive relationships with individual, group and organizational performance (Burke et al., 2007; Dvir et al., 2002; Wang et al., 2011; Jung et al., 2003).

While transactional leaders boost the performance of their subordinates by clarifying objectives and the rewards, they can obtain for achieving them (Dvir et al., 2002), transformational leaders promote performance beyond expectations by communicating a clear and optimistic vision of the future, stimulating creativity and promoting employee efforts for the benefit of the collective, contributing to better performance (Bass, 1985; Posakoff et al., 1990). These leaders are present at all levels of the organization, serving as role models for lower levels (Carter et al., 2012).

Several meta-analyses have shown a positive relationship between leadership and key performance indicators in an organizational context: productivity, well-being, and satisfaction (Kovjanic et al., 2013).

Transformational Leadership vs Transactional Leadership: which styles has a greater impact on the behaviours, affections, and cognitions of employees and under what circumstances one of them becomes more effective than the other (Gomes and Cruz, 2007)?

Transformational and transactional leadership are seen as complementary rather than antagonistic (Smith, 2015; Tyssen et al., 2014).

Leadership and Organizational Performance

Leadership is vital in personal and organizational life, as it is the starting point for good organizational performance. The relationship between leadership and organizational performance is an essential factor in the development of effective organizations because to improve an organization's performance, leadership must be analysed and adapted (Popa, 2012). Successful organizations are the result of leadership and effective organizations (Popa, 2012), i.e., leadership is the starting point for performance, satisfaction and commitment within organizations in construction (Hurduzeu, 2015).

Leadership plays a critical role in organizations since it is responsible for defining strategies that make the organization more effective and efficient in its performance. One of the ways is to "have a sustainable relationship between organizational leadership and organizational performance" (Svensson and Wood, 2005).

A company's success is considered to depend on organizational performance. This happens when leadership involves motivation, management, inspiration, remuneration and analytical skills, thus increasing employee satisfaction, productivity, and profits (Hurduzeu, 2015). In the last 30 years, several studies have concluded that leadership is directly related to work performance, creativity and organizational citizenship behaviour (Zhu et al., 2013).

In this research, the focus has shifted from transactional leadership to transformational leadership concerning organizational performance (Pillai, 2013). Transformational leadership positively impacts organizational performance through organizational justice, trust and employee relations. Leaders must behave in an agile manner which will influence organizational trust and reliability, which will ultimately have a significant impact on organizational growth (Katou, 2015).

According to Boerner et al (2007), several studies have revealed a positive relationship between transformational leadership and organizational performance and state that "transformational leaders stimulate followers to achieve objectives beyond expectations," which increases the quality and quantity of performance, stimulating followers to behave as organizational citizens.

A study by Zhu et al., (2005), on 170 companies in Singapore, found a positive relationship between transformational leadership and organizational performance, through greater commitment and motivation.

García-Morales et al., (2012) investigated the impact of transformational leadership on organizational performance through the dynamic capabilities of organizational learning and innovation. They concluded that transformational leadership positively affects organizational performance through organizational learning and innovation (Ebrahimi et al, 2016).

Khan et al., (2014) in a study of leadership styles on performance showed that the transformational style has a more significant effect on the company’s financial performance than the transactional leadership style. However, Wang et al., (2011) consider that transformational and transactional leadership have a positive relationship with organizational performance.

Research Model and Hypotheses

This study arose from research suggestions for future studies (Epitropaki & Martin, 2013), and no scientific studies relating to the three variables were identified in the literature review.

The literature review above suggests that leadership style (transactional or transformational) influences the organizational performance of employees, and the nature of this relationship depends on the sector (public or private) in which it prevails.

To test this relationship, we followed a process causality model called Input-Process-Output (IPO; McGrath: 1964), in which the leadership style adopted by the leader will be the input, the sector in which it predominates (Figure 1), whether public or private, will be considered the processes and finally the performance levels will be the outputs (Pina e Cunha et al., 2016).

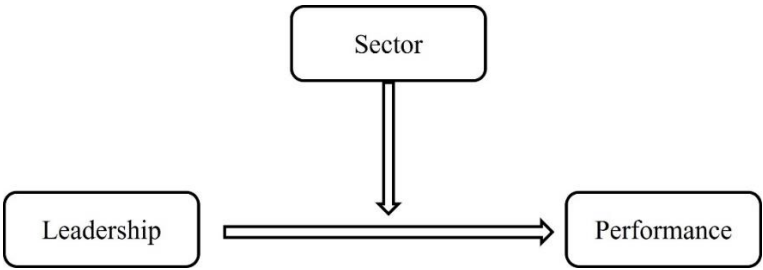


Figure 1. Research Model.

It is therefore expected that:

Hypothesis 1: Leadership style (transformational and transactional) has a significant and positive effect on perceived performance.

Hypothesis 1a: Transformational leadership significantly and positively affects perceived performance.

Hypothesis 1b: Transactional leadership significantly and positively affects perceived performance.

Hypothesis 2: The sector (public or private) moderates the relationship between leadership style (transformational and transactional) and performance. It is expected that for participants from the private sector, when compared to participants from the public sector, leadership style will become relevant in boosting their performance.

Hypothesis 2a: The sector (public or private) moderates the relationship between transformational leadership and performance. It is expected that for participants from the private sector, when compared to participants from the public sector, the transformational leadership style will become relevant in boosting their performance.

Hypothesis 2b: The sector (public or private) moderates the relationship between transactional leadership and performance. It is expected that for participants from the private sector, when compared to participants from the public sector, the transactional leadership style will become relevant in boosting their performance.

Methods

Procedure

The sample for this questionnaire consisted of 240 employees, public or private sector employees, with the only criterion for participation being that they were working.

The sampling process used was not probabilistic but rather by convenience and intentional (snowball type) to reach the appropriate number of participants for this study.

Once the questionnaire had been drawn up and uploaded to the Google Forms platform, it was disseminated to collect as many responses as possible. On March 30, 2021, the questionnaire was posted online via social networks such as Facebook and LinkedIn. Participants were asked to be honest in their responses, and their confidentiality was guaranteed. They were also informed that individual responses would never be known since the analysis that would later be made would be of all the participants.

Participants

The sample was made up of 74.6% female ($n = 179$) and 25.4% male ($n = 61$) participants. They were aged between 20 and 78 ($M = 45.58$; $SD = 11.85$).

Concerning educational qualifications, secondary education is the degree with the highest predominance of subjects with 36.7% ($n = 88$), followed by a degree with 36.3% ($n = 87$) and finally, a master's degree or higher with 27.1% ($n = 65$).

About sector, the highest percentage of subjects work in the private sector with 61.7% ($n = 148$) and the remaining 38.3% ($n = 92$).

Concerning company size, small companies 20.8% ($n = 50$), medium-sized companies 31.7% ($n = 70$) and large companies 47.5% ($n = 114$).

Data Analysis Procedure

Firstly, the metric qualities of the instruments used in this study were tested. As for the validity study, confirmatory factor analyses (CFAs) were carried out using AMOS Graphics 27 software since their factor structure is known. The procedure was based on a “model generation” logic (Jöreskog & Sörbom, 1993), considering in the analysis of their fit, interactively, the results obtained: for the chi-square (χ^2) ≤ 5 ; for the Tucker Lewis index (TLI) $> .90$; for the goodness-of-fit index (GFI) $> .90$; for the comparative fit index (CFI) $> .90$; for the root mean square error of approximation (RMSEA) $\leq .08$. We then proceeded to analyse the internal consistency of each scale by calculating Cronbach’s alpha, whose value should vary between “0” and “1,” with no negative values (Hill & Hill, 2002) and be higher than .70, the minimum acceptable in organizational studies (Bryman & Cramer, 2003). As for the sensitivity study, the different measures of central tendency, dispersion and distribution were calculated for the different items of the scales used, thus studying normality for all the items and the different scales. Pearson’s correlations were used to study the association between the variables under study. The hypotheses formulated in this study were tested using simple and multiple linear regressions.

Instruments

This study used a questionnaire comprising three parts, the first with sociodemographic questions and the last two referring to leadership and performance scales, respectively.

Concerning the sociodemographic categorization of the sample, questions were asked about gender, age, educational qualifications, the type of organization they belong to, their role, and the size of the organization.

Two instruments were used to measure the variables. Leadership was measured using an adapted version of the multifactorial leadership questionnaire (Bass, 1985), adapted to the Portuguese population by Salanova et al., (2011).

In the reduced version, the scale consists of 28 items, which are divided into two sub-scales: transformational leadership and transactional leadership. Transformational leadership consists of five dimensions: idealized attributes (items 1, 2, 3 and 4); Idealized Behaviors (items 5, 6, 7 and 8); Inspirational Motivation (items 9, 10, 11 and 12); Intellectual Stimulation (items 13, 14, 15 and 16); Individualized Consideration (items 17, 18, 19 and 20). In order to test the validity of this instrument, a five-factor CFA was carried out. The adjustment indices obtained were adequate or very close to adequate: $\chi^2/df = 2.06$; GFI = .88; CFI = .97; TLI = .96; RMSEA = .066; SRMR = .041. As for internal consistency, Cronbach’s alpha values vary between .87 and .93, with all dimensions showing good internal consistency. Concerning construct reliability, the dimensions also show good reliability, with values ranging from .89 to .93. The dimensions also have good convergent validity, with AVE values ranging from .66 to .77.

As for Transactional leadership, it is made up of the following dimensions: Contingent Rewards (items 21, 22, 23 and 24); Management by Active Exception (items 25, 26, 27 and 28). The items are organized on a five-point Likert scale (from 1 “Never” to 5 “Often if not always”). To test the validity of this sub-scale, two-factor confirmatory factor analysis was carried out. The fit indices obtained were adequate: $\chi^2/df = 1.58$; GFI = .98; CFI = .99; TLI = .99; RMSEA = .049; SRMR = .039. Item 26 had to be removed because it had a low factor weight. The two dimensions showed good internal consistency with a Cronbach’s alpha value

of .92 for contingent rewards and .84 for management by active exception. The construct reliability was .91 for contingent rewards and .81 for management by active exception. The two dimensions show good convergent validity with an AVE of .72 for contingent rewards and .59 for management by active exception.

We used the task performance dimension of the self-perceived performance instrument developed by Williams and Anderson (1991) to measure performance. This dimension consists of 7 items, classified on a 5-point Likert rating scale (from 1 “Strongly Agree” to 5 “Strongly Disagree”). To test the validity of this instrument, one-factor confirmatory factor analysis was carried out. The fit indices obtained were adequate: $\chi^2/df = 1.26$; GFI = .99; CFI = .99; TLI = .99; RMSEA = .033; SRMR = .007. Items 6 and 7 had to be removed as they had a low factor weight. It has good internal consistency with a Cronbach’s alpha of .91 and good construct reliability of .92. As for convergent validity, it has an AVE of .70, which is considered good.

All the items have good sensitivity since none has a median close to one of the extremes, all the items have responses at all points, and their absolute values of asymmetry and kurtosis are below 3 and 8, respectively (Kline, 2011).

Results

Descriptive Statistics of the Variables under Study

To understand the position of the answers given by the 240 participants, we studied the descriptive statistics of the variables.

Transformational leadership ($M = 3.55$; $SD = .91$) is above the central point of this scale (3), indicating that the study participants identified transformational leadership characteristics in their leaders. The same is true of all the dimensions that make up this scale. It should be noted that the dimension with the highest perception is individualized attributes ($M = 3.67$; $SD = .89$) and the lowest is intellectual stimulation ($M = 3.41$; $SD = .92$) (Table 1).

Table 1. Means, Standard Deviations and results of one-sample Student’s t-tests

	Mean	SD	Test Value = 3				
			t	df	P	95% IC	
						LI	UI
Transformational Leadership	3.55	.91	9.33	239	<.001	.43	.66
Idealized attributes	3.67	.89	11.54	239	<.001	.55	.78
Idealized behaviour	3.54	1.03	8.12	239	<.001	.41	.67
Inspirational Motivation	3.59	1.01	9.14	239	<.001	.47	.72
Intellectual stimulation	3.41	.92	6.88	239	<.001	.29	.53
Individualized Consideration	3.52	1.08	7.49	239	<.001	.39	.66
Transactional Leadership	3.31	.81	5.91	239	<.001	.21	.41
Contingent Rewards	3.34	1.08	4.81	239	<.001	.19	.47
Management by Active Exception	3.28	.91	4.69	239	<.001	.16	.39
Performance	4.06	.62	28.37	239	<.001	.98	1.13

Transactional leadership ($M = 3.31$; $SD = .81$) is also above the central point of this scale (3), indicating that the participants in this study identified transactional leadership characteristics in their leaders. The same applies to the dimensions that make up this scale. It should be noted that the dimension with the highest perception is contingent rewards ($M = 3.34$; $SD = 1.08$) (Table 1).

Performance has a mean significantly higher than the central point ($M = 4.06$; $SD = .62$), i.e., the participants in this study perceived their performance as high (Table 1).

Association between the Variables under Study / Analysis of Correlations

Pearson’s correlations were used to study the association between the variables.

Transformational leadership is positively and significantly associated with transactional leadership ($r = .81$; $p < .001$), contingent rewards ($r = .89$; $p < .001$), active management ($r = .27$; $p < .001$) and performance ($r = .20$; $p = .002$), which indicates that the more transformational the leader’s actions, the better the performance of their employees. All the dimensions of transformational leadership are significantly positively correlated with transactional leadership and its dimensions and performance (Table 1). Intellectual stimulation ($r = .24$; $p < .001$) is the dimension that has the strongest association with performance.

Transactional leadership is positively and significantly associated with performance ($r = .19$; $p = .003$), which indicates that the more transactional the leader’s actions, the better their employees’ performance (table 2).

Table 2. Correlations between the variables under study

	1	1.1	1.2	1.3	1.4	1.5	2	2.1	2.2	3
Transformational Leadership	-									
Idealized Attributes	.91**	-								
Idealized Behaviour	.93**	.82**	-							
Inspirational Motivation	.91**	.76**	.82**	-						
Intellectual Stimulation	.94**	.82**	.82**	.82**	-					
Individualized Consideration	.92**	.80**	.79**	.77**	.87**	-				
Transational Leadership	.81**	.71**	.73**	.73**	.77**	.76**	-			
Contingent Rewards	.89**	.80**	.80**	.79**	.84**	.87**	.89**	-		
Management by Active Exception	.27**	.20**	.27**	.28**	.27**	.21**	.68**	.26**	-	
Performance	.20**	.15*	.16*	.17**	.24**	.18**	.19**	.18**	.11	-

Hypothesis Testing

Simple linear regressions were first used to test hypotheses 1a and 1b. Then, multiple linear regressions were used using the stepwise method to test the effect of the various dimensions that make up both transformational and transactional leadership on performance. According to this method, the analysis starts with an independent variable in the first step and other independent variables are added to the model in the following steps. Its advantage is that it allows for removing a variable whose importance in the model is reduced (Table 3).

Table 3. Results of hypothesis 1a

Independent Variable	Dependent Variable	F	R ²	β	t	p
Transformational Leadership	Performance	9.45**	.04	.20**	3.08**	.002
Intellectual Stimulation		14.61***	.06	.24***	3.82***	< .001

Note. ** $p < .01$; *** $p < .001$

Table 4. Results of hypothesis 1b

Independent Variable	Dependent Variable	F	R ²	β	t	p
Transactional Leadership	Performance	9.19**	.04	.19**	3.03**	.003
Contingent Rewards		8.36**	.03	.18**	2.89**	.004

Note. ** $p < .01$.

Table 5. Results of hypothesis 2a

Independent Variables	Performance	
	Step 1	Step 2
	β	B
Sector	.01	.01
Transformational Leadership	.20***	.20***
Sector x Transformational Leadership		-.11*
F	4.73**	4.11***
R ² _a	.03	.04
Δ		.01*

Note. * $p < .10$; ** $p < .05$; *** $p < .01$.

The results show that transformational leadership has a significant and positive effect on performance ($F(1, 238) = 9.45$; $R^2 = .04$; $\beta = .20$; $p = .002$), i.e., the more transformational the leader, the better the performance of the participants in this study. The model explains 4% of the variability in the dependent variable (Table 3).

We then tested the effect of the five dimensions of transformational leadership on performance and found that only intellectual stimulation ($F(1, 238) = 14.61$ $R^2 = .06$; $\beta = .24$; $p < .001$) has a significant and positive effect on performance. The model explains 6% of the variability of the dependent variable (Table 3).

The results show that transactional leadership has a significant and positive effect on performance ($F(1, 238) = 9.19$; $R^2 = .04$; $\beta = .19$; $p = .003$), i.e., the more transactional the leader, the better the performance of the participants in this study. The model explains 4% of the variability in the dependent variable (Table 4).

We then tested the effect of the two dimensions of transformational leadership on performance and found that only contingent rewards ($F(1, 238) = 8.36$ $R^2 = .03$; $\beta = .18$; $p = .004$) had a significant and positive effect on performance. The model explains 3% of the variability of the dependent variable (Table 4).

In order to test hypotheses 2a and 2b, it was necessary to center the variables so as to create interaction variables and avoid problems of multicollinearity Aiken and West (1991).

Multiple linear regressions were then carried out in two steps, with the first step introducing the predictor and moderator variables as independent variables and the new interaction variables created in the second step.

The results show that the sector moderates the relationship between transformational leadership and performance ($\beta = -.11$; $p = .096$). It should be noted that this effect is marginally significant. With the inclusion of the interaction term, the additional variance in the relationship with performance had a marginally significant increase ($\Delta R^2 = .01$; $p = .096$) (Table 5).

For participants from the private sector, when compared to those from the public sector, transformational leadership becomes relevant to boosting their performance (Figure 2).

We then tested the moderating effect of the sector of activity on the relationship between the five dimensions of transformational leadership and performance.

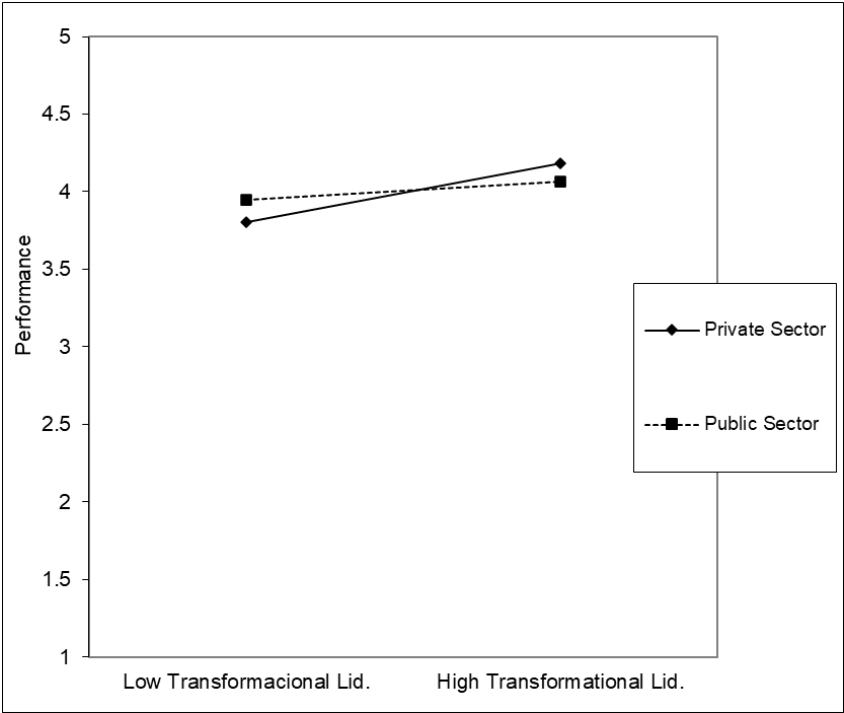


Figure 1. Transformational Leadership x Sector interaction graph.

Table 6. Results of hypothesis 2a (dimensions of transformational leadership)

Independent Variables	Performance	
	Step 1	Step 2
	β	B
Sector	.01	-.01
Idealized behaviour	-.03	.01
Inspirational Motivation	-.02	-.01
Sector x Idealized behaviour		.25***
Sector x Inspirational Motivation		-.21***
F	2.78**	3.23***
R ² _a	.07	.14
Δ		.07***

Note. * $p < .10$; ** $p < .05$; *** $p < .01$.

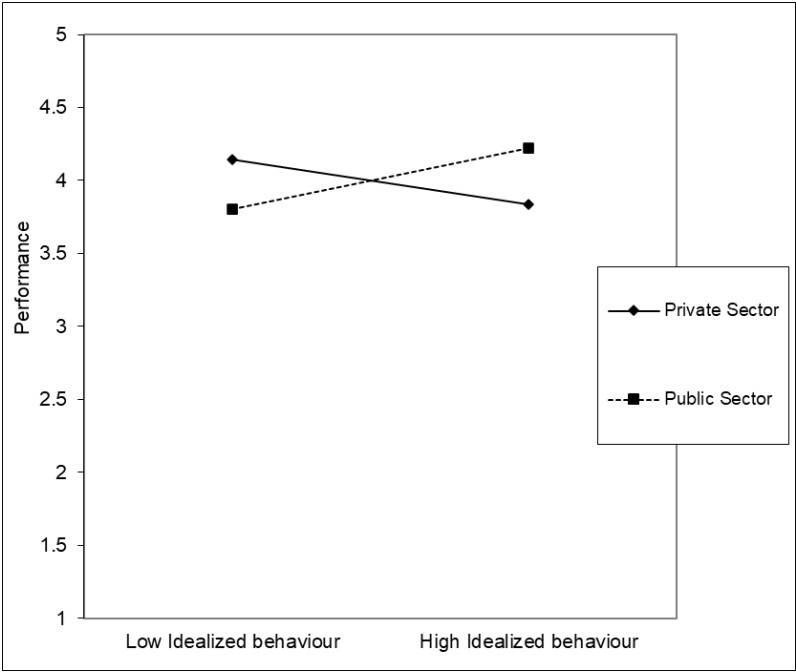


Figure 2. Inspirational Motivation x Sector interaction graph.

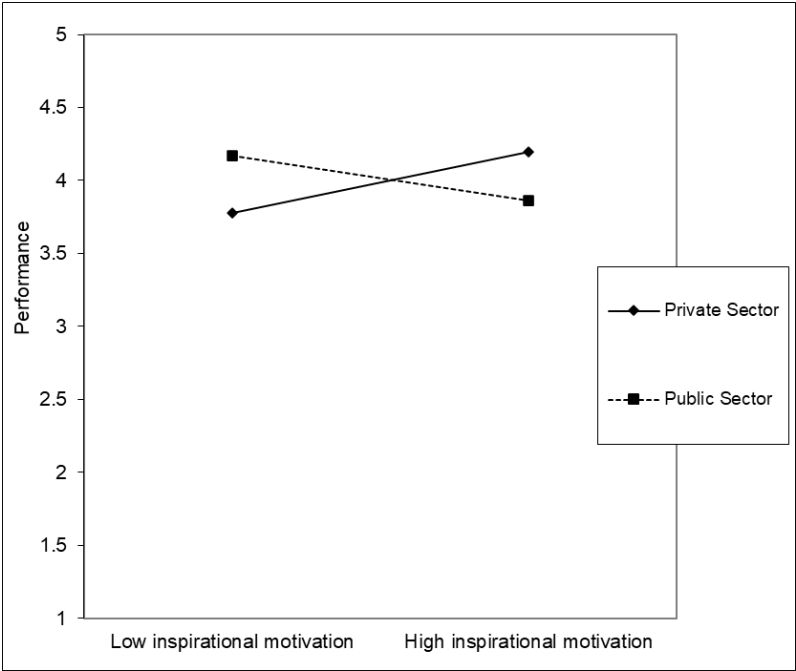


Figure 3. Interaction graph Idealized Behaviors x Sector.

This moderating effect was significant only for idealized behaviours ($\beta = .25$; $p = .004$) and inspirational motivation ($\beta = -.21$; $p = .007$). With the inclusion of the interaction term, the

additional variance in the relationship with performance increased significantly ($\Delta R^2 = .07$; $p = .004$) (Table 6).

Concerning idealized behaviours, these become relevant to boosting the performance of participants working in the public sector compared to those in the private sector (Figure 3).

For participants from the public private, when compared to participants from the public sector, inspirational motivation becomes relevant to boosting their performance (Figure 4).

The results of hypothesis 2b are presented below. It was found that the sector of activity does not have a moderating effect on the relationship between transactional leadership and performance ($\beta = -.06$; $p = .361$).

This moderating effect was then tested concerning the dimensions of transactional leadership.

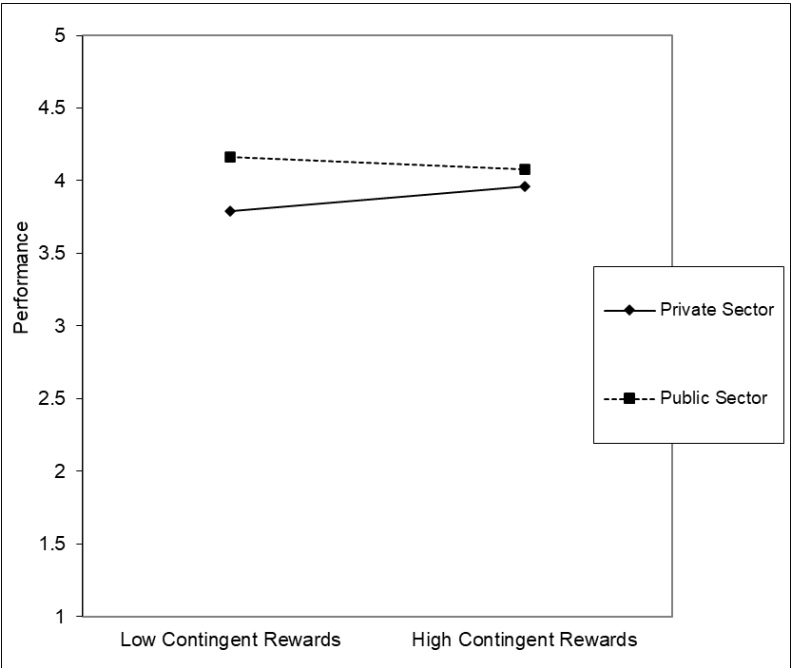


Figure 4. Contingent Rewards x Sector interaction graph.

Table 7. Results of hypothesis 2b

Independent Variables	Performance	
	Step 1	Step 2
	β	β
Sector	.01	-.01
Contingent Rewards	.11***	.20**
Sector x Contingent Rewards		-.09**
F	3.14**	3.17***
R^2_a	.034	.06
Δ		.02**

Nota. * $p < .10$; ** $p < .05$; *** $p < .01$.

This moderating effect was only significant for Contingent rewards ($\beta = -.09$; $p = .024$). With the inclusion of the interaction term, the additional variance in the relationship with performance increased significantly ($\Delta R^2 = .02$; $p = .045$) (Table 7).

For private sector participants, when compared to public sector participants, contingent rewards become relevant to boosting their performance (Figure 5).

Discussion

This study aimed to investigate the effect of leadership (transformational and transactional) on perceived performance and whether this relationship was moderated by the sector (public or private).

Firstly (H1a), transformational leadership's positive and significant effect on perceived performance was confirmed as expected. Participants with a higher perception of transformational leadership are those with a higher perceived performance. These results are in line with the literature. According to Garcia-Morales et al., (2012), transformational leadership positively affects performance. Among the five dimensions of transformational leadership, only intellectual stimulation positively and significantly affects performance.

Secondly (H1b), transactional leadership's positive and significant effect on perceived performance was also confirmed. The higher the perception of transactional leadership, the higher the perception of performance. These results also align with the literature, as Wang et al., (2011) found that both transformational and transactional leadership have a positive and significant relationship with performance. Of the two dimensions of transactional leadership, only contingent rewards significantly and positively affect performance.

It should also be noted that for Khan et al., (2014), the effect of transformational leadership on performance is stronger than the effect of transactional leadership. Although the difference is slight, this study's results align with this author's findings.

Hypothesis 2a was proven in that for participants from the private sector when compared to participants from the public sector, their perception of transformational leadership is relevant to boosting their perception of performance. It should be noted that the sector of activity also has a moderating effect on the relationship between idealized behaviours and performance, with idealized behaviours also becoming more important for private sector participants to boost their performance. However, when the moderating effect of the sector on the relationship between inspirational motivation and performance was analysed, a different relationship was found than expected. To boost their performance, inspirational motivation becomes relevant for participants from the public sector compared to participants from the 'private' sector.

Hypothesis 2 was only partially proven since the sector only moderates the relationship between contingent rewards and performance. It was found that contingent rewards become relevant for participants from the private sector compared to those from the public sector to boost their performance.

Limitations

The limitations of this study include the sample, the sampling process and the type of questionnaire (closed questions). As for future research, this study could be adapted to just one type of organization (public or private) or even include other mediating variables in the study, such as motivation or affective commitment.

Another limitation is that this was a cross-sectional study, which did not allow us to establish causal relationships between the variables. It would be necessary to carry out a longitudinal study to test causal relationships. In order to reduce the impact of common method variance, several methodological and statistical recommendations were followed (Podsakoff et al., 2003).

Conclusion

This study has contributed to organizations by testing the relationship between the Leadership variable (Transactional and Transformational) and Organizational Performance. The existing literature suggests that transformational leadership is the most relevant, since numerous studies have identified positive relationships with individual, group and organizational performance, and this study showed a positive and significant effect of leadership (transformational and transactional) on performance. These results align with those found by Wang et al., (2011).

In short, the labour market remains in a state of constant change, growth, and innovation, as it will perhaps be one of the only ways for organizations to resist, whether they are public or private organizations, the leadership of leaders and the role they play within organizations will dictate their future and therefore employee satisfaction with the leader and their performance in the organization.

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Chapter 12

Digital Leadership and Virtual Performance

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Abstract

Today's organizations face the challenge of digitization in a volatile, uncertain, complex and ambiguous (VUCA) environment. Organizational culture and leadership need to keep up with rapid changes for organizations to become more flexible and dynamic, contributing to employee performance, particularly in virtual environments. Digital leadership is the style that responds to the challenges of digital transformation, as it contributes to the successful implementation of digital processes that improve organizational performance. In addition, digital leadership plays a crucial role in engaging teams in internal processes and managing virtual teams. It is believed that through digital leadership the performance of teams is enhanced through a correct performance evaluation appropriate to the virtual environment.

Keywords: digital leadership, e-leadership, virtual leadership, virtual environments, virtual performance

Introduction

Talking about digitalization in companies requires a return to the use of computers due to the use of digital data. Then, digitalization lies in the automation of internal processes that leads companies to change their business models through various digital technologies, including the internet. The integration of new emerging digital technologies (e.g., Big Data, Cloud Computing, Social Media, Artificial Intelligence, Augmented Reality), is part of the so-called fourth Industrial Revolution (Industry 4.0). Digitalization in companies is a process considered

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disruptive and comprehensive, including structures, processes, and business models, designated in the literature by the term digital transformation (Abbu, Mugge, Gudergan, et al., 2022; Galanti et al., 2023; Gudergan et al., 2021; Hanandeh et al., 2023; Klein, 2020; Kollmann et al., 2023; Oberer & Erkollar, 2018; Pereira et al., 2022; Sainger, 2018; Türk, 2023; Zhang et al., 2023). Digital Transformation has led the leaders' styles of influencing their members, enabling motivation, communication, and inspiring confidence to be affected as well as leading classical leadership practices to become ineffective and inadequate under changing environmental conditions (Oktaysoy et al., 2022).

Currently, organizations are thus facing a disrupted and uncertain environment, requiring leaders who respond quickly to volatile conditions. Such conditions require changes in traditional leadership and the construction of a new leadership recognized by contemporary literature as digital leadership (Kokot et al., 2023). In this context, the role of leadership becomes crucial for the success of companies (Cortellazzo et al., 2019), as well as the need to develop skills for the digital age (Sousa & Rocha, 2019). Globalization and the digital transformation of organizations have a strong impact on work and the tools used, thus enhancing more flexible working models (Figueiredo et al., 2022). Remote working and digital technologies have increased the significance of digital leadership (Topcuoglu et al., 2023). Furthermore, the role of digital leadership has been studied in virtual work environments and in improving sustainable organizational performance (Mollah et al., 2023; Shin et al., 2023).

Despite the extensive research on digital leadership that has been done over the last decade and driven by the COVID-19 pandemic and digital transformation, there is a need to explore the more direct impact of this leadership style on virtual performance. Given the sharp increase in publications on digital leadership, we consider it important to deepen and clarify the impacts on more operational performance about the virtual work carried out by employees and teams. Given the sharp increase in publications on digital leadership, we consider it essential to continue studying this leadership style due to its importance for organizations. Digital leadership and leading by mission are the same thing (Bach & Sulíková, 2021). However, due to the increasing presence of virtual organizational environments, it is important to deepen and clarify the impacts of digital leadership on the performance of virtual employees and teams. In this context, this essay considers recent developments on the importance of digital leadership in today's context, and the challenges and opportunities in virtual performance. Specifically, we will discuss the challenges and strategies for leading virtual teams and explore virtual performance monitoring and evaluation. These considerations provide the backdrop to complement research on digital leadership, as well as the future of leadership education and development.

Digital Leadership and Digital Transformation

Technological advances are also important factors in today's context and have strong implications for how work is organized and how people are led in the organization (Lynn et al., 2023). The increasing influence of technology on leadership, a growing body of digital leadership has developed that draws on well-established human resources studies, but also takes new directions (Zhu et al., 2022). Leaders need to increasingly adapt to the uncertain environment and focus on developing digital skills to be better able to lead businesses

effectively. This is how the digital leadership style has emerged, as digital leaders are needed to help transform businesses and lead them to a brighter future (Türk, 2023).

Before we address the importance of digital leadership in today's context, we introduce the generic terms used in the literature that comprise this leadership style - e-leadership, virtual leadership, technology leadership and leadership 4.0. These concepts have similar meanings and can be used interchangeably (Karakose et al., 2022). Thus, in this research we will focus the literature review on the concept of digital leadership.

Some researchers describe digital leadership—specifically character and competency—that differentiate digitally mature organizations from digitally developing organizations (Abbu et al., 2020). Table 1 presents some recent definitions that help us demonstrate its relevance today.

Table 1. Digital leadership: definitions

Definitions	Authors
A type of leadership that is informed about digital technologies that help the digital transformation of employees and businesses and is also fed by modern leadership theories.	Topcuoglu et al., 2023
Digital leadership is accepted to be a leader who has a risk-taking culture, is flexible, can collaborate with customers and employees, adopts transformative strategies, and is open to innovation.	Sow & Aborbie, 2018
Digital leadership refers to making the right strategic decisions to achieve digitalization and development in businesses.	El Sawy et al., 2016
Digital leadership is regarded as a fast, cross-hierarchical, team-oriented, and cooperative leadership style, that keeps a strong focus on an organization's innovation.	Oberer & Erkollar, 2018
Digital leadership reveals a digital mindset and skill set to inspire and help corporate employees adapt and adopt digital changes.	Magesa & Jonathan, 2022
Digital leadership can be described as a combination of transformational leadership understanding and digital technology competence, which is a more comprehensive form.	De Waal et al., 2016
Digital leadership thus includes a focus on new technologies; in this sense, it should be emphasized that digital leaders anticipate technical developments and communicate this internally as well as externally through a meaningful vision.	Bach & Sulíková, 2021
Digital leadership demands essential skillsets that are centered around building the trust necessary for success in the digital age.	Abbu, Mugge, & Gudergan, 2022
Digital leadership can be understood as a leadership strategy used by a leader in utilizing digital assets to achieve organizational goals.	Nurabadi et al., 2022
Digital leaders as leaders who have new and creative ideas in the digital arena, can draw the attention of stakeholders to the digital environment in the context of organizational processes and activities, motivate them, maintain organizational continuity by keeping in touch with members in the digital area, and develop digital strategies which could provide a competitive advantage for the organization.	Balci et al., 2022
Digital leaders who are also competent in digital technologies whilst being open to continuous learning, can apply digital technology to business processes, and adapt virtual technology to business processes.	Tutar & Guler, 2022

Through the definitions we found a great diversity of aspects that are considered for its characterization; therefore, some researchers refer that digital leadership is affected by many theories and models as well as many leadership understandings (Oktaysoy et al., 2022). Other definitions point to digital leadership as a way for organizations to respond to the challenges of

digital transformation and achieve their objectives and competitive advantages, contributing to the success of their business strategy. Empirical findings have shown that digital leadership combines transformational leadership with technology (De Waal & Heijtel, 2016).

Digital leadership is seen as an element that positively affects organizational culture and contributes directly and indirectly to organizational performance (Shin et al., 2023), have a positive impact on innovation (Niu et al., 2022; Wang et al., 2022) and organizational sustainability (Niu et al., 2022), in which organizational culture plays an essential role in the digital transformation process.

Finally, other definitions characterize the digital leadership style or strategy by identifying the essential competences and behaviors of the digital leader - flexibility, creativity and innovation, knowledge about digital technologies, open to continuous learning, and ability to influence and motivate for the integration of digitalization into the business strategy. Unlike transformational and transactional leadership, digital leadership can be acquired and must be maintained and understood as a third variant (Bach & Sulíková, 2021). According to researchers, a changed business environment forces companies to react, namely with a new way of leading - digital leadership. Digital leader needs to have a vision with a clear purpose, a strong ability to anticipate transformation processes and take risks. A traditional or no leadership can result in some risks (Contreras et al., 2020), which can be solved with the development of digital leadership.

The importance of digital leadership lies in achieving the integration between using information technology at the same time with using human resources in creative and new ways (Hanandeh et al., 2023). Through digitization in companies, access to information is facilitated, new forms of communication are created, changes in leadership training, decision-making based on the intelligent analysis of big data and new leadership functions are created due to the virtual teams.

In the context of artificial intelligence in business management, the term ‘artificial leadership’ appears for the first time as an added development of digital leadership. “Artificial Leadership” (or AI-Leadership) can be summarized as a leadership behavior that integrates the inner influences and patterns of the algorithms (by a machine) and transfers them into a data-driven leadership style (Kollmann et al., 2023). Conscious choices need to be made about what role humans are to play in the future of leadership (Quaquebeke & Gerpott, 2023), not only leadership research but also leadership education and development.

Challenges of Leading in Virtual Environments

Organizations need to move their businesses to the virtual environment to reduce costs, eliminate being physically tied to a place, benefit from a qualified workforce, and respond quickly to expectations (Tutar & Guler, 2022). The role of leadership is crucial in adapting to the conditions of the digital age and the virtual organizational structure. To integrate the competences of the digital age with the digitized world requires a digital leadership style because traditional (face-to-face) leadership is not as effective (Bouziri et al., 2020; Lambert et al., 2020). At the beginning of the twentieth century with the growth of virtual work environments, some researchers already presented the concept of e-leadership (Avolio et al., 2000; Avolio & Kahai, 2003; Van Wart et al., 2019). The equivalent of leaders in face-to-face

leadership is the concept of virtual leaders - leaders who direct people remotely to do work to achieve organizational goals (Fahmi et al., 2020).

COVID-19 pandemic has accelerated the process of workplace transformation. Organizations have enabled more employees to work from anywhere, reinforcing the phenomenon of the virtual or digital workplace, allowing them to do their work by connecting, communicating, and collaborating with other employees. To understand which leadership styles were best adapted to virtual environments, some studies pointed out transformational leadership (Figueiredo et al., 2022; Purvanova & Bono, 2009) and authentic leadership (Daraba et al., 2021) as predominant in virtual environments.

However, the virtual organizational structure emerged partially or entirely with digital technologies. Virtual organizations are structured in different places where employees do not gather in a particular place, participate in certain stages of the production of a product or service, and constantly communicate in digital environments (Tutar & Guler, 2022). The dynamic capabilities of organizations play an important role in enabling workplace transformation (Chatterjee et al., 2023), particularly in small and medium-sized enterprises (Putra et al., 2023). There is thus a clear interest among researchers, practitioners, academics and policy makers to understand the role of dynamic capability of organizations in the digital transformation of the workplace, as well as the role of digital leadership in improving organizational performance.

Leadership is vital to the success of organizations; however, it is essential to understand its role in the performance of employees and teams working in virtual environments (Dirani et al., 2020; Li et al., 2020), as the organizational culture itself must be more flexible and based on greater support and support from leaders (Figueiredo et al., 2022). Digital leaders have a large impact because new skill sets are needed to effectively lead sustainable organizations in a dynamic digital environment (Shin et al., 2023). The main challenge for leading virtual environments is to develop digital leaders who are skilled in digital technologies and promote a digital transformation strategy, while also having the skills to effectively manage their virtual teams.

Virtual Team Management: Leadership Strategies

The relevance of studying leadership in remote or virtual teams has been reinforced due to the pandemic and the need to prepare work environments for digital transformation (Trenerry et al., 2021). As technology has developed, concerns have been raised about the potential for technology to change existing knowledge about leadership in situations where electronic communication prevailed within virtual teams. The first results indicate that transformational and participative leadership behaviors show high importance in teams that work and relate to their leaders through technological means (Avolio & Kahai, 2002; Van Wart et al., 2019). A recent study shows that organizational culture can mediate the influence of digital leadership and transformational leadership on performance (Silalahi et al., 2023). If leaders lead in a transformational manner instead, possibly even together with other leaders at the same time, the leadership of virtual teams can be successful (Zeuge et al., 2020).

Regarding the competences of the leader to manage virtual teams, there are some that are referred to as the most important - e-communication, e-social skills, e-team building, e-change management, e-technology skills, and e-trustworthiness (Van Wart et al., 2019). Another study shows that task- and relationship-oriented leadership behavior is needed to maintain employee

performance in a virtual environment (Bartsch et al., 2021). Other researchers also present two competencies as essential in these work environments: – “(1) leaders need good communication skills to share true information with empathy and optimism and (2) leaders need to be thoughtful and capable to handle change in uncertain situations ethically” (Chen & Sriphon, 2021). Due to the distance between leaders and followers and technology itself, emotional competencies are also a critical factor in organizational performance (Baporikar, 2020).

With COVID-19, concerns about employee well-being have increased (Dewi & Sjabadhyni, 2021; Mikus et al., 2021; Onesti, 2023; Teetzen et al., 2022) and virtual workplaces emerge to balance personal and professional life. Using a health-oriented leadership approach, researchers reinforce that leaders and employees should keep regular face-to-face contact also when mainly working from home (Klebe & Felfe, 2023). The results of the studies show positive relationships between team care and health, engagement, and job satisfaction. Digital leadership has a partial effect in determining individuals’ psychological well-being (Dewi & Sjabadhyni, 2021).

Overall, digital culture and employees’ digital capabilities partially mediate the relationship between digital leadership and organizational sustainability (Shin et al., 2023). In this sense, the role of digital leadership is not only crucial for team performance but also for sustainable organizational performance (Chen & Sriphon, 2021; Mollah et al., 2023; Shin et al., 2023).

Digital Leadership Development

Developing digital leaders is of paramount importance to ensure companies succeed in digital transformation initiatives, but we need better mechanisms for leaders to develop the skills that build the trust essential to digital transformation (Abbu, Mugge, & Gudergan, 2022). In this context, we need to assess the core competencies of digital leadership to help companies develop it to improve the organizational capability essential for successful digital transformation.

One of the attempts to present the competencies associated with digital leadership arises from the definition itself by distinguishing the aspects related to character and competence (Abbu et al., 2020). In this assumption, researchers have identified 15 specific skills that build trust and influence successful digital leaders’ performance (Abbu, Mugge, & Gudergan, 2022). Some authors present a set of digital leadership capabilities to develop the capacity of organizations to innovate (Brunner et al., 2023) and adopt new technologies (Brunner et al., 2021).

Munsamy recently developed a digital leadership competency framework that forms the present study’s foundation. A digital framework consists of six main themes: (1) embracing digital, (2) leadership facilitating the digital drive, (3) digital adaptiveness and resilience, (4) cultivating a digital culture, (5) digital skills and (6) digital competitiveness intelligence (Munsamy et al., 2023).

Finally, in addition to identifying digital competencies, there is also a concern with fostering digital learning (Gubbins et al., 2023). Only by investing in learning and development will leaders and team members be able to embrace the challenges of the digital age.

