The Creation of a Fast Track, Large-Group Intervention Method: A Case Study

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Abstract: This article reports the testing of a fast track, large-group intervention method, designed to initiate a change process of a Portuguese SME in the IT sector, aiming at increasing the proactivity of its employees. Based on previous work, mixing third generation large-group organizational change methods, classical Organizational Development (OD) approaches, and an adapted version of Creative Problem-Solving (CPS) protocol, the presentation of the case includes an extended diagnosis, the preparation and execution of the company meeting, and the beginning of the implementation of innovation projects. The company meeting was designed to last for just four hours, instead of the two to four days of the present methods. The diagnosis, made in close collaboration with management, includes the results of more than 30 interviews conducted with internal and external stakeholders, and a small-world analysis technique to determine the existing communication networks, together with possible clusters and brokers. Furthermore, using a content analysis, success stories were collected in order to clarify the strong points for a future organizational culture. The results support the effectiveness of the selected methodology in establishing innovation projects, involving the entire organization, and clarified desirable characteristics for the improvement of the present intervention method, adapted to Portuguese companies. The analysis of the success stories helped to determine the strengths of a future organizational culture, while the use of measures of small-world networks allowed to analyze the existing informal organization, and the way knowledge flows out of the necessary tension between clustering and bridging, necessary for creative benefits. Although this study does not include the entire completion of the projects, due to unpredicted company emergencies, it provides a solid basis for application in future interventions, and to initiate another line of investigation, related with the preparation of team leaders as group facilitators.

Keywords: organizational change, organizational innovation, organizational diagnosis, large-group methods, small-world networks, creative problem-solving

1. Introduction

Organizational Development (OD), devoted to the understanding of planned change, has been subjected to intense research, mainly because, as stated by Kurt Lewin, just by trying to change an organization one can understand it. Nevertheless, experts recognize (Bartunek & Woodman, 2015) that practitioners and scholars often proceed in separate ways, and the urge to develop new approaches makes people forget that the classic ones continue its own way. This is the case with problem-solving and organizational diagnosis, considered outdated (Bartunek, Balogun & Boram, 2011) against present large-group intervention methods, requiring companies to stop their activities for more than two days. As the situation of companies in Portugal does not allow them to stop for such a long period, we considered appropriate to create a fast track intervention method by adapting classic OD approaches (McLean, 2006) with present large-group intervention methods, to suit company situations, without losing its effectiveness. And so this article is intended to report an adaptation of large-group intervention methods, in order to suit the needs of a Portuguese SME in the IT sector, aiming at an organizational change process.

The methods taken as references were *Future Search*, with Weisbord and Janoff (2010), and *Appreciative Inquiry*, with Cooperrider and Whitney (2005). These methods are distributed among the organizational change theories of second and third generations, Appreciative Inquiry being generally connoted with the last (Seo, Putnam & Bartunek, 2004). Although an evolution is indicated from the first generation, in the 40s (eg. action-research, sensory training, team building, socio-technical systems, and the famous T-Groups, of Kurt Lewin), to the second generation (eg. organizational transformation and interventions with large groups) and, finally, the third generation, in the '80s (summarized by Peter Senge's learning organizations, and Appreciative Inquiry), several authors agree (Beer & Walton, 1994 ; Worley, Mohrman & Nevitt, 2011) that there has not been any marked improvement in the intervention methods, since each approach has continued its own way. The same happens with organizational diagnosis, a form on intervention on its own, where Howard and Associates (1994) report

that there are no precise rules on the most appropriate sequence or model to follow, as well as in the evaluation of results.

It was precisely because the complexity of systems and the theoretical limitations to field intervention that the authors have made an attempt to summarize the most important principles of the various forms of intervention in their own approach. This approach reduces the duration of the meeting to less than one day, while extending the diagnosis to comprise aspects normally included in the "whole-system in the room" meeting by present large-group intervention methods.

2. Large-Group methods

Research on large-group methods, intended to bring innovation and change to organizations and communities, through the involvement of people in the decision making process, is well-documented. Weisbord (2012), and Bunker and Alban (1997; 2006), are just a few to make extensive reviews about the theoretical foundations of large-group methods.

