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MAPPING CUSTOMER EXPERIENCE TIPS: INSIGHTS FROM ONLINE
MUSEUM REVIEWS

Mestrado Marketing Management



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(assinatura)

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ABSTRACT

To understand the main attributes with impact on museum's visitors' experience, this study analyses the e-WOM communication in the form of the reviews shared by customers on TripAdvisor. A qualitative and exploratory approach was applied through a thematic content analysis on 1403 reviews from five Portuguese museums with a presence on that online platform. The results revealed the attributes and sub-attributes with more impact on the visitor's experience. *Exhibition's Quality* and *Ambient Conditions* greatly influence the reviewers, and *Staff Behaviour* and *Signs & Signage* are the attributes with less impact on the experience. Given the recognized lack of research regarding the museums' atmospheric features, this study provides contributions to literature and practice by giving continuity to the gaps identified in previous studies. This research brings useful light tips for museums' management to explore and improve their services and take advantage of e-WOM as a marketing tool. Due to the recognizable increase of technology in museums, the sub-attribute *Multimedia Displays* arise reveals the importance of exploring this feature in future research.

keywords: e-WOM, museumscape, visitors' satisfaction, experiencescape, museum, atmospheric

RESUMO

O setor dos museus cresceu consideravelmente no último terço do século XX (Harris, 2013). Entre 2012 e 2020 o número de equipamentos culturais desta natureza aumentou 60% (UNESCO, 2020) em todo o Mundo. Assim como em Portugal, onde se verificou um aumento de 238 museus em 2019 face ao ano de 2000 (Fundação Francisco Manuel dos Santos, 2020).

Segundo o International Council of Museums (ICOM) (2018):

“O museu é uma instituição permanente sem fins lucrativos, ao serviço da sociedade e do seu desenvolvimento, aberta ao público, que adquire, conserva, investiga, comunica e expõe o património material e imaterial da humanidade e do seu meio envolvente com fins de educação, estudo e deleite.” (Museum Definition, Prospects and Potentials report and recommendations, ICOM’s Executive Board, December 2018).

Os museus, tal como outras atrações culturais, têm um papel importante na indústria do turismo (Bauer, Sohn & Oliveira, 2019; Durão, 2009) e contribuem para o crescimento da economia local (Llop & Carod, 2012). Embora o crescimento do turismo seja uma realidade do século XXI (Pennings, 2015), a pandemia Covid-19 veio inverter a tendência de crescimento e este sector tornou-se um dos mais afetados, tendo registado, em 2020, uma queda de 74% em relação ao ano anterior (UNWT, 2021). De acordo com a UNESCO (2020), apesar de, um modo geral, o turismo cultural ter sido particularmente afetado, nomeadamente os museus, as respostas e soluções para manter as operações surgiram de forma célere e eficaz.

Cada vez mais, os museus utilizam ferramentas da Internet para atrair visitantes (Bauer et al., 2019) e, simultaneamente, acompanhar o seu comportamento através dos comentários partilhados através de *electronic Word of Mouth* (e-WOM) nas redes sociais (Alexander, Blank & Hale, 2009; Antón, Camarero & Garrido, 2019; Dellarocas, 2003; Hausmann, 2012; Kempiak, Hollywood, Bolan & McMahon-Beattie, 2017; Rodgers & Wang, 2011). Babić Rosario et al. (2020: 427) definiram e-WOM como a “comunicação relativa ao consumo, gerada pelo consumidor, que implica ferramentas digitais e que é dirigida a outros consumidores”. O e-WOM pode ser de