Virtual Performance: Challenges and Opportunities

Faced with the uncertainty and complexity that characterize the current labor market, organizations feel pressured to become more competitive (Jain, 2019). To face this challenge, it is necessary to hire the best professionals and understand whether they meet organizational needs and perform their tasks effectively (Nguyen et al., 2020). However, changes in working models, particularly those related to carrying out work activities remotely, not only require appropriate technology but also self-discipline (Thulin et al., 2019). In a virtual environment, it can be more difficult to manage time, and the tendency to procrastinate is much greater (Yao et al., 2023). In this context, Asmini et al., (2023) report that the evaluation of virtual performance is a task with many challenges, including the instability of the internet, which can prevent the effective accomplishment of tasks and impair the desired performance.

With the increase in online activities, the amount of personal and business data available on the internet has also grown exponentially, which has contributed to intensifying concerns about the security of the information made available (Zhen et al., 2022). Enhancing the security of work platforms and personal devices has largely raised the organization's costs. All internal information is confidential, and data related to employee performance is no exception, which may imply some constraints on how this information is transmitted by both the appraisee and the appraiser (Evangelakos, 2020). Figueiredo et al., (2021) add that the performance evaluation of employees in remote work is fundamental because it is necessary to ensure that tasks are being performed according to pre-established standards. This process helps the organization understand how each employee is working and how they can improve their performance (Johnson et al., 2023).

Notwithstanding the challenges mentioned, virtual performance assessment also has positive points because, as there are no physical barriers, people can develop or acquire skills from anywhere (Kim et al., 2021). Online learning significantly decreases the costs related to training as it dispenses with the costs related to renting physical spaces and traveling (Alfonso et al., 2020). In addition, performance can be assessed anytime and anywhere, which is an advantage for both the assessor and the assessee. Assessments can be easily scheduled and rescheduled according to the needs and availability of the participants (Aguinis & Burgi-Tian, 2021).

By eliminating physical travel, it saves time and resources (Figueiredo et al., 2021), and as virtual performance is usually documented digitally, it makes it easier to track the worker and their progress over time (Tziner & Rabenu, 2021).

Virtual Work Environments

Virtual work environments have gained great prominence in recent years, mainly due to the pandemic caused by the SARS-CoV-2 virus, responsible for COVID-19. Faced with this situation, many people started working from home, particularly those whose duties and availability of equipment allowed them to perform most of their tasks (Thulin et al., 2019). According to Brussevich et al., (2020), organizations have been forced to adopt remote work on a large scale in order to survive. Nevertheless, nowadays remote work remains a reality, as there is evidence (e.g., De Vries et al., 2018; Figueiredo et al., 2021; Hau & Todescat, 2018) that virtual work environments have numerous advantages.

On the one hand, tasks can be carried out from anywhere, which allows the employee to balance personal and professional life, which contributes to increasing their satisfaction levels and consequently their performance (Gálvez et al., 2020). Organizations, in turn, can reduce infrastructure-related costs (e.g., office rental, furniture purchase expenses, decreased electricity consumption; Ferreira et al., 2021). In addition, virtual workplaces allow hiring talent from anywhere in the world, as there are no geographical barriers (Bao et al., 2021).

Despite the advantages highlighted, virtual work environments also have their limitations because the lack of face-to-face contact can lead to misunderstandings and hinder coordination between team members and between team members and their direct manager. In addition, working virtually fosters social isolation, which can negatively affect workers' mental health (Vilarinho et al., 2021). It is also found that without the structure of a traditional office, some workers may find it difficult to manage their time and maintain productivity. As such, Kalra et al., (2021) argue that to overcome these challenges, organizations should implement strategies that create a strong virtual work culture and promote training on time management and work-life-balance.

Conflict Management and Problem Solving in Virtual Environments

Conflict management is a crucial aspect in any organization, whether in a physical or virtual context, because arguments and disagreements arise in any work environment, whether between peers, between the manager and his team members, or even between different teams or departments (Paresashvili et al., 2021).

In virtual environments, conflict management and problem solving are more challenging because the lack of face-to-face interaction often generates several misunderstandings (Gupta et al., 2023). However, there are strategies that can be adopted to effectively deal with these challenges, namely: (a) clear and objective communication that avoids ambiguous messages (Ramirez-Marin et al., 2019); (b) ensuring that all parties involved understand the information transmitted in the same way (Normore et al., 2019); (c) using tools that allow real-time interaction (e.g., videoconferences, chats, online platforms; Nikbakhsh, 2022); (d) establishing norms and rules of interaction (e.g., working hours, respecting rest time, meeting deadlines; Rahim, 2023); (e) holding regular meetings to jointly review processes, discuss problems and seek solutions (Kahlow et al., 2020); and (f) empathy and consideration for the needs and expectations of each team member (Klimecki, 2019).

When conflicts occur, it is important to resolve them in a fair and transparent way, so it is essential to listen to all parties and seek to understand the problem. Only when working together can a solution be found that is satisfactory to all (Durai & Thomas, 2022). Problem solving, whether in a physical or virtual environment, is the responsibility of everyone working in the organization, and everyone must develop skills that contribute to finding the best solutions (Nemteanu et al., 2021).

According to Newman and Ford (2021), there are five key steps to solving problems effectively: (a) identify the problem and analyze the situation carefully, because one situation may involve several problems; (b) the team leader should schedule an online meeting with each of the parties involved to define the problem more precisely, separating facts from opinions; (c) define the problem in specific terms and gather all the information needed to solve it; (d) brainstorm to identify possible solutions and then evaluate them, identifying the positive and

negative consequences of each; and (e) after the evaluation process is completed, the most advantageous solution (win-win) for all involved is selected.

At the end of the five steps, an action plan to implement the chosen solution (e.g., timeline, feedback channels) and its monitoring should be developed. It is important to reinforce that problem solving involves the contribution of all team members (Friedrich et al., 2019).

Virtual Performance Assessment and Monitoring

The evaluation and monitoring of performance in virtual environments is fundamental to ensuring the productivity and efficiency of remote work (Brown et al., 2019). Therefore, it is necessary to set clear and objective goals that can be measured, both at the individual level as well as at the team and organization level. Regular performance reviews are essential to identify aspects for improvement and provide feedback to team members (Madureira et al., 2021). In a virtual environment, it is more difficult to assess the levels of commitment and well-being of the team, so it is essential to meet individually with each member and then with the whole team to assess the group spirit and satisfaction with the work being done (Taboroši et al., 2020).

As with face-to-face, performance monitoring in virtual environments must balance the need to collect information with respect for people's privacy (Arroyo-Abad, 2021). It should be a transparent process and workers should be aware of how and why their performance is being monitored (Vuong et al., 2020).

Performance appraisal in a virtual context is a dynamic process that starts with the definition of the technical and behavioral competencies and the objectives that must be achieved during the previously defined period (Kassar, 2023). Nitika and Arora (2020) add that many virtual appraisal platforms allow the creation of forms based on specific data and metrics, which are usually developed by the organization and sent to employees and those responsible for their evaluation (e.g., self-assessment, direct manager, peers, subordinates) so that they can be answered in a timely manner. The use of technology can increase employee engagement in the appraisal process because the collected data is quickly analyzed and feedback is provided in real time. As a result, employees become aware of their strengths and areas for improvement (Johnson et al., 2023). When the appraisal process is well executed, people perceive that their appraisal is fair and tend to increase their effort towards achieving the organization's goals (Singh & Singh, 2018).

However, it is important to remember that virtual performance appraisal also presents challenges, namely the need to ensure that the technology is accessible and easy to use for all employees and that the data collected during the appraisal process is confidential (Thulin et al., 2019).

Performance Indicators for Virtual Teams

Evaluating the performance of virtual teams is somewhat more complex than when it is done in person (Newman & Ford, 2021). Nevertheless, there are several indicators that can be used to monitor the productivity and effectiveness of virtual teams, namely (Gheni et al., 2019): (a) the number of tasks completed; (b) the number of goals achieved; (c) the fulfillment of the

stipulated deadlines; (d) the quality of the work done; and (e) the collaboration between team members (e.g., response time to emails, holding virtual meetings).

The assessment of employee satisfaction and commitment levels is crucial, which can be measured through individual surveys or virtually conducted group activities. This is due to the fact that a team with high levels of commitment typically exhibits greater productivity and effectiveness (Taboroši et al., 2020). The ability to innovate and implement new ideas can also be an important indicator of team performance because it suggests that everyone is working towards a common goal to find a win-win solution (Morrison-Smith & Ruiz, 2020).

It is important to underscore that team performance is a complex, multi-dimensional entity that cannot be accurately gauged by a singular metric. Therefore, several indicators should be combined to make the assessment of staff performance more complete, fair, and transparent (Vuong et al., 2020). Sutherland and Janene-Nelson (2020) add that customer feedback is also a crucial performance indicator and can be measured through retention rates and satisfaction levels.

Therefore, it is crucial to invest in technical (e.g., information and communication technologies, digital platforms) and behavioral (e.g., negotiation, conflict management) training actions and to monitor the results over time to see if they contribute to improving workers' performance and productivity (Ismael et al., 2021).

Conclusion

Digital transformation has revolutionized the way organizations operate, making them more agile, adaptable, and customer-oriented. However, this transformation is not just about adopting technology. It requires leaders capable of guiding their teams down unexplored digital paths. Leadership in virtual environments requires building a relationship of trust, effective communication, and engagement since face-to-face interaction is limited.

Managing teams remotely requires an in-depth understanding of the individual needs of team members and the challenges they face in the virtual environment, so adaptability and continuous learning are essential. Virtual work environments offer flexibility and can increase productivity, but they also bring challenges, such as the possibility of isolation, the difficulty of maintaining a work-life balance, and the risk of conflicts arising. Without face-to-face interaction, conflicts can escalate quickly, which is why leaders have the important role of mediating disagreements and resolving problems in order to find a win-win solution.

In view of the above, it can be seen that although digital leadership and virtual performance present a number of challenges, they also offer many opportunities for growth for organizations that are willing to adapt to change and innovate in order to achieve a competitive edge over the competition.

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Chapter 13

Remote Leadership: Contributions from Collaborative and Inclusive Models

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Abstract

In our exploration of leadership, particularly from collaborative styles like transformational, authentic, servant, and participative perspectives, we acknowledge the potential challenges of remote work. While remote work offers flexibility, it can also introduce several challenges for employees, including time management pressures, financial strains, feelings of isolation due to reduced colleague interaction, disruption of regular routines, the continuous need for self-promotion, societal misunderstanding of non-traditional career choices, difficulties in disengaging from work, and stress in personal relationships. Yet, effective leadership can play a pivotal role in alleviating these concerns. Leadership not only fosters the successful adoption and execution of remote work but also integrates the core tenets of the aforementioned leadership models to shape the archetype of an “ideal” remote leader. This chapter outlines the essential conditions, ideal behaviors, and anticipated outcomes associated with this leadership model. As remote work becomes a mainstay, driven in part by global events, the urgency for refining and validating these leadership strategies intensifies. In this chapter, using a literature review, we try to systematize some contributions in this direction. Future research endeavors are paramount for both the academic and practical realms, ensuring remote work remains a sustainable, positive evolution of the modern workplace.

Keywords: leadership, remote leadership, remote work, remote skills, remote competencies

Introduction

There are many, vast and in-depth approaches to the phenomenon of leadership. For this article, we have focused on the more collaborative perspectives of leadership, namely the transformational, authentic, servant and participative perspectives. It was not our aim to find

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out which of this best suited the role of the leader working remotely. The main objective was to understand the contributions of each of these approaches to remote leadership. Therefore, the first part of this article briefly explores these theories, and then it applies to the context of remote leadership.

According to the scientific and professional literature on the topic, leadership is evolving to encompass more collaborative and inclusive styles. approaches, such as those summarily presented below, it seems that a long way has been travelled in terms of the models/references that best serve people, leaders themselves and organizations. We will briefly explore some that are more focused on how the characteristics of leaders can be more decisive for leadership effectiveness, but which at the same time consider that roles are integrated and have to be articulated - those that seem to us to have a more collaborative and inclusive dimension. We made this choice because the knowledge produced has pointed to new forms of leadership that are more focused on the relationship and the leader's ascendancy over people and teams, pointing to collaborative and inclusive styles. Transformational leadership, authentic leadership, servant leadership and shared leadership are some of the new paradigms that are increasingly being adopted.

In the second part, we explore remote working and how it is currently configured, in a kind of movement triggered by the Covid-19 pandemic. Here, we look at the conditions required to lead teams in remote work.

This chapter ends with the primary structuring of a model, which outlines the conditions to be provided to the leader, a reading of the main theoretical currents explored on the main skills/competencies and behaviors of the leader and the expected results of this exercise.

Leadership Models For Remote Work

Leadership Models

Since the 1970s, the transformational leadership model has become a reference for both academics and practitioners. Bass and Avolio model of transformational leadership is one of the most influential and widely studied in the leadership literature. Bass and Avolio conceptualized transformational leadership as a process in which leaders and followers help each other move to a higher level of morale and motivation. Bass and Avolio (1994) proposed four components of transformational leadership: 1. Idealized Influence (Charisma) - The leader serves as an ideal role model for followers. The leader "walks the talk" and is admired, respected and trusted. 2. Inspiring Motivation - The leader communicates with a vision that is inspiring and motivating. They use symbols and emotional imagery to focus followers' efforts and to promote identification toward the group's vision and mission. 3. Intellectual Stimulation - The leader challenges followers to be innovative and creative. A transformational leader encourages followers to explore new ways of doing things and new opportunities to learn. 4. Individualized Consideration - The leader acts as a mentor or coach and gives attention to the individual development of each follower. Transformational leadership involves a positive change in followers, where leaders care about and the interests of the organization and its members have to be aligned. In contrast to the transactional leader who practices contingent reinforcement of followers, the transformational leader inspires, intellectually stimulates and

has individual consideration for them. Transformational leadership can be directive or participative. Requiring higher moral development, transformational leadership is universally recognized as a concept (Bass, 1999).

In a further development of the approach, but keeping the grid, Bass and Riggio (2006) present the Full Range Leadership Model, which covers a range of leadership styles, from transformational, transactional, to laissez-faire. The model suggests that effective leadership encompasses a spectrum of behaviors. The key element of transformational leadership, which is considered the most effective, consists of four components, already mentioned, often referred to as the '4 I's': Idealized Influence (where the leader acts as a role model), Inspirational Motivation (the leader inspires and motivates followers with a clear vision), Intellectual Stimulation (the leader encourages innovation and creativity) and Individualized Consideration (the leader pays attention to the individual development of followers). Transactional leadership, on the other hand, is more oriented towards maintaining the status quo and exchanging rewards for adequate performance - Contingent Reward. Finally, the laissez-faire style, which involves an absence of leadership, is generally considered the least effective. The Full Range Leadership model suggests that the most effective leaders are those who can navigate along this spectrum to adapt to the needs of the situation.

Authentic Leadership

The concept of authentic leadership is based on the idea that authentic leaders are those who are true to themselves and to others, who lead "with purpose, values and integrity" (George, 2003, p. 9) and that this type of leadership is essential for creating lasting and valuable organizations. This reading of leadership considers four dimensions (Walumbwa et al., 2008) of leader regulation: 1. self-awareness, which is based on knowledge of oneself, values, emotions and motives; 2. relational transparency, which can provide trust to the group, and which is the leader being honest with themselves, sharing information clearly and objectively and knowing how to regulate the expression of emotions; 3. internalized moral perspective, related to the leader privileging the norms and values of the group, rather than giving in to external pressures; and 4. balanced processing in decision-making. The author highlight a few points to support the relevance of this approach: The authentic leader is the one who develops their skills in a continuous process of learning and self-knowledge; To achieve this, they must be authentic and true to themselves, because only then will their decisions and actions be relevant; The development of the leader is based on a framework of ethical values and principles; Compassion and empathy are ways of connecting with others, namely through mentoring and support, which the leader themselves can give to their team but which they also need in order to develop. The authors argue that this is the way for leadership to serve organizational effectiveness, especially in periods of uncertainty and turbulence (Avolio & Gardner, 2005), when authentic leadership is a suitable leadership model for resilient organizations with high levels of organizational efficiency, especially in periods when the resilience of the leaders themselves is an important condition (Zehir & Narcikara, 2016). Evaluating the four dimensions of authentic leadership, Petan and Bocarnera (2016) concluded that there are no differences in the influence of national cultures on the behavior of leaders who assume this type of leadership.

In an interesting meta-analysis (Banks et al., 2016), which discusses the differences and proximity of the constructs of transformational and authentic leadership, it is concluded that the relationship between authentic and transformational leadership is great, suggesting redundancy in the construct. It is also concluded that authentic leadership has a lower relative weight than transformational leadership with regard to the results of follower satisfaction, follower satisfaction with the leader, task performance and leader effectiveness. It also concludes that authentic leadership shows an advantage over transformational leadership in predicting group or organizational performance and organizational citizenship behaviors. Recently, Korku and Kaya (2022) concluded that although both types of leadership (transformational and authentic) affect innovative behaviour at work, authentic leadership proves to be more effective than transformational leadership, which is also relevant for people and organizations dealing with different environments and challenges than usual.

Servant Leadership

Traditional leadership theories were profoundly impacted when, at the end of the 1970s, Greenleaf unleashed a new paradigm: servant leadership, where “leadership was bestowed upon a person who was by nature a servant.” (Greenleaf, 2002, p.), i.e., caring for others before oneself. Servant leadership also advocates other dimensions, which are listed below: 1. the development and well-being of people is a leadership objective; 2. active and empathetic listening on the part of the leader are requirements; 3. creating a climate of “care” in which people actually feel cared for; 4. the servant leader is aware of their impact and power and knows how to manage it; 5. persuasion rather than authority; 6. the ability to foresee change and act accordingly, preparing people for it; 7. creating collective meaning. These are some of the functional attributes of the servant leader (Russell & Stone, 2002; Spears, 2010). In an attempt to build a guiding model of servant leadership, Russell & Stone (2002) list the attributes mentioned above, but also consider a set of variables (secondary characteristics) which, although not fundamental, are consistent with servant leadership: altruism, authenticity, humility and interest in leadership.

According to Van Dierendonck (2011), leaders who combine their motivation to lead with the need to serve, combined with their personal characteristics and culture, create the conditions for servant leadership. There seems to be a consensus that the values, both personal and of the organization, of the leader and his team, are fundamental in servant leadership (Russell, 2001; Washington, Sutton, & Feild, 2006) and even preponderant (Mcquade, Harrison & Tarbert, 2021), with the latter authors determining that the leader’s personal characteristics must always be taken into account, namely: empathy, communication with emphasis on listening skills and the trust they generate around them. However, some studies already point out that the conditions in each industry can be more or less favorable to servant leaders (Bavik, 2020; Gultekin & Dougherty, 2021). Some authors have also warned of the “theoretical confusion” surrounding the concept of servant leadership, pointing out, for example, that “ethical, authentic, and servant leadership are distinct in their emphases on compliance with normative standards, self-awareness and self-concordance, and stakeholders, respectively.” (Lemoine et al., 2019, p 149), although they are often combined in communities of practice, but they are different conceptual definitions made up of different dimensions. In any case, the same authors

point out that all these approaches have moral values and ethical behavior as a core aspect of the leader's behavior.

Shared Leadership

The more a phenomenon is studied and the greater its importance, the more satellite concepts proliferate. According to Kocolowski (2010), there are some concepts that gravitate around the concept of "shared leadership": "An initial search of the phrase shared leadership in the Academic OneFile database yielded 75 articles in academic journals. The search results of similar phrases are as follows: distributed leadership (24), collective leadership (22), horizontal leadership (0), team leadership (97), and leadership team (182)." (Kocolowski, 2010, p. 23). When these derivations occur, the analysis can become complex, which is why we opted for a transversal approach, considering that all these concepts "fit within" the concept of shared leadership. We have therefore adopted the same concept as the author mentioned above "shared leadership as a relational, collaborative leadership process or phenomenon involving teams or groups that mutually influence one another and collectively share duties and responsibilities otherwise relegated to a single, central leader" (Kocolowski, 2010, p. 243), highlighting the collective dimension of leadership and making us understand it as "as a group-level phenomenon" (Fletcher & Kaufer, 2003, p.22). According to the literature review, the advantages of Shared Leadership are vast:

Adaptability, since in contexts of change, shared leadership can enable a team to adapt in a more agile way, as different members can bring in varied perspectives and skills. It also allows people to feel more participative and more committed (Cullen et al., 2014);

Strengthening the skills of both leaders and those they lead, as no one is perfect in any task or context. Shared leadership enables different members of the team to play leadership roles, depending on their specialties (D'Innocenzo et al., 2016).

Involvement and empowerment, because if team members have the chance to play leadership roles, it can result in greater involvement and empowerment, boosting job satisfaction and productivity (Ensley et al., 2006).

More informed, consistent and consensual decision-making, if the decision-making process results from the confrontation of multiple perspectives. Decisions taken collectively tend to be more robust and thoughtful, and can contribute more assertively to innovation processes (Hoch, 2013).

Dependency and development, as the distribution of leadership tasks minimizes dependency on the leader. This is advantageous when a main leader is unavailable or leaves the organization (Carson et al., 2007), but also because it stimulates the development of the team and simultaneously gives them other opportunities.

Stimulates Innovation, by participating in decision-making, as already mentioned, but also because the multiplicity of perspectives and experiences can be a catalyst for innovation, since it increases the manifestation of innovative ideas and approaches, even if they don't participate in decision-making (Harrison & Freeman, 2004).

Leadership development, allowing various elements of a team or organization to exercise leadership functions. It makes it possible to create a platform for developing leadership skills in more individuals, which in times of scarce resources can be advantageous for organizations (Day et al., 2006).

However, despite the benefits listed, shared leadership can bring challenges, namely the emergence of conflicts arising from differences of opinion, blurring of responsibilities or competition. The adoption of shared leadership often requires well-defined structures, transparent communication and a culture based on collaboration (Pearce & Conger, 2003).

How Do the Models Presented Converge and Diverge?

Transformational Leadership is an approach that advocates that leaders inspire their followers to achieve higher levels of performance, going beyond initial expectations, and also to transform themselves in order to promote significant changes in themselves and in organizations (Bass & Riggio, 2006).

Focusing on the role of the leader, Authentic Leadership is characterized by its self-awareness, authenticity, transparency and solid ethics. Although it argues that the leader has a central role, it also argues that the leader must establish deep and meaningful relationships with their followers and show genuine concern for their development (Avolio et al., 2004).

The essence of Servant Leadership is to put the needs of followers first, which is its crucial dimension. Servant leaders seek to develop, support and help their followers grow. With this attitude, higher levels of motivation, achievement and production can be achieved (Greenleaf, 1977).

Shared Leadership moves away from the traditional “one leader - many followers” hierarchy to an approach where leadership responsibility is distributed among several team members. This approach promotes stronger collaboration and cohesion between team members and can be a factor in the development of the individual, the team and even the organization (Pearce & Conger, 2003).

In light of the above, there are some points of convergence between the different theoretical readings of leadership that have been analyzed here. Followers Development - All theories emphasize the growth, development and well-being of followers, either as the focus of leadership attention or as the leader’s task, but also as a result of this role; Integrity and Ethics - All four theoretical approaches emphasize the need for ethical, transparent and upright leaders, presenting these characteristics either as traits or as attitudes or behaviours; Deep and Meaningful Relationships - All of these forms of leadership value the importance of interpersonal relationships between leaders and followers. These approaches are more focused on the human factor, reflecting a more humanistic current, and not so much on a leader’s work process; Empowerment - In the various conceptual approaches, there is a focus on the empowerment and development of followers or team members.

Although there is some proximity in the approaches, as has been pointed out, there are also points of divergence, which ultimately underpins the existence of these different currents: Nature of Influence - While transformational leadership and authentic leadership are more oriented towards the leader’s direct influence over followers, servant and shared leadership prioritizes service, collaboration and the distribution of responsibilities; Self-awareness - Authentic leadership is distinct from the others due to the emphasis it places on self-awareness and continuous reflection that the individual in the leadership role must have; Power dynamics - Transformational leadership can work well within hierarchical structures, while shared leadership questions the validity of these hierarchies, as it advocates the distribution of power as a way of exercising leadership. The culture of the organization, reflected in its structure, may

fit one approach better than another; Primary Focus - While servant leadership places an explicit emphasis on serving followers, transformational leadership focuses and orients the leader's role towards raising the performance and motivation of followers; Origin of Vision - Transformational leaders generally establish and communicate a vision. In contrast, in shared leadership, the vision can emerge collectively.

The Pandemic: What Has It Revealed About Remote Leadership? Is There a Need for a Different Approach?

Technological evolution, combined with sharp and rapid changes in the labour market due to the COVID-19 pandemic (Bridi, 2020), has forced organizations to adapt their working methods. Leadership, in this scenario, is fundamental, being the ability to guide a group towards common goals, influencing decisions and behaviors in a constructive way. With the massive transition to remote work due to the pandemic, the way work is perceived and valued has changed (Silva, 2022). Social interactions in the workplace are now more dependent on technology, making it challenging to maintain bonds and collaborations. Remote working has brought about a more global, virtual and diverse workforce, requiring new management and motivation techniques. Faced with these challenges, although they are currently more mitigated than during the pandemic period, it is crucial to adopt strategies to develop leaders prepared to face new scenarios of work organization, namely remote work.

Even before the pandemic, when it was clear that the remote context would require different skills from the leader, and from a behavioral perspective, some authors already put forward some rules that the remote leader should respect in order to be effective: “think about leadership first, location before; Accept the fact that leading remotely requires you to lead differently; Know that working remotely change the interpersonal Dynamics, even if you don't want it to; Use technology as a tool, not as a barrier or an excuse; Leading requires a focus on outcomes, on others and on ourselves; Leading Successfully requires achieving goals, not just setting them; Coach your team effectively regardless of where they work; Communicate in the ways that work best for others rather than based on your personal preferences; leading successfully requires understanding what people are thinking, not just what they are doing; Building trust at a distance doesn't happen by accident; Identify the leadership results you need, then select the Communications tool to achieve them; Maximize a tool's capabilities or you'll minimize your effectiveness; Seek feedback to best serve outcomes, on others and on ourselves; Examine your beliefs and self-talk – they define how you lead; Accept that you can't do it all – you shouldn't try anyway; Balance your priorities to be a remarkable long-distance leader; Ensure your leadership development prepares long-distance leaders; ...” (Eikenberry & Turmel, 2018, pp vii). For the same authors, the biggest challenge of remote leadership is “prepare leaders for a new way to work and to help develop the skills required to do the job well” (Eikenberry & Turmel, 2018, pp 10), tendo também chegado ao registo de algumas questões importantes: “Leaders are making things in this environment because they are working longer and harder; Leaders are under-trained and doing “the best they can; They are lack confidence in themselves; Experienced leaders they are struggle with technology; there is some lack of leadership skills” (Eikenberry & Turmel, 2018, p. 13). But the pandemic has accentuated the need for these skills and Gill (2020), focusing on long-distance leadership in the teaching relationship, warned that it would be necessary to rethink leadership skills, think

about tasks differently and develop strong technological and relational skills, given that millions of workers have entered “forced remote work.” The pandemic has also highlighted some classic leadership themes, given that “being a long-distance leader may feel radically different from how you’ve worked in the past” (Eikenberry & Turmel, 2018, p. 21) and “the increased distance between remote leaders and team members could give rise to a host of new challenges within leadership” (Avlani & Charalampous, 2021, p. 6). As a result, new or revised skills need to be developed. We’ve listed some of the most important ones highlighted in the literature reviewed:

Table 1. List of skills

Communication Skills	Avolio and Kahai (2003); Hart and McLeod (2003); Brake (2006); Gerke (2006); Cascio and Shurygailo (2008); Hunsaker and Hunsaker (2008); DeRosa (2009); Neufeld et al., (2010); Owens et al., (2011); Roy (2012); Zander et al., (2013); Lilian (2014); Liu et al., (2018); Madlock (2018); Maduka et al., (2018); Eikenberry & Turmel (2018); Cortellazzo et al., (2019); Ruiller et al., (2019); Morrison-Smith & Ruiz (2020); Morrison-Smith & Ruiz (2020); Łukakasik-Stachowiak (2022)
Promote workforce diversity	Avolio and Kahai (2003); Gibson & Cohen (2003); Brake (2006); Malhotra et al., (2007); Cascio and Shurygailo (2008); Roy (2012);
Trust and relationship-building skills	Avolio and Kahai (2003); Hart and McLeod (2003); Brake (2006); Gerke (2006); Malhotra et al., (2007); Cascio and Shurygailo (2008); Hunsaker and Hunsaker (2008); Thomas and Bostrom (2008); DeRosa (2009); Thomas & Bostrom (2010); Roy (2012); Zander et al., (2013); Lilian (2014); Liu et al., (2018); Maduka et al., (2018); Eikenberry & Turmel (2018); Cortellazzo et al., (2019); Ruiller et al., (2019); Łukakasik-Stachowiak (2022);
Technology skills	Harris et al., (2001); Gerke (2006); Cascio and Shurygailo (2008); Hunsaker and Hunsaker (2008); Thomas and Bostrom (2008); DeRosa (2009); Thomas & Bostrom (2010); Owens et al., (2011); Roy (2012); Lilian (2014); Liu et al., (2018); Madlock (2018); Maduka et al., (2018); Eikenberry & Turmel (2018); Cortellazzo et al., (2019); Silva (2022)
Decision-making skills	Harris et al., (2001); Avolio and Kahai (2003); Zander et al., (2013); Maduka et al., (2018); Cortellazzo et al., (2019);
Problem-solving skills	Harris et al., (2001); DeRosa (2009); Roy (2012); Maduka et al., (2018);
Collaborative skills	DeRosa (2009);
Risk-taking skills	Cortellazzo et al., (2019)
Accountability	Cortellazzo et al., (2019)
Relationship-building skills	Harris et al., (2001); Madlock (2018); Eikenberry & Turmel (2018)
Awareness	Hart and McLeod (2003); Liu et al., (2018); Maduka et al., (2018); Morrison-Smith & Ruiz (2020); Morrison-Smith & Ruiz (2020); Raghuram (2021);
Performance management	Hunsaker and Hunsaker (2008); Eikenberry & Turmel (2018)
Analytical skills	Liu et al., (2018);
Task and goal-oriented leadership	Zaccaro and Bader (2003); Owens et al., (2011); Zander et al., (2013); Madlock (2018); Ruiller et al., (2019);
Personal characteristics (self-efficacy, hope, optimism, resilience)	Maduka et al., (2018)
Emotional intelligence	Roy (2012)
Identification-based trust	Zaccaro and Bader (2003); Pianese, Errichiello & da Cunha (2023)
Transformational leadership	Neufeld et al., (2010)

Based on a systematic review of the literature, Avlani & Charalampous (2021), recorded a vast list of “skill, knowledge, attribute or behavior relating to a specific remote leadership trait or characteristic appearing in abundance in the literature” (Avlani & Charalampous, 2021, p. 13) which are taken up here as a reference, with references from the last two decades (work of the authors cited), supplemented with other literature consulted (Table 1).

It seems to us that academic research has already highlighted the competencies that remote leadership must consider, both to “find” its leaders and to develop those who are already in the organization and are faced with this work model. We therefore consider, as factors that promote leadership effectiveness, the role of the leader, but not forgetting that these are the main factors that affect remote work, associated with the role of the leader: “Assist creation of common ground and work standards; Facilitate Communications; Provide mechanisms for work transparency” Morrison-Smith & Ruiz, 2020, p. 22), paying special attention to managing physical, temporal, perceived and socio-cultural distance. In reality, leadership style can be a factor that inhibits or promotes the effective outcomes of a remote team (Thomas & Bostrom, 2010), although there may be other dimensions.

Guidelines for Effective Leadership in Remote Contexts

Due to the forced experimentation in 2020 and 2021, remote working has gained fans: people and organizations. Thus, the role of the leader must be rethought, as other skills may have to be mobilized. Blanchard’s wording “Unleashing the power and potential of individuals and organizations to achieve the greater good” (Blanchard, 2023, p) encompasses a higher dimension of leadership that goes far beyond task/result orientation. Therefore, in accordance with the characteristics/skills/competencies of the leader listed above, but also with the objectives of the role and all the conditioning factors, we believe we are able to draw up a systematizing map of all the explanations made so far. This proposal is based on three dimensions: the conditions for exercising leadership, the characteristics/skills/competencies of the leader and the expected outcomes.

Conditions for Effective Leadership in Remote Work

Remote working framework culture - It is considered from the outset that, taking up the theoretical currents of leadership discussed above, a culture that promotes collaboration, openness and proximity can be a facilitator of the effectiveness of the leader’s role. On the other hand, a positive effect of leadership in a remote context can be the promotion of the organization’s values and culture, specifically in terms of organizational identification, socialization, knowledge sharing, employee turnover, and productivity, a task which the leader should also focus on (Howard-Grenville, 2020; Raghuram, 2021). In reality, promoting organizational culture can imply more directive styles, albeit based on trust, but which may be necessary with less psychologically or task-mature teams (Pianese, Errichiello & da Cunha, 2023). Collaborative/participatory models seem to be more appropriate.

Dynamic and agile environment - The digital world has brought with it a rapid pace of change, making it crucial for remote teams to quickly adapt to new situations and challenges.

The leader plays a significant role in this context, as they can induce the importance of each individual’s behavior and promote such an attitude (Hertel et al., 2005).

Technology - The availability and use of digital tools for communication, collaboration, and monitoring are essential for the effectiveness of remote teams (Cascio & Shurygailo, 2003). Technology can be a deterrent in adopting remote work or inhibiting its effectiveness, but it’s up to the leadership to ensure mastery of it and provide conditions for the team to use it effectively.

Cultural and Geographical Diversity - Remote teams often include members from different time zones, cultures, and backgrounds, which can be both a challenge and an opportunity (Gibson & Cohen, 2003). Establishing these conditions is an essential premise, reflecting on the leadership profile, meaning the leader’s ability to incorporate and deal with diversity.

Work Model and Worker Autonomy - Remote workers, by their nature, have a significant degree of autonomy, making the ability to work independently crucial (Collins, 1998). This will have implications for the leadership style, as the leader needs to manage this autonomy well.

Remote Leader’s Characteristics, Skills, Competencies and Behaviors

To revisit the theoretical currents initially presented in this chapter, an attempt was made to establish the relationship between the competencies highlighted in the previous literature review and their respective currents. The dimensions presented and used here, from Avlani & Charalampous (2021), do not seem to encompass all the competencies referred to in the analyzed theories, which is why they are added to the Table 2, marking them in italics.

Table 2. Characteristics, skills, competencies and behaviors

Remote Leader’s Characteristics/Skills/Competencies and Behaviors	Leadership Theoretical Approach	Authors
Communication Skills Trust and relationship-building skills Decision-making skills Problem-solving skills Risk-taking skills Accountability Emotional intelligence Transformational leadership Identification-based trust Performance management	Transformational Leadership	Bass (1985)
<i>Inspiring Vision: It is vital to establish a motivating vision that provides direction and inspiration for the team, especially when they are geographically dispersed.</i>		<i>Bass & Riggio (2006)</i>
Awareness Personal characteristics (self-efficacy, hope, optimism, resilience) Emotional intelligence Authentic leadership (implicit given the theory’s name) Analytical skills	Authentic Leadership	Walumbwa et al., (2008)

Remote Leader's Characteristics/Skills/Competencies and Behaviors	Leadership Theoretical Approach	Authors
<i>Self-awareness and Authenticity: The leader must have a clear understanding of their own strengths and weaknesses and be transparent in interactions.</i>		Avolio et al., (2004)
Promote workforce diversity Trust and relationship-building skills Problem-solving skills Collaborative skills Relationship-building skills Performance management Emotional intelligence <i>Prioritizing Followers' Needs: An approach that puts team members first, supporting their well-being and professional development.</i>	Servant Leadership	Greenleaf (1998) <i>Greenleaf, (2002)</i>
Communication Skills Collaborative skills Task and goal-oriented leadership Technology skills Analytical skills Performance management <i>Delegation of Responsibilities: Trust in the team is essential, allowing for the delegation and equitable distribution of responsibilities.</i>	Shared Leadership	Pearce & Conger, 2003

There are also other dimensions that stand out, both for their presence in all four leadership approaches and for the way various authors argue them: Communication skills - The ability to communicate clearly and efficiently is of greater importance in remote environments (Hertel et al., 2005); Flexibility, as the capacity to adapt to different cultures, time zones, and individual work styles (Zigurs, 2003).

Expected Outcomes

Team Adaptability and Agility - Teams will be better prepared to handle unexpected challenges and changes (Cascio & Shurygailo, 2008);

Engagement and Satisfaction - With effective leadership rooted in fluid and efficient communication, team members are expected to feel more committed and satisfied with their work (Belanger et al., 2001).

High Performance - Through clear alignment of vision and responsibilities, productivity and work quality are expected to increase (Hertel et al., 2005).

Continuous Development - Opportunities for training and professional growth become more frequent and accessible (Avolio et al., 2004).

Culture of Collaboration and Innovation - Environments that promote collaboration and innovation emerge (Gibson & Cohen, 2003).

Reduction of Conflicts - Transparency and open communication reduce the potential for misunderstandings and conflicts (Zigurs, 2003).

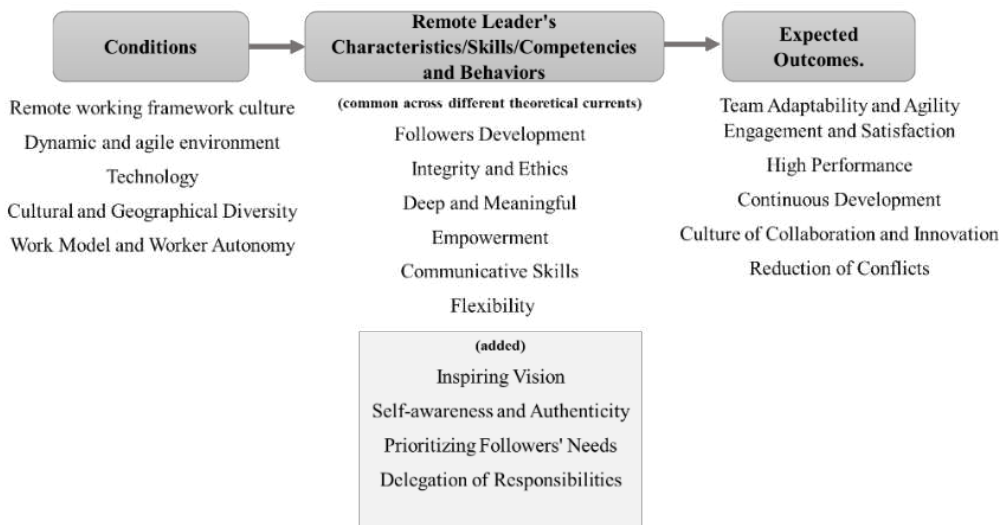


Figure 1. Model for remote leadership.

Another positive effect of leadership in a remote context can be the promotion of the organization’s values and culture, specifically at the level of organizational identification, socialization, knowledge sharing, employee turnover, and productivity, a task for which the leader should also direct their efforts (Howard-Grenville, 2020; Raghuram, 2021). In reality, promoting organizational culture may involve more directive styles, although based on trust, but that might be necessary for teams that are less psychologically mature or in their task proficiency (Pianese et al., 2023).

The goal was not to produce a model (Figure 1), but rather to systematize and articulate some studies and references in this domain of remote leadership, using only the common threads of the reviewed approaches, which is presented in the image, hoping it provides insights for future research and guidelines for practice communities.

Methodological Note

For this chapter, we used a narrative literature review, since the topic has already been explored in other areas by the author. This way of reflecting on specific topics and in the field of social and human sciences has gained prominence, given the volume of publications on the subject of leadership. According to Jahan et al., (2016) and Snyder (2019), these reviews provide a comprehensive overview, tracing their evolution and highlighting the regularities and contrasts of the various contributions. Unlike systematic reviews, the narrative approach is not based on strict criteria for selecting studies, which allows them to cover a wider variety of literature. Among the advantages is the ability to identify general trends, major contributions and areas of debate in the field of study. However, this methodological freedom also presents dangers. Given their less structured nature, narrative reviews can be susceptible to author bias, running the risk of a biased selection of literature, to which we were attentive, approaching all the articles consulted with critical awareness and aware of their potential limits.

Conclusion

As Elshaiekh et al., (2018) warn us, remote work can bring negative impacts for workers, such as pressures of time management or financial pressures, uncertainty, loneliness from lack of colleague contact, separation in the workplace, absence of regular routine, the need to market oneself, lack of sympathy from others who choose more conformist paths, difficulty ‘switching off’ at the end of the day, and pressure in close relations. However, the role of leadership can be crucial in mitigating these effects. Leadership can be a promoter of the adoption and efficacy of remote work, and all the theoretical currents analyzed contribute to a framework, in terms of skills/competencies and behaviors, important for defining the profile of the “ideal” remote leader.

This article is focused on listing the required conditions, desirable behaviors, and expected impacts, but deeper research on the topic can help practice communities validate it – it’s urgent, because remote work will not revert back to being the shadow it was before the pandemic.

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Chapter 14

Leading from a Distance: The Key Characteristics of an E-Leader

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Abstract

The rapid expansion of telecommuting has reshaped the landscape of work, demanding innovative leadership approaches tailored to remote environments. This study explores the multifaceted role of leadership in telecommuting and introduces the concept of the “E-Lider” - an effective remote leader equipped to excel in the modern world of work. Drawing from an extensive review of leadership styles, characteristics, and their impact on teleworkers’ quality of life, this research defines the core qualities of an E-Lider. These qualities include autonomy, adaptability, effective communication, empathy, ethical decision-making, and a unique ability to balance autonomy with support. The study emphasizes the profound influence E-Liders wield in shaping a positive work environment that enhances job satisfaction, productivity, and overall well-being among remote team members. While acknowledging potential variations in organizational cultures and contexts, this study underscores the importance of recognizing, nurturing, and investing in E-Liders as organizations continue to embrace the transformative potential of telecommuting.

Keywords: leadership, distance work, telework, e-leader, hybrid work

Introduction

The COVID-19 pandemic in 2020 prompted widespread changes in work practices (Huang et al., 2020). In Portugal, a government-imposed lockdown mandated remote work for most (DGS, 2020). This abrupt shift presented leaders with various challenges necessitating style adjustments (Hennekam & Shymko, 2020). A major remote leadership challenge is the absence of face-to-face interaction, impeding relationship-building and understanding team members’

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well-being and work (Hennekam & Shymko, 2020). Leite's findings (2019) corroborate this as a common teleworking challenge. Domenico (2020) also identifies this as a significant issue for remote team leaders. Maintaining a clear sense of direction and accountability is another remote leadership hurdle (Gratz and Searle, 2020). Morgeson (2018) previously noted that remote workers may feel detached from their team and the organization's objectives, impacting motivation. Spreitzer (2017) emphasized the importance of clear expectations and regular feedback for remote teams to stay aligned. Leaders must also demonstrate flexibility and empathy toward the challenges remote workers face, including home distractions and blurred work-life boundaries (Hennekam & Shymko, 2020). Accommodations and support are crucial in this context.

Background

Amid challenges, telework offers substantial opportunities. Remote work fosters flexibility, enhancing job satisfaction and productivity. Additionally, organizations can reduce office space and overhead costs. This study examines telework leadership's challenges and opportunities, benefiting both researchers and practitioners. Researchers gain insights into telework leadership dynamics, while practitioners receive practical guidance as e-leaders. Potential study questions include how leaders establish rapport and trust with remote workers, maintain direction and accountability, and ensure remote workers' resource access. Investigating the unique challenges and opportunities in telework leadership and identifying best practices will empower leaders in remote work settings.

The organizational landscape has evolved significantly (Rosa & Zingano, 2013). Traditionally hierarchical and authoritarian, modern management trends prioritize democracy and humanistic approaches. This shift stems from factors like the importance of knowledge workers, social media's rise, and the COVID-19 pandemic's impact. Peter Drucker (2001) advocated for people-centric management. Maslow (1970) proposed the hierarchy of needs theory, emphasizing people's needs, from basic to self-actualization. Herzberg, as cited by Oliveira (2017), distinguished hygiene factors (e.g., salary) and motivators (e.g., achievement). W. Edwards Deming promoted continuous improvement and integrating quality into products and services (Drucker, 2001).