Large-group methods are tailored to suit group interventions with between 30 and 150 participants (ideally 70-80), meeting in sessions ranging from two to four days. Although large-group methods may deal with similar types of objectives, each has its own sequence of procedures. In general, sessions begin by asking the groups of eight (around tables of approximately 1,5m in diameter) for a vision of the desirable future, followed by a diagnosis of the present. This is made to understand the history of the organization and to create the necessary tension in attaining the ideal future. The definition of its strategic directions and required actions and timelines, together with follow-up procedures, generally close the sessions.

Given the involvement of all stakeholders in the same location at the same time, large-group methods allow for a change to occur at a much quicker than normal pace. They also allow opportunities for conflict management by establishing a focus on common ground rather than on differences, and to promote a flat hierarchy (Garcia, 2007).

Future Search was adopted as a reference methodology, due to its suitability for group decision making, its extensive description in the literature (Weisbord & Janoff, 2010), and the authors' previous experience. The method brings together 60 - 70 participants for a period of 16 hours, over three days. On the first day, the first two and half hours are dedicated to defining the milestones of the history of the organization. At this point, the various types of stakeholders gather around mixed tables with stakeholders coming from different fields and experiences. This is because homogeneous groups have more difficulty in building a comprehensive picture. On the morning of the second day, participants work around tables by stakeholders, i.e., belonging to similar fields, gaining the homogeneity necessary for the construction of common scenarios. Time is devoted to the analysis of the present and future trends. The afternoon is dedicated to defining the future in terms of the "common ground" and a plan of action is determined on the morning of the third day.

The other method taken as a reference was Appreciative Inquiry (Cooperrider & Whitney, 2005), with a similar design to Future Search, but lasting up to four days, with no limit to the number of participants, who develop the work into four phases: *discovery* (interviews and stories emphasizing the strong points), *dream* (building the desired future), *design* (system changes to meet the desired changes) and *delivery* (drawing up plans to implement the changes). Much of the action takes place around interviews conducted by the participants themselves, who seek to bring out images of the future, based on success stories of the past of the organization. So, for four days, participants designated by the planning committee as representing the "complete system" in the same room (can be several hundred people) define organizational culture through stories, which will represent the reality of the organization. Ludema, Whitney, Mohr and Griffin (2003) draw attention to the fact that the "whole system" in the room cause the participants the feeling of being part of a larger system, as well as the drawbacks of the approach based on problem solving, instead the examples of success, given that it makes people concentrate on the negative aspects of the organization. This principle, as many of the remaining ones, can be put to cause with attempts to gather scientific data to support it (Worley, Mohrman & Nevitt, 2011). That is why so many methods proliferate with a kind of "faith" beneath, instead of serious scientific considerations.

3. Adoption of a small-group problem-solving method

Following previous studies on small-group creative problem-solving procedures (Sousa, Monteiro, Walton & Pissarra, 2014), a four-step model was designed, comprising *Objective-Finding, Problem-Definition, Action-Planning*, and the *Action* itself. The sequence of divergence (<) and convergence (>) is maintained only during the Objective-Finding and Problem-Definition steps, so that more options are available to choose from. In Objective-Finding a pre-consultation takes place with the manager in charge, so that the objective, group composition, and administrative requirements may be set. During Problem-Definition, the team enumerates all possible barriers to reach the objective, and then the manager selects a final problem definition to work with, after transforming it into a challenge, instead of an obstacle. During Action-Planning the team starts by listing all actions needed to achieve the goal and then puts them in order of execution. In coordination with the manager, each task is assigned to a sub-team, which defines deadlines and the entity responsible for evaluation of the output. The last step (Action) starts after the planning session.

This model focuses team members on implementation, using management control measures, communication and acceptance-related tasks. This approach provides an initial structure for the group, during the divergent phase of Problem-Definition, followed by an emotional linkage between members, as efforts are focused on reaching consensus during the convergent phase, so that the group may start working like a team. Another structuring step follows during Action-Planning, when team members' creativity is expressed during the "how to?" development of each task in the plan. During the Action phase, the establishment of an effective communication structure within the team facilitates the collective awareness of what each team member is doing. Also, advertising the project within the organization reduces organizational resistance to task accomplishment and increases peer pressure for the team to comply with the project's milestones and goals. A designated team leader, responsible before management for group coordination and project accomplishment, is very important.