conteúdo positivo, negativo, uma combinação de positivo e negativo ou neutro (Rodgers & Wang, 2011). A avaliação do conteúdo gerado e compartilhado nas redes sociais, denominada de valência, tem recebido atenção crescente na academia (Cheung & Thadani, 2010; Filieri, 2016; Zanibellato et al., 2018) na medida que os consumidores têm propensão em atribuir forte relevância e confiança ao mesmo. As avaliações negativas tendem ainda a ser mais valorizadas do que as positivas e as classificações extremas tendem a ser consideradas não confiáveis (Filieri, 2016). No TripAdvisor os utilizadores fazem a avaliação da experiência através dos comentários (*reviews*) e da classificação de 1 a 5 (*rating*). Através do *rating* é possível avaliar a qualidade do produto (Hong & Pittman, 2020) e a satisfação (Zanibellato et al., 2018). Segundo os estudos de Alexander et al. (2018) e Yoon et al. (2019) há uma correlação entre o *rating* e a valência de e-WOM. O e-WOM permite saber o que é que os consumidores dizem de um produto (neste caso os museus) e criar campanhas de e-WOM para atingir objetivos de marketing (Chu & J. Kim, 2018). Assim, os museus devem trabalhar o e-WOM como uma ferramenta de marketing (Hausmann, 2012) e desenhar as experiências oferecidas tendo em vista proporcionar satisfação dos seus visitantes. A literatura reconhece que visitantes satisfeitos geram avaliações positivas (Antón et al., 2019).

De acordo com McLean (1997), o produto do museu é a experiência da visita e esta resulta dos serviços tangíveis e não tangíveis. A experiência começa antes da entrada no museu (Rowley, 1999) com uma pesquisa sobre o museu e os seus serviços (Alexander et al., 2018). Uma vez no museu, o visitante experiencia a exposição e todos os serviços disponíveis (Chan, 2009; de Rojas & Camarero, 2008). A experiência continua depois da saída do edifício, estende-se às memórias e às partilhas em redes sociais e avaliações no TripAdvisor (Alexander et al., 2018).

Zanibellato et al. (2018) estudaram as características/atributos que influenciam a experiência do visitante (de forma positiva ou negativa) através da informação partilhada pelos visitantes dos 10 museus mais comentados no TripAdvisor. A partir dos conceitos de *atmospherics* e *servicescape*, Conti et al. (2020) desenvolveram o conceito de *museumscape*. Com base, essencialmente, na teoria de Bitner (1992) definiram as seis categorias que influenciam a experiência do visitante: *Ambient*

Conditions, Staff Behaviour, Facilities and Convenience, Art Gallery Quality, Exhibition Space Aesthetics, Signs and Signage. Os autores, através de uma pesquisa exploratória por entrevistas diretas aos visitantes de três museus italianos, estudaram o espaço do museu e o ambiente físico e o seu impacto no *Word of Mouth* (WOM). Sendo uma área de investigação emergente (Alexander et al., 2018; Conti et al., 2020; Hausmann, 2012; Zanibellato et al., 2018), são identificadas pertinentes lacunas de investigação, nomeadamente o facto de haver poucos estudos sobre e-WOM no campo museológico e sobre a influência do ambiente e espaço físico dos museus na experiência de visita. Assim, e nesta sequência, o objetivo principal desta pesquisa é estudar os atributos dos museus com impacto na experiência do visitante através do e-WOM.

Os objetivos específicos deste estudo são os seguintes:

- Analisar o perfil do visitante com base na sua atividade no TripAdvisor: origem, experiência como utilizador na plataforma (status) e data da experiência;
- Classificar os atributos da experiência de visita ao museu de acordo com a sua natureza: produto principal, serviços periféricos e ambiente;
- Identificar os atributos e subatributos mais relevantes da experiência de visita ao museu, mencionados pelos *reviewers*;
- Examinar a relação entre a performance dos atributos do museu e a satisfação.