COVID-19 (Huang et al., 2020) pandemic spurred remote work adoption, necessitating innovative communication and collaboration approaches. This shift elevated employee well-being and work flexibility.

This study contributes to understanding the evolving organizational landscape, benefiting organizations adapting to changing work environments.

Objectives

The main objectives of this study encompass several key dimensions:

- To identify the key characteristics of e-leaders.
- To assess the perceived importance of the key characteristics of e-leaders.

- To determine the extent to which the key characteristics of e-leaders are present in e-leaders.
- To contribute to our understanding of the leadership challenges and opportunities of telework.
- To provide practical insights for leaders who are transitioning to telework or who are already working in a telework environment.

The implications of this study extend to both academia and practice. For researchers, the findings promise novel perspectives on the multifaceted landscape of telework leadership, enriching the theoretical underpinnings of leadership studies. For practitioners, the research outcomes will provide tangible guidance, facilitating the transition to or enhancement of effective e-leadership. Consequently, this study stands to be a valuable resource, bridging the gap between research and real-world leadership practices in the telework era.

Literature Review

Work

The concept of work (labor) has been a topic of extensive discussion throughout history. In this regard, Karl Marx and Max Weber emerge as two prominent figures in the discourse (Marx & Engels, 2007). Marx perceived labor as an essential human activity that enables individuals to transform their surrounding world. However, he contended that labor within a capitalist framework becomes alienated, resulting in a disconnection between workers and the fruits of their labor, as well as the creative process itself. This alienation, according to Marx, leads to exploitation and social inequality (Almeida, 2014).

On the other hand, Weber (2006) similarly regarded labor as a pivotal aspect of human existence, but he placed greater emphasis on individual agency and choice. He posited that labor is frequently motivated by a sense of calling or vocation. Nonetheless, he also observed that the ascendance of bureaucracy and rationalization has contributed to a more impersonal and estranged work environment. In summary, Marx and Weber presented contrasting viewpoints on the concept of labor. Marx's perspective was profoundly critical of capitalism, whereas Weber's stance was more multifaceted (Marx & Engels, 2007).

Telecommuting/Telework

Telecommuting, also called telework, involves employees working outside the traditional office (Vala, 2007). The term stems from the Greek "telou," meaning "far from," and the Latin "tripaliare," meaning "to work" (Barreto Junior & Da Silva, 2015). Recent technological advancements have boosted telework's popularity (A. C. A. S. Ferreira, 2020). Portugal legalized telework in 2009 (Lei n.o 7/2009 Do Ministério Do Trabalho, 2009).

Technological progress requires individuals and organizations to adapt and acquire new skills for competitiveness and productivity (Carnevale & Hatak, 2020); (Leite et al., 2019). Work models emphasize greater flexibility (Brinzea & Secara, 2017). Telework, a recently

adopted practice (Boavida & Brandão Moniz, 2020); (Vega et al., 2015), reshapes the human-machine relationship (Bailey & Kurland, 2002a); (Teixeira, 2021). Pinto (2021) notes that technology has created innovative business opportunities, including tailored tools for telework. Rocha and Amador (2018) highlight telework's geographical and technological advantages, enabling remote work from anywhere. Agarwal (2020) attributes telework growth to the internet and evolving cost-effective technology tools, improved connectivity, and enhanced quality of life (F. Tavares et al., 2020). Drucker (2001) predicted companies' challenge to innovate the human-machine relationship through knowledge application (Ferreira, 2020).

Positive and Negative Aspects of Telecommuting

In summary, various perspectives on telecommuting exist within the literature. Rocha (2018) acknowledges benefits for organizations, workers, and societies, while also highlighting risks, particularly the potential for professional, political, and social isolation among workers. Araújo (Araújo et al., 2019) argue that organizations are seeking alternatives to enhance worker quality of life by reducing stress associated with commuting. Tavares (2017) agrees, emphasizing the positive impact on health and work-life balance. Thulin (2019) similarly believes that achieving a better balance between daily life and telecommuting is vital for improved quality of life and social sustainability.

On the downside, DeVries (2019) found that remote public sector employees experienced increased professional isolation and noted that traditional leadership styles within hierarchies might be less effective due to the virtual nature of communication. Personal contact and geographical dispersion challenges leaders in adopting their usual behaviors. Empathy and support from colleagues may also diminish in telecommuting situations, potentially necessitating increased monitoring by leaders. Furthermore, the sense of commitment to the employer among public sector employees may decrease on remote working days.

Telecommuting Modalities

The concept of telecommuting extends beyond working from one's own residence. Coenen and Kok (2014) emphasize that telecommuting involves performing tasks "outside the employer's premises" using technology and communication equipment, as noted by Neves (2019). Telecommuting encompasses various forms, including telecommuting in telecentres, satellite centres, and mobile telecommuting, as described by Vala (2007), Pérez et al., (2003), and Tremblay (2002). Telecentres, as highlighted by Pinto (2021), are shared resource centers for users connected to various companies, offering shared equipment. Satellite centres, similar to telecentres, provide flexible spaces often located near users' residences, catering to remote collaboration needs. Co-working, as characterized by Bailey and Kurland (2002b), Pérez-Pérez et al., (2003), and Tremblay (2002), involves work conducted outside the parent company's headquarters, typically in its branches across different geographical locations connected via ICT. It is commonly used by large corporations based in major urban centers. Mobile telecommuting, as mentioned by Pinto (2021), relies on the concept of a mobile or portable office, enabling work from any location with suitable equipment like laptops and wireless mobile telecommunications, following definitions by Bailey & Kurland (2002), Martínez-

Sánchez et al., (2008), Pérez et al., (2003), and Tremblay (2002). Additional telecommuting modalities, outlined by Gajendran & Harrison (2007) and Tremblay (2002) and referred to in Pinto (2021), consider factors like the proportion of telecommuting work, whether it's full-time, part-time, or ad hoc. Full-time telecommuting involves working entirely from home, part-time telecommuting allows work from home or the company's/client's premises, and ad hoc telecommuting occurs temporarily due to unforeseen reasons. Another dimension depends on the employment relationship, where telecommuting can involve working for a single entity or as a freelancer for multiple contracting entities, encompassing multiple employers (Martínez-Sánchez et al., 2008). Additionally, Towers et al., (2006) mention a modality related to the time of execution, distinguishing between regular daytime telecommuting and work during non-standard hours, such as nights or weekends, as cited in Pinto (2021).

Barriers to Telecommuting

Telecommuting presents challenges. Internet access can be limited, especially in remote areas (Bayrak, 2012). Corporate culture can resist change, hindering technology adoption (Silva, 2021). Considering the multitude of potential barriers that hinder the widespread use of ICT (Information and Communication Technology) and its full utilization, Aguilera et al.,(2016) highlight other factors, including:

- a) Need for physical presence at the workplace;
- b) Employee computer illiteracy;
- c) Resistance to telecommuting;
- d) Company reluctance to invest in tech;
- e) Concerns over control loss;
- f) Desire to separate personal and professional life;
- g) Difficulty providing necessary equipment;
- h) Limited personal interaction.

Successful telecommuters exhibit:

- I. Self-motivation;
- II. High job-related skills;
- III. High performance, sometimes part-time at the office;
- IV. Independence and confidence;
- V. Comfort with solitude;
- VI. Time management and organization skills;
- VII. Reliability

In this regard, maintaining mutual trust between employer and employee throughout the workday is essential (Silva, 2021).

Tavares (2017) further states that all these seven personal characteristics are crucial for precisely determining the strategies to deal with evident obstacles during telecommuting. If an employee does not possess these traits, then a significant barrier to this form of work will exist, which may prove difficult to overcome (Silva, 2021). In reality, telecommuting still faces many

aspects requiring further study, as results are occasionally inconsistent. Along these lines, Hau and Todescat (2018) found that a significant portion of individuals engaged in telecommuting were satisfied on a personal and family level. However, Hill and Ferris Martinson (2003) detected the opposite situation, with telecommuters experiencing less success in their personal and family lives compared to those who were not engaged in telecommuting and remained at the employer's main premises (Leite et al., 2019).

Tavares (2017) emphasizes these traits' importance. Telecommuting's impact varies (Hau & Todescat, 2018; Hill & Ferris Martinson, 2003; Leite et al., 2019).

Advantages and Disadvantages of Teleworking

From the literature review conducted for the preparation of this work, it is evident that various authors present different perspectives on the impact of teleworking in terms of advantages and disadvantages. Some authors explore the viewpoints of employees, organizations, and society (Bae & Kim, 2016; Powell & Craig, 2015; Teixeira, 2021; Vega et al., 2015).

Advantages of Teleworking for the Employee

Telecommuting also named teleworking benefits employees. It reduces commuting costs, including transport, parking, and meals (Aguilera et al., 2016; Ansong & Boateng, 2018; Basile & Beauregard, 2016; Dockery & Bawa, 2018; Hau & Todescat, 2018). Teleworkers eat at home, saving money and promoting healthier eating (Sroka, 2018). It also reduces stress from daily commutes, especially in large cities (Hau & Todescat, 2018; Silva, 2021).

Telecommuting offers autonomy and flexible hours, aiding work-life balance, especially for family responsibilities (Teixeira, 2021; Barreto Junior & Da Silva, 2015; Barros & Silva, 2010; Vala, 2007). Fewer workplace disruptions increase productivity and focus (Vala, 2007; Barros & Silva, 2010; Golden & Veiga, 2005). It minimizes interference from non-work-related conversations, unplanned meetings, and formal attire requirements (Harpaz, 2002; Tremblay & Thomsin, 2012; Mello, 1999; Silva, 2021).

Teleworking enhances psychological well-being, fostering responsibility, autonomy, and creativity (Barros & Silva, 2010; Mann et al., 2000; Ruiller et al., 2019; Ward & Shabha, 2001). It benefits society by offering accessible employment for individuals with disabilities (Goulart, 2009). Telecommuting aids women in balancing work with family responsibilities, especially when caring for young children, elderly relatives, or those with limited mobility (Harpaz, 2002; Silva, 2021). It accommodates women from diverse cultural and religious backgrounds, promoting workforce integration (Silva, 2021).

Advantages of Teleworking for the Company/Organization

Flexible work arrangements gained popularity in the corporate world due to anticipated benefits (Macaire, 2021). This includes increased productivity, better organizational culture, enhanced recruitment, improved retention, and reduced turnover, presenteeism, and absenteeism (Illegems et al., 2001; Kossek et al., 2006; Kurkland & Bailey, 1999; Mello, 1999). Many

teleworkers, even when unwell, rarely seek medical care at home, indicating comfort, motivation, and commitment (Harpaz, 2002; Illegems & Verbeke, 2004), promoting job satisfaction. Companies benefit from reduced office-related costs (Ansong & Boateng, 2018; Giovanis, 2018; Harpaz, 2002; Sroka, 2018), including rent, electricity, water, gas, insurance, and office supplies, particularly in high-demand urban areas. Teleworking expands the talent pool by recruiting from remote locations (Estrada, 2014). It decreases conflicts internally, fostering job satisfaction (Nohara et al., 2010; Patrickson, 2002; Pérez et al., 2002). It encourages participative leadership, organizational culture, and innovation (Bentley & Yoong, 2000; Patrickson, 2002). A study by Kim et al., (2021) emphasized results-based management and trust for improved performance in teleworking organizations due to the lack of consensus on its benefits.

Advantages of Teleworking for Society

Implementing teleworking creates jobs, reducing regional employment imbalances (Fiolhais, 1996, as cited in Vala & Caetano, 2007; Nohara et al., 2010; Pinto, 2021). It revitalizes rural and declining inland regions (Pinto, 2021).

Teleworking responds to urgent needs, reintegrating retirees or unemployed individuals, including those with disabilities (Pinto, 2021).

Teleworking reduces urban congestion, conserves energy, decreases fuel consumption, and cuts atmospheric CO₂ emissions, lowering road accidents (Harpaz, 2002). Reducing paper usage in offices benefits the environment and enhances its quality (Silva, 2021).

Disadvantages of Telecommuting for the Employee

Telecommuting poses challenges for employees, affecting work-life balance, isolation, health, and career progression. Supervisors face difficulties in monitoring remote employees (Aguilera et al., 2016; Beauregard et al., 2019; Pérez et al., 2003). The lack of physical presence makes performance monitoring challenging (Felstead et al., 2003; Silva, 2021). Telecommuting blurs work-life boundaries, causing extended work hours and disruptions in family life (Barros & Silva, 2010; Costa, 2007; Golden & Veiga, 2005; Pinto, 2021; Tietze, 2005; Tremblay, 2002).

Telecommuters incur additional costs not reimbursed by employers (Fiolhais, 1996, cited in Vala & Caetano, 2007; Mann et al., 2000).

Distractions at home and inadequate workspace affect work efficiency (Beauregard et al., 2019; Silva, 2021; Teo et al., 1998). Lack of separation between work and home impacts efficiency and family life (Harpaz, 2002; Ferreira, 2020).

Extroverted employees may experience social isolation, leading to anxiety and depression (Hazan & Morato, 2018; Almeida, 2021; Beauregard et al., 2019).

Telecommuters' reduced visibility may hinder career advancement (Baruch, 2001; Beauregard et al., 2019; Hau & Todecat, 2018; Khalifa & Davison, 2000; Teo et al., 1998; Estrada, 2014). Over-Availability Syndrome occurs when colleagues expect constant availability (Harpaz, 2002; Silva, 2021). Digital Anxiety may arise from the constant need to be connected (Almeida, 2017).

Telecommuting can lead to health issues like musculoskeletal problems, metabolic disorders, high cholesterol, hypertension, and gastrointestinal issues (Crawford et al., 2011; Montreuil & Lippel, 2003; Skov et al., 1996; Costa, 2007; Price, 2007; Thomas & Ganster, 1995).

Abusive leadership practices can negatively impact well-being, leading to decreased happiness and increased anxiety or depression (Magnavita et al., 2021; Silva, 2021).

Disadvantages of Telecommuting for the Company/Organization

Telecommuting, beneficial during the COVID-19 pandemic, presents challenges for SMEs in Portugal, particularly in IT and personnel management. Portugal had a high SME percentage in 2020 (Pordata, 2022).

Initial Investment vs. Cost: Many view telecommuting's hardware, software, and training investment as an initial cost, yet it can reduce expenses in the long term (Fiolhais, cited in Vala & Caetano, 2007; Pérez-Pérez et al., 2002). **Infrastructure and Logistics:** Ensuring remote employees have suitable equipment and maintenance presents logistical challenges (Harpaz, 2002). **External Dependencies:** External factors like power outages and internet failures can disrupt telecommuting (International Labour Office, 2021).

Training and Skills: Adequate training is crucial for effective telecommuting (Hau & Todescat, 2018; Ruth & Chaudhry, 2008; Silva, 2021; Sroka, 2018).

Adapting Company Strategies: Telecommuting requires reevaluating strategies, including schedules, recruitment, salaries, and leave policies (Filardi et al., 2020). **Supervision and Control:** Monitoring remote employees becomes challenging, impacting motivation, loyalty, and organizational culture (Fiolhais, cited in Vala & Caetano, 2007). **Interpersonal Conflicts:** Conflicts may arise between on-site and remote employees, affecting interactions and perceptions (Filardi et al., 2020; Nohara et al., 2010). **Quality Control:** Reduced supervision can affect the quality of remote work (Dockery & Bawa, 2018; Brinzea & Secara, 2017). **Data Security:** Telecommuting can increase data security risks for both employees and companies (Boavida & Brandão Moniz, 2020; Hau & Todescat, 2018).

Disadvantages of Telecommuting for Society

According to Bae and Kim (2016), Basile and Beauregard (2016), Hau and Todescat (2018), and Nakrosiene et al., (2019), there have been no significant disadvantages identified for society or the environment due to telecommuting. However, Baruch (2001) contradicts these authors, highlighting a disadvantage of telecommuting within society: the creation of a "disconnected society." In this author's view, with the widespread adoption of telecommuting, we are on the brink of an autistic society where individuals isolate themselves not only from each other but also from public and private institutions. This isolation weakens their ability to communicate, both professionally and personally, resulting in a significant reduction in human interaction.

Management

Management, as outlined by Teixeira (2013), is a systematic process aimed at guiding an organization to achieve its objectives in an effective and efficient manner, utilizing all the available resources. It's crucial to emphasize that these managerial functions should not be viewed in isolation, as they exhibit a strong interdependence among them. In summary, these functions encompass planning, organizing, leading, and controlling, and they are intricately connected, forming an integrated approach to effective management.

Team Management

Team management, a contemporary leadership approach, addresses the limitations of traditional bureaucratic models in today's dynamic markets (Ramos et al., 2017). Recognizing modern organizational complexity, collaboration is emphasized as vital for success (Tosti, 2006). Distinguishing a group from a team is crucial (Bancalero, 2008). A team comprises individuals with diverse skills, committed to common goals (Bancalero, 2008; Oliveira, 2012). Managers play a pivotal role in guiding teams toward shared objectives. Working in teams presents challenges due to diverse perspectives (João Farinha, 2019). Effective alignment and communication of responsibilities and autonomy drive success (João Farinha & Sousa, 2015). Teams, guided by leaders, excel in finding solutions through collaboration and diverse viewpoints. In team management, leaders go beyond task completion. They facilitate collaborative change efforts, addressing resistance (João Farinha & Tomé, 2019). Over time, team members become change champions, influencing even the most resistant individuals.

Leadership

Leadership, rooted in human societies' history, features an individual guiding others towards shared goals (Keles, 2022). Blom and Alvesson (2014) define it as shaping thoughts, norms, emotions, and values via interpersonal relationships. Leadership influences group dynamics and individual behavior, combining process and traits. Leadership's process involves non-coercive coordination (Yildirim & Elbaş, 2014). The Trait Theories era in the 1300s emphasized inherent leader attributes (Stogdill, 1974, cited by Barroso, 2022). Leadership evolution redefined leaders and followers (Farinha, 2018). Categorizing leadership theories, Cunha and Rego (2005), cited by Farinha (2018), distinguish the universal, contingency, and value-based approaches. Behavior-focused approaches allow adaptability, while trait-based theories limit change. Contemporary leadership prioritizes fair treatment, support, effective guidance, and incentives (Farinha & Ascenso, 2022; Blanchard, 2012). Leaders foster collaboration and strong relationships through knowledge exchange, trust, and respect (Farinha, 2022; Vieira, 2002). Robbins (2006) lists leader characteristics, including ambition, influencing skills, honesty, and intelligence.

Effective leaders align behaviors respected by followers (Cravid, 2015). Integrating emotional intelligence, leaders manage emotions within their influence sphere. They delegate tasks, decentralize decisions, maintain oversight, and provide support, motivating teams toward organizational goals (Farinha, 2022).

Leadership

Leadership, a pivotal concept in contemporary organizations, is multifaceted. Piza (2018) stresses self-awareness as fundamental for personal growth, urging leaders to align values with actions and build trust-based relationships. Leaders navigate today's digitized landscape, where adaptability is key. Maccoby (2004) defines leaders as motivators driving organizational goal achievement, vital for a competitive edge. Hogan et al., (1994) identified fourteen leader behaviors relevant to various positions. Kotter (2017) highlights leadership's central role in organizational success, advocating its practice at all levels, fostering adaptable structures and transformed workforces.

Leadership Styles

Leadership styles vary widely, including autocratic, democratic, laissez-faire, transformational, and transactional. Each style has unique characteristics and impacts on organizations and members. Choice of style depends on organizational culture, leader's personality, and context (Northouse, 2015; Yukl, 2010; Graen & Uhl-Bien, 1995; Riggio & Reichard, 2008; House & Aditya, 1997).

- Autocratic: Leader makes unilateral decisions, demands compliance.
- Democratic: Leader shares decision-making, encourages participation.
- Laissez-Faire: Leader grants freedom, appears uninvolved.
- Transformational: Leader inspires, motivates, and has a compelling vision.
- Transactional: Leader sets clear goals, rewards desired behaviors.

It is crucial to acknowledge that no single leadership style universally suits all situations. The effectiveness of a leadership style varies depending on specific contextual factors, such as the nature of the organization, its objectives, and the characteristics of the followers.

Autocratic/Authoritarian Leadership

Autocratic leadership, as described by Ardichvili and Kuchenke (2014) and Maqsood et al., (2013), is characterized by a leader who maintains strict control over decisions, rarely allowing input from team members. This style is coercive and authoritarian, with the leader holding absolute power and making choices independently. While occasional team contributions might be sought, they are seldom considered.

Northouse (2015) notes that autocratic leadership can have some positive aspects but is often seen as dictatorial and abusive. The leader's refusal to seek opinions or innovative ideas can lead to inaction and low motivation. This style is sometimes referred to as the classical style, marked by the leader's exclusive decision-making authority and an expectation of obedience without explanation.

Cherry (2018) also emphasizes that autocratic leaders do not seek input from their team and rely on structured rewards and punishments for motivation. This approach can lead to high turnover rates and absenteeism.

Souza et al., (2020) and Maximiano (2017) further describe autocratic leadership as centralizing decision-making power in one person, often referred to as the “boss.” This style allows little to no participation or voluntary acceptance, and the leader rarely seeks or listens to the opinions of their team, making decisions based solely on their judgment.

In summary, autocratic leadership is marked by a leader’s strict control, limited input from team members, and a hierarchical power structure with little room for collaboration or consultation.

Democratic Leadership

Democratic leadership, as described by Maximiano (2017) and Tannenbaum et al., (2012), aims to involve all team members in organizational plans, decisions, and goals. This leadership style encourages the leader to share their ideas with the team, allowing everyone to express their opinions and contribute suggestions for improvements. In democratic leadership, decision-making is decentralized among team members, with varying degrees of influence depending on the level of involvement workers have in the decision-making process.

Elenkov (2002), as cited in Khajeh (2018), highlights the positive impact of democratic leadership on organizational performance. It allows for objective processing of both praise and criticism, fostering a sense of responsibility among team members.

Bhargavi and Yaseen (2016) conducted an analysis indicating that the democratic leadership style positively affects organizational performance. It enables workers to express and implement their ideas and actively participate in decision-making processes. Moreover, this style of leadership serves as an example and contributes to the development of future leaders over the long term.

In summary, democratic leadership involves shared decision-making, encourages participation, and positively influences organizational performance by fostering collaboration, idea sharing, and a sense of responsibility among team members.

Charismatic Leadership

Charismatic leadership, as described by Chiavenato (2004) and Duarte (2021), is characterized by the leader’s ability to inspire emotions and trust within the team. This leadership style revolves around the leader’s charismatic personality, which includes traits such as self-confidence, vision, and a magnetic personal attraction that strongly influences followers. Charismatic leaders are often seen as having exceptional abilities that set them apart from other leaders.

Duarte (2021) identifies four key capabilities associated with charismatic leadership: the leader’s behavior, traits, facilitating situation, and effects on followers. These capabilities lead to several consequences for the team, including high levels of trust, follower compliance without questioning, affection for the leader, and a sense of contribution to the team’s mission success.

However, Rego and Cunha (2005) caution that unquestioning obedience to the charismatic leader can pose certain risks, potentially leading to destructive actions.

Charismatic leadership shares similarities with transformational and visionary leadership styles (Maçães, 2018). It relies on the leader's ability to motivate and inspire followers, making the leader the central driving force behind the team's efforts. To be effective, charismatic leaders must maintain realistic expectations, ensuring that the team remains focused on achieving the organization's goals (Garfinkle, 2020).

Liberal/Laissez-Faire Leadership

The laissez-faire leadership style, as discussed by Farias (2021) and Ribeiro (2016), is a leadership approach that has received relatively limited theoretical research in comparison to other validated models. This style is characterized by a leader who is essentially absent in practice, which can have negative implications for workplace social relationships. Unlike other leadership styles that emphasize guidance and direction from the leader, laissez-faire leadership is marked by a lack of influence and interaction between the leader and the team. The leader's relationship with the team is primarily built through the course of activities, and there is minimal direct involvement.

Avolio et al., (1999) suggest that laissez-faire leadership is often applied by leaders with the primary intention of demonstrating control over their followers. This style is associated with minimal intervention and direction from the leader.

Ribeiro (2016), as cited in Silva and Angelin (2021), describes the laissez-faire/liberal style as one where the leader refrains from imposing their authority on the followers, granting them significant freedom, including the ability to make their own decisions and divide tasks as they see fit. With this approach, team members have a high degree of autonomy, and the leader's intervention is minimal. Maximiano (2017) highlights that the degree of liberalism in leadership increases as more decision-making authority is delegated to team members

Transformational and Transactional Leadership

Burns (1978) categorizes leadership into two primary styles: transformational and transactional. Transformational leadership centers on emphasizing the values and ideals of workers while motivating them to prioritize the organization's interests. It seeks to inspire employees to reach their fullest potential, develop their skills, and foster trust within the team and with their leaders. In contrast, transactional leadership takes a task-oriented approach and relies on incentives to motivate followers to achieve organizational goals directly.

Burns (1978) suggests that transformational leadership is characterized by leaders initiating changes in society and organizations, leaving a lasting impact. This style involves several components identified by Rego (1998), including charismatic traits, inspirational qualities, consideration for followers, and intellectual stimulation. Transformational leaders inspire devotion and loyalty, kindle enthusiasm for team objectives, value and respect team members, and encourage followers to push their boundaries and develop strategic capabilities.

Transaction leadership, on the other hand, motivates followers by focusing on their individual interests through rewards and incentives. The effectiveness of both leadership styles

depends on the organizational context. Transformational leadership is better suited for times of change, while transactional leadership is more appropriate in less turbulent environments.

Neessen et al., (2019) emphasize that transformational leaders encourage follower participation and make them feel integral to the organization, fostering behaviors that enhance results and objectives.

Burns (1978) describes transformational leadership as a process where leaders and followers inspire each other, resulting in high levels of morality, motivation, equality, and justice. Transactional leadership, in contrast, is characterized by an exchange relationship between leaders and followers, with each party seeking to meet their own interests. While transactional leadership creates a stable organizational environment, it may lack creativity. Gil (2021) views transformational leadership as a process where individuals transform themselves, focusing on long-term standards, goals, ethics, values, and emotions. This leadership style motivates followers to exceed proposed objectives and adapt to market demands continually.

In summary, transformational leadership focuses on inspiring and developing followers' potential, while transactional leadership relies on incentives and exchanges to achieve organizational goals. Both styles have their place in different organizational contexts.

Situational Leadership

Situational leadership, as described by Oliveira (2021), is a flexible approach that adapts leadership styles based on circumstances and the characteristics of the individuals involved. Situational leaders do not adhere to a single leadership style permanently but instead adjust their approach to the situation and the profile of their followers. This adaptability allows them to act as needed, emphasizing task-focused behavior when necessary. In situations requiring more task intervention, leaders make themselves available to guide and assist their team. Conversely, when fewer task-related needs arise, leaders grant more freedom to their followers for execution. Cancelino et al., (2020) suggest that the concept of situational leadership may have roots in Fiedler's contingency approach (1964), which posits that a leader's style depends on the situation in which their subordinates find themselves. This perspective is also supported by Gonçalves (2014).

According to Silva and Angelin (2021), situational leadership involves leaders making decisions autonomously but adapting their behavior according to their followers' current situation. Maximiano (Maximiano, 2017) emphasizes that this style's effectiveness hinges on the leader's ability to adjust their approach to different contexts, swiftly addressing potential issues to maintain positive results.

Chiavenato (2014) highlights that situational leaders can employ various leadership styles as needed, always in harmony with the specific situation, the characteristics of their followers, and the nature of the work. The primary challenge for leaders practicing situational leadership is determining when to apply each style most effectively.

Visionary Leadership

Rosenbach and Sashkin (2014), as cited in Soares (2021), define visionary leadership as the ability to possess a future-oriented vision for the organization, emphasizing growth and

progress. Visionary leaders exhibit distinctive characteristics that differentiate them from others. These characteristics encompass several key skills. First, they have the ability to effectively communicate their vision to their team members. Second, they embody this vision through their behavior and actions. Third, they can adapt and apply this vision across various leadership levels and different situations. Finally, they possess the skill to formulate a long-term strategy to realize this vision. This vision serves as a strategic compass that guides future actions and can flexibly adapt to emerging changes or challenges (Mintzberg et al., 2000). Sen and Eren (2012), as cited in Soares (2021), highlight that leaders who embrace the visionary style are recognized as innovators. They leverage innovation to address a wide range of issues, including social, political, environmental, economic, and technological challenges, always with the aim of meeting the needs of their workforce. Sharing this vision is essential for understanding the environmental conditions and developing the most appropriate strategies to resolve potential problems. Consequently, both leaders and followers contribute to enhancing market competitiveness.

Mações (Mações, 2018), as cited in Silva (2021), emphasizes that this form of leadership provides a reliable future perspective based on the leader's behavior. Characteristics of visionary leadership include expertise, experience, and the ability to analyze potential future challenges for the organization. Crucially, this leadership style can transform emerging challenges into new opportunities, persuading the team to follow their lead and value their input. Moreover, visionary leadership is aware that the innovations they intend to implement yield positive results for both the team and the organization. Additionally, this leadership style can attract new employees with fresh and innovative ideas (Petrucci, 2019).

Authentic Leadership

Yukl (2008), as cited in Besen and Fialho (2017), highlights that authentic leadership, like many other leadership concepts, lacks a universally agreed-upon definition. However, at its core, authentic leadership emphasizes the importance of alignment between a leader's words, actions, and values. This style of leadership values balanced processing, transparency in relationships, a strong moral compass, and self-awareness. Yukl (2008) further suggests that authentic leaders possess a deep understanding of their behavior and thoughts, along with a precise awareness of their operating context. They exhibit qualities such as confidence, optimism, hope, resilience, and a strong moral character. Additionally, they are known for their honesty, kindness, altruism, a sense of justice, and a strong sense of responsibility (Avolio et al., 2014). Authentic leaders aspire to serve others through their leadership style, prioritize delegation to their teams to create a positive impact, and do not prioritize power, prestige, or personal wealth. Avolio et al., (2004) also emphasize that the behavior and performance of these leaders inspire diverse perspectives and foster genuine collaborative relationships among team members, leading to their recognition as authentic leaders by all.

Johnson (2019) notes that leading with authenticity is not a final achievement or endpoint. The most challenging aspect for a leader is achieving self-awareness, which involves understanding oneself by having the courage to be honest and vulnerable enough to embrace one's own flaws. Authentic leadership requires many years of personal growth, introspection, and hard work. Leaders must also adopt the humanistic belief that all members of their team

are equally valuable individuals who are striving and giving their best in their work. To lead with authenticity, it is essential to discover and reflect on one's own strengths and weaknesses.

Ethical Leadership

Brown et al., (2005), as cited by Moon (2018), define ethical leadership as “the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making.” This definition underscores two essential aspects of ethical leadership: the leader as a morally upright individual and the leader's role in instilling these values in their followers. It encompasses three key characteristics: communication, reinforcement, and decision-making.

According to Brown et al., (2005), as cited in Alfaite (2014), ethical leaders recognize the importance of shared decision-making within their teams. In terms of reinforcement, these leaders exhibit qualities such as trustworthiness, honesty, fairness, and a genuine concern for their team members. Their decisions are grounded in principles of justice and fairness, creating an equitable environment. When it comes to communication, ethical leaders stand out for their transparency, engaging in open and candid communication that encourages ethical behavior among their followers.

Arel et al., (2012), as cited in Alfaite (2014), define ethical leadership as specific behaviors displayed by a leader with the aim of either promoting or discouraging the establishment of an ethical environment within the organization. Jordan et al., (2013) extends this concept by emphasizing its direct connection to moral cognitive development. When there are disparities in the moral cognitive development between leaders and their followers, with leaders exhibiting a higher level of development, the perception of an ethical leadership style becomes even more pronounced.

Coaching

According to Farinha (2016), coaching is a leadership style mentioned by Goleman et al., (2003) that focuses on personal development rather than task accomplishment. Studies have shown that coaching tends to yield more positive results and elicits a highly positive emotional response compared to other leadership styles. Goleman et al., (2003) suggest that leaders who employ coaching as a method can build trust and obtain valuable feedback through personal conversations with their employees. Leaders who choose coaching not only delegate tasks but also assign more challenging responsibilities to their subordinates, encouraging them to surpass their limits. This leadership style is understanding of employee failures and is particularly effective with individuals who demonstrate a high degree of initiative and ambition.

Methodology

The study will be conducted in two phases. In the first phase, a literature review will be conducted to identify the key characteristics of e-leaders. In the second phase, a survey will be conducted to gather data from e-leaders and their employees. The survey will assess the perceived importance of the key characteristics of e-leaders and the extent to which these characteristics are present in e-leaders.

This study used a mixed methods approach to collect data from teleworkers in Portugal. The quantitative data will be used to examine the relationship between leadership style and characteristics when leading on distance. The qualitative data will be used to explore the experiences of teleworkers and their leaders.

Context and Data Collection Methods

This study spanned mainland Portugal, including the Azores and Madeira archipelagos, to encompass a diverse range of individuals aligned with our research goals. However, it's important to note that certain professions, such as those involving repair shops, assembly lines, construction, security and rescue, distribution, among others, were less conducive to remote work arrangements. Given the expansive geography and diverse target audience, we opted for email as the primary questionnaire distribution method, considering it most suitable for our research objectives. The participation of respondents, while varying in response rates, gradually materialized thanks to the willingness of both respondents and, notably, many employers. Their cooperation was indispensable in achieving our research objectives.

Measurements and Scales

The online questionnaire used in this study consists of four sections, each addressing specific aspects related to teleworking. These sections include:

- **Quality of Life in Telework:** This section assesses the quality of life experienced by teleworkers. Respondents provided their responses on a 5-point Likert scale with options ranging from “1-Totally disagree” to “5-Totally agree.”
- **Interactions and Relationships with Supervisors:** The second section focuses on interactions and relationships with supervisors or bosses in a teleworking context. It also employs a 5-point Likert scale, with choices such as “1-Never” to “5-Always.”
- **Perception of Leadership Styles:** This section evaluates how respondents perceive the leadership styles exhibited by their bosses or superiors in the context of telework. It uses the same 5-point Likert scale as the previous section.
- **Sociodemographic and Professional Information:** The final section collects sociodemographic and professional information from the participants.

The questionnaire used in this study was adapted from a previous study by Andrade (2020), titled “The Development of a Quality of Life Measurement Instrument in Telework.”

Data collection for this study occurred from December 20, 2022, to January 31, 2023. The questionnaire was distributed via email to individuals, Human Resources departments of public and private organizations, and through social networks like Facebook, LinkedIn, and Instagram. Participants were informed about the study's objectives, data confidentiality, anonymity, and the sole academic and statistical use of the collected data through a brief accompanying statement. It's important to note that this data collection approach relies on accessibility rather than strict statistical criteria, following Marôco's perspective (2021). While this method offers operational ease and cost-effectiveness, it may limit the ability to make generalizable statements about the entire population with the desired statistical rigor.

Participants

Sampling Calculation

The determination of the sample size for this study was accomplished using software developed by Santos (2017), accessible through the "Prática Clínica" website. The software computed a minimum sample size of 385 respondents, with a 95% confidence interval and a 5% margin of error. While the software-suggested sample size of 385 met the predefined criteria, the research team opted to work with a larger respondent pool to enhance result accuracy. Ultimately, 620 responses were gathered, constituting a substantial sample size that grants robust statistical power for identifying relationships between the variables of interest.

Clarification of Terminology

Software: A computer program designed to assist users in performing tasks.

Confidence interval: A range of values within which the true value of a population parameter is likely to fall.

Margin of error: The potential discrepancy in the estimation of a population parameter.

Precision: The level of accuracy inherent in a measurement.

The researchers employed a non-probability sampling approach, indicating that respondents were not randomly selected. This type of sampling is frequently employed when obtaining a random sample is unfeasible or impractical. In this instance, a snowball sampling method was adopted by the researchers, whereby respondents were asked to identify additional potential respondents. This approach proves valuable for accessing challenging-to-reach populations.

The survey targeted the entire working-age population engaged in employment for others in Portugal. According to data from a 2023 Pordata (2023) website survey, based on the latest 2021 census, the total number of such workers was 3,435,002.

Preliminary Testing

Prior to the questionnaire's official launch, a preliminary test was carried out to detect any shortcomings, gauge response time, and pinpoint questions that participants found unclear or challenging to comprehend, as outlined by Marconi (2021). Following the preliminary test, certain grammatical adjustments were implemented in the questionnaire, without altering the questions' intended meaning.

The preliminary test was conducted via email and garnered responses from 41 participants. Its primary objective was to identify any deficiencies, assess the time required for responses, and highlight any questions that lacked clarity or presented difficulties in comprehension.

Data Analysis Procedures

Upon the questionnaire response deadline, response data was directly exported from Google Forms to Google Sheets. Subsequently, the data was transposed, saved, and processed within a Microsoft Excel document. Following this, the data was imported into IBM® SPSS® 25 software (Statistical Package for the Social Sciences) for thorough statistical processing and analysis.

Demographic Profile of Survey Participants

Sociodemographic attributes of individuals who took part in a survey regarding teleworking in Portugal.

Gender: The predominant portion of respondents were female (71.77%), with males comprising the remaining 28.23%.

Age: The most extensive age category encompassed individuals aged 41-50 years (44.19%), followed by those aged 31-40 years (20.0%), 51-60 years (17.42%), and 61-70 years (11.45%). Only 8.39% of respondents fell within the 16-30 years age range.

Educational Background: The majority of participants possessed a university degree (65.48%), while others held secondary school qualifications (30.0%), professional education credentials (3.71%), or primary school education (0.81%).

Marital Status: The prevailing marital status among respondents was married (65.65%), followed by single (18.55%), divorced (14.35%), and widowed (1.45%).

Family Size: The most common family size was composed of three individuals (31.13%), followed by two individuals (23.87%), four individuals (27.26%), and one individual (13.87%).

Sector: The bulk of respondents were employed in the public sector (76.61%), with the remaining 23.39% in the private sector.

Occupation: The predominant occupations included roles in the administration sector (6.61%), information technology (4.52%), education (3.71%), banking and insurance (3.39%), health and social care (2.26%), commerce (1.94%), arts and sports (1.29%), construction (0.81%), and transportation (0.65%).

Company Size: The majority of participants worked for companies with more than 250 employees (45.81%), followed by companies with 11-50 employees (16.94%), 51-250 employees (16.45%), and 10 or fewer employees (20.81%).

Tenure: The most common length of employment with their current employer was over 20 years (34.35%), followed by less than 5 years (26.94%), 10-20 years (23.39%), and 5-10 years (15.32%).

Management Roles: Most respondents did not hold managerial positions (76.13%), while 23.87% did.

Telework Frequency: The majority of participants engaged in full-time telework from home (62.58%), with others teleworking 2 days per week (11.77%), 4 days per week (5.48%), 1 day per week (4.52%), or 3-6 days per month (9.52%).

Duration of Telework Experience: A significant portion of respondents had less than 3 years of telework experience (96.13%), while 3.87% had teleworked for more than 3 years.

Telework Location: The vast majority of participants worked from home (92.58%), while 3.87% worked in various locations, and 3.5% worked outside their employer's usual premises.

Telework Schedule: Most respondents adhered to a fixed telework schedule (56.61%), while 43.39% had a flexible schedule.

Preferred Work Arrangement: The majority of respondents favored a hybrid work arrangement (49.19%), followed by working in person at their employer's office (41.29%), and full-time teleworking from home (9.52%).

Discussion and Conclusion

The examination of existing literature reveals that, particularly in the last decade, the business landscape had already shown foresight and had progressed significantly in terms of work methodologies, management practices, and leadership approaches. However, it was only in the recent past, partly prompted by the emergence of the Covid-19 pandemic, that a substantial leap was made.

In today's world, individuals typically dedicate eight hours of their daily routine to work, underscoring the importance of creating a work environment that promotes their well-being. When it comes to telecommuting, especially within a home and family context, it becomes imperative to establish a comfortable setting. This environment should not only foster psychological well-being but also provide optimal ergonomic conditions to ensure physical comfort, thus enabling individuals to maintain high levels of professional performance.

Theoretical Conclusion

When comparing telecommuting with leadership, key points from the literature include:

- **Autonomy and Self-Motivation:** Telecommuters require self-motivation and discipline, crucial for effective work. Leaders must support employees in developing these qualities.
- **Communication and Supervision Challenges:** Leaders face challenges in supervising remote employees. They must adapt by using digital tools, setting clear expectations, and providing regular feedback.
- **Adaptability and Flexibility:** Telecommuting demands adaptability from employees and leaders to different work modalities and unique needs.
- **Technology Competence:** Proficiency in technology is essential for remote work. Leaders should ensure employees have necessary tools and training.
- **Work-Life Balance:** Leaders play a role in setting work-life balance expectations, respecting boundaries, and promoting well-being.
- **Empathy and Support:** Remote leaders must demonstrate empathy and emotional support due to the lack of in-person interaction.
- **Recognition and Career Advancement:** Leaders should ensure remote workers receive recognition and have career advancement opportunities.

- **Data Security and Compliance:** Leaders must address data security, implementing and enforcing protocols.
- **Environmental Impact:** Telecommuting reduces commuting emissions, and leaders can encourage eco-friendly practices.
- **Social Isolation:** Leaders must be aware of social isolation risks, especially for extroverted employees, and encourage virtual social interaction.

In conclusion, effective leadership in telecommuting requires adaptability, technology proficiency, empathy, and support. It addresses challenges and opportunities while creating a healthy remote work environment.

Empirical Conclusion

Based on the data results and the analysis of leadership characteristics in the context of telecommuting, several key conclusions can be drawn:

- **Positive Leadership Styles Impact Quality of Life:** The study confirms that positive leadership styles have a direct and positive impact on the quality of life of telecommuting employees. Specifically, leaders who exhibit qualities such as honesty, collaboration, and support contribute to a higher quality of life for their remote workers.
- **Leadership and Remote Work Relationship:** Effective interaction and relationship between leaders and remote workers play a significant role in enhancing the quality of life for employees engaged in telecommuting. Leaders who actively engage with their remote teams, display trust, and consider ethical and moral consequences in their decisions create a more positive work environment.
- **Balancing Autonomy and Support:** The study suggests that remote workers value leaders who strike a balance between granting autonomy and providing support. While autonomy is important for remote work, employees also appreciate leaders who are available to answer questions and offer guidance when needed. This balance is crucial for maintaining a positive quality of life for remote employees.
- **Challenges in Communication:** The data indicates that some remote workers may misinterpret certain aspects of leadership behaviour, such as leaders not responding quickly to questions. Effective communication remains essential in a telecommuting context to ensure that remote workers correctly perceive leadership actions and intentions.
- **Leadership Development:** Organizations should invest in leadership development programs that focus on enhancing leadership characteristics that positively impact remote work environments. Training and support for leaders to develop skills related to trust-building, collaboration, and ethical decision-making can be beneficial.
- **Future Implications:** As telecommuting continues to be a prominent mode of work, the role of leadership in remote work settings will become increasingly important. Organizations need to adapt their leadership styles and strategies to meet the evolving needs of remote employees.

In conclusion, the data supports the notion that leadership characteristics, such as trust, collaboration, and ethical decision-making, have a significant influence on the quality of life of telecommuting employees. A positive leadership approach that fosters a supportive and engaged relationship with remote workers can lead to greater job satisfaction, productivity, and well-being in a telecommuting context. As remote work becomes more prevalent, organizations that prioritize developing and nurturing these leadership qualities are likely to have a competitive advantage in attracting and retaining top talent in a remote work environment.

Debate for Final Conclusion

This study highlights the positive impact of leadership styles on the quality of life of teleworkers in Portugal. Key findings include:

- **Leadership Style Impact:** Leadership significantly influences teleworkers' satisfaction with work-life balance, productivity, and overall well-being.
- **No One-Size-Fits-All:** There's no single best leadership style for telework; it depends on various factors.