This small-group problem-solving method was adapted to work with large groups in a study with higher education students, described in Sousa, Monteiro and Pellissier (2015), aiming at bringing 62 participants, randomly arranged in ten groups, to solve the challenge consisting in the preparation of a single common essay, which would involve all students. The groups discussed the issue for an hour, resulting in a consensual problem: *"What are the steps needed to structure the project, so that the physical constraints (e.g. difficulty in meeting) can be overcome?"*. The groups, after some time of discussion, identified five key tasks to solve the problem: (1) define the topics and subtopics; (2) establish the process of assigning the sub-themes to groups; (3) create a platform for virtual communication and establish personal meeting schedules; (5) list individual skills in each of the defined sub-themes. Then the students were asked to regroup into five groups, around each of the five identified tasks, according with personal preference, and asked to establish action plans to be implemented within one month.

At the end of the period (one month), all tasks were performed as planned and, about three months after, in a session held at the appointed day, almost all students attended the presentation, during which each component of the collective work was demonstrated.

The study included the use of small-world network analysis, before and after completion of the project, in order to appreciate the evolution of the whole group.

4. Small-World networks

Uzzi and Spiro (2005) defined a small-world network as a structure that is both highly locally clustered and has a short path-length (i.e. the average number of steps that it takes all the actors in the network to reach each other). As explained by Kastelle and Steen (2010), social network analysis is made by examining dimensions such as path-length, density, geodesic distance, betweenness, and nbetweenness. Here *path-length* is the average number of steps that it takes for all of the actors in the network to reach each other; *density* represents the average existing percentage of ties over the total possible connections; *geodesic distance* represents the distances between nodes in the network, i.e., for each pair of nodes the shortest path can be determined; at network level, geodesic distance refers to the average number of paths between nodes; *betweenness* measures the subject's position and the extent to which other people depend on him or her to access information or connect to other subjects; *nbetweenness* is the normalised betweenness, obtained by dividing simple

betweenness by its maximum value, and represents the extent to which, on average, a node is connected to other nodes that are not connected to each other, expressed as a percentage.

The essence of a small-world structure is the linkage of locally intense clusters by occasionally bridging ties that provide the necessary tension between clustering and bridging, necessary for creative benefits. As Fleming and Marx (2006) explain, clustering alone may not be enough for creativity and may even be harmful due to the overabundance of connections, some of which may be redundant and favor insulation of groups from new information. Nevertheless, the cohesion of clusters, although harmful for ideation when the density of direct versus indirect ties is too large, may help the subsequent stages of development and diffusion of innovations (Ahuja, 2000). Direct ties refer to a connection between two nodes; indirect ties refer to the connection of two nodes via one or more nodes.

The clusters are bridged by people between them (the gatekeepers, or brokers) who, according to Burt (2004), have earlier access to a broader diversity of information and are central to translate that information across groups. These brokers may help ideas to travel between structural wholes (gaps of information flows), or clusters, and accumulate value in each one through a process of rediscovery and adaptation of the various constraints and requirements that may turn an idea into a valuable innovation for the organization (Ahuja, 2000).

5. "Quidgest" case study

This presentation reports the intervention in the company, aiming at an organizational change process towards a greater proactivity of employees. It includes the diagnosis and the beginning of the implementation of the innovation projects, based on an adapted model of third generation large-group organizational change methods. To make the company diagnosis, thirty collaborators and two external stakeholders were interviewed and a small-world network analysis was made in order to understand the informal organization. A content analysis of the collected success stories was made in order to define the company's perceived strong points.

5.1 Description and diagnosis

Created in 1988, Quidgest is a Portuguese IT company acting as a consultant and developer of management software, which has increased to nearly 100 coworkers in the last few years. The company is organized in a matrix structure, by projects in conjunction with specialized software departments.

The company was a pioneer in the computerization of the Portuguese Public Administration and since 1992 conceived an applications generator called "GENIO", a platform for rapid development of comprehensive information systems, combining model-based development with automatic code generation in different programming languages. Any employee can re-generate all the codes for a project and get access to functional specifications (metadata). This ensures superior standards of agility and maintenance, increases the systems' stability and allows the continuous monitoring of technological developments. Each new version, generated automatically, incorporates all the improvements in the technology layer, allowing building programs in less time and with smaller and less specialized teams.

The organization has no particular system of idea management, as the company encourages concrete changes (there are money awards for initiatives), instead of just ideas for others to do. This was repeatedly referred to by the interviewees who, sometimes, also mentioned the existence of too many individual initiatives.