Leadership Characteristics and Styles:

- **Autocratic Leadership:** Can be seen as honest and trustworthy if fairness and consistency are maintained. However, it may come across as controlling and unsupportive, undermining follower confidence.
- **Democratic Leadership:** Typically seen as honest and trustworthy due to openness to feedback and follower input. It's also supportive as it grants followers decision-making freedom.
- **Laissez-Faire Leadership:** Perceived as honest and trustworthy when leaders admit gaps in knowledge and learn from followers. However, it can also be viewed as uninvolved and apathetic, leading to decreased follower confidence and motivation.
- **Transformational Leadership:** Generally viewed as honest and trustworthy, as leaders articulate a clear vision and inspire followers. It's also supportive, providing necessary resources and training.
- **Transactional Leadership:** Seen as honest and trustworthy when rewards and punishments are fair and consistent. However, it can be transactional and uninspiring, potentially leading to reduced motivation.

The study emphasizes the importance of leadership in telework success. To support teleworkers effectively, organizations should invest in leadership training and development programs, helping leaders acquire the necessary skills and qualities.

Additional Thoughts on Conclusion

The study also found that most workers prefer a hybrid work arrangement, with some days working from home and some days working from the office. This suggests that workers value the flexibility and autonomy of telework, but also appreciate the social interaction and collaboration that comes with working in an office. It is important for organizations to consider the needs of their workers when designing their work arrangements. A one-size-fits-all approach is unlikely to be successful.

Final Conclusion: The E-Leader; E-Leadership

In the context of telecommuting and remote work, an E-Lider embodies a distinctive set of qualities and strategies for effective leadership. E-leaders excel in leading remote teams while leveraging the advantages of telecommuting and mitigating its challenges. Key characteristics of an E-Lider include:

Autonomy and Self-Motivation; Adaptability and Flexibility; Effective Communication; Technology Competence; Empathy and Support; Recognition and Career Advancement; Ethical Decision-Making; Balancing Autonomy and Support; Leadership Development; Positive Leadership Styles, Quality of Life Impact. In summary, E-leadership is characterized by adaptability, effective communication, empathy, and ethical decision-making. E-leaders excel in managing remote teams by harnessing the benefits of telecommuting while effectively addressing its associated challenges. As remote work continues to gain prevalence, organizations that prioritize and nurture these E-leadership qualities are well-positioned to succeed in the evolving work landscape.

Final Conclusion: The Characteristics of an E-Leader

In light of the theoretical and empirical conclusions drawn from the discussion of leadership in a telecommuting or e-leader context, it becomes evident that effective leadership in a remote work environment is characterized by a unique set of qualities and strategies. An e-leader, someone who excels in leading remote teams and leveraging the advantages of telecommuting while mitigating its challenges, embodies the following key characteristics:

- **Autonomy and Self-Motivation:** E-leaders recognize the importance of cultivating autonomy and self-motivation among remote employees. They encourage individuals to set their routines, meet deadlines, and make independent decisions while providing the necessary guidance and resources.
- **Adaptability and Flexibility:** E-leaders themselves are adaptable and flexible in accommodating various telecommuting modalities and addressing the specific needs of remote team members. They understand that a one-size-fits-all approach does not work in a remote work environment.
- **Effective Communication:** Communication is at the heart of successful e-leadership. E-leaders are proficient in using digital communication tools to maintain a strong

connection with their remote teams. They set clear expectations, provide regular feedback, and ensure that remote workers correctly perceive their actions and intentions.

- **Technology Competence:** In a technology-dependent remote work landscape, e-leaders are technologically proficient and ensure that their team members have the necessary tools and training to work remotely efficiently and securely.
- **Empathy and Support:** E-leaders recognize the potential for social isolation and the need for emotional support among remote workers. They actively engage with their teams, display empathy, and provide the necessary support to foster a sense of belonging and well-being.
- **Recognition and Career Advancement:** E-leaders are proactive in ensuring that remote employees receive recognition for their contributions and have opportunities for career advancement. They address concerns related to visibility and career growth in a remote work setting.
- **Ethical Decision-Making:** E-leaders prioritize ethical and moral decision-making in their interactions with remote teams. They consider the consequences of their actions on the well-being of employees and the organization as a whole.
- **Balancing Autonomy and Support:** E-leaders strike a balance between granting autonomy and providing support. They understand that remote employees value independence but also appreciate having access to guidance when needed.
- **Leadership Development:** Organizations that prioritize e-leadership invest in leadership development programs tailored to the unique needs of remote work environments. Training and support are provided to help leaders develop skills related to trust-building, collaboration, and ethical decision-making.
- **Positive Leadership Styles:** E-leaders embody positive leadership styles, including qualities such as honesty, collaboration, and support. These styles directly contribute to a higher quality of life for remote workers.
- **Quality of Life Impact:** E-leaders recognize that their actions and behaviors directly impact the quality of life of telecommuting employees. They strive to create a positive work environment that fosters job satisfaction, productivity, and overall well-being among remote team members.

In conclusion, the characteristics of an e-leader are rooted in adaptability, effective communication, empathy, and ethical decision-making. E-leaders excel in managing remote teams by leveraging the advantages of telecommuting while addressing its challenges. As remote work continues to grow in prevalence, organizations that prioritize and nurture these e-leadership qualities are poised to thrive in the evolving landscape of work.

Limitations and Future Research

Acknowledging the limitations of this study is crucial for a nuanced understanding of its scope:

1. **Data Collection Method:** The challenge of obtaining responses from all employers, especially during the COVID-19 pandemic, may introduce response bias.

Complimentary Copy

Incorporating diverse data collection methods like interviews or observations could enhance data reliability.

2. Cross-Sectional Design: The study's brief duration might limit the number of responses and insights. A longitudinal approach would offer a more in-depth understanding of changes and developments over time.
3. Resource Constraints: Limitations in time and funding may have affected the depth and breadth of data collection and analysis. Expanding available resources could lead to more comprehensive insights.

Recognizing these limitations helps interpret the study's findings accurately and provides a roadmap for future research to address these constraints more comprehensively.

The study suggests that future research should focus on the following areas among others:

E-Leadership and Organizational Performance: Investigate the impact of e-leadership on organizational performance, including productivity, innovation, and employee retention. Assess whether effective e-leadership leads to tangible business benefits.

E-Leadership Ethics: Further explore the ethical aspects of e-leadership, including the ethical challenges that arise in remote work settings and how e-leaders navigate them.

Hybrid Work Environments: With the growing prevalence of hybrid work models (combining remote and in-person work), study how e-leaders adapt their leadership styles to effectively manage teams in such environments.

E-Leadership and Diversity: Investigate how e-leaders promote diversity, equity, and inclusion within remote teams. Explore strategies for ensuring equal opportunities and representation in virtual workspaces.

These research avenues can contribute to a deeper understanding of e-leadership, its impact on remote work environments, and the development of effective leadership strategies for the evolving landscape of work.

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Chapter 15

Leadership in Teleworking Implementation

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Abstract

This study aims to investigate the impact of leadership styles on telework. Telework has become increasingly popular due to the COVID-19 pandemic, which forced many organizations to implement remote working arrangements. This study examines the different leadership styles that are most effective in a telework context, taking into account factors such as the type of organization, the culture, and the environment. The study was based on a literature review and a quantitative survey of 620 workers. The results of the survey were analysed using SPSS software. The study is expected to provide insights into the following questions: Which leadership styles are most effective in a telework context? Are there any differences in leadership style preferences between different types of organizations? What impact does telework have on the relationship between leaders and employees? The findings of this study will be of interest to organizations that are considering implementing telework or that are already using it. The study will also provide valuable insights for leaders who are managing remote teams.

Keywords: leadership, management, organization, telework, work

Introduction

The year 2020 was a turning point for the majority of people and organizations, in the wake of the SARS-CoV-2 pandemic (Huang et al., 2020). The high risk of contagion led the Portuguese government to impose a lockdown, requiring most people to work from home. (DGS, 2020). According to Domenico (2020) Telework is not a new phenomenon, but it became much more common in 2020. This new normal (Leite et al., 2019b) led to a number of challenges for leaders, including the need to adapt their styles to the new context (Hennekam & Shymko, 2020).

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With the aim of answering the initial question ‘What is the impact of leadership style on the quality of life of remote workers in Portugal?’ findings of this study will help to inform leaders about how to best support their teleworkers.

Background

It is important to conduct this study because the organizational world, as we know it today, has not been and will certainly not be a static organizational world. Throughout human history, it has undergone major changes in its form of existence and its form of management, since the time when humans discovered that they could work the land and artifacts (Rosa & Zingano, 2013), (Caiusca, 2018). This was not only to sustain themselves, their families, and their groups, but also to create reserves that they learned to trade for products they did not have, from other areas and other peoples. The evolution in the way of transporting what they wanted to “negotiate” made it easier for them to travel with loads to other geographic points, overcoming feudal zones, which until a certain point did not allow certain transactions easily, due to differences in language, money, weights, measures, and much more (Sousa, 2019). After overcoming these difficulties, a capitalist system quickly became established, taxes were created, “lords” emerged, and in the same line, slaves, who worked for them. This first work in favor of the lords was initially seen as a punishment/sanction/penalty for something said or done, later suffering changes that, although still a punishment, was now from God, a gift from good men, an art.

All these changes in work continue to be dynamic, not in their essence but in the form of the process, especially since March 2020, which forced a restructuring of organizations, their teams, altered plans and projects, reformulated management, and adapted leadership to the circumstances. However, the most important thing, and of relevance that deserves to be highlighted, was that the focus was sharpened on people, their well-being and happiness, and their evolution, without ever losing the primary goal of all organizations, which is based on the greatest and best productivity for profit.

Objectives

The main objective of this study was to contribute to validate, in as in-depth a way as possible, the relationship between the various leadership styles and the various ways of working, more specifically with regard to telework, in order to understand if there is an impact on changes in the ways of providing work or on the leadership styles applied and/or that best suit the new forms.

As secondary objective this study aims to evaluate how far the experience in a telework context, whether imposed or by choice, produces or has produced any kind of impact on the lives of workers, and also to have a perception of which factors mainly have or have had influence on the type and form of leadership to which they have been and/or are subject.

In this sense, in order for the purpose of this study to be realized, the following objectives are proposed:

- To ascertain whether the option for telework allows for a more marked balance between personal and professional life;
- To assess which form of work is the most preferential;
- To have a notion of which leadership style is most related to telework;
- To conclude whether a worker with more seniority in the organization is impacted by telework;
- To analyze whether the leadership style has changed, from being more democratic when working in person to more authoritarian in telework mode because the leader doubts the seriousness of the worker, not knowing if he is at home or in a leisure activity, or if the opposite has happened, that is, if in telework his leadership style is more democratic than in person.

Literature Review

Organization: The first concept of “organization” emerged and remained throughout the period of the creation of capitalism, gaining a marked form especially since the 18th century (Dumont, 2000). Throughout this time, there was a high degree of influence from the values that dominated feudal society, in an era when the domestic sphere and other social spheres were still significantly reduced, given the autonomy of the circle that dominated the economy, and where these values had the power to decisively influence the concepts of organization that prevailed, in a period between the 18th century and the early decades of the 20th century, when socially some questions began to be raised, questioning this theory (Cândido et al., 2019). According to Peter Drucker (1997), as cited by Milani (2008), the concept of organization is based on knowledge, which is the reason why the organization specializes, and where all the functions determined by the tasks become productive knowledge. The obligation of organizations will be to make knowledge productive, where the highest level of specialization will bring more effectiveness. Milani (2008) also writes that, from the perspective of another author - Etzioni (1972), this author refers that the sustenance of the organization is in it being a social unit, where organizational objectives assume various functions: i) be the basis of the legitimacy that grounds its activity; ii) unit of measurement to analyze its degree of productivity; iii) patterns that allow us to have a notion of its efficiency and performance. In short, serving all the objectives is the basis of the organization’s existence. This author also states that there are countless organizations that, legitimately and simultaneously, also have multiple objectives, that is, they have multiple ends, but clarifying that organizations should always be understood as a social unit in search of specific objectives, which is properly structured.

Menezes (2019) states that organizations are well-defined realities of an institution and a workers’ association, with specific tasks and roles, making this a distinction between what it understands by institution and organization. This author states that the institution is characterized by having a function that is based on responding to certain basic social needs; by having a structure that is composed of people who behave in a certain set of common beliefs, behaviors, and values; and, finally, by having relationships dictated by certain procedures and norms. On the other hand, with regard to an organization, this is composed of a certain number of people, characterized by having the function of providing services, producing goods, and

responding to the needs of its participants; by having a structure based on people who relate to each other, who divide the work in order to obtain goods and services by transforming various products; and, finally, by lasting over time. The organization is also understood as an entity that “seeks, evaluates, and acquires the resources necessary to implement strategies” that can improve its effectiveness and efficiency (Menezes, 2019).

Robbins (1990), argues that an organization is a consciously coordinated social entity, with a relatively identifiable boundary, that operates on a relatively continuous basis to achieve a common goal or set of goals. Social entity means that the unit is composed of people or groups of people who interact with each other. The patterns of interaction that people follow in an organization do not just emerge; instead, they are premeditated and, in this context, as organizations are social entities, the patterns of interaction of their elements must be balanced and harmonized to minimize redundancy, but ensure that critical tasks are being completed. The result is that this definition explicitly assumes the need to coordinate the patterns of interaction of people.

Work: The concept of work has been the subject of much debate throughout history. Karl Marx and Max Weber were two of the most influential thinkers on the subject (Marx & Engels, 2007). Marx viewed work as a fundamental human activity that allows people to transform the world around them. However, he argued that work under capitalism is alienated, meaning that workers are disconnected from the products of their labor and from the creative process. This alienation leads to exploitation and inequality (Almeida, 2014).

Weber (2006) also saw work as a central part of human life, but he emphasized the role of individual agency and choice. He argued that work is often motivated by a sense of calling or vocation. However, he also noted that the rise of bureaucracy and rationalization has led to a more impersonal and alienating work environment.

In summary, Marx and Weber offered two very different perspectives on the concept of work. Marx’s view was critical of capitalism, while Weber’s was more nuanced (Marx & Engels, 2007).

Telework: Telework is a form of work that is performed outside of the traditional office setting (Vala, 2007). According to Barreto (2015) the term “telework” comes from the Greek word “telou” meaning “far from” or “at a distance” and the Latin word “tripaliare” meaning “to work.” The practice of telework has been around for centuries, but it has become increasingly popular in recent years due to the development of new technologies as Stated by Ferreira (2020). In Portugal, telework was first legalized in 2009 (Lei n.o 7/2009 Do Ministério Do Trabalho, 2009).

In companies, these technological advances require everyone to adapt and acquire new knowledge and skills in order to maintain and ensure their competitiveness, sustainability, and ultimately the desired productivity (Carnevale & Hatak, 2020); (Leite et al., 2019a). This has led to changes in work models, the way professional activities are managed and processed, and the establishment of new labor practices that aim for greater flexibility (Brinzea & Secara, 2017). Among the most recently applied practices is telework (Boavida & Brandão Moniz, 2020); (Vega et al., 2015), which has led to a growing separation between man and machine, resulting in a clear transformation in the traditional human-machine relationship (Bailey & Kurland, 2002), as cited in Teixeira (A. I. S. Teixeira, 2021).

According to Pinto (Pinto, 2021), the evolution of technology has also led to the emergence of new and innovative business opportunities. Companies have begun to produce machines and tools that are well-suited to the demands of telework, making it possible and easy to carry out

many activities remotely. This success is not limited to companies that have invested in new technologies, such as artificial intelligence (AI) machines. Rocha and Amador (2018) agree, stating that telework has become a highly relevant trend in the current labor market due to its geographical and technological advantages, which allow people to work from anywhere they choose. Agarwal (2020) reinforce this statement, saying that the internet is largely responsible for the growth of telework, but that other factors also contribute, such as the evolution and reduced costs of technology tools, the quality of digital network connections, and improved quality of life and connectivity in general, as cited in Tavares et al., (F. Tavares et al., 2020).

Drucker (2001) asserted that the most dominant challenge in companies would be the implementation of innovations in the relationship between man and machine. He believed that “each of these administrative innovations represents the application of knowledge to work, the replacement of hard work by information systems,” as cited in Ferreira (2020).

Management: According to Teixeira (2013), management is a process whose purpose is to lead the organization to achieve its objectives, effectively and efficiently, by applying all available resources. It is important to note that these management functions should not be understood in isolation, as there is a total interdependence between the four. They can be summarized as follows: planning, organizing, leading, and controlling. These functions are interdependent and should not be understood in isolation.

Manager: Drucker (1967) argues that effectiveness and efficiency are two important concepts for organizations. Effectiveness is about doing the right things, while efficiency is about doing things right. An organization can be efficient without being effective, but it is unlikely to be successful in the long run if it is not both efficient and effective. Robalo (1995) expands on Drucker’s ideas by arguing that efficiency is a relative concept. There is always room for improvement, and what is considered efficient today may not be efficient tomorrow.

In addition to the various skills mentioned, Teixeira (2013) states that Mintzberg (1979), after conducting studies exclusively on the activities of various managers in some organizations, concluded that, as a rule, managers did not act in accordance with the classic functions, that is, according to planning, organizing, leading, and controlling. Instead, they had a performance in which this author was able to identify ten different roles, grouping them into three distinct groups:

- Interpersonal:

Figurehead - where they represented the organization in certain social ceremonies; Leader - who interacted with the workers under their responsibility, directing and motivating them; Liaison - where they were responsible for establishing contacts with the outside of the organization.

- Informational:

Receiver - through which many of the information from both the outside and the internal body of the organization passed; Disseminator - competing with him to serve as a vehicle for transmitting all the information that the organization wants to bring to the remaining members; Transmitter - transporting to the outside information about the results, actions, policies, and plans drawn up.

Decisional

Entrepreneur - having the function of developing change actions based on analyses of the opportunities that the environment provides him; Problem solver - it is up to him to take the corrective measures that he deems appropriate, at any time that the organization unexpectedly finds itself in the face of some kind of disturbances or other relevant disturbances; Resource distributor - that is, he is in charge of controlling the allocation of workers, money, equipment, and time, drawing up and approving the respective decisions; Negotiator - with participation in the activities of both contracting and negotiation.

Despite the criticisms that some authors made about what they understood as exaggeration, Mintzberg (1979) defended himself, saying that, and he is quoted: “No task is more important for our society than that of a manager; it is the manager who determines whether our social institutions provide us with good service or waste our talents and resources; therefore, it is time to put an end to folklore in business management, and study them realistically so that the difficult task of improving the performance of managers can be developed” (S. Teixeira, 2013, p.26). The interpersonal roles are important for building relationships and creating a positive work environment. The informational roles are important for ensuring that the organization has the information it needs to make informed decisions. The decisional roles are important for leading the organization and ensuring that it achieves its goals. Mintzberg’s findings (1979) have been criticized by some authors who argue that they are too broad and do not provide enough detail about the specific tasks that managers perform. However, his work has helped to raise awareness of the complexity of the managerial role and the importance of a variety of skills and abilities for success in management.

Human Resource Management: According to Cherrington (1995), all the workers of any organization are nothing more than its human resources, where all those with managerial functions, to a greater or lesser extent, are managing what these assets produce, and it is up to them to be responsible for the management of personnel, in the true sense of the word (Fonseca, 2003).

The first studies on the activity of human resources management date back to the 19th century, when the so-called welfare officers teams (social welfare officers) were created by the entrepreneurs of Cadbury, Rowntree and Lever, granting better working conditions, and the introduction of a number of social benefits, specifically something that was considered very advanced at the time, in this case providing accommodation to some of the workers (Cabral-Cardoso, 2000). In the early 20th century, as a result of the work of Frederick Taylor, the formation of several practices emerged, which later became of great importance and applicability in the field of human resources management. Some of these practices were, for example, the care that was taken when hiring workers, taking into account their physical condition and skills, which later became an integral part of selection methods; the ability to perform certain tasks, which we now call professional training; and remunerations were paid according to the productivity of each individual (Fonseca, 2003). Conceptually, Human Resource Management (HRM) is based on behavioral and organizational theories, specifically bureaucracy, classical theories, contingency and systematic approaches, and human relations (S. Teixeira, 2013); (M. P. Cunha et al., 2016).

In this sense, the best practices of this management involve decisions in the areas of recruitment and selection, in the development and training of workers, in the way their performance is evaluated, the opportunities given in career progression, remuneration

according to the degree of performance, and other benefits and opportunities to participate in various decisions (Becker et al., 2001); (Pfeffer, 1998); (Shortell et al., 2021), as cited in Soares (2021).

People Management: The fundamental evolution, or better, the leap that occurred between the so-called personnel department/section, which performed its functions in a mechanistic way under the guidance of the bosses to whom they obeyed under tight control, only processed wages, noted the periods of leave of the workers, their absences, processed part of the accounting records and little more, in its pure and simple essence, and what is understood today as “people management,” is based not only on the vision and perception of their skills, abilities, aptitudes and knowledge, but also and essentially on the way in which workers have come to be seen by organizations, not as mere employees assigned to certain bureaucratic services, but to be understood and considered as the most valuable asset that the organization has at its disposal, that is, as people (Magalhães Filho & Pereira, 2013). According to Farinha and Ascenso (2022), there is an increasing number of organizations that are beginning to realize the true value of the people they have in their service, leading numerous experts to state that their human resources are the main source that make a company more competitive and prosperous, especially in the present day, where competition is growing with increasing momentum, in which it becomes essential to have the ability to recognize the best workers, with more qualifications, more competence, giving them the conditions for them to remain in the organization.

Today, people management is not limited to their control over the tasks and functions that are imposed on them, it involves involving them in the life of the organization, in its plans, in the implementation of projects, regardless of the sector to which they are assigned. According to McElroy (2001), the most relevant organizations of our day, see their workers as a strongly strategic asset, in whom investment should be made, not only in the medium term, but above all in the long term. Teixeira (2013), writes that the success of an organization has ceased to depend only on its financial robustness or the technological power it has, since in order to achieve the success it wants, it is essential to be able to maintain human resources that are motivated, creative and productive, and above all, they are oriented towards the market (Soares, 2021).

Team Management: Team management, like people management, is another management model that organizations have adopted with the goal of surpassing the old, highly bureaucratic models of the past, when society was based essentially on an industrial system (Ramos et al., 2017). Any organization is part of a system, and in this condition there is no one who can be an expert in all areas (Tosti, 2006), especially considering the profound changes that have been noted in the markets, leading to the fact that working in teams is a fundamental point for success. Bancaleiro (2008) affirms that “organizations and individuals have made an effort to develop skills appropriate to teamwork, thus gaining increasing importance in aspects such as leadership, interpersonal relationships, communication, etc..” However, it is considered appropriate to make a brief reference to what distinguishes a group from an organization, considering that a team is not the same as a group of people. According to Bancaleiro (Bancaleiro, 2008), a team is “a set of individuals with different and complementary skills and personalities, willing to commit themselves to the development of common efforts aimed at developing a particular task or achieving a common goal shared by all.” And it is here exactly where the role of the manager lies in leading people, in order to achieve common goals, as cited in Oliveira (Oliveira, 2012).

According to Farinha (2019), working in a team is not always easy, as each member has their own characteristics. It is these responsibilities and autonomy, when properly linked and communicated, that become the key to success, allowing the positive development of the organization (J Farinha & Sousa, 2015). Each worker, regardless of their role or position, will always have their own personal way of facing the challenges that change brings. They may even analyze whether the method applied is the most correct and practical for each situation. However, it is this way of thinking as a team, including the leader, that finds the best solutions for the project. By thinking and working together, they can plan and implement changes in a more assertive way. This is something that the leader alone would not be able to do. In team management, the leader's role is not limited to completing tasks. They are responsible for implementing all the changes that are necessary, together with their team. It is understood that each member of the team will always have some resistance to change, even when it involves changing their own way of working. However, despite the occasional resistance to change, it will be the team members themselves who will eventually convince the most resistant to change (João Farinha & Tomé, 2019).

Leadership: According to Keles (2022), leadership has been around since the beginning of human history, and was applied in all societies where there were groups of people. This is because in each of these groups, there is always someone who stands out and takes on the role of leader, leading the others to follow. Thus, a leader is someone who has the power to influence people or groups of people in an organization, in order to achieve their goals. Blom and Alvesson (2014) define leadership as the ability to influence thoughts, norms, meanings, feelings, and values through interpersonal relationships. On the other hand, the power of leadership has a significant influence on the behavior not only of the group, but also of an individual. This leads to leadership being both a process and a characteristic.

In terms of process, leadership is the ability to influence in a non-coercive way, in order to direct and coordinate the activities of the group or people. In terms of characteristics, leadership is based on the perceived traits of the leader, where some qualities, such as the ability to influence, direct, persuade, and motivate, are often seen as important (Yildirim & Elbaş, 2014). According to Benmira and Agboola (2021), in the 19th century, the idea of leadership focused exclusively on the innate characteristics of the individual, the perception of their personality traits, and other qualities that made them an effective leader. This was the era of the Great Man theory, around the 1840s and beyond.

Although leadership dates back to much earlier times, Stogdill (1974), cited by Barroso (2022), only goes back to the year 1300 to comment on leadership, in an era known as the Trait Theories. For years, knowledge on this topic was based on assumptions that reflected the characteristics and peculiarities of each individual, which leaders were required to have in order to be effective. Certainly, they would have had a very tenuous notion of what leaders needed to be able to achieve effectively the constant changes that organizations had to respond to.

According to Farinha (2018), research on leadership has undergone significant evolution over the years in the way leaders and followers have been perceived. Cunha and Rego (2005), cited by Farinha (2018), argue that leadership theories have evolved based on three perspectives: universal approach, contingency approach, and value-based approach. For Cunha and Rego (2005), the main difference between the approaches lies in how two of them are linked, where the focus is either on behavior or personality, as the latter is difficult to modify, while in the other, behaviors can be learned and changed. Farinha and Ascenso (2022), as well as Blanchard (2012), argue that in today's days, leadership reflects exactly that followers should

be treated in a fair and appropriate way, providing them with the necessary support, directing them in the best way possible, and providing them with incentives to be more and more effective. According to Farinha (2022), it is up to the leader to create and maintain a good environment that allows their followers to participate actively in everything he plans to carry out, discussing within the group the best ways to achieve the desired goals. In Vieira's opinion (2002), the fundamental thing for there to be the good relationship that is desired is that knowledge is shared mutually, along with trust and respect. Robbins (2006) adds to what the previous authors have said that, in addition to what they have expressed, leaders also have other characteristics that differentiate them from their team, such as, first and foremost, the will to assume the role of leader, then being ambitious, being effective in influence, having energy, being honest, self-confident, and still intelligent, showing with all this that he has the essential mastery and knowledge necessary for the performance of his leadership role.

In the same line of thinking as Cravid (2015), Farinha (2022) state that it is up to the leader to adopt behaviors that the followers recognize and respect, as it will be a major factor in the success of achieving the desired end, but for this to be achieved, the choice of this type of leadership must have an emotional dimension, considering that it must have the ability to control, not only its own emotions, but also those of all who are part of its cycle; it must be a leader who, in addition to the necessary competence, must be seen as an example before his entire team, delegating tasks and decentralizing decisions, making the group or individual responsible whenever necessary, without this affecting the supervision of the work or the level of support, and this gives him the recognition of being a fair and impartial leader in his actions, or at any time that an evaluation of the situation or the results is required. This recognition will generate mobilization in the entire team, as they feel encouraged, resulting in the expected success that the Organization intends to achieve.

Leadership Styles

Autocratic leadership: This style is characterized by a leader who makes all the decisions and expects their orders to be followed without question. Autocratic leaders often have a strong need for control and may be seen as demanding or even tyrannical. (Northouse, 2015;2022).

Democratic leadership: This style is characterized by a leader who shares decision-making power with their followers. Democratic leaders are typically seen as open and approachable, and they encourage participation and collaboration from their team members. (Yukl, 2010; 2022).

Laissez-faire leadership: This style is characterized by a leader who gives their followers a lot of freedom and autonomy. Laissez-faire leaders often take a hands-off approach and may be seen as uninvolved or even apathetic. (Graen & Uhl-Bien, 1995).

Transformational leadership: This style is characterized by a leader who inspires and motivates their followers to achieve more than they thought possible. Transformational leaders often have a strong vision for the future and they are able to articulate this vision in a way that is inspiring to their followers. (Riggio & Reichard, 2008).

Transactional leadership: This style is characterized by a leader who focuses on exchanging rewards for desired behaviors. Transactional leaders often set clear goals and expectations for their followers, and they provide rewards when those expectations are met. (House & Aditya, 1997).

It is important to note that no single leadership style is best for all situations. The most effective leadership style will vary depending on the specific context, such as the type of organization, the goals of the organization, and the characteristics of the followers.

Methodology

This study used a mixed methods approach to collect data from teleworkers in Portugal. The quantitative data will be used to examine the relationship between leadership style and quality of life. The qualitative data will be used to explore the experiences of teleworkers and their leaders.

Context and Data Collection Techniques

This work was carried out in mainland Portugal and the Azores and Madeira archipelagos, targeting the largest number of people who met our objective, regardless of the sector of activity or type of service, with the understanding that not all activities allowed for a work format that was not face-to-face, such as repair shops, assembly lines, construction, security and rescue, distribution, and others. The option of using email to send questionnaires was the most appropriate for our purposes, taking into account the scope of the national territory and the number of people involved as targets. In a general way, and with a greater or lesser number of responses, the contribution of the respondents was taking shape, thanks to the availability of the respondents and especially of many employers, which were essential for the purposes that were proposed.

Measurements and Scales

In order to achieve the goals proposed in this study, the present online questionnaire includes four sections, which will ask about the following: i) quality of life in telework; ii) interaction/relationship with boss/superior in a telework context; iii) perception of the leadership style of your boss/superior towards you in a telework context; iv) sociodemographic and professional data.

For the first variable - the quality of life in telework, a 5-point Likert scale was used, with the following correspondences suggested: 1-Totally disagree; 2-Disagree; 3-Neither agree nor disagree; 4-Agree; 5-Totally agree. A 5-point Likert scale was also used for the second variable - the interaction/relationship with boss/superior in a telework context, where 1 equals Never; 2-Sometimes; 3-It doesn't matter; 4-Many times; 5-Always. Finally, the third and last variable - the perception of the leadership style of your boss/superior towards you in a telework context, also followed the same criterion, where the 5-point Likert scale was also applied, specifically 1 equals Never; 2-Sometimes; 3-It doesn't matter; 4-Many times; 5-Always.

The present questionnaire was adapted from Andrade (2020), in his study on "The development of a quality of life measurement instrument in telework."

Regarding the data collection period, this questionnaire was developed through the Google Forms platform, and was requested through emails sent to individuals, various Departments of Human Resources of various public and private entities, and through the social networks Facebook, LinkedIn and Instagram, starting on December 20, 2022, and ending on January 31, 2023. All participants were informed, through a small text accompanying the questionnaire, of the objectives, anonymity, confidentiality of the data and the fact that the data would only be used for statistical and academic purposes.

In the perspective of Marôco (2021), this is one of the most common techniques, based on obtaining a sample of the population that is more accessible, that is, respondents are selected based on their availability, without being through a statistical criterion. This advantage translates into an easier operation, without sampling costs, but it has a downside, it does not allow general statements, with the desired statistical rigor about the population.

Participants

Sampling Calculation

The sample size calculation for this study was obtained using the software developed by Santos (2017), which is available online at the “Prática Clínica” website. The software calculated a minimum sample size of 385 respondents, with a 95% confidence interval and a 5% margin of error. Although a sample size of 385 was sufficient according to the criteria defined in this software, the researchers decided to work with a larger number of respondents in order to increase the precision of the results. In the end, 620 responses were collected. This is a significant sample size, which provides strong statistical power to detect relationships between the variables of interest.

Explanation of terms

- Software: A computer program that helps users to perform tasks.
- Confidence interval: A range of values within which the true value of a population parameter is likely to lie.
- Margin of error: The amount by which the estimate of a population parameter is likely to be in error.
- Precision: The degree of accuracy of a measurement.

The researchers used a non-probability sampling method, which means that the respondents were not selected randomly. This type of sampling is often used when it is not feasible or practical to collect a random sample. In this case, the researchers used a snowball sampling method, which involves asking respondents to identify other potential respondents. This method can be useful for reaching hard-to-reach populations.

The present survey targeted the entire working-age population who worked for others in Portugal. According to the survey conducted on the Pordata website (2023), based on the latest census in 2021, the total number of these workers was 3,435,002.

Pre-Test

A pre-test was conducted before the questionnaire was launched to identify any flaws, get a sense of the time needed for responses, and identify any questions that were unclear or difficult to understand as defined by Marconi (2021). As a result of the pre-test, some grammatical changes were made to the questionnaire, but the meaning of the questions was not altered.

The pre-test was conducted via email and was answered by 41 participants.

The goal of the pre-test was to identify any flaws, get a sense of the time needed for responses, and identify any questions that were unclear or difficult to understand.

Data Analysis Procedures

Once the deadline for responses to the questionnaire was reached, the values were exported directly from Google Forms to Google Sheets. They were then transposed, saved, and worked on in a Microsoft Excel file. From there, they were exported to the IBM® SPSS® 25 software (Statistical Package for the Social Sciences), where they were processed and analyzed statistically.

Sociodemographic Characterization of Respondents

Sociodemographic characteristics of the respondents to a survey on telework in Portugal.

Gender: The majority of respondents were female (71.77%), followed by males (28.23%).

Age: The largest age group was 41-50 years old (44.19%), followed by 31-40 years old (20.0%), 51-60 years old (17.42%), and 61-70 years old (11.45%). Only 8.39% of respondents were 16-30 years old.

Education: The majority of respondents had a university degree (65.48%), followed by secondary school (30.0%), professional education (3.71%), and primary school (0.81%).

Marital status: The majority of respondents were married (65.65%), followed by single (18.55%), divorced (14.35%), and widowed (1.45%).

Family size: The most common family size was 3 people (31.13%), followed by 2 people (23.87%), 4 people (27.26%), and 1 person (13.87%).

Sector: The majority of respondents worked in the public sector (76.61%), followed by the private sector (23.39%).

Occupation: The most common occupation was in the administration sector (6.61%), followed by information technology (4.52%), education (3.71%), banking and insurance (3.39%), health and social care (2.26%), commerce (1.94%), arts and sports (1.29%), construction (0.81%), and transportation (0.65%).

Company size: The majority of respondents worked for companies with more than 250 employees (45.81%), followed by companies with 11-50 employees (16.94%), 51-250 employees (16.45%), and 10 or fewer employees (20.81%).

Length of employment: The majority of respondents had been with their current employer for more than 20 years (34.35%), followed by less than 5 years (26.94%), 10-20 years (23.39%), and 5-10 years (15.32%).

Managerial position: The majority of respondents did not hold a managerial position (76.13%), while 23.87% did.

Days per week in telework: The majority of respondents worked from home full-time (62.58%), followed by 2 days per week (11.77%), 4 days per week (5.48%), 1 day per week (4.52%), and 36 days per week (9.52%).

Length of time in telework: The vast majority of respondents had been in telework for less than 3 years (96.13%), while 3.87% had been in telework for more than 3 years.

Telework location: The vast majority of respondents worked from home (92.58%), while 3.87% worked in various locations and 3.5% worked outside of their employer's usual facilities.

Telework schedule: The majority of respondents had a fixed schedule (56.61%), while 43.39% had a flexible schedule.

Preferred work mode: The majority of respondents preferred a hybrid work mode (49.19%), followed by working in person at their employer's office (41.29%), and working from home full-time (9.52%).

Discussion and Conclusion

The study and analysis of the present literature review show that, in reality, and especially in the last decade, the business mindset had already anticipated and was ahead in terms of work methods, management, and leadership. However, it was only in a very recent past that a huge step was taken, partly forced by the appearance of the Covid-19 pandemic.

In general, people spend 8 hours of their day working, making it relevant and essential that they feel comfortable in a work environment that is socially conducive to them. When it comes to telework, in this case in a family environment, at home, it is crucial that there is a pleasant environment where the worker feels good psychologically, with good ergonomic conditions that make them feel good physically, ensuring that they can maintain good professional performance.

Conclusion

This study aims to answer the question "What is the impact of leadership style on the quality of life of teleworkers in Portugal?." To do this, the focus was on work, in its practical form of telework, and then on leadership related to remote work.

Based on the literature review, the following conclusions can be drawn:

The nature of work has changed over time, from hunting and gathering to agriculture, to the industrial revolution, to the digital revolution.

Telework has been practiced for many years, but it has become more widespread in recent decades, especially with the COVID-19 pandemic.

Leadership styles have also evolved over time, from autocratic to democratic to transformational.

The impact of leadership style on the quality of life of teleworkers is a complex issue that has not been fully explored in the literature. However, some studies have found that transformational leadership is associated with positive outcomes for teleworkers, such as increased job satisfaction, motivation, and performance.

The results of this study provided insights into the impact of leadership style on the quality of life of teleworkers in Portugal. This information can be used to help organizations develop leadership training and development programs that are tailored to the needs of teleworkers.

In addition to the conclusions stated above, the following key points can be drawn from the literature review:

Telework can have a number of benefits for organizations, including increased productivity, reduced costs, and improved employee satisfaction.

However, telework can also pose some challenges for organizations, such as managing remote workers, maintaining communication and collaboration, and ensuring compliance with regulations.

Leadership is critical for the success of telework programs. Effective leaders can help to create a positive work environment for teleworkers, support their needs, and ensure that they are productive and engaged in their work.

Empirical Conclusion

A study was conducted to investigate the impact of leadership style on the quality of life of teleworkers in Portugal. The study found that:

There is a positive correlation between leadership style and quality of life in telework. This means that workers who report having a supportive and effective leader tend to have a higher quality of life.

There is a positive correlation between interaction/relationship with the supervisor and quality of life. This means that workers who feel connected to their supervisor and feel like they are part of a team tend to have a higher quality of life.

There is a positive correlation between interaction/relationship with the supervisor and leadership style. This means that supervisors who are supportive and effective tend to have better relationships with their workers.

The study also found that it is difficult to say definitively which leadership style is best for telework. However, the study did find that workers appreciate leaders who are: Honest and trustworthy; Available and supportive; Confident in their workers' abilities; Open to new ideas.

The study concluded that leadership style is an important factor in the quality of life of teleworkers. Workers who have supportive and effective leaders tend to be more satisfied with their work-life balance, productivity, and overall well-being.

Final Conclusion

This study found that leadership style has a positive impact on the quality of life of teleworkers in Portugal. Workers who feel supported and engaged by their leaders are more likely to be satisfied with their work-life balance, productivity, and overall well-being.

The study also found that there is no single leadership style that is best for telework. However, workers appreciate leaders who are: Honest and trustworthy; Available and supportive; Confident in their workers' abilities; Open to new ideas.

Even so a link can be made and therefor below it's detailed the linkage between the characteristics found during the study and leadership styles.

Autocratic leadership: This style can be seen as honest and trustworthy if the leader is fair and consistent in their decisions. However, it can also be seen as controlling and unsupportive, which can undermine the confidence of the followers.

Democratic leadership: This style is typically seen as honest and trustworthy, as the leader is open to feedback and input from their followers. It is also seen as supportive, as the leader gives their followers the freedom to make decisions and take risks.

Laissez-faire leadership: This style can be seen as honest and trustworthy if the leader is willing to admit when they don't know something and is open to learning from their followers. However, it can also be seen as uninvolved and apathetic, which can lead to a lack of confidence and motivation among the followers.

Transformational leadership: This style is typically seen as honest and trustworthy, as the leader is able to articulate a clear vision for the future and inspire their followers to achieve it. It is also seen as supportive, as the leader provides their followers with the resources and training, they need to succeed.

Transactional leadership: This style can be seen as honest and trustworthy if the leader is fair and consistent in their rewards and punishments. However, it can also be seen as transactional and uninspiring, which can lead to a lack of motivation among the followers.

The study concluded that leadership is an important factor in the success of telework. Organizations should invest in training and development programs for their leaders to help them develop the skills and qualities necessary to support their teleworkers.

Additional Thoughts on Conclusion

The study also found that most workers prefer a hybrid work arrangement, with some days working from home and some days working from the office. This suggests that workers value the flexibility and autonomy of telework, but also appreciate the social interaction and collaboration that comes with working in an office. It is important for organizations to consider the needs of their workers when designing their work arrangements. A one-size-fits-all approach is unlikely to be successful.

Limitations and Future Research

It was difficult to obtain approval (answers) from all employers. The study was conducted during the COVID-19 pandemic, which affected the availability of some workers. The study had a relatively short timeframe, which may have limited the number of responses.

The study suggests that future research should focus on the following areas: The impact of telework on different generations of workers. The adaptation of leadership styles to the needs of teleworkers. The effects of telework on recruitment and selection.

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Chapter 16

War in Ukraine and Inflation in the Eurozone: Combining Monetary and Fiscal Policies with a New “Savings Policy” as a More Utilitarian Solution to Combat the Inflationary Surge

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Abstract

In the Eurozone, high inflation caused by the military invasion of Ukraine is being tackled through contractionary monetary policy inspired by Monetary Theory, whose main face is the prominent economist Milton Friedman.

The strict use of monetary policy by the European Central Bank to combat the current inflationary situation in the twenty member states of the Eurozone entails social injustice. Utilitarianism and the principle of diminishing marginal utility, the conceptual dimension of both Phillips and Laffer curves, and Okun's law provide an in-depth understanding of this social injustice.

The Chapter presents a combined solution - involving monetary policy, fiscal policy, and a new “savings policy” - to combat the inflationary surge with greater equity of effort across the taxpayer universe (individual and collective). This solution, which must be pushed forward by European political leaders, requires courage and determination.

As far as the rebalance of social effort is concerned, the advantages of the combined solution presented in this Chapter are perfectly understandable using the key concepts mentioned above, with particular emphasis on the principle of diminishing marginal utility.

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Introduction

Inflation and Inflationary Surges: Typical Consequences

Inflationary surges entail several negative consequences for people and economies. For this reason, it is one of the main areas of analysis in the field of economics.

The reasons for high inflation can have various origins. Usually, in general, there is either an increase in demand, with supply remaining constant, or a decrease in supply, with demand remaining constant. “*According to the Monetary Model [Milton Friedman], if a country’s capitalist force increases further swiftly than its affair, there will be an increase in inflation*” (Mohd, 2023, p. 13). The opposite is also true.

In the case of the inflationary crisis that hit Europe in 2022, Balteanu & Viani, (2023), referring to data from the Bank of Spain, state the following:

The European countries whose energy imports were more concentrated in a few supplier countries in 2021 saw a bigger rise in inflation over 2022, when energy markets came under significant strain in the wake of Russia’s invasion of Ukraine.

In the same vein, Abdul-Salam (2022), states that “recent events in the global political economy have led to record high levels of oil and gas prices” (p. 2).

Among the main generic consequences of an inflationary outbreak, it is possible to highlight: the reduction of purchasing power; the fall in investment; the increase in production costs; the devaluation of a given currency; and the impact on the most vulnerable sectors of an economy.

During an inflationary surge, the prices of goods and services increase significantly and rapidly. This reduces people’s purchasing power, as they have to spend more money to buy the same products. This process is even more worrying for the most socioeconomically disadvantaged bangs of society.

On the other hand, the uncertainty caused by inflation leads companies to reduce their level of investment. For example, in the context of the negative impact that Covid-19 has triggered in the most varied sectors of the global economy, the increase in inflation rates and unemployment are among the worst consequences, which, moreover, are still lasting, amplified by the military crisis in Ukraine. Ozili & Arun (2020), precisely in this sense, also regarding the consequences of Covid-19, state that “*some Fintech businesses witnessed very low patronage by consumers leading to loss of revenue and profits, which negatively affected the equity investment of venture capitalists that funded existing and new Fintech firms*” (p. 10).

High inflation also promotes increases in the prices of inputs and raw materials, which directly impacts firms’ production costs. This can lead to a reduction in the supply of goods and services or an increase in final prices, further amplifying inflation. Subsequently, the impact on vulnerable sectors of society, such as low-income workers and socio-economically vulnerable groups, inevitably occurs, becoming, perhaps, the biggest concern arising from high inflation.

On the other hand, inflationary surges are mainly tackled through contractionary monetary policy, which, while it lasts, slows down economic growth and increases unemployment. According to Friedman (1968), “*monetary growth, it is widely held, will tend to stimulate employment; monetary contraction, to retard employment*” (p. 7).

Utilitarianism (as a branch of moral philosophy and considered from an economic perspective) and the principle of diminishing marginal utility help to understand the reasons behind this concern. The impact of inflation, and fighting it, on the utility achievable from the available household budget can be very debilitating from the point of view of meeting the most basic needs, such as food and housing. The concepts of utilitarianism and the principle of diminishing marginal utility are conveniently developed later in this Chapter.

Edward Nelson of the US Federal Reserve, in an essay entitled “Milton Friedman on Inflation,” quoting Friedman himself on the importance of monetary policy to control aggregate spending, states that “*monetary policy is an appropriate and proper tool when directed at achieving price stability or a desired rate of price change.*” The same author also points out that “*this principle underlies the monetary policy framework of major economies today*” (Nelson, 2007).

Inflationary Surges, Phillips’s Theory and Okun’s Law

First, the trade-off between inflation and unemployment, conveniently studied by New Zealand economist William Phillips. This has “always” been a central theme for economic science. As early as 1978, Santomero & Seater pointed out that:

Twenty years have passed since Professor A. W. Philips first brought the attention of the economics profession to the relationship between inflation and unemployment. Following his path-breaking work, much additional research has been done On the relationship between these two important variables (p. 499).

According to Phillips’ theory, the debasement of inflation promotes an increase in the unemployment rate.

Okun’s Law, according to Martin (1993), suggests that “*the marginal contribution of a 1 point reduction in unemployment is [...] about 2/3% increase in output [Gross Domestic Product]*” (p. 331).

Admittedly, there are many factors that can influence the relationship between the variables “growth,” “inflation” and “unemployment” in an economy, but the trends defined and proven by William Phillips and Arthur Melvin Okun are absolutely logical.

Inflationary Surges and the Laffer Theory

Then, in a chain, the Laffer Theory comes into the equation. With the slowdown in economic activity and the subsequent rise in unemployment, the tax revenue of states decreases, and with the aggravating factor that tax revenue decreases in a period when social supports and automatic stabilizers of economies are indispensable and must therefore work to mitigate social misery.

Brill & Hassett (2007) found robust statistical evidence corroborating the essential of the Laffer curve and the impact of tax rates in the economic activity.

In a framework such as the one described above, the solution is to calibrate the tax burden, either to compensate for the revenue lost by the slowdown in economic activity or, in time, to pay for increased indebtedness, if this was the state's option at the time of recording the decline in tax revenue.

In any case, according to Artur Laffer, what happens is that, from a certain advanced level of tax burden, tax revenue tends to decrease. Brill & Hassett (2007), in a study that focuses on the Laffer curve, reached results that are *“consistent with the view that reductions in corporate rates could lure a significant enough amount of economic activity to a locality”* (p. 6). In practice, it is the disincentive to productivity that dictates the rules when the overall tax burden, and on labor in particular, is excessive. The opposite also applies. In this regard, even the most skeptical, such as Trabandt & Uhlig (2011), are led to conclude the following: *“there rarely is a free lunch due to tax cuts. However, a substantial fraction of the lunch will be paid for by the efficiency gains in the economy due to tax cuts”* (p. 326).

Still, the same authors also point out in their study that *“the US can maximally increase tax revenues by 30% with labor taxes and 6% with capital taxes”* (p. 305), which means that beyond a certain level of tax burden increases, revenue decreases.

For example, according to the trend dimension of the Laffer Principle, it can be logically assumed that if the Gross Domestic Product (GDP) of an economy is equal to €500 and the overall tax burden is 20%, then the state collects the equivalent of €100 in tax revenue. If the tax burden decreases, this will increase the net income of the labor factor. Takáts & Papp (2008), in their paper on “Tax Rate Cuts and Tax Compliance - The Laffer Curve Revisited,” demonstrated *“how tax rate cuts can increase revenues by improving tax compliance.”* The stimulus to work increases through net wage appreciation and so does the output of the economy. In this case, a virtuous economic process starts. As the economy increases its output from the increased motivation to work, GDP rises from €500 to, for example, €700. With a GDP of €700, the tax burden can fall from 20% to, for example, 15%, and yet tax revenue increases from €100 to €105. And all this in a context where unemployment is low and where, therefore, the additional revenue can be channeled into investment in public goods, which guarantee a better quality of life for the population as a whole. The cycle becomes virtuous. In this regard, Takáts & Papp (2008) point out that *“small cuts in the tax rates can lead to much larger changes in the behavior of taxpayers - most importantly, it can make them much more likely to declare their incomes honestly”* (p. 3).

Therefore, according to the very logical Laffer principle, in a context of fighting an inflationary outbreak, a state may end up achieving less tax revenue in a framework where the state needs additional revenue to meet the increased need for social support, which results from the rise in the unemployment rate, which in turn resulted from fighting inflation using Milton Friedman's monetarist solution. In fact, using contractionary monetary policy, the economic cycle cools down enormously. Referring to the US Federal Reserve (equivalent to the ECB in the Eurozone), Mohd (2023) clarifies that, *“if the Fed wants to cool down an overheating economy and prevent inflation, it can raise the federal funds rate to make borrowing more expensive and discourage spending”* (p. 6).

According to the above framework, the contractionary monetary policy pursued by the European Central Bank ultimately culminates in a paradoxical outcome. In a scenario such as

the military conflict in Ukraine, the ECB's solution ends up greatly promoting social misery in countries with already very low labor incomes.

It should be noted that the Eurozone consists of 20 Member States, all with different realities, but all subject to the same monetary policy. This picture is not correct, as the impact of the contractionary solution to counter inflation is not only greater for households with housing loans but is also very different between Member States with very different economic frameworks.

The picture described above is clearly understood by recourse to the conceptual dimension of utilitarianism, as a branch of moral philosophy, and to the operative principle that derives from utilitarianism: the principle of diminishing marginal utility.

Bibliometric Analysis

In order to increase the knowledge, measure and analyse the scientific literature publications on the advantages of financial literacy for the management of inflationary surges by citizens, a bibliometric analysis was carried out, based on a search in the Scopus and Web of Science (WoS) databases of Clarivate Analytics. The justification for choosing the databases for the electronic searches were: Web of Science (Clarivate Analytics) and Scopus (Elsevier) because they are the largest indexing services in the interdisciplinary area today (Mongeon; Paul-Hus, 2016). The study was developed using a strategy composed of three phases: execution plan, data collection and bibliometrics. For the treatment and analysis of the data, the Bibliometrix software was used, because through the R Bibliometrix package, called Biblioshiny, which has the most extensive and adequate set of techniques among the tools researched for bibliometric analysis (Moral-Muñoz, et al., 2020). These data provided the organization of relevant information in a bibliometric analysis, such as: temporal distribution; main authors, institutions and countries; type of publication in the area; main keywords and the most referenced works (Morris, & Van der Veer Martens, 2008).

Scientific mapping allows to investigate and draw a global picture of scientific knowledge from a statistical perspective. It mainly uses the three knowledge frameworks to present the structural and dynamic aspects of scientific research (Sweileh, 2017). Therefore, the main research questions of bibliometric analysis are:

RQ1: What are the benefits of financial literacy for the management of inflationary surges by citizens in the Eurozone?

RQ2: What are the typical consequences of inflation and inflationary surges?

Considering the research problems, the search terms “financial” and “inflationary” and “surges” were defined in the planning phase. And, as a basic principle for the search, it was decided when planning the search to use the terms in the “title, abstract and keyword” fields, without delimiting time, language or any other restriction that could limit the result.

From the research planning the data collection retrieved a total of eight documents in the Scopus database and three documents in the Web of Science database (Figure 1). The eligible articles in the Scopus database were published between 1995 and 2021. In 1995, there was the first publication entitled “China: Macroeconomic stability in a decentralized economy.” In 1996 and 1997 there were no publications. In 1998, there was only one publication. Between

1996 and 2006 there was no publication. In 2007 there was only one publication. In 2008, there was no publications. In 2009, there was only one publication. Between 2010 and 2013, there were no publications in the area. In the years 2104 and 2015, there was only one publication in the area. And between the years 2016 to 2020, there was no publication in the area. In 2021, there was an increase in publication with two publications in the area. In the Web of Science database, they were published between 2014 and 2021.

After analysing the documents, it was found that the Scopus database has more publications in the area, starting the indexations on the subject in the year 1995. In the Web of Science the year that had the lowest number of publications, with indexing beginning in 2014. It was found that the United States is the country with the highest publication in the Scopus database. In the Web of Science database, there was no prominent country. The author highlighted in both databases is Raissi M., with two publications.

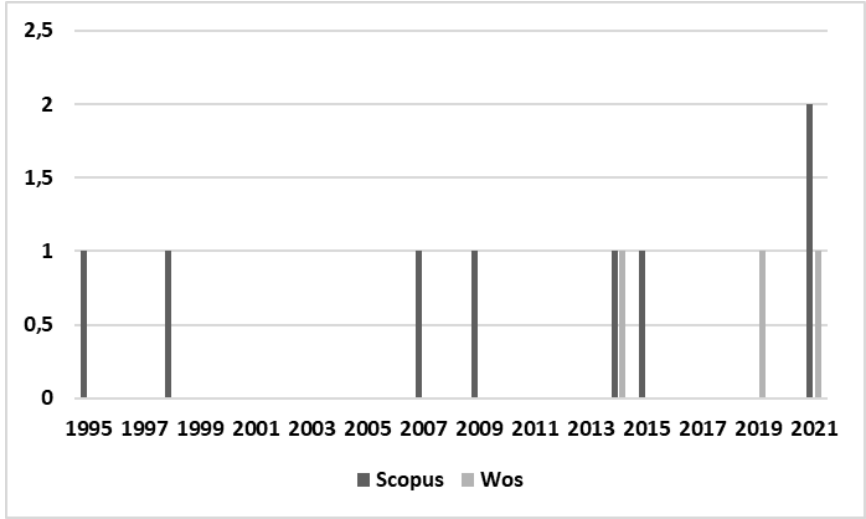


Figure 1. Temporal distribution of works.

Utilitarianism: A Branch of Moral Philosophy

In the context of this work, the doctrine of utilitarianism is of crucial interest. Utilitarianism is a branch of moral philosophy that “focuses on the moral concerns resulting from inequalities in income distribution” (Santos, 2020, p. 64).

According to Bowden (2009), utilitarianism constitutes an “effective method of moral decision-making” (p. 14). “As an ethical theory, it sets down what individuals should do to improve their own situation, and what should be done by every individual and by the collectivity to improve collective welfare” (Baujard, 2013, p. 2).

Santos & Sousa (2021) highlight that:

The law of diminishing marginal utility, which derives from utilitarianism, states that the human being accumulates marginal/satisfaction/happiness utility to total utility up to a certain level of consumption and at a diminishing rate (p. XX).

Reinforcing the scientific validity of diminishing marginal utility, Greene & Baron (2000) underline that “subjects made no distinction between goods and their utilities, and they showed declining marginal utility for both” (p.16).

Nevertheless, it is also very important to clarify that “preferences are far too complex to represent any and all diminishing marginal utility by a single curvature parameter” (Kimball et. al, 2015, p. 30).

The Principle of Diminishing Marginal Utility

The doctrine of utilitarianism (in the economic sense) is operationally based on the principle of diminishing marginal utility.

In the context of the principle of diminishing marginal utility, Kimball et. al (2015) point out that “*preferences are far too complex to represent any and all diminishing marginal utility by a single curvature parameter*” (p. 30).

However, the rule/pattern in the accumulation of utility as consumption progresses can be, in logical terms, understood through the principle of diminishing marginal utility. In this sense, according to Santos (2020), the principle of diminishing marginal utility states that, with the additional consumption of one unit, a human being accumulates marginal utility to total utility, but only up to a certain level of consumption and at a decreasing rate.

This means that humans prioritize their consumption according to the utility they will obtain. In practice, one euro spent at the first level of consumption provides more utility than one euro spent at the seventh level of consumption. This is why families generally choose to spend the first part of their household budget on food. Second, on basic necessities. Third, eventually, on housing. And so on.

So, for purely academic purposes, it is possible to assume an example where, with the budget portion spent on the first consumption level ($c1$), a household achieves 1 000 units of satisfaction for each euro spent (€1 spent). At the second consumption level, 995 units of satisfaction are achieved for each euro spent. Again, and so on. See Table 1.

In the last column of Table 1, it can be confirmed that the pattern of relative change ($\Delta \%$) in the marginal utility accrued with the additional consumption of one unit, follows the principle of diminishing marginal utility. Marginal utility decreases as consumption progresses, leaving no doubt that each euro spent at a given level of consumption triggers more utility than that spent at the next level. Now, those with more income move to higher levels of consumption. This is precisely what Easterlin (2005) highlights: “*comparing across countries, it is true that income and happiness are positively related and the the marginal utility falls with higher income*” (p. 243).

Therefore, it is possible to conclude that human beings prioritize their consumption choices according to the highest utility that can be achieved for a predetermined budget constraint.

Therefore, it is possible to conclude that human beings prioritize their consumption choices according to the highest utility achievable for a predetermined budget constraint.

A more detailed analysis of Table 1 also allows us to conclude that each euro spent by households with less income provides a higher average utility for each euro spent ($9175tu/10c1=917.5/€1$ spent) than that achieved by households with more income ($12200tu/15c1=813.3/€1$ spent).

Table 1. Diminishing marginal utility

Consumption levels (cl)	Utility achieved / €1 spent		
	Families with less income	Families with more income	Δ %
1	1 000	1 000	- 0,50
2	995	995	- 1,01
3	985	985	- 1,52
4	970	970	- 2,06
5	950	950	- 2,63
6	925	925	- 3,24
7	895	895	- 3,91
8	860	860	- 4,65
9	820	820	- 5,49
10	775	775	- 6,45
11	-	725	- 7,59
12	-	670	- 8,96
13	-	610	- 10,66
14	-	545	- 12,84
15	-	475	
Total utility (tu)	9 175	12 200	

Note 1: The colors represent the consumption levels penalized by the tax burden applied to each of the family groups. The underlying logic is explained in detail later in this Chapter.

Note 2: The *tu* corresponds to the total utility achieved after spending one euro on each level of consumption.

According to Santos & Sousa (2021), “in the theoretical framework, it is this conception that, above all, set the basis that guides Governments in the redistribute.” The prevalence of the logic of tax progressivity in contemporary tax systems is the proof of this.

In Table 1 it is also possible to interpret the progressivity of the tax system through the color assigned to the different levels of consumption of both lower and higher income households. It is true that households with higher incomes penalize more consumption levels, but this occurs at lower levels of consumption and, therefore, likely to generate “little” utility. Duncan & Sabirianova (2008) “show that increased structural progressivity of the PIT [personal income tax] structure reduces observed income inequality” (p. 29). This logic is developed further in the next section.

The Principle of Diminishing Marginal Utility as a Conceptual Rationale for the Predominance of Tax Progressivity in Contemporary Tax Systems

Progressive taxation prevails in today’s tax systems. For example, in the United States, “the fiscal system is highly progressive” (Auerbach et. al, 2016, p. 2).

Stark (2004) clarifies that tax rates are progressive when marginal rates rise with income. Progressive taxation is based on the following assumption: as a household’s income increases, so does the tax burden on it.

Of course, those who have more income meet their tax obligations by penalizing advanced levels of consumption, thus triggering less utility per euro spent. The relative penalty suffered in terms of utility achieved per euro spent is therefore lower. The tax burden is always felt to be negative, but since tax revenue is absolutely necessary for social security purposes and the fulfillment of state functions, this is the least bad of all other possible solutions. In this regard, Auerbach et. al (2016) point out that “*fiscal progressivity plays a major role in limiting LPS [lifetime spending power] inequality*” (p. 47).

Let us now consider the following example, based on Table 1. In order to meet their tax responsibilities - and considering the logic of tax progressivity which consists of a higher tax burden applied to those with higher incomes - a household with higher incomes is deprived of the 15th, 14th, 13th and 12th levels of consumption. On average, this will correspond to a penalty in the utility (U_t) achieved by the household of:

$$[(475U_t/€1\text{spent}+545U_t/€1\text{spent}+610U_t/€1\text{spent}+670U_t/€1\text{spent})/4=575,0U_t/€1\text{spent}].$$

On the other hand, a household with less income, in order to meet its fiscal responsibilities, will have to penalize higher levels of consumption, therefore, likely to generate a greater penalty/€1spent. Again, considering Table 1, a household with less income will have to divert financial resources from the 10th and 9th levels of consumption. On average, this will correspond to a penalty in household consumption of:

$$[(775U_t/€1\text{spent}+820U_t/€1\text{spent})/2]=797,5U_t/€1\text{spent}].$$

Despite tax progressivity, the above example leaves no doubt as to the higher utility penalty for each euro spent on tax compliance that is experienced by the more socioeconomically fragile bangs. This solution is already relatively counterintuitive.

It should not be forgotten that the “*income tax is generally regarded not only as a source of government revenue, but also as a means of reducing economic inequality*” (Sanchirico, 2008, p. 1598). Therefore, to accentuate the picture exemplified above, in a context where the inflationary surge is of extra-economic origin, is to undertake social irrationality. But this is precisely what is happening with the ECB’s current monetary policy, as the next section will explain.

A Utilitarian Critique of Monetary Policy as a Consensually Accepted Tool to Combat Inflation

The previous point makes it relatively easy to understand the social injustice of the indiscriminate monetary policy applied by the European Central Bank to combat the current inflationary outbreak (resulting from the military crisis in Ukraine). “*Monetary policy is the process by which a central bank manages the supply of money and interest rates to achieve its macroeconomic objectives, such as price stability*” (Mohd, 2023, p. 5).

The ECB’s monetary policy is based on raising its key interest rates, which serve as a benchmark for other interest rates in the Eurozone. Still Mohd (2023), referring to the US context, makes it clear that, “*when the Fed [Reserva Federal Norte-americana] raises interest rates, it makes borrowing more expensive, which reduces spending and inflation*” (p. 17).

In the case of the Eurozone, among the interest rates directly influenced by the ECB's key rates are, for example, Euribor, which is used as an index for mortgage loans.

Of course, if the ECB applies contractionary monetary policy, raising its interest rates, this solution ends up having a direct impact on households with mortgage loans.

In this sense, Erb & Harvey (2013), citing Milton Friedman's (1963), state that "*inflation is always and everywhere a monetary phenomenon*" (p. 29). However, there is also no doubt that a given monetary tightening does not affect everyone in the same way. And if this is the case, then why is the monetary policy applied in the Eurozone applied indiscriminately to the 20 Member States and to households in those countries?

It is true that contractionary monetary policy affects everyone equally, but this is only true for decisions to be made in the future. With higher interest rates, households decide to borrow less, and investment also falls. That's right. If the goal is to relieve inflationary pressure, that's fine. But what about those who are heavily penalized because of decisions they made in the past? We need to be very careful with the application of monetary policy. For instance, as part of a study on Wealth inequality since the Great Financial Crisis and the use of monetary politics to fight the crisis, Domanski et al., (2016) have reached results suggesting "*that monetary policy may have added to inequality to the extent that it has boosted equity prices*" (p. 45).

In this sense, the case of greatest distress in the Eurozone and Portugal is that of mortgage loans. In February 2022, with Euribor still in negative territory, it was hard to anticipate that, just a year and a half later, interest rates would reach twenty-three-year highs. For families like the Portuguese, this is an unaffordable effort. They are among the lowest paid in Europe.

In Portugal, with approximately 70% of mortgage loans indexed to variable interest rates (OECD, 2022), compared to a study by the Consumer Protection Association in Portugal (DECO, 2023), for every half percentage point increase in the ECB's interest rate, banks receive an additional €30.5 million/month, diverted in the form of interest directly from households with active mortgage loans.

At the time of writing, the key ECB interest rate is set at 4.0% and the OECD expects it to reach 4.25% by the end of the last quarter of 2023. Again, compared to the DECO study (2023), this will correspond to approximately €255 million/month more paid by Portuguese households to banks than about a year and a half ago.

Brandao-Marques et. al (2023) are clear about monetary policy as a consensually accepted mechanism to combat inflationary surges, when, in the context of public debts, they state that, if these are high, "*central bank tightens its monetary policy stance in response to a rise in inflation by less than it would otherwise because of the level of government debt*" (p. 6).

However, despite the fact that the monetary policy mechanism is relatively consensual, in the case of the fight against the European inflationary surge starting in 2022, the indiscriminate increase in interest rates by the ECB is a doubly blind solution. On the one hand, it is not adjustable for differences between eurozone member states. Such a framework could have a very worrying social impact on countries with weaker economies, such as Portugal. Lenza & Slacalek (2018), citing Colciago et al., (2018), draw attention to the following: "*monetary policy has also been put forth as a possible driver of economic inequality*" (p. 4). On the other hand, monetary policy directly and indiscriminately affects only households that have taken out loans, with particular emphasis on housing loans.

After applying the ECB's monetary policy over the last year and a half, the following case is representative of the dramatic family dimension that it can assume: on a €200.000 mortgage, with a duration of 35 years, a spread of 1, 20%, and indexed to the 12-month Euribor, revised

in July 2023, the monthly obligation goes from €583.00 to €1,035.00. That is €452/month more. The monthly amount paid to banks almost doubles in just a year and a half. This is an unbearable scenario for many families.

Greenwald et al., (2022), refer that “*much of the literature on wealth inequality [...] has argued that high past rates of return and heterogeneity therein helps account for the increase in financial wealth inequality*” (p. 5).

With very sharp increases in interest rates and monthly installments, in order not to default, families have no other solution than to divert financial resources from ever higher levels of consumption.

In such an environment of rising interest rates, households with lower incomes see the utility achieved with the available household budget much more strongly affected than households with higher incomes, as they are forced to resort to the penalty of utility/€1 spent on higher levels of consumption and, therefore, likely to generate more marginal utility (food, medicines, basic necessities, and so on).

Precisely in this context, Galbraith & Kum (2002), stating the rising inequality as a global pattern “*suggest that such global factors as rising real interest rates [...] that began in 1982 played a strong role in driving up inequality in many countries*” (p. 14).

Figure 2 illustrates the logical framework described just before it. The starting point for this figure is the example expressed in Table 1. The last levels of consumption are penalized by imposed and mandatory tax burdens. The latest levels of consumption are penalized by imposed and mandatory tax burdens. As a result of the ECB’s monetary policy, which is based on indiscriminate interest rate hikes in order to meet its obligations to banks, households are having to raise their consumption levels, penalizing more and more the total utility possible from meagre household budgets. This process actually corresponds to a regressivity of the impact of rising interest rates, which is completely illogical. Households with the lowest incomes are those that suffer the most in terms of utility/€1euro spent on interest rate rises.

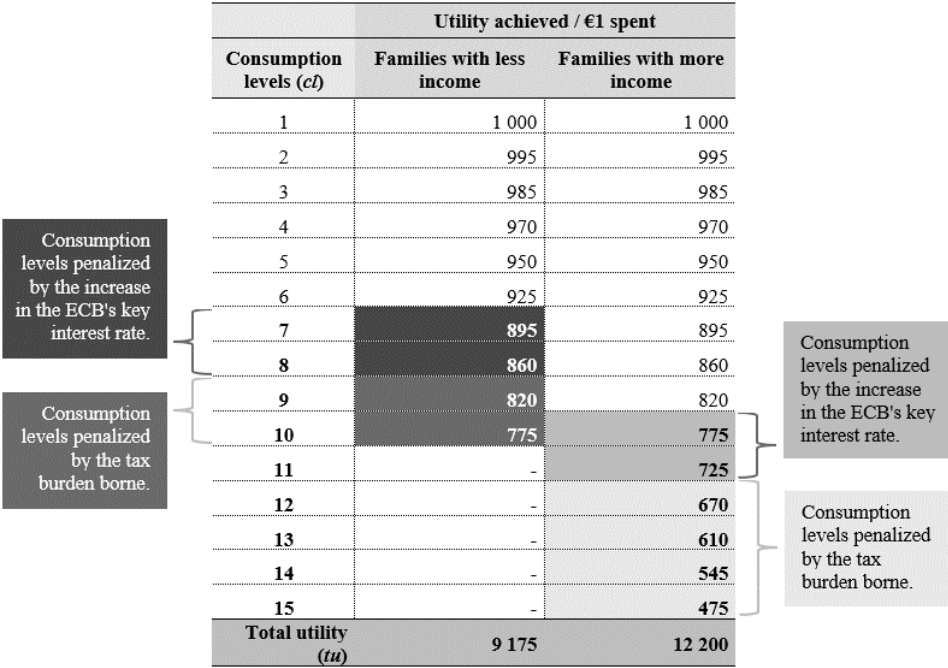
In this purely academic example, with the ECB’s key interest rate hike, a household with higher incomes is now also deprived of the 11th and 10th levels of consumption (see Figure 2). On average, this will correspond to a penalty in the utility (Ut) achieved by the household of more:

$$[(725Ut/€1spent+775Ut/€1spent)/2=750,0Ut/€1spent].$$

On the other hand, a household with less income, in order to meet its increased interest liabilities after the change promoted by the ECB, will have to penalize even higher levels of consumption and, therefore, likely to generate a higher penalty/€ spent. Again, looking at Figure 2, a household with less income will now have to divert financial resources from the 8th and 7th levels of consumption. On average, this will correspond to a penalty in household consumption of:

$$[(860Ut/€1spent+895 Ut/€1spent)/2]=877,5Ut/€1spent].$$

Again, this functionally corresponds to a regressivity of the impact of the ECB interest rate hike, which is completely counterintuitive due to the disproportionately higher negative impact it has on the utility penalty for lower income households.



Note 1: The *tu* corresponds to the total utility achieved after spending one euro on each level of consumption.

Figure 2. Change in consumption levels penalized, due to the increase in the ECB’s key interest rate.

The complementary application of a fiscal policy recalibrated due to the inflationary exceptionality created by the military invasion of Ukraine could mitigate the apparent social irrationality that results from the strict application of contractionary monetary policy.

Complementary Use of Fiscal Policy to Increase Social Justice in the Distribution of the Effort to Combat the Inflationary Surge

Brandao-Marques et. al (2023), stressing the importance of fiscal policy in combating high inflation, cite Celasun et. al (2004), noting that the latter authors “*found that fiscal variables were an important determinant of inflation expectations in major emerging market economies*” (p. 5).

In line with the above, the monetary policy pursued by the European Central Bank to counter an inflationary outbreak stemming from a military conflict is double-blind. On the one hand, it does not adjust for social and economic differences between the Member States of the Eurozone. Such a framework could have a devastating social and economic impact, in line with paragraphs 1.1 (Phillips theory) and 1.2 (Laffer theory) and Figure 2 in section 5 of this Chapter.

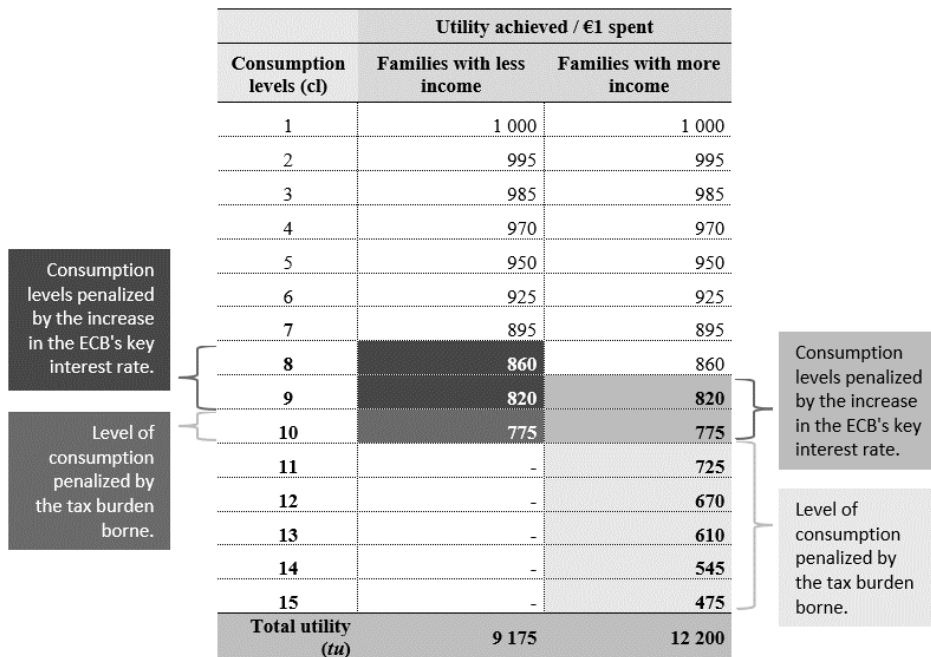
On the other hand, monetary policy only directly affects households that have borrowed, with a particular focus on housing loans. So, what about the rest of the population? What about other sectors of the economy? Why is it logical that only those with active mortgage loans should “retroactively” bear the burden of curbing an inflationary surge that originated in a heinous, extra-economic event?

This is where fiscal policy comes in, applied in a specific way. In fact, regarding the benefits for inflation control of using fiscal policy over time, Neville et. al (2021) realçam que *“both monetary and fiscal policy have contributed to economic circumstances that are disinflationary, resulting in lower and less volatile inflation”* (p. 2). First, with the complementary use of fiscal policy, the pain resulting from the fight against inflation would be distributed more symmetrically and fairly, with the advantage that the fight against inflation would be even more effective.

On the importance of redistribution to alleviate social inequalities, Dollar (2007), on China’s tax system, argues the following: *“there is some redistribution within China’s fiscal system, but not enough. Poor areas have very little tax collection and hence cannot fund decent basic education and health care”* (p. 11).

In the euro area, complementary fiscal policy could, on the one hand, positively discriminate against those most affected by the rise in interest rates resulting from contractionary monetary policy: households with mortgages.

Moreover, the tax contribution of those who do not carry the burden of mortgage loans would be increased in a measured way. This process would result in a temporary redefinition of tax contributions, which would reduce the sharp penalty on the utility achieved with the budget at hand that is experienced by those with housing loans. Figure 3, which follows up on the example in Table 1 and Figure 2, reveals the benefit that would result from the temporary fiscal reset in increasing the equity of the effort required of society to combat the inflationary surge. Even considering that monetary policy would remain the same, i.e., applied indiscriminately, the gains to the economy’s aggregate utility are evident.



Note 1: The *tu* corresponds to the total utility achieved after spending one euro on each level of consumption.

Figure 3. Application of a complementary and discriminatory positive fiscal policy for families with lower incomes, due to the indiscriminate increase in the ECB’s key interest rate.

The change made in Figure 3, compared to Table 1 and Figure 2, is a tax relief for lower income households. With this tax relief, these households compromise only the utility achievable at the 10th consumption level. Even before the tax relief, the utility at the 10th and 9th consumption levels was compromised - depending exclusively on compliance with tax obligations. This change would correspond to an average penalty on household consumption of:

$$[(775Ut/€1spent)/1]=775,0Ut/€1spent].$$

Recall that even before the temporary tax change, the average penalty on households' utility was (Table 1 and subsequent calculations):

$$[(775Ut/€1spent+820Ut/€1spent)/2]=797,5Ut/€1spent].$$

To compensate for this change - which mitigates the impact of the rise in ECB interest rates on the most vulnerable families, but also softens the conditions for fighting inflation -, a fiscal recalibration would have to occur in the universe of citizens (taxpayers) less directly affected by the contractionary monetary policy carried out by the European Central Bank. Once again, Figure 3 shows a tax wedge on higher-income households. Considering the logic of fiscal progressivity, this tax increase will now also penalize the 11th level of consumption of families with higher incomes, in addition to the 15th, 14th, 13th and 12th.

This will correspond to an average penalty in the utility (Ut) achieved by the households with the highest income of:

$$[(475Ut/€1spent+545Ut/€1spent+610Ut/€1spent+670Ut/€1spent+725Ut/€1spent)/5]=605,0Ut/€1spent].$$

Before this temporary tax change, the penalty was of:

$$[(475Ut/€1spent+545Ut/€1spent+610Ut/€1spent+670Ut/€1spent)/4]=575,0Ut/€1spent].$$

Even so, with this solution, to meet tax liabilities and the increase in the monthly mortgage installment following the ECB interest rate hike, higher income households still experience less penalized consumption levels. But the big advantage is that lower-income households are guaranteed budget availability so that they are not deprived of the attainable and irreplaceable utility only available at primary consumption levels. In this context, it can be assumed that wealth inequality can differ markedly from spending power-inequality due to government redistribution (Auerbach et. al, 2016).

From here, the consequences of a more symmetrical redistribution logic, such as the one presented above, are controversial.

In the case presented as an example, the trade-off in penalizing a level of consumption to meet tax liabilities between lower income households ($820Ut/€1spent$) and higher income households ($725Ut/€1spent$) results in a positive balance in aggregate utility achieved equal to $95Ut/€1spent$ ($820Ut/Ut/€1spent-725Ut/€1spent=95Ut/€1spent$). Social inequality necessarily decreases by raising taxes for the better-off and lowering the tax burden for the most disadvantaged. But this process has a limit. Otherwise, it is counterproductive. Batchelder &

Kamin (2019), regarding the United States of America tax system, draw attention to this problem:

If the United States persists with its relatively tax-focused model of redistribution, reducing economic disparities and stabilizing our fiscal outlook will require raising substantial new revenue from measures that focus to a large extent on the affluent rather than the public at large. (pp. 202, 203)

It is also true that the disincentive to labor productivity and investment that arises from an increase in the tax burden is theoretically well understood by means of the Laffer theory (section 1.3). For this reason, the solution found for this case should work on a transitional basis and be properly calibrated. The aim would be to counteract the harmful, one-off social effects resulting from a monetary policy solution applied indiscriminately by the ECB, as conveniently developed above.

Social Instability: Windfall Profits and the Collective Feeling of Social Injustice

At the same time, the tax burden would be leveraged on the sectors that have benefited most from both the military crisis and the massive transfer of financial resources provided by the ECB's interest rate hikes: energy companies and banks, respectively. This fiscal calibration would also take place according to well-defined criteria that do not excessively offend the legitimate desire for profit that is held by the private sector (once again, it is the Laffer theory that dictates the rules). Stinespring's (2006) understanding applies perfectly here. A stimulus to production (in Stinespring's study: an increase in public capital), promotes higher tax revenue. The opposite is also strictly true. *"The Laffer curve rises because higher public capital stimulates output in the economy and generates greater tax revenues"* (Stinespring, 2006, p. 18).

Therefore, in the current context of exceptionality, it could be assumed as a benchmark for raising the tax burden of energy companies and banks the levels of profit predictably recorded under conditions of normal functioning of society and markets. It should not be overlooked that the potential negative effects of an unexpected tax on planned and/or expected future investments (Abdul-Salam, 2022). In the same vein, Ng'ambi (2010), on the possibility of reintroducing a tax on the profits of foreign direct investors in the copper mining sector in Zambia, points out that *"the re-introduction of the windfall tax will be seen by some investors as an unstable tax regime and could be one of the factors that could hinder foreign investment"* (p. 113).

And it is also true that increasing the tax burden on energy and banking would have little direct impact on inflation control, as it does not substantively impact aggregate demand. However, it would contribute to increasing the collective sense of fairness regarding society's effort in the face of a crisis originating from the erratic behavior of a global decision-maker. In the long run, when the economic climate permits, the extra tax revenue would also allow the state to channel part of the collective effort into public investment. In this context, Abdul-Salam (2022) also states that, *"to help fund a cost-of-living support scheme for UK households, the UK Government recently introduced a windfall tax on upstream UKCS [United Kingdom Continental Shelf] operations"* (p. 2). Ng'ambi (2010), on the other hand, also points out that

the windfall tax on foreign investors' profits from Zambian copper mining "*was arguably so that the Zambian society could benefit from the high copper prices*" (p. 107).

(It is important to clarify that the tax policy logic discussed in this Chapter does not correspond to the application of a tax conceptually understood as a "windfall tax." Windfall taxes are exclusively targeted at windfall profits. The solution in equation in this article would cover the whole society, albeit with very well-regulated equity of effort criteria).

The additional revenue generated from taxes levied on the general population - which has a direct impact on inflation control, as it significantly reduces aggregate demand - could be directed to social stabilizers, always very pressing in periods of inflationary crisis. Brandao-Marques et. al (2023) allude to several studies that have empirically looked at the relationship between fiscal variables and inflation, concluding:

These papers find generally that tightening fiscal balances are helpful in reducing inflation expectations and observed inflation, with stronger effects in economies with high and persistent inflation (p. 5).

One of the most elementary thoughts in economics is to recognize that the resources available are always the same and that they just change hands. For some to have more, others must necessarily have less.

Against the backdrop of the inflationary crisis created by the military invasion of Ukraine, energy companies and banks are now increasing their profits wildly. Households, on the other hand, are seeing their real income fall because of wage devaluation brought about by inflation and, for those with mortgages linked to floating interest rates, by the very significant increase in monthly mortgage payments. Precisely in this sense, Abdul-Salam (2022) points out that "*the levels in petroleum prices have led to (1) a cost-of-living crisis in many countries [...]; and (2) a significant increase in profits earned by the upstream petroleum sector globally*" (p. 2).

The political authorities' justification for the situation described in the previous paragraph is as follows: "it is the fight against inflation that requires it."

In fact, there are alternatives to current policies, but they require boldness and political courage. In the Portuguese case, the political entities directly involved in the process are the European Central Bank and the Government of Portugal.

Addressing the Role of European Political Leadership in Innovative Policy Implementation Processes

The role of European political leadership in the processes of implementing innovative solutions has been fundamental in driving economic, social and technological progress across the European Union (EU). The EU and its political leaders have actively sought to promote a culture of innovation and invest in initiatives that encourage the development of creative solutions to contemporary challenges. One of the main ways in which European political leadership has fostered innovation is through the establishment of policies and funding programs specifically targeted towards this objective. A notable example is Horizon 2020, later replaced by Horizon Europe, two of the largest research and innovation programs in the world, launched by the EU to boost competitiveness and economic growth through investment in

innovative projects in various areas, in the public sector and private, in significant areas such as technology, science, health and renewable energy (European Commission, 2021a; 2021b).

In addition, European political leadership has been working to create an innovation-friendly regulatory environment, reducing bureaucratic barriers and promoting collaboration between the public and private sectors. Through initiatives such as the European Innovation Council (EIC) and the Digital Single Market, the EU aims to facilitate the transfer of knowledge between universities, companies and research institutes, creating a network of cooperation and synergy to stimulate innovation (European Commission, 2021c).

Another important aspect is the promotion of education and training in cutting-edge areas, aiming to prepare the next generation of innovators. Through programs such as Erasmus+ and other mobility programs, the EU promotes academic mobility, allowing students, researchers and staff to develop skills and knowledge in various European institutions, creating a solid foundation for innovation (European Commission, 2021d).

Political leadership has played an essential role in defining ambitious long-term goals, such as the transition to a low-carbon economy and the decarbonisation of the energy sector, with a high emphasis on the European Green Deal. These goals drive research and development into clean and sustainable technologies, spurring innovation in renewable energy, energy storage and energy efficiency and technological innovation, ensuring that it occurs ethically and safely. (European Commission, 2021e, 2021f).

This has been a path built, step by step, in a medium- and long-term perspective, involving the governments of the Member States and the public and private sectors, seeking regional synergies, and involving the populations, so that innovation becomes a true instrument of European construction and cohesion.

Finally, it is very important to underline that the processes of implementing innovative policies can be very complex and extraordinarily demanding from the perspective of political action. Whenever policies are disruptive (or sometimes even just innovative), pursuing them requires political determination and courage. Politicians cannot abdicate these predicates because, in most circumstances, these differentiated policies clash with vested interests and, therefore, their pursuit necessarily triggers the respective lobbies.

Use of a “Savings Policy” Led by the European Central Bank

The last option to contain the high inflation resulting from the military conflict in Ukraine is very unorthodox, requiring, for that reason, political courage. It consists of a new “savings policy.” Families in the Eurozone could be imposed predetermined and progressive savings levels.

The progressivity of savings would be indexed to the personal income tax (PIT) of households. This measure would run until the inflationary crisis is over or until relief thresholds in the application of the measure are allowed.

As a result, liquidity would also be withdrawn from the economy and, considering that the tax savings would cover the entire population with incomes above a certain level, the fight against inflation would be even more effective.

The ECB’s current contractionary monetary policy solution and the resulting rise in Euribor rates affect mainly those with housing loans, as duly developed throughout the Chapter. The savings imposed by the “Savings Policy” would cover the entire population with incomes

above a certain IRS bracket and would not result in a loss for households, as the financial resources would remain in the possession of households, with only a deferral in time as to the possibility of using them.

With the current monetary policy, the scarce resources of households with housing loans indexed to variable interest rates are irreversibly transferred, in the form of interest, to the profit of the banks.

The public administration and international bodies have sufficient know-how available to implement and combine monetary, fiscal and “savings” policies. Conceptually, the alternative options are not complex, but they require boldness and political courage, which seems to be lacking.

There are several options for tackling inflation. To “simply” and irreversibly transfer money from meager family budgets to banks is the worst, cruelest and most unfair of all. And all this suffering is imposed on families in a framework in which the energy and banking sectors are breaking profit records.

Conclusion

In the Eurozone, the use of contractionary monetary policy to fight against the inflation caused by the military invasion in Ukraine is highly controversial. It is true that, overall, the application of monetary policy seems to be relatively effective, but it is nonetheless largely unequal and unfair in relation to the distribution of the sacrifice required of citizens. Broadening the scope of the effort would also increase the effectiveness of inflation control.

Monetary policy in the fight against inflation is based on central bank interest rate hikes. In the case of the Eurozone, the increase in this interest rate is reflected in the Euribor (interest rates used as indexation for credit contraction, namely housing loans).

For this reason, citizens who do not have housing loans are not directly penalized in their monthly budgets by the increase in the European Central Bank’s key interest rates and Euribor. Mortgage borrowers, on the other hand, see their monthly payments increase by several hundred euros per month as a result of the sharp rise in Euribor. This immense social irrationality in the distribution of collective effort is perfectly understood through the principle of diminishing marginal utility, the theoretical essentials underlying the Phillips and Laffer curves and Okun’s Law.

The very sharp loss for households with mortgages contracted results, in the same proportion, in increased profits for the banks.

On the other hand, the conditions that gave rise to this inflationary outbreak provide for a very significant increase in the profits of energy companies, which further accentuates the feeling of social injustice in relation to the effort required of European households with housing loans.

The combined application of monetary policy, fiscal policy and a new “savings policy” would introduce fairness and equity into the process of combating the inflationary surge and increase the effectiveness of the process by reaching more citizens, the banking sector and energy companies.

The alternative approach presented in this Chapter requires political leadership courage and the direct political involvement of the European Central Bank and the governments of the various euro area Member States.

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Chapter 17

Opportunities and Challenges Regarding Artificial Intelligence in the Public Sector: A Case Study at the Portuguese Leading Court of Auditors

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Abstract

Artificial Intelligence (AI) has stood out among digital technologies in the administrative modernization of the public sector due to the great potential of applications and solutions that can be explored at the most diverse levels of State action. The inspection of the use of public financial resources is a growing concern due to its scarcity, and the verification of its proper application becomes a major challenge in today's world. The Court of Auditors is using AI technologies, and this work seeks to understand how these technologies are being used to control and supervise the use of public financial resources in Portugal. In an early stage of development, the use of AI aims to subsidize and support the performance of auditors, in the rendering of accounts and contracts of entities within the jurisdiction of the court, to analyze data and information, and find network models that make it possible to perceive influential groups and find patterns that underlie the triggering of new evaluative actions. The results obtained reinforce the efficiency and effectiveness of these technologies in their applications, however, they serve only as indicative, as they still do not cover all entities and do not have sufficient history to generate forecasts.