The diagnosis was made in close relation with the CEO, who selected the interviewees and adapted the objectives of the intervention to the feedback received. Management concerns were related with the difficulties that some coworkers had in transforming them into challenges. Decision decentralization was another management concern, aware of the need to strengthen the collective effort to improve efficiency and increase the employees' performance, thus motivating them to adopt a more international approach and a permanent attention to market trends. In a contrasting view, some interviewees considered that there was an excessive centralization in management, although acknowledging a close relationship. On the other hand, others referred to the existence of something like a "complaint culture" fostered by some opinion leaders who focus only on negative aspects.

5.1.1 Small-World diagnosis

The following analysis shows the existing small-world network at the time of the study. Data were collected by a questionnaire administered electronically to every company member, asking to signal each colleague with whom he or she had exchanged information for performance purposes a *FEW TIMES* (1) *SOME TIMES* (2) or *OFTEN* (3). The response rate was 100% and the answers were submitted to UCINET 6 program for analysis.

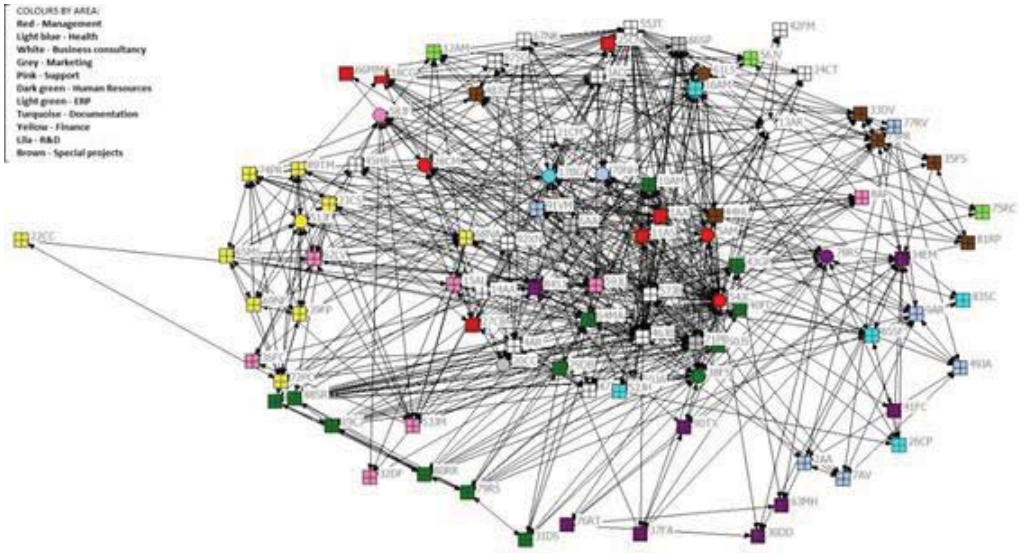

Figure 1: Density by working area. Area managers are indicated by a circle

As Figure 1 shows, the only consistent cluster appeared in the Finance Management area. Other visible clusters, although more dispersed, were Special Projects, and R&D. Human Resources Management showed two clusters, probably because there were two distinct roles in that area. All the other areas were more disseminated.

The level of betweenness centrality (the extent to which an actor falls on the paths between other pairs of actors in the network) is shown on Figure 2, in which the larger points refer to the individuals with a degree above 100, indicating they may assume the role of brokers in the communication network.