Keywords: artificial intelligence, public sector, public administration, audit office, public financial control

Introduction

Public organizations, regardless of their nature, are constantly looking for ways to improve their services and performance, always aiming at the public interest. Important movements have emerged over time in the search for greater efficiency and effectiveness in the processes of

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these organizations, in a scenario where resources are increasingly scarce, seeking to reduce costs and achieve economy. Added to this is the increase in society's demand for quality public services. Among some of these movements, New Public Management (Hood, 1991) emerged at the end of the 1970s, as an attempt to reduce bureaucracy in Public Administration, making it closer to the management models of private organizations, which were considered, at the time, more efficient and effective compared to public models. Other models, called post-management, emerged over the following decades, such as the New Public Service (Denhardt & Denhardt, 2000), Networks (Agranoff, 2007), Neo-Weberian State (Lynn, 2008), and New Public Governance (Osborne, 2009), among others, as recurrent attempts to seek efficiency and effectiveness.

These movements reflect the so-called administrative reforms, which are deliberate changes in the structures and processes of public sector organizations with the aim of making them work better (Pollitt & Bouckaert, 2011). Therefore, they are structural and systemic changes in a disruptive way, usually motivated by organizational inefficiency. On the other hand, less drastic changes in public organizations carried out incrementally and continuously, aim to achieve administrative modernization. Modernizing an organization brings innovation to management, processes and services, and technologies such as digital can provide this.

Governments and public sector organizations have used technologies to improve internal and external collaboration. This story goes back to the late 1950s, with the rise of mainframe computing, to the introduction of personal computers in the late 1970s. The advent of the Internet and open networks in the 1990s boosted the use of technologies for the public sector could better plan resource use and allocation and procurement operations, inform decision-making, and reform service delivery in line with the ever-changing needs of citizens and businesses (OECD, 2019b). The use of these technologies has enabled people, and organizations in general, to access a growing range of digital government services, which has been generating a large amount of data and information. It is estimated that 90% of the world's data was created in just the last few years, with data generation rates still accelerating (Marr, 2018). This phenomenon is known as Big Data, which is characterized by the speed of data generation and processing, the volume of data generated and stored, and the variety of data formats (Jamie Berryhill, Heang, Clogher, & McBride, 2019). As a result, digitization trends over the past three decades have provided increasing opportunities for the public sector to develop innovative approaches to policy formulation, service delivery, and public value creation (OECD, 2019b). In addition, government digitization has been involving citizens in the co-production of knowledge and information sharing, which facilitates the decision-making process (Reis, Santo, & Melão, 2019), and drives the digital transformation of the public sector. This involvement of citizens with government, which in the digital age is known as e-participation, can occur at three levels of participation, according to the OECD (2001): information, consultation, and active participation. At the lowest level, of information, there is a one-way relationship in which the government only provides information to citizens. In consultation, the relationship is bidirectional, but limited as citizens only provide feedback to the government regarding their definitions. In active participation, there is a direct partnership between citizens and government in policy formulation, which can occur, according to the International Association for Public Participation, in three ways: through involvement, collaboration, or empowerment (Fedotova, Teixeira, & Alvelos, 2012).

Due to its exponential development and its practical application in several areas, some digital technologies have been highlighted in recent years. Cognitive abilities, until then

exclusive to biological beings, very fundamental for the development of specific activities, are increasingly integrated into machines. In this way, computer systems are able to show human-like intelligent behavior, characterized by certain essential skills, including perception, understanding, action, and learning (Wirtz & Weyerer, 2019; Wirtz, Weyerer, & Geyer, 2019), and can, with that is, taking decisions autonomously. These technologies are part of the concept of Artificial Intelligence (AI), which despite having emerged more than 70 years ago, due to recent advances in the various fields of study and development, has drawn the attention of organizations in the public and private sectors for the potential and usability of applications. The increased collection and use of data is enhancing the learning process of computers and improving the quality of AI systems, which are highly dependent on data. (Susar & Aquaro, 2019). The use of these smart technologies by the public sector, many still in experimental or recent phases and on a small scale, has generated great opportunities for organizations, but they also bring with them many challenges.

Recognizing that AI is transforming the world and presenting challenges and opportunities that need to be tackled with ambition and joining forces, in 2018, Europe made a strong commitment to strengthening research, development, and innovation in AI (INCoDe.2030, 2019). All member countries of the European Union have signed the Declaration of Cooperation on Artificial Intelligence, committing to work together to boost AI capacity and adoption, address socio-economic and ethical challenges, and ensure an adequate legal framework (Jamie Berryhill et al., 2019). From this commitment, the Coordinated Plan on Artificial Intelligence was also launched in 2018. Member countries pledged to make AI available and beneficial to the public administration, to share best practices in the acquisition and use of AI in government, and to implement open data practices.

Portugal, in 2019, presented an innovation and growth strategy to foster Artificial Intelligence in the country, in line with the European Union Action Plan (INCoDe.2030, 2019). Entitled “AI Portugal 2030,” it aims to establish the foundations of a national strategy for the development of the Portuguese economy and society through the use of AI in public and private activities and the consolidation of fundamental and applied research in AI. In a recent study, results showed that solutions such as intelligent decision support systems are improving the political decision-making process and impacting Portuguese society at a local, regional, and national level (Reis, Santo, & Melão, 2020).

In the current global scenario, it is possible to verify that governments are attributing significant importance, at a strategic level, to technologies understood by the AI concept, with large investments and applications in the improvement of their processes, expanding the provision of services to society as a whole. The potential use of AI in the public sector is expected to minimize the cost of public spending by identifying trends in citizen behavior and reusing available data assets (Yfantis & Ntalianis, 2020). However, despite the growing research and application of smart technologies, researchers and practitioners only mention the technological aspects of AI applications, which seems vague without a robust model of public administration that portrays the implications for the governance of the administrative state. Parallel to this argument, there is still an emerging need to understand the range and effect of applications based on AI technologies and the associated challenges in a holistic way (Sharma, Yadav, & Chopra, 2020).

The Public Administration, and other public organizations, have been adopting and implementing AI technologies to make their processes more efficient and effective, expanding the service to the diverse demands of society. However, little is said about the control

organizations, mainly the Supreme Audit Institutions (SAI), which in Portugal is represented by the Court of Auditors (CA), which is responsible for supervising and controlling the use of public financial resources. The CA, on the one hand, ensures financial legality and fights illegal practices and waste in order to guarantee a rational State in executing the expenditure. On the other hand, it guarantees good governance by carrying out performance audits and evaluating public policies with a view to increasing transparency, accountability, and the quality of services provided to citizens. Thus, as occurs in much of the literature on AI in the public sector, as previously mentioned, in addressing the technological aspects, the literature found directed to the use of AI by SAI, in addition to reporting few results, also address the same aspects (e.g., Silva, 2016). Drawing a parallel to the audit activity carried out in the private sector, the few studies found also address such aspects (e.g., Meira, 2019; Omoteso, 2012). It is with the purpose of overcoming a part of this research gap that this work was developed, seeking to understand, through a case study, the following question: “How does the Portuguese Court of Auditors use AI to control and supervise the use of public financial resources?”. Among the objectives, it sought to identify and describe the opportunities and challenges faced by the court, which AI technology is used, and in what way. We also tried to understand what are the benefits of using AI by the court, what results from it has generated and what limitations exist.

This work is organized into three sections, in addition to the conclusion. The first section addresses the concept and definition of AI, the technologies and their capabilities, and applications in the public sector. sections II refers to the importance of public financial control and the competent institution in Portugal to exercise it, in which this study was carried out. The next sections discusses the use of AI by the CA, presenting the methodology used and the results found. Finally, we reach the main conclusions of this research and the limitations faced.

Artificial Intelligence in the Public Sector

Conceptual Framework of Artificial Intelligence

Huang and Rust (2018) developed a theory that specifies four intelligences needed for service tasks and establishes how organizations must decide between humans and machines to perform these tasks:

- Mechanical Intelligence is about the ability to automatically perform routine, repetitive tasks that don't require a lot of creativity. For human service, mechanical work is unskilled work that does not normally require advanced training or education.
- Analytical Intelligence is the ability to process information for problem-solving and learn from it through information processing, logical reasoning, and mathematical skills, which are acquired with training, experience, and specialization in cognitive thinking (Sternberg, 1984, 1999).
- Intuitive Intelligence is the ability to think creatively and effectively adjust to new situations and includes hard-thinking professional skills that require insights and creative problem-solving. Therefore, complex, creative, chaotic, holistic, experiential, and contextual tasks require this kind of intelligence.

- Finally, Empathetic Intelligence is the ability to recognize and understand other people's emotions, respond appropriately emotionally, and influence others' emotions. This type of intelligence is characterized by interpersonal and social skills such as communication, relationship building, leadership, and teamwork.

Artificial intelligence, on the other hand, is the result of an aggregate of developments in various areas of science throughout history, and for this reason, there is no consensus on what its concept should be. Contributions of thought and studies since the time of Aristotle and his introduction to logic in the field of philosophy, through the development of other fields of study such as mathematics, economics, neuroscience, psychology, computer engineering, control theory and cybernetics, and linguistics, have made today's smart technologies possible. However, the first step towards the emergence of Artificial Intelligence (AI) occurred in 1943, with the work of Warren McCulloch and Walter Pitts, who proposed a model of artificial neurons, showing that any computable function could be computed by some network of connected neurons and that all logical connectives could be implemented by simple network structures. They also suggested that properly defined networks could learn (Russell & Norvig, 2010).

In the 1950s, there was a generation of scientists, mathematicians, and philosophers with the concept of AI culturally embedded in their minds. One of these scientists was the mathematician Alan Turing, who suggested that, just as humans use available information and reason to solve problems and make decisions, machines could also do so (Anyoha, 2017). In his article "Computing Machinery and Intelligence" from 1950, Turing discussed how to build intelligent machines, but also how to test their intelligence, which became known as the Turing test (Turing, 1950). Another influential figure was John McCarthy, who, in the presentation of the Dartmouth Summer Research Project on Artificial Intelligence in 1956, proposed a study of AI in which an attempt would be made to discover how to make machines use language, form abstractions and concepts, solve types of problems hitherto reserved for humans, and improve themselves (McCarthy, Minsky, Rochester, & Shannon, 1955). At the two-month event, McCarthy used the term "Artificial Intelligence" for the first time, in which he defined it as the science and engineering of making intelligent machines.

Over the following decades, AI research and development went through periods that ranged from excitement and investment, and of course, many advances and evolutions, but also through some periods of "forgetfulness," with a reduction in funding and interest in AI research, which many have metaphorically called "AI Winter" (Jamie Berryhill et al., 2019; OECD, 2019a). As described at the beginning of the chapter, due to the great diversity of areas of study and sciences that have contributed to AI to date, there is currently no consensually accepted definition of what AI is. Rather, it is a collective term for different technologies and approaches at different degrees of maturity with different levels of security and trust. The term "Artificial Intelligence" suggests that these are systems that supposedly simulate human intelligence (von Lucke & Etscheid, 2020b, 2020a).

Some examples of AI definitions, related to the purpose of this work, such as that of the Organization for Economic Co-operation and Development (OECD), which has been accepted by 42 national governments, consider AI as machine-based systems that, for a given set of goals defined by man, can make predictions, recommendations, or make decisions that influence real or virtual environments, these systems being designed to operate with various levels of autonomy. In addition, AI are machines that perform human-like cognitive functions (OECD,

2019a). The UK government views AI as a field of research encompassing philosophy, logic, statistics, computer science, mathematics, neuroscience, linguistics, cognitive psychology, and economics, and defines it as the use of digital technology to create systems capable of performing commonly thought tasks that require intelligence (UK Government, 2019).

For a group of high-level experts in AI from the European Commission, AI are software systems (and possibly also hardware) designed by humans that, serving a complex purpose, act in the physical or digital dimension, perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning about the knowledge or processing the information derived from these data, and deciding the best action(s) to achieve the given objective (High-Level Independent Group on Artificial Intelligence, 2019).

AI Portugal 2030” presents the definition of AI as the scientific area and the set of technologies that use programs and physical devices to imitate advanced facets of human intelligence.

AI, according to Wirtz & Weyerer (2019), describes the ability of a computer system to perform intelligent human-like behavior and solve problems through specific core competencies, including perception, comprehension, action, and learning.

To Mehr (2017), AI is the programming of computers to perform tasks that would normally require human intelligence. This includes the ability to understand and monitor visual/spatial and auditory information, reason and predict, interact with humans and machines, and continually learn and improve.

These definitions suggest the existence of technologies that simulate human intelligence to learn and develop capabilities to achieve a specific goal. The next topic explores some of these technologies and the capabilities involved.

Smart Technologies and Their Capabilities

Although there is no consensus on the concept and definition of AI, experts generally recognize two broad perspectives that help define how intelligent AI can be. The first is known as General AI, also called strong AI (Jamie Berryhill et al., 2019). This refers to the idea that general human intelligence, which encompasses different domains and capabilities, can be equaled or even surpassed by machines (as for the possibility of surpassing it, some specialists call it artificial superintelligence). The second is Narrow AI, specific AI, or even weak AI. It is from this perspective that the current artificially intelligent technologies fit, which take advantage of the excellent performance of computers in quickly and consistently processing large amounts of data, as well as the execution of tasks based on logical and explicit rules. However, Narrow AI also reflects current machine capabilities that allow computers to perform tasks intelligently in specific areas, but do not allow those areas to come together to produce broader intelligence (General AI). This fact has led different communities of researchers to support the development of various AI subfields over the years. Each of these subfields has focused on a specific set of tasks that are generally aligned with different human abilities (Frank, Wang, Cebrian, & Rahwan, 2019).

AI systems initially used a rule-based approach (IF-THEN), considered simpler AI systems. However, some experts do not consider this type of system as intelligent because they do not have the ability to learn, as they only use a set of previously programmed rules to achieve a certain objective. The most well-known approach, which has become the dominant model, is

“Machine Learning.” This, a subset of AI, builds a mathematical model based on sample data, known as training data, in order to make predictions or make decisions without being explicitly programmed to perform the task (Zhang, 2020). Similarly, the OECD (2019b) defines it as an approach in which machines learn to make predictions in new situations based on historical data, which consists of a set of techniques that allow machines to learn in an automated way, without explicit instructions from a human being, relying on patterns and inferences. Machines learn using several approaches, including supervised learning, unsupervised learning, reinforcement learning, and deep learning (Jamie Berryhill et al., 2019).

What differentiates each type is that, in supervised learning, the goal is to generate predictions about new data points based on previous observations, when there is enough information about the structure and content of the data, and the problem, usually regression or classification, is clearly identified. In this type of learning, there is human intervention in the process of selecting the output variable. In unsupervised learning, algorithms help determine the underlying structure that may exist in a data set, observing the similarities between different data points, with the aim of generating new insights about these available data, in a process without the need for supervision human to tell the machine what to look for. Reinforcement learning works when the system completes a task when interacting with an environment, where in this interaction feedback is provided by the environment causing the system to adapt its behavior, learning through trial and error and automatically adjusting itself over time. Finally, deep learning is distinguished from other approaches by the fact that it is inspired by the biology of the human brain and therefore is often discussed in conjunction with “Artificial Neural Networks” (ANN). ANNs try to replicate, using mathematics, the functioning, and behavior of nerve cells connected to each other by synapses that transmit information by sending electrical impulses back and forth, in the process of excitation or activation of neurons. There are three main components in the design of ANN algorithms: an input layer, another layer called hidden, and another layer that is output, where each of the layers is composed of several nodes, which contain information in the form of a number. The connections between the nodes of each layer are possible through mathematical functions (Jamie Berryhill et al., 2019).

These AI techniques can be used to solve a variety of problems. Among them, in the public sector, stand-out applications in computer vision (Szeliski, 2011), Natural Language Processing (Chowdhury, 2005), and speech recognition (Jelinek, 1997). Computer vision relates to the ability of AI to process and synthesize visual data from images and videos, while Natural Language Processing (NLP) deals with the ability of computers to manipulate and interpret the human language to perform various tasks, such as translation and analysis of texts. NLP is commonly combined with other applications, such as computer vision, to, for example, analyze text from scanned documents or text embedded in images or videos. Speech recognition has a strong connection with NLP, differing in that it focuses on audio analysis as input to recognize and interpret spoken language, and can also be used to generate a simulation of human speech.

From these capabilities and combinations with each other, or even with others, diversified solutions emerge with the aim of solving problems arising in public organizations. Some of these solutions are presented by OECD (2019b) and cover, for example, virtual assistants, such as chatbots or voice bots, represented by computer-generated characters that simulate a conversation to provide voice or text information to a user, through the incorporation of NLP, dialogue control, domain knowledge, and a visual appearance, being able to interact by text-to-text, text-to-speech, speech-to-text, or speech-to-speech method. Another example is

biometrics, which allows for more natural interactions between humans and machines, enabling image reading, touch recognition, speech, and body language.

When related to AI, the four intelligences needed for service tasks (Huang & Rust, 2018), mentioned at the beginning of the chapter, are defined as Mechanical AI, Analytical AI, Intuitive AI, and Empathetic AI. Mechanical AI is designed to have limited learning (due to the repetitive nature of the task, not much variation) and an adaptive ability to maintain consistency. As for Analytical AI, considered by the literature as weak AI, it has Machine Learning and data analysis as its main analytical applications, and it becomes necessary to carry out complex tasks, however, systematic, consistent, and predictable. Intuitive AI is considered strong AI because it is designed to function more like a human. This type of AI is built to emulate a wide range of human cognition and learn similarly to a child, but faster. Finally, Empathetic AI describes a machine that can feel or at least behave as if it has feelings.

The same authors, in a more recent work (Huang & Rust, 2021), concluded that Mechanical AI is ideal to be used in the standardization of services, as it seeks to maximize efficiency and minimize variability. The combination of Analytical AI, which is used to explore diversity and identify significant patterns in the data, with Intuitive AI, designed to maximize the accuracy of decision-making, is described by the authors as Thinking AI, and its use is recommended for the personalization of services. Finally, Feeling AI, which utilizes Empathetic AI, learns and adapts from experience, which is defined as data that is context and individual specific. This level of AI can have all the capabilities of Mechanical AI and Thinking AI but applies those capabilities to experience-based data. Feeling AI is ideal for the service relationship, defined as a personalized relationship, and for customer satisfaction and retention.

In the next topic, some applications are presented, based on intelligent technologies, of some of these techniques, directed to the public sector.

Artificial Intelligence Applied to the Public Sector

AI is already part of people's daily lives with a variety of applications. Whether in the way that Netflix or Spotify use it to recommend movies/series and music, estimating the likelihood of a user's future interests based on their viewing history and similar users. Whether in the use of virtual personal assistants such as Siri, from Apple, and Alexa, from Amazon, which make it possible, through speech recognition, to perform simple tasks, such as searching for terms on the Internet, to integrations with systems and devices of home automation. The private sector is investing and using AI technologies in their businesses and increasingly expanding their services. With this, it has been taking advantage of the opportunities and benefits that these technologies have generated, as in Netflix itself, where the AI aims to maintain continuous viewing by the customer and their consequent loyalty, which means an increase in viewing time and a decrease in subscriptions cancellations (Yu, 2019). AI can also play a central role in supporting the public sector in its perpetual struggle to streamline processes or increase efficiency. Growing demand for services that better meet users' changing expectations for responsiveness and personalization, along with heightened expectations about the role of government in the digital age, calls for a technologically mature public sector (OECD, 2019b).

In the public sector, AI can have a positive impact in many different ways, such as helping to design better policies (OECD, 2019b) and make better decisions, as well as improving communication and engagement with citizens and residents. It can also impact on increasing

the speed and quality with which public goods and services are delivered to citizens, improving the internal operations of governments and public organizations in general, as well as helping to shift public servants' efforts from routine tasks to high-value (Jamie Berryhill et al., 2019). Just as AI research is encouraging scholars in related fields, such as philosophy and psychology, to re-examine how humans think, reason and learn, such research is also providing incentives for scholars in public administration to re-examine how we govern, make decisions, and deliver services to the public (Barth & Arnold, 1999).

For Filgueiras (2021), the application of AI in public administration involves two aspects: increasing the efficiency of the administrative machine, and; the selection process carried out by public managers. According to the author, AI increases efficiency by expanding the capabilities of public administration in solving different problems, where the application can occur with the constitution of virtual agents in different policy domains, such as, for example, health, immigration, control of security, autonomous vehicles for public transport, chatbots for public service, changing, in these situations, the cost-benefit ratio in the public sector, increasing efficiency in different sectors. Digital tools specify technological solutions to be applied to solve public problems and are subject to technical and political choices, which generally depend on factors that optimize results for public administration. For the author, AI should aim to promote faster service delivery and policy implementation, lower costs, accuracy (reliable results), and new features.

There are several opportunities to implement and apply AI technologies in the public sector with great potential to increase its efficiency, and its use will minimize the cost of public expenditure by identifying behavior trends of citizens and reusing available data assets (Yfantis & Ntalianis, 2020). AI can help free up the government workforce through its implementation in automating repetitive tasks, resulting in greater speed of transactions in the delivery of government services and also accurately evaluating the outcomes of policy options. AI has huge potential in different government sectors such as education, physical infrastructure, transport, telecommunications, security and data management, finance, healthcare, research and development, policy-making, legal ad judiciary system, etc. (Sharma et al., 2020).

However, the related challenges should not be left aside, as they can inhibit the implementation and use of AI applications (Wirtz et al., 2019). According to studies by Yfantis & Ntalianis (2020), the most significant challenges of AI in the public sector are the adoption of technology, security, privacy, quantity/quality of data, expertise, and ethical issues. Wirtz, Weyerer, & Sturm (2020), classify public AI challenges into three main areas: AI law and regulation; AI society; and AI ethics.

AI law and regulation have a focus on control, and some challenges include, for example, the governance of autonomous intelligence systems, as AI-based automated decisions are often referred to as a black box, and can take unpredictable actions and cause harm to humans, which leads to issues of transparency and accountability for AI systems. The challenge of legal responsibility and accountability raises the question of who should be legally responsible for the actions and decisions of AI algorithms since, due to the self-learning capability of these systems, human operators and developers cannot predict all actions and decisions results. Another challenge in this area is to protect the human right to privacy and the security of individual data against unauthorized external access.

AI already shapes many areas of daily life and therefore has a strong impact on society and everyday social life. A growing concern is related to the transformation and replacement of the workforce and the consequent impact on unemployment. In an analysis carried out by Frey &

Osborne (2017), regarding the potential for replacement and automation of 702 different occupations, about 47% of these are at risk of being replaced by robots or algorithms in the next two decades. Issues such as those cited lead to the challenge of social acceptance and trust in AI, which may decrease in case individuals encounter harmful behavior on the part of AI, such as discrimination, for example. Another major challenge for society is human interaction with machines, which become increasingly realistic and similar to humans, as in the case of Google Duplex (Leviathan & Matias, 2018), making it almost impossible to distinguish between them.

Ethical challenges are also widely discussed in the literature. Among some, the creation of AI rules for humans is discussed. AI makes decisions rationally, without having emotions or conscience, which can be good for achieving certain specific goals, but can have unintended consequences for the humans involved. Preventing biases and injustices that can be caused by the actions of AI systems is another ethical challenge. If the dataset used to train an algorithm does not accurately reflect the real world, the AI can learn false associations or biases and use them to process new data. There is also the challenge related to moral dilemmas, which can occur in some situations where an AI system needs to choose between two possible actions that conflict with moral or ethical values. Machine compatibility with human value judgment, another ethical challenge, relates to whether human values can be globally implemented in AI learning systems without the risk of developing an own or divergent value system to govern their behavior and possibly become harmful to humans.

According to von Lucke & Etscheid (2020b), AI technologies can be used in five fields of application:

- In the front office, for example, using chatbots or personal voice assistants in direct and personalized contact between citizens and the government.
- In the back office, which is mainly characterized by support processes, which play a significant role in public administration, which often demand time and have an insufficient number of people to carry them out.
- In decision support, where the decision is actually made by weighing possible options and making a final decision on an alternative, the government has decide based on data and facts, which have become increasingly important, in addition to the fact that the decision-making process itself can receive support from technical systems, which present suggestions to the decision-maker who verifies and decides to accept, adapt or even reject.
- In decision automation, where the decision-making process and binding decisions are made autonomously, exclusively by a technical system, where the result of various administrative decisions can be derived directly from relevant legal texts, it being only necessary to check in to what extent the requirements defined by law are met so that the direct consequence can be derived.
- In critical systems with real-time decisions, such as AI-based and networked traffic control systems that intelligently offer the possibility to react to traffic situations in near real-time, or even in the management of natural disasters or attacks terrorists, where a quick and timely response helps save lives, automated systems offer time savings and more room to maneuver.

Table 1. Types of government problems appropriate for AI applications

Resource Allocation	• Administrative support is needed to speed up task completion • Inquiry response times are long due to insufficient support
Large datasets	• Dataset is too large for employees to work efficiently • Internal and external datasets can be combined to enhance outputs and insights • Data is highly structured with years of history
Experts shortage	• Basic questions can be answered, freeing up time for experts • Niche issues can be learned to support experts in research
Predictable Scenario	• Situation is predictable based on historical data • Prediction will help with time-sensitive responses
Procedural	• Task is repetitive in nature • Inputs/outputs have binary answer
Diverse data	• Data includes visual/spatial and auditory/linguistic information • Qualitative and quantitative data needs to be summarized regularly

Source: Mehr (2017).

Some problems that government commonly faces and that may be appropriate for the use of AI are presented in Table 1.

Some practical examples of the use of AI by governments and Public Administration demonstrate the capabilities that intelligent systems have in solving problems and in the search for efficiency and resource savings with better quality and scope of services to society. For example, Argentina deployed a fully functional AI system in the area of justice and public administration to dramatically reduce court file processing times and human errors. Finland has launched three chatbots aimed at foreign entrepreneurs to help them settle in the country and start a business, in which one of them assists in obtaining a residence permit, another advises on setting up a company, and another provides information on the country’s business and labor taxes (OECD, 2019b).

Also, according to the OECD (2019b), Portugal will use AI to maximize tele-dermatological screening, with the aim of helping general practitioners in primary care units to diagnose skin lesions through a mobile application based on computer vision, reporting suspected cases to dermatologists in hospital dermatology departments, where an AI-powered risk prioritization and decision support platform will help prioritize cases for further expert analysis. At the same time, Portugal is implementing a project that aims to contribute to minimizing the response time of emergency medical services, with predictive models being developed to help anticipate service demand, combining existing historical data and context-sensitive data from various sources, such as the weather. In addition, a project is underway to identify and forecast the demand for hospital emergency rooms, which aims to identify, in a timely manner, significant changes in-patient admissions to emergency care units, which will effectively reduce the wait, optimize resources and reduce costs. New Zealand has been experimenting with Machine Learning to identify patterns of irregularities in visa and immigration, with the aim of informing the design of fair and effective operating procedures.

In Great Britain, in 2010, several hospitals used a disease surveillance system based on Machine Learning technology with successful results, as the system was able to reduce the spread of viruses (Mitchell, Meredith, Richardson, Greengross, & Smith, 2016). In the same year, a police department in California adopted AI to find areas where criminal incidents will

occur, and the result of applying AI contributed to a reduction in property crimes by up to 27% (Goldsmith & Crawford, 2014).

As important as expanding and improving government and Public Administration services through the use of AI techniques, is improving how the use of public financial resources is supervised and controlled. The control of public accounts is of the utmost importance in a democratic State based on the rule of law to safeguard the existence and maintenance of the State itself and to guarantee the fundamental rights of citizens. Therefore, an institution is required to ensure the effective and regular management of resources in defense of society. The competence to carry out the activity of external control in the inspection of the legality and regularity of public revenue and expenditure in Portugal rests with the Court of Auditors, which judges the accounts that the law orders to submit to it, assesses public financial management and effective the financial responsibilities, among other attributions and competences that the law confers on it, which results in the contribution to the sustainable development of public finances. Therefore, just as the Public Administration and other public organizations are using AI techniques to take advantage of these systems, the Courts of Accounts are also deploying AI systems to help exercise external control and oversight in a more comprehensive, efficient way it is efficient. The Portuguese Court of Auditors has been adopting AI techniques in its activities and, therefore, enjoying the opportunities and advantages related to the use of these systems, but also facing the challenges that involve its implementation and execution.

An example of the use of AI by Courts of Auditors can be seen in the article by Silva (2016). In it, the author describes experiments using AI techniques in unstructured databases, carried out at the Federal Court of Auditors (TCU), in Brazil. According to the author, cognitive services can be used to improve the work processes of the TCU and the Public Administration, since the work of the court and other public organizations is inherent in the need to structure texts that are produced continuously and that depend on the classification and extraction of the information contained on unstructured bases. Such information consulted and produced by the TCU, which is registered in reports, judgments, and other documents, requires sophisticated interpretation resources to obtain the information since it is dispersed in several documents and in an unstructured way, which implies a significant effort for part of the servants (employees) of the court. In this context, the use of tools and algorithms based on Machine Learning models are strategically essential, as they allow machine learning of the most complex characteristics of concepts present in different documents.

Sousa (2015) presents the use of artificial neural networks for the classification of patterns in helping control agencies at all stages of the audit process, where he highlights the application in “risk assessment, identification of fraud and errors, assessment of continuity (issuance of an opinion of the going concern type), identification of situations of excessive exposure to financial risks, bankruptcy forecast, identification of modified and unmodified audit opinions on financial statements, among others.” For the author information and knowledge are input and product of external control activity, and therefore, data processing is an indispensable condition to leverage control activities in an increasingly connected society, and the use of artificial neural networks as a support tool can prove to be an important instrument to improve effectiveness and efficiency, and even economy.

In another study, AI techniques were applied to support audit activities in the fight against corruption (Silva & Rocha, 2010), using data stored in Brazilian government systems, which generated evidence of cartel in bidding processes, indicating to auditors in which processes should prioritize their analyses. In the same sense, Figueiredo & Cabral (2020) stated in their

research that the use of AI, more specifically Machine Learning, proves to be effective in crossing data and information, thus allowing the fight against corruption.

Portuguese Court of Auditors

Control of Public Finances

The main objective of a State is the public interest, the search for the common good. The constant evolution of society ends up resulting, for the State, in processes of change, which, according to Mozzicafreddo (2009), occur in the medium or long term due to social contingencies, reflecting, however, on the structure and way in which the State organizes itself.

With the advent of the Welfare State in the last century, the State expanded its presence in the economic field and began to expand the public services offered to the population. As a service provider for the development and well-being of society, the State needs sufficient resources to carry out its activities, and it is through public revenues that the Public Administration manages these resources and provides services.

The State, however, must avoid wasting or misusing these public funds, resulting, for the most part, from collecting taxes from citizens, which in practice deprives them of part of their individual assets. Therefore, management resorts to the adoption of criteria such as effectiveness, efficiency, the global rationalization of public policies through the economy, and observation of the principles of competition, transparency, publicity, and laws (Gameiro, da Costa, & Pimentel, 2020).

To obtain a better Public Administration, the management of public assets is seen as a partnership between the State and society, in which both share duties and rights seeking the same objectives (Xavier, 2006), which is only possible with almost continuous processes of reforms in Public Administration and renegotiation of relations between the State, economy, and society (Pitschas, 2003).

The public money available to managers must be applied in accordance with basic principles, such as effectiveness and efficiency, in an attempt to maximize the benefits and positive results (Gameiro et al., 2020). According to Tavares (1996a), every management or administration activity requires, for its effectiveness and efficiency, an adequate control system.

The supervisory power over the Public Administration, in the democratic States of law, is attributed to the legislature, which will seek to prevent the Administration from exceeding its limits of action, by abuse of power or deviating from the public purpose (Marcelino, Wassally, & Silva, 2009). One of the central issues of control exercised over the Public Administration lies in the fact that public assets belong to society and not to the Administration or the manager, who is responsible for its management.

However, throughout history, and in line with constant reforms, there has emerged a regular need for an external and independent financial control institution to ensure compliance with the administrative order, programs, and government projects established in public budgets, to be verified the proper and correct use of public resources, in order to avoid the waste of money and public values resulting from poor management, putting the public interest above any other (Martins & Tavares, 2011).

With the increasing growth of the public machine and the scarcity of resources, mainly financial, and a distorted view that the private sector would be more efficient and effective, added to the growing demand and demand from citizens for higher quality services, from the

1980s, through reforms, the States introduced changes in their structures. These changes resulted in the decentralization and deconcentration of organizations, in addition to transferring the execution of some of their services to the private sector, in a movement that would be known as New Public Management (Hood, 1991). With this, the State began to transfer large amounts of financial resources to entities, agencies, and social organizations that multiplied in number, as well as the actors involved, generating greater complexity and resulting in the growing demand for greater rigor and new forms of execution in its function of control, mainly the financial control of public money, and the consequent responsibility for its misuse or inappropriate conduct.

The control function plays an important role in the relations between the State and society and contributes to the guarantee of a democratic regime. The Declaration of the Rights of Man and Citizen, of 1789, presented in France, brought in its articles 15 and 16 the precept of the right of control by society. This document provides, respectively, that “society has the right to ask a public official for an accounting of his administration” and that “any society in which no provision is made for guaranteeing rights or for the separation of powers, has no Constitution” (Française, 1789). Therefore, control assumes a nature of inspection and correction of the administrative function, in which the powers must be exercised in accordance with the terms defined in the Constitution and other legal instruments. In this way, compliance with administrative action is ensured by the control of the principles determined by the legal system made available to the agencies in charge of the administrative function (Lopes, 2017). The control function, in addition to being essential in a limited State (where its agencies are subordinated to the Constitution and the laws) and rational (which aims to obtain the maximum social benefit at the minimum cost), must be capable of ensuring the provision of after all, which is central in a democratic and republican state (da Costa, 2012).

Since Public Administration is subordinated to legal instruments, the principles that regulate administrative activity established in administrative law aim to ensure the predominance of collective interests in the performance of State action, without prejudice to the prerogatives of those administered, guiding the achievement of a line limit or balance between the intervention needs of the public power and the citizens’ guarantees.

The function of control, in a broad sense, is carried out over all State and Public Administration activity, in all spheres and levels, having various agencies as executors, which jointly form a national control system. Control is related to the search for better performance (positive view of the function), but also — and perhaps more visible —, as exposed by Barros Júnior (1978), with an intention of vigilance/inspection (negative view of the function focusing on irregularities) exercised over the activities of the administrative organizations in order to ensure their legitimacy (verify whether the administrative acts are practiced according to the Law and within the limits set forth by it) and merit (inquiries about the correctness of the action, according to convenience criteria and opportunity, or good management technique).

Regarding the national control system, Tavares (1996b) defines it as a united and coherent articulation of all the elements that compose it, considering different purposes or interests, notwithstanding the nature and specific functions of each component of the system. Thus, part of this system are the various control agencies in a given domain, namely that of public financial activity. The constitution of the system will depend on a requirement, in the sense of satisfying a need, with benefits in terms of the universe to be controlled, the harmonization of methodologies and procedures, and the greater rationality of control, with the consequent reduction of costs.

Specifically, to public financial control, it is worth mentioning the Constitutional Charter of England (Magna Carta 1215, n.d.) as a precursor that, in 1215, included in its text the principle of “no taxation without representation” (Dorn, 2013), which linked the collection of taxes to the existence of a law drawn up by representatives of the people. Since then, the legislative function has stood out, and later, the function of financial power gains the connotation of controlling the use and destination of public funds used by the holder of that power, thus emerging the function of financial control of acts performed by the government. Subsequently, following an evolutionary course, financial control acquires an investigative connotation, functioning as a watchdog for the acts carried out by the Executive Branch (Zanandrea, 2016).

It should be noted that, according to Sousa Franco (1987), the expression public finance is used to designate the economic activity of a public entity tending to allocate goods to satisfy the needs entrusted to it. The Public Administration develops its activities based on a set of legal norms, aiming to meet the collective needs of the public interest. To carry out these activities, public managers rely on the State Budget, which provides the legal basis for the execution of financial activities. According to Sousa (1998), the preparation, execution, and control of public internal financial management are the responsibility of the Public Administration, the Government in general, and especially the Ministry of Finance (MF) *Ministério das Finanças*, through the Tax Authority *Autoridade Tributária*, the Directorate-General for Budget *Direção-Geral do Orçamento*, and the Inspectorate General of Finance *Inspecção-Geral de Finanças*. The financial administration of the State consists of a cluster of services and agencies to assist the government in the preparation and execution of the financial and global policy of the State, in particular in the budgetary, monetary, and credit domains (Lopes, 2017).

Financial control thus develops in parallel with financial activity, seeking to ensure that it corresponds to the public interest, respecting the rules and criteria to which it is subject by law and the objectives that are politically set. The more complex the social organization, the more diversified and complex are the financial control mechanisms, due to the very complexity and diversification of the controlled activity whose level of quality and organization must be raised (Sousa Franco, 1995).

It is inferred, therefore, that control, as an indispensable part of a regulatory system, in addition to contributing to the adequate financial management of public funds, is also an instrument that will result in the accountability of the managers who manage them. It is also necessary to establish mechanisms that aim to guarantee compliance with the legal order and that safeguard the defined rights and interests, it being important to point out that financial control serves to verify whether these acts are properly applied to provide the proper use of public funds always for the benefit of the public interests (Tavares, 1996a).

According to Moreno (1997), the national financial control system, in terms of its entire organizational and functional structure, is based on two distinct realities: internal control and external control. The first is seen as a technical response to the demands of modern public management and the second as the democratic State’s response to its contributing citizens. In the context of internal control, Marçal & Marques (2011) consider it a form of organization that presupposes the existence of a plan and coordinated systems aimed at preventing the occurrence of errors and irregularities or minimizing their consequences and maximizing the performance of the company entity to which it belongs. The purpose of internal control, according to Tavares (1996b), is to provide confidence, completeness, and integrity of the information provided,

compliance with policies, plans, procedures, laws, and regulations, as well as the prevention and protection of assets, economic application and due utility of resources and the execution of purposes directed to operations or programs. In Portugal, Decree-Law no. 166/98, of 25 June, instituted the National System of Internal Control of the State's financial administration (SCI) Sistema Nacional de Controlo Interno da administração financeira do Estado, aiming, within the scope of Public Administration, at the coherent and articulated exercise of control.

As for external financial control, this can be classified as social control, political control, or jurisdictional control. The control carried out by the media and public opinion, informally, is an expression of the social control exercised by the community itself, through its own institutions and groups, over the activity of the Administration and common goods, translating into practice the fundamental idea of democracy through the power of the people in relation to the limitation of powers and the demand for responsibilities regarding the management of public affairs. Political control is exercised through the action of the Representative Assembly Assembleia Representativa of the people, in Portugal, by the Assembly of the Republic Assembleia da República, Regional Legislative Assemblies Assembleias Legislativas Regionais, and Municipal and Parish Assemblies Assembleias Municipais e de Freguesia. Jurisdictional control is exercised by the Courts, which are organized in the most diverse ways and with the most diversified powers (Gameiro, 2004).

However, the latter type of control may be non-jurisdictional in some countries. In any case, external financial control in any democratic State is exercised by the Supreme Audit Institutions (SAI), which are included, according to Tavares (1998), in three different possible systems: the Court of Auditors; of Auditor General; or mixed system between both.

The characterization of these systems is addressed in the following topic, which explores in more depth the functioning of the Portuguese SAI: the Portuguese Court of Auditors.

Characterization and Organization of the Portuguese Court of Auditors

The Supreme Audit Institutions (SAI) are responsible for external financial control, which is exercised independently and with the guarantee of a high degree of technical rigor and objectivity towards citizens (Costa, 2012). The role of these institutions is to ensure the existence of an effective financial democracy in the use of public resources and in the management of the State's assets (Serra, 2015), overseeing the administration of public accounts and contributing to increased transparency and responsiveness in the execution process of the public budget (Willeman, 2016). Thus, to ensure their technical and institutional credibility, it is crucial that these institutions have functional independence, which should be seen as a structural operating principle that allows the supervisory function to be exercised with objectivity and impartiality (Vives, 2003).

In 1953, SAI representatives from 34 countries (including Portugal) founded the International Organization of Supreme Audit Institutions (INTOSAI), an autonomous, independent, professional and apolitical, permanent organization, with the aim of promoting the exchange of ideas, knowledge, and experiences among the SAIs of the member countries in matters of financial control of the Administration (INTOSAI, n.d.), thus serving as a basis for defining high-quality auditing standards for the public sector.

Given the structure and powers of the existing SAIs in the various States, one can identify, in terms of these institutions, three major models of external financial control (da Costa, 2012), according to the aforementioned systems.

One of them is the Court of Accounts model, also known by the doctrine as the jurisdictional or Napoleonic model (with reference to the Cour de Comptes created in 1807 by Napoleon (Serra, 2015)). It is a collegiate body that exercises the function of supervision and auditing and has as a characteristic attributed the jurisdictional power of judgment on the financial management of public affairs (Tavares, 1998), in addition to punishing and issuing compulsory determinations to controlled (Marcelino et al., 2009). They tend to privilege, in some cases, the control of legality and financial responsibility.

Another model is the Auditor General, or Anglo-Saxon. It is characterized by being a unique agency with exclusive auditing functions and, therefore, devoid of jurisdictional powers, tending to favor the control of good financial management, pointing out the deficiencies verified in a given inspection or auditing action, and formulating recommendations for improvement of regularity or operational correction in the future (Simões, 2017), having, therefore, an opinion or advisory control.

Finally, there are States that have instituted their SAI with a mixed nature, combining characteristics of the Court of Auditors and Auditor General systems, as is the case of Germany, the Netherlands, and even the European Court of Auditors (da Costa, 2012).

Portugal adopted the model of the Court of Auditors to exercise supervision and control of public finances. Historically, the importance of this function of control dates back to the end of the 13th century, under the reign of King Dinis, with the creation of the “Casa dos Contos,” whose function was to order and supervise the financial activity of the State. In 1761, the “Casa dos Contos” was extinguished, giving way to the “Erário Régio” Royal Treasury, in which the control of the State’s income and expenditure was centralized. In 1832, replacing the “Erário Régio” Royal Treasury, the “Tribunal do Tesouro Público” Public Treasury Court was created, which required the publication of State revenue and expenditure accounts until then treated as confidential. This court would give way, in 1844, to the “Conselho Fiscal de Contas” Fiscal Council of Accounts, which brought as its main innovation the “separation of the attributions of administering, collecting and accounting for taxes and public income from the examination, verification, and judgment of the tax collectors’ accounts” (Franco, Paixão, & Filomena, 1992).

In 1849, the Portuguese Court of Auditors appeared, which in 1852 was constitutionally enshrined as a specialized, autonomous, and supreme auditing jurisdiction. The court would be subject to reforms, with the first in 1859, consolidating its independence, and others in 1868, 1878, and 1886 (Moreira, 1985). In 1898 there was an expansion in the attributions and competencies of the court, in which all orders of appointment, placement, transfer, and paid commission were subject to approval (Franco et al., 1992). However, the Court of Auditors would be extinguished in 1911, with the establishment of the republic, and in its place would emerge the “Conselho Superior da Administração Financeira do Estado” Superior Council of State Financial Administration (CSAFE), which lasted until 1919 when it was replaced by the “Conselho Superior das Finanças” Superior Council of Finance. In 1926, following the establishment of the military dictatorship, the “Conselho Superior das Finanças” Superior Council of Finance was extinguished, giving way again to the Court of Auditors, recreated in 1930, through Decree n.º 18.962, of October 25th, and undergoing a reorganization in 1933.

According to Sousa Franco (1995), the 1976 Constitution integrated the Portuguese Court of Auditors within the scope of the courts, defined its competence, and set a deadline for adapting the legislation in force to the situational text. The Court of Auditors (CA) has since then been qualified as a sovereign institution with the unique characteristic of controlling, externally and independently, the financial activity of the State, in the fields of revenue,

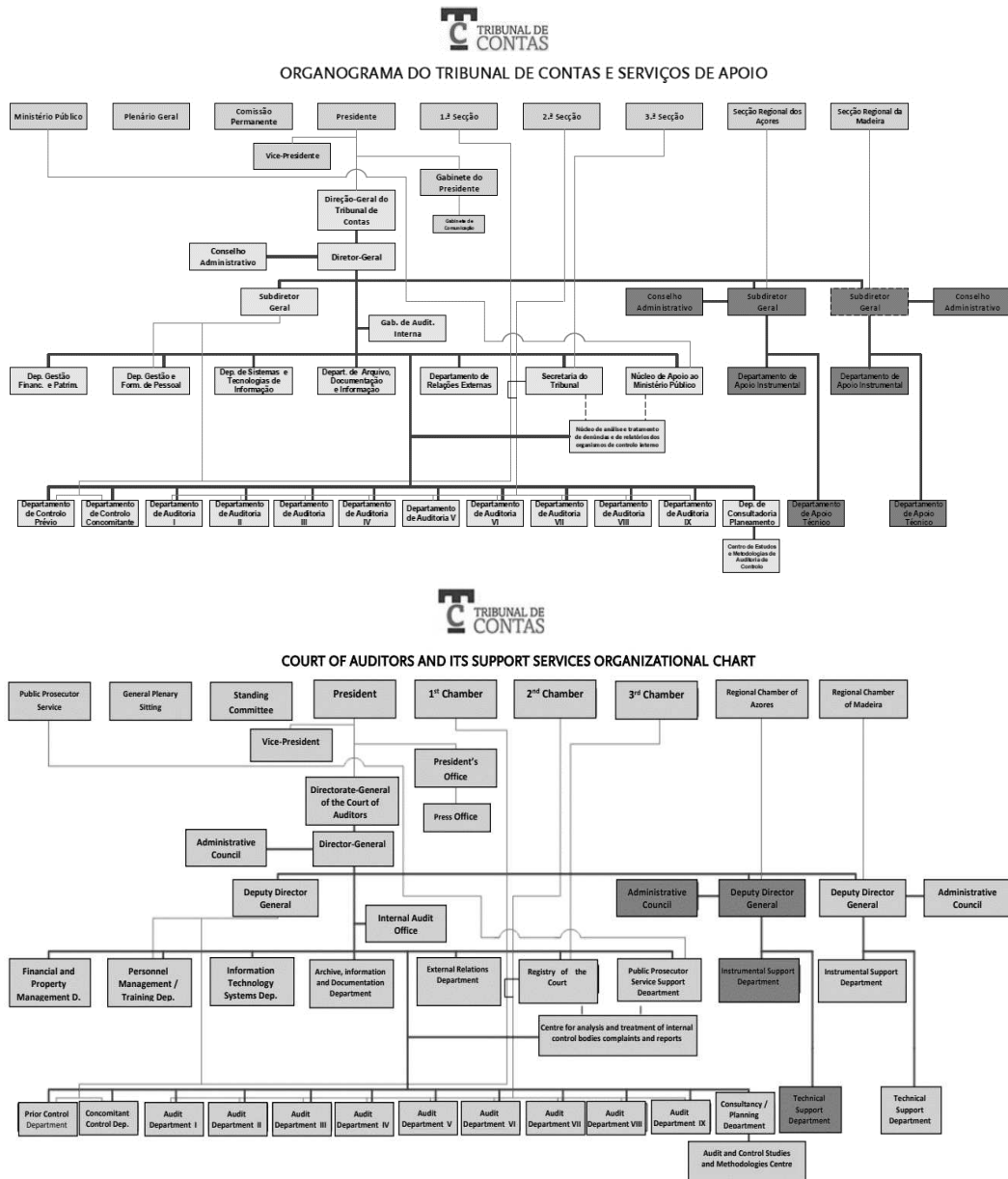
expenditure, and public assets. (Gameiro et al., 2020). According to the Portuguese Constitution, the CA is a sovereign institution (Article 110, paragraph 1) and, as it belongs to the category of courts (Article 209), the general principles constitutionally established for the courts apply to it, of which highlight: the right to the assistance of other authorities (Article 202); the principle of independence and exclusive subjection to the law (Article 203); principles of justification, obligation, and prevalence of decisions (Article 205); and the principle of publicity (Article 206).

In 1997, the Law on the Organization and Procedure of the Court of Auditors (LOPTC) *Lei de Organização e Processo do Tribunal de Contas* (law 98/97, of 26 August) was enacted, which reformulated the fundamental legal framework of the court (TC, 2020). This law clearly reinforced the constitutionally defined framework of competencies, with the ultimate objective of implementing an external control system that effectively corresponds to the need for control of public funds and values that ensures or guarantees legality, regularity, and good management of the same. This competency framework has been deepened over time through changes to the LOPTC.

The mission of the CA of Portugal is, under the terms of the Constitution and the law, to supervise the legality and regularity of public revenues and expenditures, to judge the accounts that the law requires to be submitted to it, to give an opinion on the General State Account *Conta Geral do Estado* and the accounts of the autonomous regions, appraise public financial management, carry out financial responsibilities and exercise other powers conferred upon it by law (Article 214 of the Constitution; Article 1 of the LOPTC). Whenever public funds are at stake, the law intended to leave nothing out of the external control exercised by the CA (Moreno, 1998), achieving this scope through the supervisory, advisory, and jurisdictional functions, which are provided for in articles 5 and 6 of the LOPTC.

Article 2 of the LOPTC lists the entities that are subject to the jurisdiction and financial control powers of the CA. They are “the State and its services; the autonomous regions and their services; local authorities, their associations or federations and their services, as well as metropolitan areas; public institutes; social security institutions; public associations, associations of public entities or associations of public and private entities that are mostly financed by public entities or subject to their management control; public companies, including public business entities; municipal, intermunicipal and regional companies; concessionaire companies for the management of public companies, public capital companies or controlled mixed-capital companies, concessionaire companies or managers of public services and public works concessionaire companies; foundations governed by private law that receive annually, on a regular basis, funds from the State Budget or from local authorities, in relation to the use of these funds; entities of any nature that have participation in public capital or are beneficiaries, in any capacity, of money or other public values, to the extent necessary to monitor the legality, regularity and economic and financial correctness of the application of the same public money and values.” The exercise of financial control can take place in advance, concurrently, or successively.

Prior inspection, whether preventive or a priori, is carried out after the performance of the act/conclusion of the contract on what is legally applicable, preceding, however, the beginning of the production of the respective effects, specifically, the financial effects (Tavares, 1998). Competence for this inspection is exercised by granting or refusing a visa in the legal acts subject to it or by means of a declaration of conformity.



Source: Court of Auditors.

Figure 1. CA organization chart and support services.

Concomitant inspection translates into inspection audits of procedures and administrative acts that involve personnel expenses, contracts not subject to prior inspection, and contracts with the granting of a visa with recommendations (da Costa, 2012), that is, it is the supervision exercised during the execution of acts or contracts or their management (Serra, 2015).

Successive inspection, or a posteriori, materializes in the internal and external verification of accounts, called auditing of accounts, developed with the aim of ascertaining good financial management, through the assessment of reliability and integrity of the financial statements and the financial situation and property of the entity to which they relate (Moreno, 1998). Tavares

(1998) describes successive supervision as that which is “exercised after the development of (controlled) financial activity (...) which may lead to the judgment of financial responsibility.” In accordance with the LOPTC (article 50, paragraph 1), the successive inspections in Portugal, carried out by the CA, verify the accounts of the entities, evaluate the respective internal control systems, assess the legality, economy, efficiency, and effectiveness of their financial management and ensures the supervision of the national contribution in the Community’s own resources and the application of financial resources coming from the European Union.

Another competence assigned to the CA is related to the determination of financial responsibility, which is carried out in typically jurisdictional processes. Responsibility may be in a reintegrative form, which is effective through the initiation of accounts judgment processes, and covers the scope and acts of embezzlement of money or other values, undue payments, and infractions resulting from the obligation to indemnify, in addition to the non-collection of revenues when there is an intent or serious fault (articles 59 and 60 of the LOPTC). In these cases, those responsible are condemned to return to the State coffers the sums covered by the infraction. However, financial liability may be sanctioning or punitive in nature, effected through the initiation of financial liability judgment processes, verified in cases where there are financial infractions typified by law (articles 65 and 66 of the LOPTC). This responsibility translates into the imposition of fines of a non-criminal nature. It should be noted, however, that the implementation of financial responsibility, in any of its forms, does not affect the implementation of criminal and disciplinary responsibility that may also be applicable.

To carry out its activities and fulfill its mission, the CA uses a structure organized into three sections at its headquarters and two other sections of general competence, located one in each autonomous region. At headquarters, there is the president and sixteen judges, and in each regional section, one judge, in addition to having support services, which had its statute approved by Decree-Law no 440/99, and which is expressly included in the text of the LOPTC as indispensable to the performance of the functions of the AC (article 14, paragraph 2).

Thus, according to the LOPTC, the purposes of the specialized sections are as follows (Gameiro, 2021):

- 1st section: performs its functions and activities on the powers of prior inspection, and concomitant inspection of acts and contracts, being able to impose fines and relieve financial responsibility;
- 2nd section: exercises powers of successive supervision and concomitant supervision of financial activity, and may also, in the cases provided for by law, impose fines and relieve financial responsibility;
- 3rd section: exercises the jurisdictional function, proceeding with the judgment of the processes of realization of financial responsibilities and of fine, at the request of the competent authorities.

The technical and administrative support services are constituted by the president’s office and by the directorate-general, including the support services of the regional sections (article 30, paragraph 1 of the LOPTC). The directorate-general is structured in two major areas: the technical-operational support area, which performs functions of an operational nature in direct functional dependence on the advisory judges, and which is organized into: nine audit departments, which provide support to the 2nd section activities; an internal account

verification department; another prior and concomitant control department, which provides support to the activities of the 1st section; and finally the consultancy and planning department, which includes the audit and control study and methodology center. The other area of the general management is that of instrumental support, which includes the financial and asset management departments; management and personnel training; information systems and technologies; archiving, documentation, and information; external relations; the court clerk; and the public ministry support center (TC, 2020).

Artificial Intelligence in the Portuguese Court of Auditors

The adoption of electronic government (e-government) has contributed to advancing the digital transformation of public sector organizations in the most diverse sectors. The electronic government refers to the strategic and coordinated use of information and communication technologies (ICT) in public administration and policy-making centers (Von Haldenwang, 2004). The use of modern ICT in the context of electronic public administration allows a substantial transformation and an increase in the efficiency and effectiveness of the provision of public services, and, therefore, various stakeholders and interest groups of public administration (citizens, companies, non-profit organizations, etc.) require more productive, flexible, and transparent administration and an increase in the proportion of services provided online (Wirtz & Daiser, 2018).

With the advent of new models of public management and digital transformation, contemporary States need SAIs that are able to respond to new challenges and problems, and this requires a new paradigm of financial control (da Costa, 2012). It is, therefore, natural for the CA to look for ways to keep up with technological advances in its control activities, which contribute to the fight against fraud and corruption, illegal acts that threaten the growth of the State and the economy due to the decrease in public funds intended for various policies such as education, health, and transportation, thus bringing harm to society as a whole (L. R. Schneider, 2021).

Citizens have a right to know about the performance of their rulers, who are obliged to account for their actions and explain the policies and objectives adopted, in addition to how public resources were used and the results achieved (Rocha, 2007). Still in the prototype phase, the Portuguese CA has been using technologies that encompass the concept of AI to analyze some points related to the accountability of entities listed in article 51 of the LOPTC. This type of control is carried out a posteriori and, therefore, its activities are the responsibility of the 2nd section of the CA.

However, any project using AI systems needs quality data as a key precondition. The importance of quality data, or lack thereof, is commonly raised by experts as an important factor contributing to the success or failure of an AI initiative (Jamie Berryhill et al., 2019). Some even claim that most governments are simply not ready for AI and should focus first on getting their data in order (T. K. Schneider, 2019).

The question that arises is “how does the Portuguese Court of Auditors use AI to control and supervise the use of public financial resources?” This research seeks to understand what stage of development and implementation of AI systems the CA is in and what is already possible to conclude from the use of AI in its control and inspection activities. In the next topics, the research methodology used and the results obtained are presented.

Methodology

Due to the characteristics of the proposed object of study, the institution studied and the professionals involved in the study, in addition to the intended objectives of this work, it was decided to use a research methodology of a qualitative nature that would allow reaching a deeper understanding of the object of study without focusing on measurements and statistical analysis (Vilelas, 2009). The qualitative methodology makes it possible to “relate ideas and discover meanings in individual actions and social interactions from the perspective of the actors involved in the process” (Coutinho, 2011).

Qualitative research studies things in their natural environment to understand or interpret phenomena and their meaning (Given, 2008). It is a term that includes a series of interpretive techniques that seek to describe, decode and translate a phenomenon of the social world (Van Maanen, 1979). Therefore, researchers using this type of methodology tend to collect data where participants experience the problem being studied (Creswell, 2007).

Approach Method

To carry out this work, it was decided to use the “case study” method, but used as a research strategy, in the view and definition of Yin (2001), which involves planning, analysis, and exposition of ideals instead of the more traditional focus of data collection or fieldwork. As a research strategy, the case study can be used in many situations, such as politics, public administration research, sociology, and organizational and management studies, among others. According to Yin (2001), “in general, case studies represent the preferred strategy when questions such as ‘how’ and ‘why’ are asked, when the researcher has little control over events and when the focus is on phenomena contemporaries inserted in some context of real life,” which characterizes and corroborates the objective of this work.

Therefore, the case study can be defined as “a research strategy whose characteristics include a focus on the interrelationships that constitute the context of a specific entity, analysis of the relationship between the contextual factors and the entity being studied, and the explicit purpose of using those insights to generate theory and/or contribute to extant theory” (Mills, Durepos, & Wiebe, 2010, as cited in dos Reis, 2019). With this, the case study is useful to investigate new concepts, as well as to verify how elements of a theory are applied and used in practice (Yin, 2009).

Data Collection Technique

Yin (2001) suggests the use of at least two sources of evidence in data collection, among the six described by him, when dealing with a case study. In this work, the official documentation and the interview were used as sources of evidence. According to the same author, for case studies, the most important use of documents is to corroborate and value evidence from other sources. The other data collection technique was the interview, in which the semi-structured type of interview was chosen, where the questions are more flexible, the interview being a

mixture of more and less structured questions (Merriam & Tisdell, 2015), which can be added to other questions during the process.

Among the possibilities and contingencies for carrying out this work, five CA professionals were selected to be interviewed, consisting of a manager, two IT professionals, and two audit professionals, all with knowledge and participation in the development of AI technologies in the CA. The intention of choosing these professionals was the possibility of exploring the vision at the different levels of the functional structure of the CA, where we sought to extract information about the use of AI in the management vision, in the technological vision, and in the vision of the professionals who use it, or will use, the benefits of these technologies directly in their activities. Initially, there was a face-to-face meeting at the headquarters of the CA with its president, who, after presenting the intention and objectives of this work, authorized the study and appointed an employee to mediate and provide the necessary data to carry out the research, including indicating the interviewees and providing other CA documents.

According to what appears in the work of Saunders & Townsend (2016), regarding the justification for the number of interviews, it is pointed out that Brinkmann & Kvale (2015) recommend between five and 25, depending on the purpose of the study, and may even a single participant is sufficient (Becker, 2012). However, Creswell (2007) advises between three and five interviews per case for case study strategies, which is consistent with this research, which obtained a total of five interviews among members of the CA staff who develop or are directly linked to the development of artificially intelligent technologies.

The interviews were all carried out remotely, using the Zoom software, between June 11 and July 29, 2021, and each question guide (there were three models) was prepared according to the level that was intended to be explored, and in a way that integrated between both, thus encompassing a broader view and providing a better analysis and understanding of the object under study.

Data Analysis Technique

According to Fernandes (1991), “qualitative analysis is characterized by the search for the apprehension of meanings in the subjects’ speech, linked to the context in which they are inserted and delimited by the conceptual approach of the researcher, bringing to light, in the writing, a systematization based on quality” (as mentioned in Alves & Silva, 1992).

For data analysis, the approach known as the content analysis was used. According to Guerra (2006), the content analysis aims to “(...) describe the situations, but also interpret the meaning of what was said. In fact, when we talk about empirical research, we are talking about a series of operations such as describing the phenomena (descriptive level), discovering their covariations or associations (correlational level), and still discovering causality/interpretation relationships of the social dynamics under study (level interpretative). In the in-depth interviews, a variety of content analysis techniques are used for each of these operations” (as quoted in dos Reis, 2019).

The content analysis technique used in this case study was thematic or categorical analysis, which consists of dismembering the text into units (categories), according to analogical regrouping (Minayo, 2000). These operations aim to discover the nuclei of meaning that makeup communication, being concerned with the frequency of these nuclei, in the form of segmental and comparable data, and not with their dynamics and organization (Bardin, 1977).

All interviews were recorded and their data were manually transcribed in full to enable the counting of repeated words. However, the qualitative analysis goes far beyond the process of counting words, to examine language intensively, with the aim of classifying large amounts of text into an efficient number of categories, which represent meanings (Weber, 1990). Therefore, the categorization proceeded to then analyze all the content and write the results of the study. The data analysis method was carried out using low-tech material, as in total the content of five interviews was analyzed, as it is advisable to make use of computer-assisted data analysis packages when there are more than half a dozen interviews (Bloor & Wood, 2006; Halperin & Heath, 2012, as cited in Reis, Amorim, & Melão, 2018).

Results

This topic presents the analysis of the semi-structured interviews related to the documentation used to generate the results of the study. The problems mentioned by the interviewees resulted in a division of five categories (see Table 2), which form the subtopics following. Content analyzes were carried out for texts transcribed from the interviews referring to each of the categories, and served as the basis, together with the documental analyses, for writing the text of the results. For organization purposes and better visualization, each interviewee was related to a code, as follows:

- E1 – Interviewee 1 (management);
- E2 – Interviewee 2 (technology);
- E3 – Interviewee 3 (technology);
- E4 – Interviewee 4 (audit);
- E5 – Interviewee 5 (audit).

Table 2. Categories

Category	Subcategories (most frequent)
AI development in the CA	Technology used Objectives Decision support
Data	Data preparation Accounting references “e-Contas” portal Systems interoperability
Systems performance	Efficiency Effectiveness Economical
Human Resources	Workgroup Lack of time AI as a Team member
Projects and ideas	Future scenarios

AI Development in the CA

According to all respondents, the CA is in the development phase of solutions based on AI technologies aimed at analyzing data and information, therefore, related to Big Data, in order to support the actions of auditors in verifying the accountability of the jurisdictional entities. Because they are at the beginning of the project, they consider these systems as prototypes.

The initial idea was to develop technologies for analyzing data from the rendering of accounts, which are carried out annually by approximately 7000 entities under the jurisdiction of the CA, and more recently extended to hiring under the COVID-19 pandemic situation. So they are using AI in auditing management accounts, in the area of administrative contracting and financial holdings. The objective is that the systems, using AI, generate network models that make it possible to perceive the most influential groups and points in the network, such as the most influential companies, and thus obtain forecast models. Using data from the rendering of accounts, which started to be done electronically and no longer by physical documentation on paper, did seek to take advantage of them to experiment with new forms of analysis and combinations on the relationships and pre-existing structures of the data stored, being able to produce knowledge and perceive new patterns, which, for example, can support the triggering of new evaluation actions. In other words, they are technologies that allow new forms of analysis, exploration, and understanding of reality, since these two areas, according to the interviewee 2, are not easy to be translated by relational databases or other more traditional technologies. The great difficulty expressed was about extracting value from unstructured information, which is not yet being explored.

The development of these AI technologies seeks to explore connections to understand and, if possible, predict complex behaviors, such as propagation pathways, which was defined in “how things spread over a network”; flow and dynamics, which has to do with “how things move”; interactions and resilience, to understand the dynamics of groups, including disjoint groups or the interactions between different groups and “why they come together”; and find similarities. The aim is to enhance the use of these technologies so that they learn to approach and assess information from entities and develop their risk analysis, directing auditors to other types of more exhaustive analysis.

The focus, for now, is concentrated only on these mentioned areas. According to the interviewee 1, advancing the use of AI in other areas of CA will depend on obtaining stability and maturation of the technology under development in current areas. This development is directed towards technologies to support auditors’ activities and, therefore, subject to human intervention in decision-making.

AI technologies are developed by the CA staff itself and involve professionals from different areas of the functional structure, who share experiences with CA teams from other countries and obtain occasional support in some cases. The intention is to respond to the needs of the auditors, which causes their involvement in the construction of solutions, but which, at the moment, do not perform operations on the systems to obtain the analyses, which are carried out by the IT area.

However, despite the involvement of professionals from different areas in the development of these technologies, some interviewees reported the need to form a working group dedicated to this topic, since the activities that each function requires end up not leaving much time to commit to this, making it difficult to reconcile the development of AI-based solutions.

The analyses so far prepared and under study, carried out in the two aforementioned areas, use Data Science and Machine Learning to make inferences and predictions, both at the level of the nodes and in terms of the relationships between the nodes. These are analyses that can be visualized through graphs, using the Graph Data Science data base, which helps to formulate complex questions about group dynamics and behaviors based on graph algorithms, from path-finding algorithms to graph neural networks.

The use of AI has no ongoing regulation in Portugal. At the European Union level, countries are developing national strategies and limits of use, as issues such as ethics, secrecy, and data security must be respected. This is to say that in legal terms, the CA follows legislation and internal regulations that are based on national information security standards, which also transcribe European standards so that there are no contradictions.

Finally, the need to dedicate more resources, both human and technical, to the development of AI technologies was demonstrated, in order to use these technologies to solve efficiency and effectiveness problems in the fulfillment of the institutional mission and the work carried out by CA.

Data

AI needs quality data to produce reliable results and to generate new insights. In this regard, the CA has made efforts to obtain structured data with adequate quality. There are two fronts that were thought of and are in effect (not yet fully) which are: the implementation of the “e-contas” portal for electronically receiving the rendering of accounts from entities; and the new accounting framework for Public Administration, the Accounting Standardization System for Public Administrations (SNC-AP) Sistema de Normalização Contabilística para as Administrações Públicas.

The CA endeavored to adopt the use of electronic digital means to receive all documentation related to the rendering of accounts, which are forwarded through the *e-contas* digital portal. The implementation of this portal is part of the CA’s digital transformation and practically eliminates the receipt of physical paper documents, facilitating the entire process of verifying the entities’ accounts via computer systems. The data coming from the entities serves as a source for the analyzes carried out by the AI systems. This data, uploaded by the *e-contas* portal by filling in online forms, or imported, also in the portal, the data generated by the entities’ own systems, which must be certified by the MF, go through several validation rules to guarantee the reliability of the information and reaches the CA in a very structured way, which further facilitates data processing and subsequent analyses. If the data does not comply with any validation rule, the system reports the error and does not accept the submission until the required rule is met. Therefore, the CA and the entities are required to render accounts work in an integrated manner through fully electronic technologies. However, despite the system having validation rules to guarantee that the correct information will reach the CA databases, according to one of the interviewees, the technicians are instructed, at least at this current stage, to verify the validation of some of the rules “even to see if the systems were well implemented” (Interviewee 4).

Another factor that enabled a better structuring and organization of the data was the creation of the SNC-AP. In this way, entities had to adapt to the new accounting references, in

addition to the fact that these references were extended to entities that used other forms of accounting records and reported on paper.

With the implementation of the *e-contas* portal, the CA became the single point for submitting budgetary and financial statements within the scope of the SNC-AP, with a single software solution having been developed, with responsibilities shared by all. This information received is disseminated among the control entities such as the MF and the Ministries of Education and Health, so that everyone has the same information from the point of view of the financial statements. The CA works in a distributed perspective because, according to the interviewee 1, part of the analysis algorithms is from the CA, and another part in synergy with the MF, and once the key risks are identified, the information is continuously monitored. This makes it possible to adapt, in these processes, cognitive intelligence technologies focused on intensive data processing, which allows extracting concepts and relationships from these data, in addition to understanding their meaning and learning from patterns and past experiences. Combined with graphics technologies and algorithms, they allow for the possibility of prospective analyses. Therefore, the entire development of the CA's information systems led to a great multisectoral involvement, which ensured interoperability with the MF's information systems, making it possible to consolidate and standardize the financial data of the entire Public Administration.

Systems Performance

The notes made by all, at various points in the interviews, give the systems, even in the initial stages of development, a vision of effectiveness, efficiency, and economy. The areas of financial participation and contracting, of great importance, were reported as areas of concern, mainly due to the fact that the financial resources of the Portuguese State are increasingly scarce and, therefore, must be well used and, according to the interviewee 1, "it is easy to lose track when working with indirect data and circular relationships," but with the use of AI technologies, the control of entities becomes more timely, that is, more efficient, and the discovery of "patterns that were difficult or too complex to obtain," more effective. There is also a gain in "processing speed, speed in obtaining certain results, and speed in dealing with very large volumes of data" (Interviewee 3). They are also more economical in terms of using resources throughout the development and execution process, as "knowing the algorithms, it is a matter of implementing the code, that is, the development, practically all the development, is done by us, internally" (Interviewee 3), using the current structure of the CA.

There is a need to carry out work that is more oriented towards accessing information, in addition, of course, to its automatic treatment, using AI technologies, which would result in an improvement in the entire audit procedure, making it "more efficient, more effective, and better" (Interviewee 5), and consequently improving the performance of people, of work, and of the CA.

Human Resources

All interviewees showed great interest in the use of AI systems to support the activities carried out by the CA. There is involvement between the areas of the functional structure in the path

of adopting these technologies, in addition to others that do not necessarily use some AI technique, but that help in the analysis and preparing the data for AI. However, most respondents expressed some concern about some points.

For example, at the management level, the interviewee 1, said that the issue of leadership is a major challenge. Investing in projects that, at the outset, may not deliver an immediate return, but which require a commitment to development, must be motivated and this is a major challenge for leadership, which must also be involved in the process. From the technological part of the CA, there are four professionals linked to systems development and another three in the support and data analysis part. There are two audit departments that also perform analysis support activities and, together with the technology area, develop risk ratios, indicators, and models.

At this point, some interviewees suggest the creation of a working group, like other CAs in Europe, which includes everyone involved, in principle, in the analysis activities of the two focal areas of AI application. In the external involvement of the court, there is indeed participation in some working groups such as EUROSAI and INTOSAI in sharing knowledge and experiences about technologies.

Another point mentioned is about the possibility of resistance, on the part of auditors, to using AI systems, fearing that they will be replaced in the future by these technologies. Unanimously, there is no such concern and the development of these technologies in the CA does not even take this into account. They are always thinking about how they can help auditors in their activities, how to increase their performance, and make the work faster, more assertive, and with better quality. The point is that “part of the work can indeed be replaced by the use of AI in terms of operational and administrative support” (Interviewee 4), however, this ends up freeing the auditors to focus on the aspects “where the machine does not reach yet” (Interviewee 5) and to dedicate themselves to them to more “intellectual” work, thus becoming a positive point and making technology fulfill its role in supporting its activity. Therefore, AI is seen by all respondents not as a replacement threat, but as a team member, especially in a scenario where there are fewer and fewer resources available and with restrictions on hiring staff.

Another concern present among the majority is related to the training of employees related to the development of AI technologies and their use. Learning has been carried out simultaneously with the exercise of the position’s activities and this causes a lack of time to dedicate to the process, which for most would be solved by creating a work group dedicated to the subject. However, some auditors are considered “sufficiently autonomous in the processing of information” (Interviewee 3) and hardly resort to the IT area, but in terms of the development and use of new technologies and ways of analyzing data and information, they lack time to seek knowledge.

Projects and Ideas

It became clear that the current focus of the development of AI technologies in CA is centered in the areas of financial holdings and public procurement. The current idea is to explore the possibilities that intelligent technologies provide to achieve good results, reaching reliability and maturity, only then taking advantage and expanding to other areas.

However, there are ideas and application projects being considered at different levels. An interesting technological area is related to text mining for applications to account reports and

financial statements (Interviewee 2). At the hiring level, to use automatic algorithms to obtain tests and AI to look for litigation and fraud issues.

For the interviewee 5, the ideal, in the future, would be for the AI system to audit the entity by collecting information, preparing documents, and presenting the results so that the auditor could verify and validate. Viewed from the auditor's side, the benefits that AI provides can span the entire audit procedure. An internal idea that is being matured is the hypothesis, through indicators applied to the accounts, in line with the validation rules and information treated automatically, to alert whether the account should be verified or whether it can be considered correct, without the auditor's action. However, at first, it would apply to entities that, in terms of financial dimension, manage less than one million euros.

Another focus pointed out as important by the interviewee 5 concerns unstructured information, taking value from this information and automating more procedures, essentially in those where much human thought is not necessary.

Conclusion

The use of Artificial Intelligence in today's society, in the private and public sectors, has been intensifying every year due to the great potential of applications and solutions it provides. The enormous amount of data generated every day, in addition to the existing variety, is no longer supported by traditional digital technologies in many types of analysis, and for this reason, AI has been chosen due to its resolution capabilities, combined with the great potential of computer processing.

To control of the use of public financial resources has not been different. In Portugal, the Court of Auditors started to use AI to support some of its activities, especially in rendering accounts carried out by the various entities under its jurisdiction, bringing innovation to its processes and new forms of analysis. However, the development and use of systems with these technologies in the CA are in their initial phase, which corroborates what is expressed in the literature on the use of AI in the public sector, and the effort spent is specifically focused on data processing, that is, the exploration and analysis of Big Data.

As already explained, the AI needs quality data to learn and the CA was concerned with structuring and ensuring that the data it needs arrives in this way. The implementation of the e-contas digital portal for receiving electronic rendering of accounts, together with the institution of the SNC-AP, of accounting references, for standardization and expansion of the number of entities, resulted in a measure of data structuring, which facilitates processing and extends the learning of AI systems, which in this case uses Natural Language Processing techniques. CA has done what AI researchers recommend: first organize the data.

The prototype under development seeks to analyze accountability data, in the area of administrative contracting and financial participation in management accounts and therefore can be classified as an Analytical AI (Huang & Rust, 2018, 2021). Together with other technologies, such as Data Science, the system uses Machine Learning to generate network models in order to perceive groups and points of influence in these networks and discover patterns that underlie the triggering of other evaluation actions. For this reason, training this AI uses unsupervised learning, where algorithms help determine underlying structures and observe similarities between different points to generate new insights. For better visualization of the

results, the CA chose to use technologies for generating graphs that make it possible to see the composition of the networks and their nodes.

All this work aims to support and subsidize the inspection activities carried out by the court auditors and, therefore, are applied in the back office (von Lucke & Etscheid, 2020b). AI becomes a member of the support team of these professionals, who do not consider it as a potential substitute in their functions in the near future.

As it is a prototype, the results generated so far have served as indications, as the available data do not include all entities and do not yet have a historical context to generate more reliable analyses due to the change in accounting references being recent and the rendering of accounts submitted fully electronically as well, which has been a limitation that will be mitigated in the coming financial years.

As in other CAs in Europe, it is interesting to adhere to the team's desire to create a working group aimed at seeking and developing AI-related solutions to support audit activities, as the AI area is in full growth and needs attention. Accountable entities are also starting to adopt AI technologies in their activities and, consequently, become more efficient and effective and, therefore, more timely in their activities, and the CA must follow this evolution by making inspection better. One of the challenges will be to allocate the necessary resources due to budgetary and staffing constraints.

The opportunities generated in the specific case of the CA are the different ways of supervising the use of public financial resources through analysis of accountability with the possibility of tracking the flow of money and identifying the most influential points and entities in the networks, identified by the AI. These more complex analyses to be done by people, at the same time free auditors from more routine and automatable activities to direct them to more exhaustive analyses that technology still cannot reach. Consequently, the work of these professionals becomes more timely and assertive, therefore, more efficient and effective. Soon, with additions to other AI technologies and algorithms, it will be possible to analyze unstructured data and direct efforts to combat fraud.

Finally, in an increasingly connected and digital society in which new technologies emerge every day to make life easier for people, organizations, and the government itself, in scenarios with increasingly scarce resources, it becomes important in the public sector that SAIs find ways to improve oversight of public finances and combat fraud and corruption. Huge amounts of data generated every day require more resources, whether financial, human, or technological, to process and understand what they mean, and artificially intelligent technologies are being developed to make this type of work more efficient, effective, and economical, freeing up people for activities of greater strategic value to the organization.

One of the limitations of this case study was the fact that the interviews were all carried out online, which hinders possible observations in contrast to those carried out at the study site, which enables triangulation with other data collection techniques, enriching the analysis and making the results more reliable. There is a reduced amount of bibliography that addresses the use of AI in SAI in a non-technical way, which also became a limitation of the study.

For further investigations, it is suggested to carry out comparative studies between other SAIs. This makes it possible to compare how SAIs from different models (Court of Accounts; Auditor General; Mixed) use AI in their activities, as well as to make comparisons between the same models.

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Chapter 18

How Does Work-Life Balance Affect the Leadership Effectiveness of Women Employees, and What Are the Roles of Motivation to Lead And Organizational Support in This Relationship?

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Abstract

The aim of this study was to investigate the moderation role of organizational support and the mediation role of motivation to lead on the relationship between work-life balance and leadership effectiveness. The study aimed to test this model empirically by collecting and analyzing data from 250 women employees working in various sectors in Turkey. In this study it is found that work-life balance has a positive effect on both motivations to lead and leadership effectiveness, that motivation to lead mediates the effect of work-life balance on leadership effectiveness, and that organizational support moderates the effect of work-life balance on leadership effectiveness. The study also expected to find that these effects are consistent with self-determination theory, meaning that work-life balance, motivation to lead, organizational support and leadership effectiveness are related to the satisfaction of the needs for autonomy, competence, and relatedness among women employees.

Keywords: work-life balance, leadership, organizational support, motivation

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Introduction

Work-life balance is the degree of harmony between the demands and expectations of one's work and personal life. Having a good work-life balance can help people feel more autonomous, competent, and related to others in both domains.

Motivation to Lead (MTL) can be defined as the will and desire of the individual that influences their decisions to take on a leadership role or responsibilities (Chan, & Drasgow, 2001). Motivation to Lead perception can arise from the individualistic reasons (Affective-identity) and society or social positions (Social-normative) and sometimes for rational reasons (Chan, & Drasgow, 2001). MTL consists of four factors called personal values, self-efficacy, personality variables, and past leadership experience. As can be seen from both the definition and determinants of the concept of MTL, it is thought that both individual characteristics and situational factors can have an effect on MTL (Porter et al., 2016).

The perceived organizational support (POS) is shaped according to the reaction that the individual receives from his environment towards both him and his work in the organization. According to the reaction from the organization environment, individual's perceptions and workplace behaviors are shaped (Hunter, 2011). In the research conducted within the scope of reciprocity and social exchange theory, POS was found to have a significant relationship with many performance variables (Devito, 2019).

The study proposes a model that incorporates self-determination theory as a theoretical framework. Self-determination theory is a psychological theory that explains how people are motivated by their innate needs for autonomy, competence, and relatedness. According to this theory, people are more likely to engage in activities that satisfy these needs and enhance their self-determination.

The study aims to test this model empirically by collecting and analyzing data from 250 women employees working in various sectors in Turkey. The study expects to find that work-life balance has a positive effect on both motivations to lead and leadership effectiveness, that motivation to lead mediates the effect of work-life balance on leadership effectiveness, and that organizational support moderates the effect of work-life balance on leadership effectiveness. The study also expects to find that these effects are consistent with self-determination theory, meaning that work-life balance, motivation to lead, organizational support, and leadership effectiveness are related to the satisfaction of the needs for autonomy, competence, and relatedness among women employees.

The model suggests that work-life balance, which is the degree of harmony between the demands and expectations of one's work and personal life, has a positive effect on both motivation to lead, which is the extent to which an individual has a desire and willingness to assume leadership roles and responsibilities, and leadership effectiveness, which is the ability of a leader to influence, inspire, and guide others toward achieving a common goal or vision. The model also suggests that motivation to lead mediates the effect of work-life balance on leadership effectiveness, meaning that work-life balance influences leadership effectiveness through motivation to lead.

Furthermore, the model suggests that organizational support, which is the extent to which an organization provides its employees with resources, recognition, feedback, and opportunities for growth and development, moderates the effect of work-life balance on leadership effectiveness, meaning that organizational support changes the strength or direction of this effect depending on its level.

Conceptual Framework

WLB and Motivation to Lead

WLB is a concept that describes the circumstances that helps employees in the workplace achieve a balance between work-life and family life (Lakkoju & Jeyalakshmi, 2015) and the ability of an individual to perform both work and non-work duties with success (Brue, 2018). Donnelly et al. (2015) assert that women's promotion to leadership positions is associated with increasing frustrations and pressure to balance the work and non-work domains.

The low representation of women in management levels is a problem that needs to be focused in all business life (Robnik, 2015). When the studies are examined, it is seen that the low representation of women in the management level can be interpreted according to both social justice and the characteristics of the sector. In terms of social justice, in our society where half of the population is female, the fact that women are not represented at this level at the management level constitutes a dilemma. It can also be considered that the baby-boomer generation (Brennan, 2018) has a role in gender perception in gaining management skills in business life. An employee who will take a managerial or leadership position needs to be prepared for this position in terms of both experience and motivation. In studies, motivation to lead may vary depending on individual skills and situational factors (Chan and Drasgow, 2001). In the studies conducted, it was observed that motivation to lead perception was measured according to past leadership experience, personal values, self-efficacy and personality variables factors. When we look at the framework of all these factors, the low representation of women in management levels can be more easily understood. As the determinants of women's motivation to lead perception (Jones-Carmack, 2019):

- **Past Leadership Experience:** Since the working conditions and perceptions that will prepare women for management are not at the desired level, women can not have MTL as men.
- **Personal Values:** Women's personal values are shaped according to the gender perception of the society they live in. The values of sociological institutions affect the personal values of women and perceptions of society.
- **Self-efficacy:** Bandura (1999) emphasizes that individuals' perceptions of self-efficacy will be shaped by their knowledge and experience. Information about the work to be done can be obtained through the trainings received about that job. In addition, conditions must be created to gain experience in that job. From this point of view, women's knowledge about the work they do can increase as long as they work and with the education they receive. It's the same for management and leadership positions. Women's knowledge of management and leadership may vary according to the education they receive. The other determinant of the perception of self-efficacy is experience. From the point of view of experience, it is not possible for women to develop self-efficacy related to management without managerial and leadership experience. Receiving this experience depends on situational factors and societal perceptions.
- **Personality variables:** From the perspective of personality variable, it is emphasized that women's temperament and character structures affect leadership and management

motivation. Temperament is innate genetic trait, and the fact that a woman has innate leadership abilities can increase this. The character may change depending on the interaction of temperament characteristics with the environment in which she lives. The environmental factors that women live in can affect their leadership abilities and skills and therefore their motivation to lead perceptions.

Within the framework of Job Demands-Resource theory, it can be said that women can use the resources they allocate to their work and non-work responsibilities effectively and efficiently through WLB. Women can work at high performance with flexible working schedules without regarding their non-work responsibilities as a treat. This gives women more experience and gives them the desire to gain experience. Experience is a determinant of MTL perception. The self-confidence and self-efficacy gained through WLB can strengthen women's character in terms of leadership. Women who work in a workplace with a high WLB may also feel valued. Because with WLB, autonomy is provided for women's non-work responsibilities. WLB can reduce stress as it will support women to meet expectations. Women working in a workplace with a high WLB can also contribute more by making their career plans in line with the expectations of the workplace.

Therefore, it can be said that in a workplace where the WLB level is increased, women can act more autonomously and make their own programs and career plans in accordance with both their own goals and the goals of the organization. It is thought that they can take responsibility with the sense of loyalty they will feel to the organization, act openly to experience and increase their sense of self-efficacy. Thus, it is thought that MTL perceptions will increase.

WLB and Leader Effectiveness (LE)

It seems that the LE can vary depending on the level at which leader meets the expectations of both the organization and the employees. A widely cited publication on LE in the literature (Evans, 1996) claims that the expectations of LE employees can be accurately predicted and increased with motivational strategies that focus on these expectations. In the study, the effect of leader behaviors such as rewards, alignment between goals, upward influence, charismatic behaviors, correct feedback, timely/open/specific feedback, distinguishing weak/good performance, courage to communicate feedback, correct citations about the reasons for subordinates' behavior, participation in goal setting and measures, communication opportunities, supportive climate, visible performance, group rewards, difficult goals were observed in LE. When we look at leadership theories, different LE determinants are emphasized within the framework of approaches as trait approach (5 factor model), skill approach (problem solving/social judgment, learning behaviors), behavioral approach (transformational/transactional/laissez-faire, charismatic/intellectual stimulation/individualized thinking/conditional reward/exceptional management), situational approach, contingency approach, trait/behavioral approach.

Considering the definition of LE and all the determinants mentioned above, it is clear that the factors of leaders, behavior and subordinate's motivation are very important. The fact that leaders' behaviors are instrumental (performance-oriented) and supportive (satisfaction-oriented) affects the level of LE. When regarded in terms of women, women's motivation determinants are different than men. As highlighted in the WLB section above, it is thought

that women with different responsibilities in many areas of life will need resources to fulfill these responsibilities. It is thought that in work environments where WLB is high, women's main concerns will be low and LE can increase by contributing more to the organization. For the leader to raise the level of WLB in the organization, it is seen as necessary to provide the supports that will meet the needs and expectations of the employees. Especially for women, the situation is becoming more important. The leader's supportive behaviors towards women (non-work/work area) might increase the WLB and through this the motivation/satisfaction of women will increase the LE over the WLB.

Organizational Support and MTL

Organizational Support (OS) indicates the value that organizations place on the performance and well-being of employees. OS practices that meet the expectations of employees positively affects their motivation. Within the framework of this study, the OS practices that will support the responsibilities and duties of women outside the workplace and the positive OS practices that will support the working conditions and career plans in the workplace can increase the motivation of women. A study conducted by Deloitte in 2021 revealed very striking results (Deloitte, 2021). In this recent study, it has been revealed that the OS practices do not meet the needs and expectations of women. It has been reported that 78% of employers violate women's work-life boundaries. It is reported that 63% of employers assess women according to their employment duration, instead of their performance. It is also emphasized that although women establish more single-parent families than men, take more roles in the care of their relatives and feel more responsibility in housework, this situation is ignored by employers. It is often emphasized that women are in search of jobs that will provide OS to meet their expectations by pushing financial expectations to the second plan. In general, the OS practices that will meet the responsibilities of women that make women's lives difficult can also reduce women's stress (Shaw et al., 2013).

OS should be implemented in accordance with the expectations and needs of the target group as mentioned beyond. The expectations and needs of male employees and female employees are often different. While men's career expectations may come to the fore, women's expectations about their responsibilities outside of work may come to the fore. Positive results of organizational support practices such as orientation trainings, career planning, vocational trainings, promotion practices, flexible working conditions, maternity leave, health leave, autonomous working conditions, and being remembered on special occasions can be observed. However, research that will reveal the current situation is required to reveal what are the real expectations and requirements of women is for the correct organizational support application. In a research that tries to measure women's expectations, women often do not give sincere answers. Because they do not regard the intentions of the enterprises in this regard as sincere (Deloitte, 2021). In this study, it was revealed that 4% of the enterprises have the intention to make an effort to meet the expectations of women.

It is thought that OS applications that can be accepted within the scope of MTL determinants can positively affect the perception of MTL.

MTL and LE

MTL is recognized as a preference for leading or assuming leadership responsibilities (Felfe et al., 2012). In addition, MTL is used as an indicator of leadership success, leadership career, and other extra leadership behaviors (Stiehl et al., 2015). The success of leaders depends on many factors and is often seen as a very difficult performance. The likelihood of success of individuals who are appointed as leaders without the use of certain indicators and criteria is also seen as uncertain (Rosentiel, 2009). Therefore, employers should consider some criteria when determining potential leaders. Although leadership studies in the literature go back a long time, the concept of MTL is newer. When we look at the MTL factors (personal values, self-efficacy, personality variables, and past leadership experience), it can be seen that they contain the necessary indicators to distinguish the leader. Stiehl et al. (2015) argue that a high MTL will produce positive results in a difficult and complex leadership process. In particular, risk-taking, self-efficacy behaviors are constant through both studies and real-life experience that experiences can have an impact on LE. LE evolves by harmonizing and meeting the goals and expectations of both the organization and employees. Continuous learning and experience of leaders can positively affect their leadership performance by increasing their self-efficacy. It is thought that individuals with high four determinants of MTL can gain more leadership abilities and skills. Individuals with high MTL are known to take leadership risks with a sense of self-confidence and self-efficacy, even if there is a possibility of failure (Stiehl et al. 2015). It is observed that these leaders make these decisions through a conscious process and are usually successful thanks to MTL. In this respect, it is thought that MTL may have a positive and significant effect on LE.