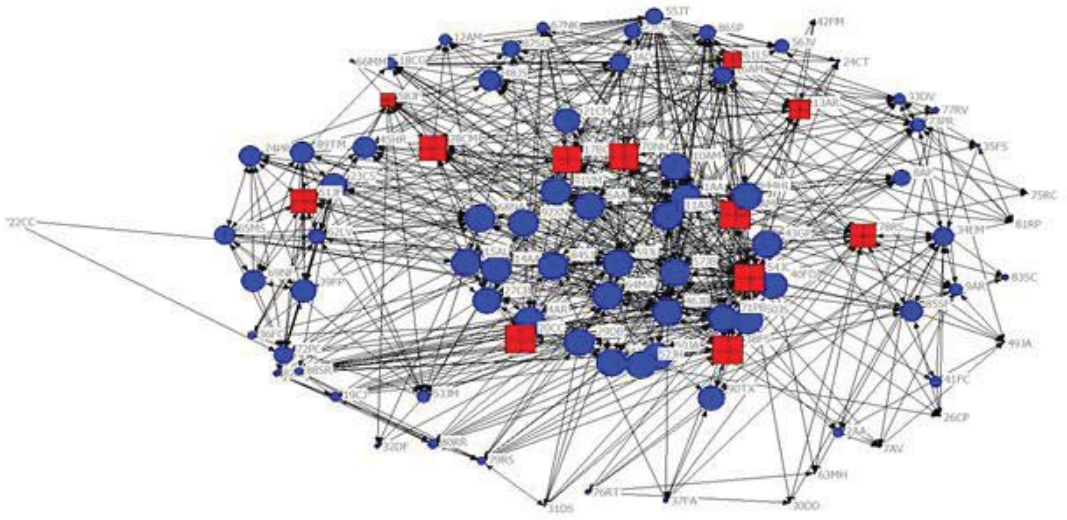

Figure 2: Graphic presentation of the level of betweenness centrality. Area managers are in boxes

The node 54JC is the CEO and 17BG, 38FS e 78RS are area managers. Number 54JC was connected with everyone else, as expected, and only surpassed by 27CB, responsible for salary management.; 17BG was located at the center of the network, but his area was dispersed; 38FS appears as a broker in her own area, alongside with

64MA, also a *broker*; 78RS was in the center of his area, communicating with the others through 84SJ, but connected to the company's networks.

5.1.2 Success stories

The twenty-two success stories received were submitted to a content analysis, from which a strong client orientation emerged, as well as the effort to renew or create new products and the pride to work as a company team. Using the software T-Lab, version 8.2, the cognitive map associated to the word "client" was built, as Figure 3 illustrates. The distances refer to the frequency and proximity that the different words are positioned in the original text, without any categorization or change. These distances measure the frequency each word had in the original text when associated with the word "client". Thus, the words "new solutions", "different ways" and "doing business" indicate the coworkers' main concerns in answering the clients' challenges.

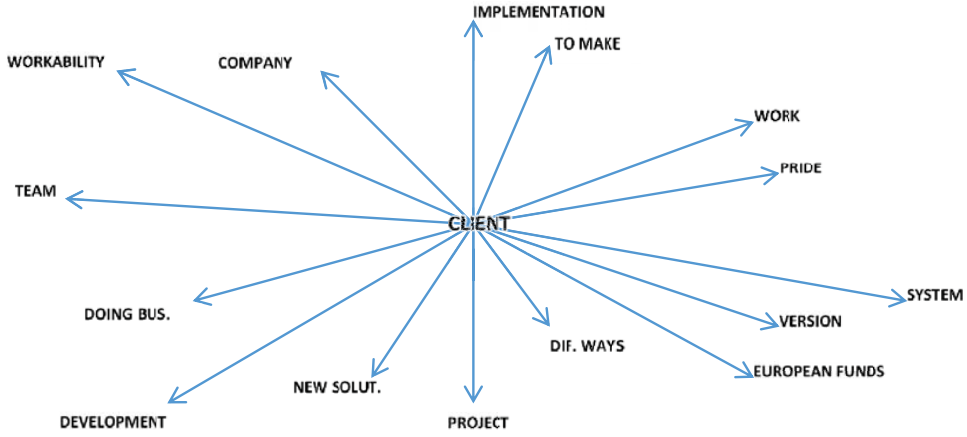

Figure 3: Associative network of the word "client"

The keywords' map, in the coworkers' discourse, reinforces the focus on the client and the high affective commitment drive to the projects, and the search for new solutions or business opportunities.

5.2 Preparation, intervention and follow up

The intervention preparation took the time needed for the diagnosis and the negotiation with management of the several possible objectives, until the final one – *to define the challenges and actions needed to commit everyone in fighting the "common enemy"*. A session was scheduled with all the company members and, a week before, a handout explaining the objective and the agenda of the meeting was issued to everyone. After that, management made sure all coworkers knew its content.

In the appointed day, about 80 participants (almost the entire company), randomly organized in 10 groups, took part in a four-hour session, aimed at developing projects contributing to the designated objective. In the first hour and a half, the groups engaged in defining the most important challenges within the objective, followed by a selection of the CEO - *What are the steps needed to increase people's accountability?* Then, teams were asked to list projects to match this challenge, producing a large number of possible projects, which, during the break, were categorized in eleven categories. After the re-start, participants were asked to choose the project each one would like to develop, thus reorganizing in eight groups (three categories were left blank). The next sixty minutes were used to defining the action plan. Each group designated a facilitator for this second round.

The eight projects planned were: (1) organizational Structure – area coordination; (2) review of HR politics; (3) organizational structure (outside area coordination); (4) professional consideration (rewards); (5) objectives, deadlines and priority management; (6) work methods; (7) competencies improvement to achieve objectives; and (8) accountability for project delivery. Follow up meetings were scheduled and a general coordinator was designated along with a communications team.

The first follow up session showed every team had run at least one face-to-face meeting to deepen up the action plan. In addition, the communications team created a virtual platform where the team members could show their work. Due to the complexity of some projects, it was necessary to negotiate its reduction, so they would become feasible and, therefore, the CEO met with each team facilitator to redefine each project output. However, since the distance between the imagined and the negotiated projects was sometimes very large, the facilitators encountered difficulties in making the teams accept the changes.

After some time, the company faced new and urgent challenges, which led the groups to postpone some of the projects' outputs.

6. Discussion and conclusions

Despite not having totally completed the cycle determined by the intervention, it became clear that the adaptation made to large-group intervention was effective in creating organizational innovation projects in the company, in a meeting of just four hours. Indeed, although many details must be changed, the intervention was a key stage in the work that the authors have developed and, more importantly, enabled the design of more effective interventions. The same happened with the diagnosis and the measurements taken, namely those related to small-world networks, which were not possible to replicate, but that were explicit enough to understand how the informal organization had established itself. Indeed, this first analysis was a good radiography of the company, and allowed for the identification of brokers in communication, facilitating the understanding of how organizational learning and innovation could be improved, as explained by Mascia, Magnusson and Björk, 2015. As to success stories, its analysis confirmed the desirable future direction, coinciding with the intentions of management. Finally, and although some of the projects have not yet been completed, many aspects influenced changes in the company, either resulting from the diagnosis or from the session.

If it were possible to repeat the entire process, carried out in the company, we would have deepen the diagnosis, either in the selection of interviewees or by extending the time spent with each one. The way to stay in tune with the concerns expressed by management was the most salient aspect of the whole process, as recommended by several authors (Howard & Associates, 2009; Beer & Walton, 2009). This embodiment of the diagnosis, through which came out varied and contrasting views on the objectives set by management, was an important synthesis of information for management and for the preparation and monitoring of the intervention. The measures related to small-world networks and collection of success stories, seemed to be appropriate. Indeed, any data collection beyond what is perceived as important by management and employees has no use for the kind of work that was needed.

However, there are aspects that should be modified, including some related with the large-group method and its previous preparation, such as:

- The operation of the organizing committee was not fully tested. Since the entire company participated, it was not necessary to make a preliminary selection of participants and the organizational work was done directly by management, which also appointed someone responsible for the logistics team.
- The duration of the session (four hours) is in clear contrast with other large-group methods but the steps taken to bring it short are well explained in previous articles (Sousa et al, 2014; 2015). Nevertheless, the time was too short, requiring additional meetings to define action plans for the projects. In this case, the physical meeting of the teams was not very difficult, due to the location and type of activity of the company; in other cases, this probably would have been more difficult. Hence, six hours instead of four seem more appropriated for the duration of the session, in order to allow for the complete construction of action plans.
- Taking into consideration all the pros and cons, we believe that the facilitators should be pre-appointed and trained to work during the session, thus forcing small changes in the development of the session. The biggest advantage will be the increase in the feasibility of the projects, which, in this case, has very weak and led to a difficult negotiation with the teams.
- The project selection should not be left to management only, but to a small committee appointed by management. Indeed, management must decide on the fundamental aspects, but also should be far enough from the definition of projects to allow the teams to have freedom of decision. On the other hand, asking management to select only one problem/challenge, from the list provided by the teams, is clearly

insufficient and should be extended to every problem considered important and achievable by management.

Since the authors have had the opportunity to successfully put into practice the suggested changes, it is thought that future research should be directed towards improving efficiency in the training of facilitators, and to provide them with virtual refreshment training, as well as in the ability to build a more thorough understanding of the organization, based on deeper interviews, during diagnosis.

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