The Mediation Role of MTL between WLB and LE

Studies have shown that the most important phenomenon affecting women's perspective on work, organizational commitment, performance and many organizational perceptions is associated with a successful WLB (Deota, 2014). Although working hours are guaranteed by law in most countries, women are reported to work an average of 40-45 hours and many women seek WLB in workplaces (Deloitte, 2021, Deota, 2015). With many applications adopting under the OS, employers can ensure that female employees set up a successful WLB. Incorporating WLB into organizational strategies can help women become more confident. Conversely, negative WLB causes women to suffer physically, psychologically, and emotionally (Shaw et al., 2013). Instead of an implementation that meets all of women's expectations, a WLB that aligns the expectations and goals of both women, and the organization is more functional (Nitzsche et al., 2014).

Women who are sensitive to their responsibilities need more WLB. It is considered that WLB or related OS applications will not provide any benefit to irresponsible women employees. The fact that women with a high sense of responsibility are ambitious in both their work and non-work area creates the need for effective WLB applications. MTL can occur when the ambitious nature of these women in business is supported by the WLB. From an MTL perspective, women with many responsibilities may also have the desire to lead in functional WLB implementations. With WLB, it is thought that women whose work stress is reduced and whose well-being is increased may demonstrate greater organizational citizenship behavior

(French et al., 2018) and play extra role behaviors. When the determinants of MTL are considered, it is seen that organizational support, experience and situational factors are important. Within the framework of situational factors, which are an important determinant of MTL, the formation of MTL can be facilitated when the support of other peers/colleagues is provided by WLB (McMullan et al., 2018). Leadership requires the individual to make sacrifices in many areas. Women are weaker than men and need more support in this regard. When this support is provided, women's MTL can improve. Especially in terms of self-efficacy, which is one of the determinants of MTL, it is possible for women to have technical and interpersonal skills specific to leaders with the support provided within the framework of the WLB. In this context, MTL is considered to play a role as a mediator between WLB and LE.

Moderation Role of Organizational Support

Organizational support is the degree to which employees perceive that their organization values their contributions, cares about their well-being, and provides them with resources, recognition, and opportunities for growth and development. Work-life balance (WLB) is the extent to which employees can harmonize the demands and expectations of their work and personal life. Leadership effectiveness is the ability of a leader to influence, inspire, and guide others toward achieving a common goal or vision. The relationship between WLB and leadership effectiveness is complex and can be influenced by various factors, such as organizational culture, individual characteristics, and situational factors. Organizational support can act as a moderator that balances and decreases the negative effect of WLB on leadership effectiveness by providing employees with flexibility, autonomy, feedback, recognition, and opportunities for learning and development. Women employees may face more challenges than men in achieving WLB and leadership effectiveness due to gender stereotypes, discrimination, role overload, and work-family conflict. Therefore, organizational support may be especially important for women employees to cope with these challenges and enhance their WLB and leadership effectiveness. Organizational support could buffer the negative impact of WLB on leadership effectiveness by reducing the perceived pressure and expectations from work, enhancing the sense of autonomy and control over one's work schedule and tasks, and providing flexibility and accommodation for personal needs and preferences. Organizational support could enhance the positive impact of WLB on leadership effectiveness by increasing the perceived value and meaning of work, fostering a culture of trust and respect among colleagues and supervisors, and encouraging innovation and learning from diverse experiences and perspectives. Organizational support could create a synergy between WLB and leadership effectiveness by aligning the goals and values of the organization with those of the individual, facilitating communication and collaboration among team members and stakeholders, and recognizing and rewarding the contributions and achievements of both work and personal domains. However, more empirical research is needed to test this hypothesis and explore the mechanisms and conditions under which organizational support plays this role.

Theoretical Framework

The Self-Determination Theory (SDT) can be applied to explain the relationship between work-life balance, motivation to lead, organizational support, and leadership effectiveness. The SDT theory emphasizes the role of three psychological needs: autonomy, competence, and relatedness.

Autonomy refers to the sense of having control and making choices that align with one's values and interests. When individuals feel they have the autonomy to manage their work and personal lives, they experience higher levels of motivation and satisfaction. Competence reflects the feeling of being effective and capable in one's tasks. When individuals feel competent in their roles, they are more likely to be motivated to take on leadership roles and responsibilities. Relatedness pertains to the need for positive relationships and connections with others. Supportive relationships within an organization foster a sense of belonging, encourage leadership aspirations, and contribute to overall well-being.

If women feel supported in balancing their work and personal lives, they are more likely to experience autonomy and relatedness, fostering greater motivation and satisfaction in their leadership roles. This can contribute to their effectiveness as leaders.

Organizations that offer flexible work arrangements and policies provide women employees, , the autonomy to balance their work and personal lives. This autonomy can lead to increased motivation to pursue leadership roles, as individuals can better integrate their responsibilities. Organizations that prioritize work-life balance and empower employees to manage their schedules demonstrate respect for their autonomy, which can extend to support for leadership pursuits. Leaders who experience autonomy in managing their work-life balance are more likely to exhibit greater effectiveness, as they are better equipped to manage their responsibilities and well-being.

When women employees are given opportunities for skill development and leadership training (through WLB and OS), they feel more competent and capable of taking on leadership roles, irrespective of gender. Competent leaders, regardless of their gender, are more effective in their roles as they possess the necessary skills and confidence. A supportive organizational environment that encourages leadership aspirations and provides mentorship can fulfill the need for relatedness, increasing motivation to lead. Organizational support fosters positive relationships and a sense of belonging, encouraging employees to seek leadership roles. Leaders who have experienced positive relationships and support within the organization are more likely to create supportive and effective team environments.

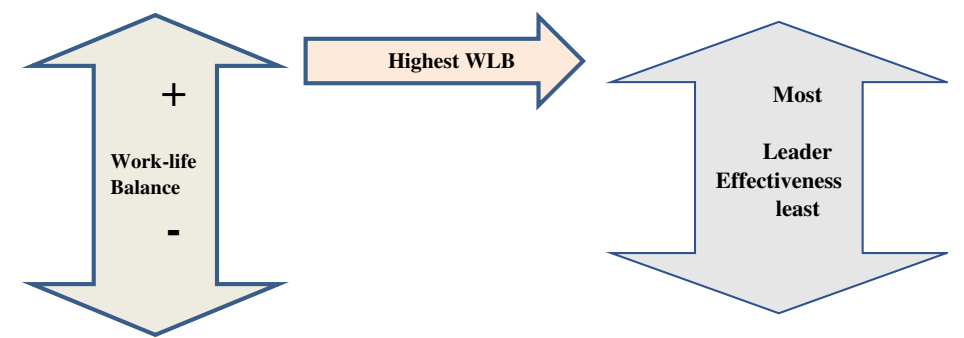
The SDT provides a comprehensive framework to understand how work-life balance, motivation to lead, organizational support, and leadership effectiveness are interconnected. By addressing the psychological needs of autonomy, competence, and relatedness, organizations can create an environment where employees, are motivated to pursue leadership roles, effectively balance their responsibilities, and contribute to the organization's success.

Methods

Research Model

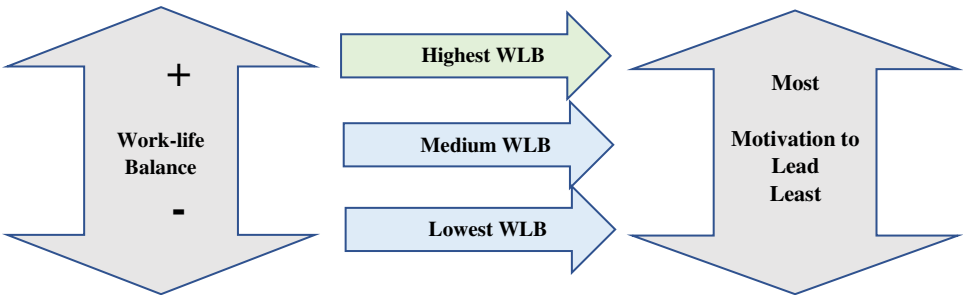
Within the framework of resource dependency theory, it is thought that women's work-life balances may affect women's leadership motivations and hypotheses have been formed.

Diagram 1. H1 Model



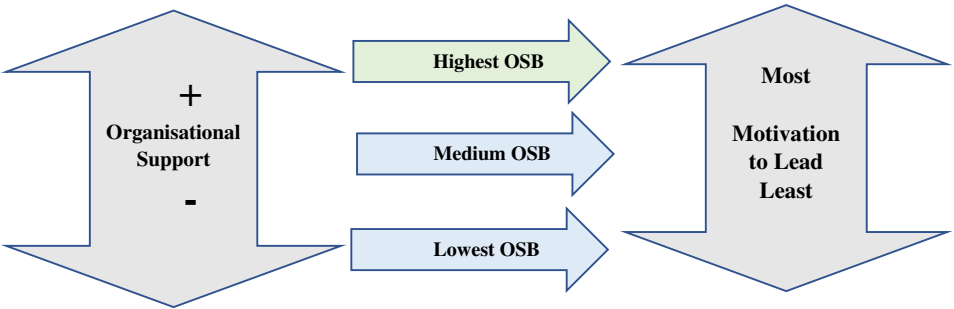
H1. There are significant differences among the severity of work-life balances (Highest, medium, and lowest) regarding perceptions of leader effectiveness. That is:

- H1a. Employees with the highest work-family balance are perceived as the most effective than medium and lowest work-family balanced employees.
- H1b. Employees with medium work-family balance are perceived as more effective than the lowest ones.
- H1c. Employees with the lowest work-family balance are perceived as the least effective of all.



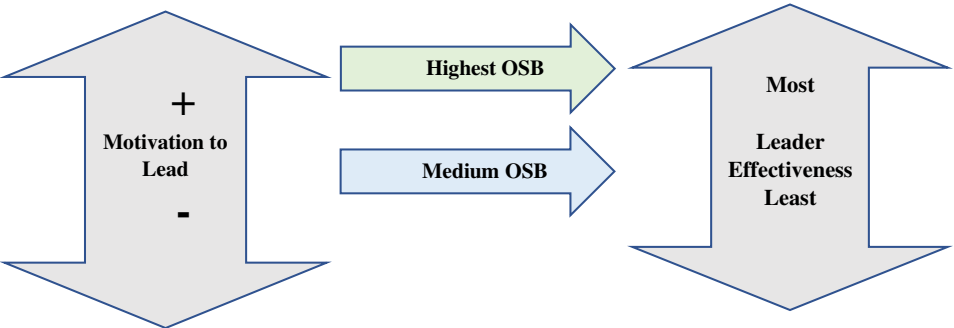
H2. There is significant differences among the severity of work-life balances (Highest, medium, and lowest) regarding motivation to lead. That is:

- H2a. Employees with the highest work-family balance have the highest MTL than the others.
- H2b. Employees with medium work-family balance have higher MTL than the lowest ones.
- H2c. Employees with the lowest work-family balance have the least MTL than the others.



H3. There is a significant difference among the degree of organizational support (Most, medium, least) regarding its effect on motivation to lead. That is:

- H3a. Employees with the highest organizational support will have the highest MTL than the others.
- H3b. Employees with medium organizational support will have higher MTL than the lowest ones.
- H3c. Employees with the lowest organizational support will have the least MTL than the others.



H4. Employees with the highest motivation to lead are perceived as more effective in leadership than the others.

- H4a. Employees with the highest motivation to lead are perceived as the most effective in leadership.
- H4b. Employees with medium motivation to lead are perceived more effective than the lowest one.
- H4c. Employees with the lowest motivation to lead are perceived as the least effective in leadership than the others.

- H5. Work-life balance affects motivation to lead negatively and significantly.
- H6. Motivation to lead mediates the relationship between WLB and leadership effectiveness.
- H7. Organizational support act as a moderator that balances and decreases the negative effect of WLB on leadership effectiveness.

Sample and Procedure

Data were collected from 283 individuals participating in executive education programs at a prominent Turkish business school in Istanbul. These participants along with their managers were requested to fulfill online surveys as a preliminary task before the start of the program. Ultimately, a complete dataset was obtained from 252 participants, all of whom identified as female, and from 31 direct reporting managers, forming the basis of our final sample. The age of the participants ranged from 24 to 49, for the employees with an average age of 33.6 years. The manager sample ranged from 41 to 54, with an average age of 44.3 years. Four of the managers were females and the rest was male. On average, the respondents reported 2.48 years of experience in employee roles whereas 12.3 years for the managers. Instruments were consisted of 5-point Likert scale, unless specified otherwise (1= strongly disagree, 5= strongly agree).

Managers filled in leadership effectiveness so as to evaluate their subordinates. The rest of the scales were answered by the other participants. After matching other variables related to employees with the effective leadership ratings of managers, we proceeded to the analyses.

Validation of the Instruments

For the validation of the instruments, we used a free statistical software JAMOVİ 2.3.16.

Life-Work Balance Scale

The scale, adapted from Fischer's (2010) work by Hymann (2005), was used for measurement. This scale was taken from Deniz Küçükusta's doctoral thesis titled "The Impact of Work-Life Balance on the Quality of Work Life in Accommodation Businesses," completed in 2007. Sample items from the scale include statements like "My work is being affected by my responsibilities in my personal life" and "Working at the same workplace with my spouse negatively affects my job." The internal consistency of the scale, as indicated by Cronbach's alpha, was calculated to be 0.75. We run a CFA and find the fit indices as satisfactorily $\chi^2 = 171$ ($df = 84$), CFI = .95, TLI = .94, and RMSEA = .064.

Motivation to lead Scale

For the assessment of motivation to lead, we employed a 27-item scale developed by Chan and Drasgow (2001). Sample items from the scale include statements like "In group settings, I often favor the role of a leader over a follower" and "I tend to enjoy taking charge of others." The internal consistency of the scale was calculated to be 0.85 and the fit indices of the scale yields as $\chi^2 = 210$ ($df = 109$), CFI = .94, TLI = .93, and RMSEA = .061.

Leadership Effectiveness Scale

Leadership effectiveness was measured by Ng et al.’s (2008) and it was obtained by their 31 direct supervisors that have come together in a different class. Managers were asked as “Please use the scale below to evaluate this person relative to her peers”; as classified as “1=Very poor relative to his peers, 3= Average relative to his peers, and 5 = Very good relative to his peers.” Sample items from the scale include statements like “planning ability” and “ability to communicate”. The internal consistency of the scale was calculated to be 0.85 and the fit indices of the scale yields as $\chi^2 = .159$ (df = 2), CFI = 1, TLI = 1.01, and RMSEA = .000.

Perceived Organizational Support Scale

The assessment of perceived organizational support utilized an eight-item scale created by Eisenberger et al. (1997). It was adapted to Turkish by Yokuş (2006). One of the example items reads, "My organization takes my goals and values into strong consideration." The internal consistency of this measure was found to be 0.90 and the fit indices of the scale yields as $\chi^2 = 68.4$ (df = 25), CFI = .97, TLI = .96, and RMSEA = .08.

Correlation Analysis

A correlation analysis was conducted to examine the relationships between leadership effectiveness, motivation to lead, life-work balance, and organizational support.

Table 1. Displays the correlation coefficients between the variables

	M	SD	1	2	3	4
1. Leadership Effectiveness	3,66	0.97	1			
2. Motivation to lead	3,20	0.49	0.425**	1		
3. Life-work balance	3,55	0.77	-0.011	-0.258**	1	
4. Organizational support	3,51	0.83	0.423**	0.507**	-0.121	1

Note. *Correlation is significant at the 0.05 level (2-tailed).

The results indicate several noteworthy correlations. Leadership effectiveness ratings are positively correlated with motivation to lead ($r = 0.425$, $p < 0.05$) and perceived organizational support ($r = 0.423$, $p < 0.05$). Similarly, motivation to lead is positively correlated with leadership effectiveness ratings ($r = 0.425$, $p < 0.05$) and perceived organizational support ($r = 0.507$, $p < 0.05$). However, no statistically significant correlation was found between life-work balance and the other variables. The data does not provide sufficient evidence to establish a significant linear relationship between life-work balance and leadership effectiveness ratings, motivation to lead, or perceived organizational support.

Hypotheses Tests

To investigate the group differences as posited in hypotheses we developed, we run One-way Anova analyses in SPSS 23.

Hypothesis One

In our 1st hypothesis we posit there are significant differences among the severity of work-life balances (Highest, medium, and lowest) regarding perceptions of leader effectiveness by their managers. Additionally, we claim that:

- H1a. Employees with the highest work-family balance severity are perceived as the least effective leader.
- H1b. Employees with medium work-family balance severity are perceived as better effective leader than the lowest ones.
- H1c. Employees with the lowest work-family balance severity are perceived as the most effective leaders of all.

A one-way analysis of variance (ANOVA) was conducted to examine the differences in leadership effectiveness ratings among employees across different work-life balance levels. Descriptive statistics, ANOVA, and post hoc tests were utilized to analyze the data.

Table 2. ANOVA Results for the leader effectiveness ratings across severity of work-life balances

Severity of Work-Life Balance	N	Mean	F	p
Lowest	89	3.9750	4.406	0.013
Medium	102	3.6035		
Highest	61	3.5610		
Total	252			

Table 3. Post Hoc comparisons for leader effectiveness ratings across severity of work-life balances

Comparison	Mean Difference	SE	p	95% CI Lower	95% CI Upper
Lowest - Medium	0.37155	0.14422	0.028	0.0315	0.7116
Lowest - Highest	0.41401	0.16526	0.034	0.0243	0.8037
Medium - Highest	0.04247	0.16092	0.962	-0.3370	0.4219

Note: $p < 0.05$. Mean differences with confidence intervals and p-values are presented for each pairwise comparison using the Tukey HSD method.

There was a statistically significant difference of leadership effectiveness ratings across work-life balance severity ($F(2, 249) = 4.406, p = 0.013$). The between-groups analysis revealed that the mean sum of squares for the effect between groups was 8.710 with 2 degrees of freedom, resulting in a mean square of 4.355. The within-groups analysis yielded a mean

sum of squares of 246.140 with 249 degrees of freedom. Thus, H1 is supported. But for the sub-hypotheses post hoc analysis is required.

Post Hoc Tests

A Tukey Honestly Significant Difference (HSD) post hoc test was conducted to investigate pairwise differences between the Work-Life Balance Severity:

The mean difference between the LOWEST and MEDIUM groups was statistically significant (mean difference = 0.37155, SE = 0.14422, $p = 0.028$). The mean difference between the LOWEST and HIGHEST groups was statistically significant (mean difference = 0.41401, SE = 0.16526, $p = 0.034$).

The mean difference between the MEDIUM and HIGHEST groups was not statistically significant (mean difference = 0.04247, SE = 0.16092, $p = 0.962$). Employees with the highest work-family balance severity received significantly lower ratings of leadership effectiveness ($M = 0.414$, SE = 0.165, $p = 0.034$, 95% CI [0.0243, 0.8037]), supporting H1a. There was a statistically significant difference in leadership effectiveness ratings between employees with medium and lowest work-family balance severity levels ($M = 0.372$, SE = 0.144, $p = 0.028$, 95% CI [0.0315, 0.7116]), providing partial support for H1b. However, no significant difference in leadership effectiveness ratings was found between employees with medium and highest work-family balance severity levels ($M = 0.042$, SE = 0.161, $p = 0.962$, 95% CI [-0.3370, 0.4219]), not supporting H1c.

Hypothesis Two

In our 2nd hypothesis we posit there are significant differences among the severity of work-life balances (Highest, medium, and lowest) regarding motivation to lead. Additionally, we claim that:

- H2a. Employees with the highest work-family balance severity have the lowest motivation to lead.
- H2b. Employees with medium work-family balance severity have higher motivation to lead than the highest ones.
- H2c. Employees with the lowest work-family balance severity have the highest motivation to lead than the others.

Table 4. ANOVA Results for the severity of work-life balances regarding motivation to lead

Severity of Work-Life Balance	N	Mean	F	p
Lowest	89	3.0075	4.492	0.012
Medium	102	3.1460		
Highest	61	3.2386		
Total	252			

A one-way analysis of variance (ANOVA) was conducted to examine the differences in motivation to lead among employees across different perception of leadership effectiveness levels. Descriptive statistics, ANOVA, and post hoc tests were utilized to analyze the data.

A one-way analysis of variance (ANOVA) was conducted to examine the influence of different levels of work-life balance severity on motivation to lead. The ANOVA results are summarized as follows:

There was a statistically significant difference of work-life balance severity regarding motivation to lead ($F(2, 249) = 4.492, p = 0.012$). The between-groups analysis revealed that the mean sum of squares for the effect between groups was 2.054 with 2 degrees of freedom, resulting in a mean square of 1.027. The within-groups analysis yielded a mean sum of squares of 56.918 with 249 degrees of freedom.

Table 5. Post Hoc comparisons for the severity of work-life balances regarding motivation to lead

Comparison	Mean Difference	SE	p	95% CI Lower	95% CI Upper
Lowest - Medium	-0.13848	0.06935	0.115	-0.3020	0.0250
Lowest - Highest	-0.23113*	0.07947	0.011	-0.4185	-0.0437
Medium - Highest	-0.09265	0.07738	0.456	-0.2751	0.0898

Note. * $p < 0.05$. Mean differences with confidence intervals and p-values are presented for each pairwise comparison using the Tukey HSD method.

Post Hoc Tests

A Tukey (HSD) post hoc test was conducted to explore pairwise differences:

The analysis of the data indicates that there are significant differences in motivation to lead among different levels of work-life balance severity. The post hoc comparisons indicate that employees with the highest work-family balance severity exhibit significantly lower motivation to lead compared to those with the lowest severity levels (Mean Difference = -0.231, SE = 0.079, $p = 0.011$, 95% CI [-0.4185, -0.0437]). Therefore, the findings support H2a, suggesting that higher work-family balance severity is associated with lower motivation to lead. There is a notable difference in motivation to lead between employees with medium and highest work-family balance severity levels; however, this difference is not statistically significant (Mean Difference = -0.093, SE = 0.077, $p = 0.456$, 95% CI [-0.2751, 0.0898]). Consequently, there is no substantial evidence to support H2b. The post hoc comparisons reveal that employees with the lowest work-family balance severity levels do not exhibit significantly higher motivation to lead compared to those with medium or highest severity levels (Mean Difference = -0.139, SE = 0.069, $p = 0.115$, 95% CI [-0.3020, 0.0250]). As such, the results do not provide strong support for H2c.

Hypothesis Three

In our 3rd hypothesis we posit there are significant differences in motivation to lead among employees across different perceived organizational support levels. Additionally, we claim that:

- H3a. Employees with the highest perceived organizational support will have the highest motivation to lead.
- H3b. Employees with medium perceived organizational support will have higher motivation to lead than the lowest ones.
- H3c. Employees with the lowest perceived organizational support will have the least motivation to lead.

A one-way analysis of variance (ANOVA) was conducted to examine the differences in motivation to lead among employees across different perceived organizational support levels. Descriptive statistics, ANOVA, and post hoc tests were utilized to analyze the data.

Table 6. ANOVA Results for motivation to lead across perceived organizational support levels

Perceived Organizational Support	N	Mean	F	p
Lowest	6	3	15.722	.000
Medium	71	3.35		
Highest	175	3.82		
Total	252			

Descriptive statistics revealed that employees from the "LOWEST" perceived organizational support level had an average motivation to lead levelof 3.00 (SD = 1.74), employees from the "MEDIUM" level had a mean rating of 3.35 (SD = 0.90), and employees from the "HIGHEST" level had the highest mean rating of 3.82 (SD = 0.93). The total sample had an overall mean motivation to lead level of 3.66 (SD = 0.97).

Table 7. Post Hoc Tests for motivation to lead across perceived organizational support levels

Comparison	Mean Difference	SE	p	95% CI Lower	95% CI Upper
Lowest - Medium	-0.34507	0.40057	0.665	-1.2895	0.5994
Lowest - Highest	-0.81571	0.39118	0.095	-1.7381	0.1066
Medium - Highest	-0.47064*	0.13257	0.001	-0.7832	-0.1581

Note. *p < 0.05. Mean differences with confidence intervals and p-values are presented for each pairwise comparison using the Tukey HSD method.

The results of the ANOVA for the "motivation to lead" variable indicated a significant difference among the degree of perceived organizational support ($F(2, 249) = 15.72, p < .001$). This finding supports hypothesis H3a.

Post hoc analyses were performed using Tukey's Honestly Significant Difference (HSD) test to identify specific differences in leadership ratings between the perceived organizational support levels. The results of the post hoc tests revealed the following significant mean differences:

Employees from the "LOWEST" level had significantly lower motivation to lead compared to employees from the "MEDIUM" level (mean difference = -0.35, SE = 0.40, $p = 0.665$, 95%

CI [-1.29, 0.60]) and employees from the "HIGHEST" level (mean difference = -0.82, SE = 0.39, $p = 0.095$, 95% CI [-1.74, 0.11]). Employees from the "MEDIUM" level did not significantly differ in motivation to lead from employees in the "HIGHEST" level (mean difference = -0.47, SE = 0.13, $p = 0.001$, 95% CI [-0.78, -0.16]). Thus, the data supports the notion that employees with the highest perceived organizational support indeed have the highest motivation to lead. Additionally, hypothesis H3b is not supported, as there was no evidence to suggest that employees with medium perceived organizational support have significantly higher motivation to lead than those with the lowest perceived organizational support. Moreover, hypothesis H3c is also not supported, as the results did not show that employees with the lowest perceived organizational support have significantly lower motivation to lead than those with the highest perceived organizational support.

Hypothesis Four

In our 4th hypothesis we posit there are significant differences in ratings of leadership effectiveness by the managers across different perceived organizational support levels (High, medium, low). Additionally, we claim that:

- H4a. Employees with the highest perception of organizational support are perceived as the most effective in leadership (Highest in ratings).
- H4b. Employees with medium perception of organizational support are perceived more effective than the lowest ones.
- H4c. Employees with the lowest perception of organizational support are perceived as the least effective in leadership (Lowest in ratings) than the others.

A one-way analysis of variance (ANOVA) was conducted to examine the differences in motivation to lead among employees across different perceived organizational support levels. Descriptive statistics, ANOVA, post hoc tests, and homogeneous subsets were utilized to analyze the data.

The mean leadership effectiveness ratings varied across the groups. Participants who perceived low organizational support had an average rating of 3.04 ($M = 3.04$, $N = 6$). Those in the medium perceived support group had an average rating of 3.11 ($M = 3.11$, $N = 71$), while participants who perceived high organizational support had the highest average rating of 3.99 ($M = 3.99$, $N = 175$).

Table 8. ANOVA results for leadership effectiveness ratings across perceived organizational support levels

Perception of organizational support	N	Mean	F	p
Low	6	3.0370	25.076	< 0.000
Medium	71	3.1095		
High	175	3.9975		
Total	252			

The ANOVA revealed a statistically significant difference in leadership effectiveness ratings among the three groups ($F(2, 249) = 25.08, p < 0.001$). Thus, H4 is supported but post hoc tests would be necessary to determine the specific pairwise differences between the groups.

Table 9. Post Hoc comparisons for leadership effectiveness ratings across perceived organizational support levels

Comparison	Mean Difference	SE	p	95% CI Lower	95% CI Upper
Low - Medium	-0.07251	0.39241	0.981	-0.9977	0.8627
Low - High	-0.96042*	0.38321	0.034	-1.8640	-0.0569
Medium - High	-0.88791*	0.12987	0.000	-1.1941	-0.5817

Note. $p < 0.05$. Mean differences with confidence intervals and p-values are presented for each pairwise comparison using the Tukey HSD method.

Post hoc comparisons were conducted to explore the relationships between motivation to lead and different levels of leadership effectiveness ratings. The Tukey (HSD) method was employed for pairwise comparisons. The table displays the mean differences, standard errors (SE), p-values, and corresponding 95% confidence intervals (CIs) for each comparison. The mean difference in motivation to lead between participants with low and medium leadership effectiveness ratings was not statistically significant ($M_{diff} = -0.07251, SE = 0.39241, p = 0.981$). The 95% CI for the mean difference ranged from -0.9977 to 0.8627. There was a statistically significant mean difference in motivation to lead between participants with low and high leadership effectiveness ratings ($M_{diff} = -0.96042^*, SE = 0.38321, p = 0.034$). The 95% CI for the mean difference ranged from -1.8640 to -0.0569. A statistically significant mean difference in motivation to lead was observed between participants with medium and high leadership effectiveness ratings ($M_{diff} = -0.88791^*, SE = 0.12987, p < 0.001$). The 95% CI for the mean difference ranged from -1.1941 to -0.5817.

The post hoc comparison results support H4a. According to the findings, participants with the highest perception of organizational support (in the "High" group) had the highest leadership effectiveness ratings on average. This aligns with the hypothesis, suggesting that employees who perceive the highest level of organizational support are indeed perceived as the most effective in leadership. The post hoc comparison results partially support H4b. The data show that participants with medium perception of organizational support (in the "Medium" group) had slightly higher leadership effectiveness ratings on average compared to those with the lowest perception of organizational support (in the "Low" group). However, the mean difference between these two groups was not statistically significant. While the trend is in the expected direction, it did not reach statistical significance based on the p-value provided in the results. The post hoc comparison results support H4c. Participants with the lowest perception of organizational support (in the "Low" group) had significantly lower leadership effectiveness ratings on average compared to those with both medium and high perception of organizational support (in the "Medium" and "High" groups). This finding aligns with the hypothesis, indicating that employees who perceive the lowest level of organizational support are indeed perceived as the least effective in leadership compared to those with higher perceived support levels.

Hypothesis Five

In our 5th hypothesis we posit there are significant differences in ratings of leadership effectiveness by the managers across motivation to lead levels of employees (High, medium, low). Additionally, we claim that:

- H5a. Employees with the highest motivation to lead are perceived as the most effective in leadership (Highest in ratings).
- H5b. Employees with medium motivation to lead are perceived more effective than the lowest ones.
- H5c. Employees with the lowest motivation to lead are perceived as the least effective in leadership (Lowest in ratings) than the others.

An analysis of variance (ANOVA) was conducted to explore the differences in leadership effectiveness ratings across various motivation to lead levels. Descriptive statistics, ANOVA, post hoc tests, and homogeneous subsets were utilized for data analysis.

Table 10. ANOVA results for leadership effectiveness ratings across motivation to lead levels

Motivation to lead	N	Mean	F	p
Low	12	3.4815	9.188	.000
Medium	180	3.5840		
High	60	4.1944		
Total	252			

The mean leadership effectiveness ratings varied across the three motivation to lead groups. Participants in the "Low" motivation to lead group had an average rating of 3.4815 (M = 3.4815, N = 12), those in the "Medium" group had an average rating of 3.5840 (M = 3.5840, N = 180), and participants in the "High" group had the highest average rating of 4.1944 (M = 4.1944, N = 60).

The ANOVA results indicated a statistically significant difference in leadership effectiveness ratings among the motivation to lead groups (F (2, 249) = 9.188, p < .001). Thus, H5 is supported but subsequent post hoc tests using appropriate corrections for multiple comparisons would be necessary to explore the specific pairwise differences between the groups.

Table 11. Post Hoc comparisons for leadership effectiveness ratings across motivation to lead

Comparison	Mean Difference	SE	p	95% CI Lower	95% CI Upper
Lowest- Medium	-0.10247	0.29108	0.934	-0.7888	0.5838
Lowes – Highest	-0.71296	0.30873	0.056	-1.4409	0.0150
Medium - Highest	-0.61049*	0.14554	0.000	-0.9536	-0.2673

Note. p < 0.05. Mean differences with confidence intervals and p-values are presented for each pairwise comparison using the Tukey HSD method.

Post hoc comparisons were conducted to explore the relationships between leadership effectiveness ratings and different levels of motivation to lead. The table presents mean differences, standard errors (SE), p-values, and corresponding 95% confidence intervals (CIs) for each pairwise comparison. The mean difference in leadership effectiveness ratings between participants with the lowest and medium motivation to lead was not statistically significant ($M_{diff} = -0.10247$, $SE = 0.29108$, $p = 0.934$). The 95% CI for the mean difference ranged from -0.7888 to 0.5838. There was a trend towards a statistically significant mean difference in leadership effectiveness ratings between participants with the lowest and highest motivation to lead ($M_{diff} = -0.71296$, $SE = 0.30873$, $p = 0.056$). The 95% CI for the mean difference ranged from -1.4409 to 0.0150. A statistically significant mean difference in leadership effectiveness ratings was observed between participants with medium and highest motivation to lead ($M_{diff} = -0.61049^*$, $SE = 0.14554$, $p < 0.001$). The 95% CI for the mean difference ranged from -0.9536 to -0.2673.

The post hoc comparison results support H5a. Participants with the highest motivation to lead (in the "High" group) were indeed perceived as the most effective leaders, as evidenced by their highest average leadership effectiveness ratings. This finding is consistent with the hypothesis, suggesting that employees who exhibit the highest motivation to lead tend to be perceived as the most effective leaders. The post hoc comparison results do not provide strong support for H5b. While participants with medium motivation to lead (in the "Medium" group) tended to have slightly higher leadership effectiveness ratings on average compared to those with the lowest motivation to lead (in the "Lowest" group), this difference was not statistically significant. The trend aligns with the hypothesis, suggesting that those with medium motivation to lead might be perceived as more effective leaders than those with the lowest motivation, but the statistical evidence is limited in this case. Lastly, the post hoc comparison results support H5c. Participants with the lowest motivation to lead (in the "Lowest" group) were perceived as the least effective leaders compared to those with both medium and high motivation to lead (in the "Medium" and "High" groups). This finding aligns with the hypothesis, indicating that employees who possess the lowest motivation to lead are indeed perceived as the least effective in leadership compared to those with higher motivation levels.

Model Tests

A moderated mediation analysis was conducted (Model 5) to investigate the relationships among leadership effectiveness ratings (Y), work-life balance (X), motivation to lead (M), and perceived organizational support (W). The analysis was performed on a sample of 252 participants.

Predictors of Motivation to Lead (M)

The model predicting motivation to lead (M) revealed that work-life balance (X) was a significant predictor ($\beta = -0.1622$, $p < 0.001$), with participants reporting higher motivation to lead when they perceived a better work-life balance. Thus, we found evidence for our 6th hypothesis.

Table 12. The overall results of unstandardized OLS regression coefficients with confidence intervals estimating mediation and moderation

		M (MTL)					Y (LER)			
Antecedent		Coeff.	SE	95%CI			Coeff.	SE	95%CI	
X (WLB)	<i>a</i>	-0.16***	0.04	-0.32	-0.09	<i>c'</i>	0.02	0.08	-0.14	0.17
M (MTL)	-	-	-	-		<i>b1</i>	0.76	0.12	0.53	0.98
W(OS)	-	-	-	-		<i>b2</i>	0.32	0,0748	0.18	0.47
X x W	-	-	-	-		<i>b3</i>	0.21	0,089	0.03	0.38
Constant	<i>i1</i>	3.12	0.03	3.06	3.18	<i>i2</i>	1.26	0.36	0.54	1.97
		R ² =0.07					R ² =0.30			
		<i>F</i> (1,250)= 17.80, p<0.001					<i>F</i> (4,247)= 25.90, p<0.001			

p < .10, * p < .05, ** p < .01, *** p < .001.
WLB= Work-life Balance, MTL=Motivation to Lead, OS= Perceived Organizational Support, LER=Leadership Effectiveness Ratings
Note: WLB and OS are Mean Centered

Predictors of Leadership Effectiveness Ratings (Y)

As can be seen from Table 12, the model predicting leadership effectiveness ratings (Y) indicated that several predictors were significant. Motivation to lead (M) positively influenced leadership effectiveness ratings ($\beta = 0.7559$, $p < 0.001$), suggesting that individuals with higher motivation to lead tended to receive higher leadership effectiveness ratings. Perceived organizational support (W) also had a positive influence on leadership effectiveness ratings ($\beta = 0.3232$, $p < 0.001$), indicating that individuals who perceived greater organizational support tended to be rated as more effective leaders. Based on these findings, we found support for hypotheses 7 and 8.

Moderation of the Relationship between Work-Life Balance and Leadership Effectiveness Ratings

The interaction effect between work-life balance (X) and perceived organizational support (W) was further examined. The results revealed that the interaction term was statistically significant ($F(1, 247) = 5.3053$, $p = 0.0221$). This indicates that the relationship between work-life balance severity and leadership effectiveness ratings is contingent upon the level of perceived organizational support (Figure 1). High support enhances the chances of being rated as effective leader and balances the high effects of work-life balance severity. Consequently, the result support H9.

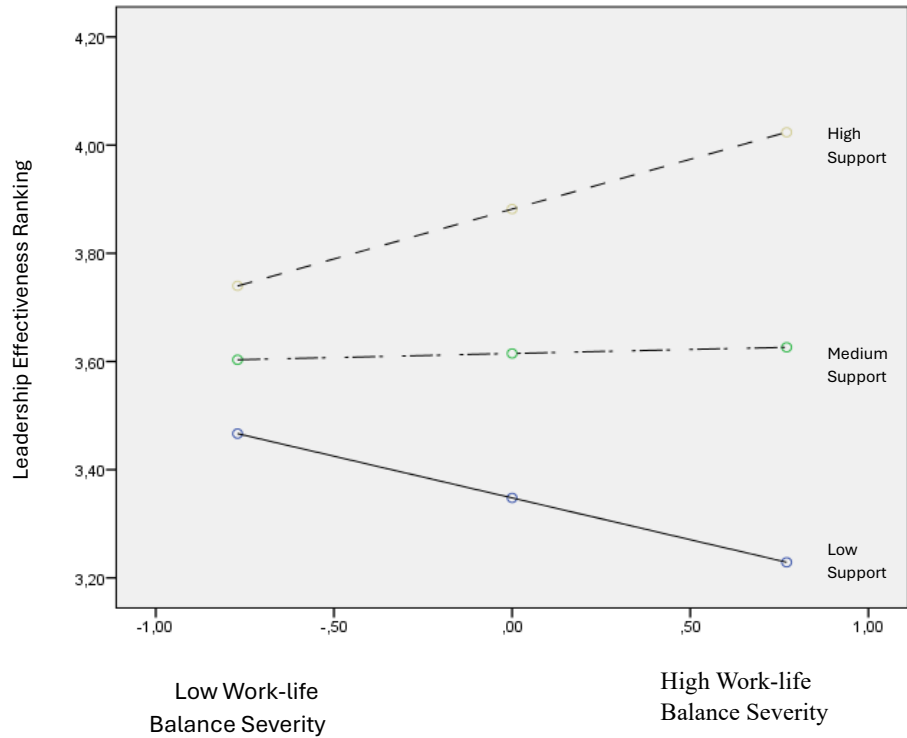


Figure 1. Moderation of the relationship between work-life balance and leadership effectiveness ratings.

Direct and Indirect Effects of Work-Life Balance on Leadership Effectiveness Ratings

The direct and indirect effects of work-life balance (X) on leadership effectiveness ratings (Y) were examined. The conditional direct effects indicated that the effect of work-life balance on leadership effectiveness ratings was not significant for individuals with low and mean perceived organizational support, but it was significant for those with high perceived organizational support. The indirect effect of work-life balance on leadership effectiveness ratings through motivation to lead (M) was found to be significant (indirect effect = -0.1226, BootSE = 0.0414, BootLLCI = -0.2115, BootULCI = -0.0467) and supports the last hypothesis.

Conclusion

The aim of this study was to investigate the moderation role of organizational support and the mediation role of motivation to lead on the relationship between work-life balance and leadership effectiveness. The results supported most of the hypotheses and revealed some interesting findings.

First, the results confirmed that work-life balance had a significant positive effect on leadership effectiveness, as employees with higher levels of work-life balance were perceived as more effective leaders than employees with lower levels of work-life balance. This finding is consistent with previous studies that suggested that work-life balance can enhance leadership

effectiveness by reducing stress, increasing creativity, and fostering commitment and loyalty among followers.

Second, the results also confirmed that work-life balance had a significant positive effect on motivation to lead, as employees with higher levels of work-life balance had higher levels of motivation to lead than employees with lower levels of work-life balance. This finding is in line with previous studies that indicated that work-life balance can increase motivation to lead by enhancing self-efficacy, satisfaction, and meaning of work.

Third, the results supported the hypothesis that motivation to lead mediated the relationship between work-life balance and leadership effectiveness, as the effect of work-life balance on leadership effectiveness was reduced when motivation to lead was controlled for. This finding implies that motivation to lead is an important mechanism through which work-life balance influences leadership effectiveness, as employees with higher levels of work-life balance are more likely to have a desire and willingness to assume leadership roles and responsibilities, which in turn leads to higher levels of leadership effectiveness.

Fourth, the results partially supported the hypothesis that organizational support moderated the relationship between work-life balance and leadership effectiveness, as the effect of work-life balance on leadership effectiveness was stronger for employees with higher levels of organizational support than for employees with lower levels of organizational support. This finding suggests that organizational support can enhance the positive impact of work-life balance on leadership effectiveness by providing employees with resources, recognition, feedback, and opportunities for growth and development. However, the moderation effect was not significant for employees with medium levels of organizational support, indicating that there may be a threshold or a range of organizational support that is optimal for maximizing the positive effect of work-life balance on leadership effectiveness.

The findings of this study have several theoretical and practical implications. Theoretically, the study contributes to the literature on work-life balance, motivation to lead, organizational support, and leadership effectiveness by providing empirical evidence for the complex and dynamic interactions among these variables. The study also extends the existing models of work-life balance and leadership effectiveness by incorporating motivation to lead as a mediator and organizational support as a moderator. Practically, the study provides useful insights for managers and organizations who want to enhance the leadership effectiveness of their employees by improving their work-life balance, motivation to lead, and organizational support. This study demonstrated that work-life balance, motivation to lead, organizational support, and leadership effectiveness are interrelated and influenced by each other in various ways. The study also suggested that managers and organizations can enhance the leadership effectiveness of their employees by providing them with optimal levels of work-life balance, motivation to lead, and organizational support.

Based on the findings and limitations of this study, some suggestions for further research are:

- To explore the causal relationships among the variables, a longitudinal or an experimental design could be used instead of a cross-sectional design.
- To examine the generalizability of the findings, a larger and more diverse sample could be used, including employees from different sectors, regions, cultures, and backgrounds.

- To investigate the potential moderating or mediating effects of other variables, such as personality traits, leadership styles, organizational culture, or situational factors, on the relationship between work-life balance and leadership effectiveness.
- To measure the outcomes or consequences of leadership effectiveness, such as performance, productivity, innovation, or satisfaction, at both individual and organizational levels.

This study has some limitations that should be acknowledged and addressed in future research. Some of the limitations are:

- The use of self-reported measures may introduce biases such as social desirability or common method variance. Therefore, objective or external measures could be used to complement or validate the self-reported measures.
- The use of a cross-sectional design may limit the ability to infer causality or directionality among the variables. Therefore, a longitudinal or an experimental design could be used to establish causal relationships among the variables.
- The use of a convenience sample may limit the representativeness and generalizability of the findings. Therefore, a random or a stratified sample could be used to increase the external validity of the findings.
- The use of a single-item measure for work-life balance may limit the reliability and validity of the measure. Therefore, a multi-item scale could be used to capture the multidimensional aspects of work-life balance.

In conclusion, WLB in Turkey is a multifaceted concept influenced by cultural norms, societal values, government initiatives, and changing work patterns. While traditional work expectations may still exist, there is a growing recognition of the importance of a balanced lifestyle for well-being and job satisfaction.

WLB in Turkey, as in many other countries, refers to the equilibrium between one's professional commitments and personal life. It involves managing and allocating time and energy to both work-related activities and personal activities such as family, socializing, hobbies, and self-care. Achieving a healthy WLB is important for overall well-being, job satisfaction, and maintaining relationships.

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