Desenvolveu-se um estudo qualitativo exploratório (Creswell, 2007; Merriam & Tisdell, 2016) com uma abordagem dedutiva e indutiva (Bardin, 1977). A informação foi recolhida de uma fonte secundária (Adams, Khan, Raeside & White, 2007), nomeadamente de documentos virtuais (Bryman, 2012): *reviews* partilhadas no TripAdvisor.com. Esta abordagem foi inspirada em estudos anteriores (Zanibellato et al., 2018; Alexander et al., 2018). O estudo empírico debruçou-se sobre o caso português. As avaliações estudadas pertencem aos cinco museus portugueses, com presença no TripAdvisor, com mais avaliações nas categorias de Museus de Arte e Museus de Especialidade: Museu Calouste Gulbenkian, Museu Nacional do Azulejo, Museu Coleção Berardo, Museu Nacional dos Coches e Museu Nacional de Arte

Antiga. Os 1403 comentários recolhidos pertencem aos anos de 2018 e 2019 e foram escritos em língua inglesa. A informação foi tratada através de uma análise temática de conteúdo categorial (Adams et al., 2007; Bardin, 1977; Esteves, 2006) com recurso ao software Nvivo 12. As categorias, baseadas em Conti et al. (2020), surgiram de acordo com os temas repetidos; de seguida, esses temas foram divididos em subcategorias e posteriormente as referências foram distribuídas conforme a direção/valência (positivo, negativo ou neutro) (Rodgers & Wang, 2011; Zanibellato et al., 2018). Por último, procedeu-se à quantificação para encontrar a frequência de ocorrências (Esteves, 2006) e, assim, analisar os atributos e subatributos com mais impacto na experiência do visitante.

Em relação aos *reviewers*, verificou-se que a maioria são de origem Norte Americana e Europeia e que apresentam um elevado grau de experiência enquanto utilizadores do TripAdvisor (*status*). Os resultados mostram que a classificação dos museus é positiva (4.5 na escala de 1 a 5), assim como as referências das *reviews* são maioritariamente positivas, em linha com outros estudos (Alexander et al., 2018; Yoon et al., 2019). A codificação revelou os cinco principais atributos que impactam a experiência do visitante, com algumas diferenças em relação aos atributos definidos no estudo de Conti et al. (2020): *Ambient Conditions*, *Exhibition's Quality*, *Facilities and Convenience*, *Museum Space Aesthetics*, *Signs & Signage*, and *Staff Behaviour*. Também surgiram novos subatributos em relação aos trabalhos de Zanibellato et al. (2018) e de Conti et al. (2020). A principal conclusão da análise de resultados é que o produto principal do museu (*Exhibition's Quality*) é o maior influenciador da visita, seguido das condições do ambiente. Os atributos que impactam menos a experiência do visitante são *Signs & Signage* e *Staff Behaviour*. Os resultados permitem confirmar as conclusões de Zanibellato et al. (2018) sobre algumas características que impactam a experiência apenas quando há um acontecimento negativo, como é o caso de *Staff Behaviour* e dos subatributos *Display* e *Accessibility*.

Ao cruzar os dois estudos, um sobre o conceito de *museumscape* (Conti et al., 2020) e o outro sobre a análise de e-WOM no contexto museológico (Zanibellato et al., 2018), foi possível desenvolver uma abordagem mais alargada ao e-WOM e ao *museumscape*, reforçada com a emergência de novos subatributos.

As pistas encontradas neste estudo podem ser ferramentas úteis para os museus explorarem e melhorarem os seus serviços e também para mostrar como seria importante considerar as comunicações de e-WOM nas estratégias de marketing.

A recolha manual das 1403 *reviews* e da respetiva informação sobre cada *review* foi a maior dificuldade encontrada durante a pesquisa, pelo que, para futura investigação, recomenda-se a utilização de um *software* de recolha de dados adequado ou então, quando possível, a recolha da informação de forma gradual.

Este estudo foi realizado antes da Covid-19, pelo que os atributos revelados podem ser úteis para estudar estratégias de espaço e serviço no contexto pandémico e pós-pandémico. Um dos subatributos que parece ser merecedor de atenção futura, devido ao crescimento da utilização de tecnologia por parte dos museus (Luo, 2020; Trunfio & Campana, 2019), é o subatributo referente aos dispositivos Multimedia (*Multimedia Displays*). Este estudo também deixa como sugestão para investigação futura aprofundar as razões que explicam o decréscimo de *reviews* de um ano para o outro quando o número de visitantes aumentou. Finalmente, parece ainda ser merecedor de investigação futura, o estudo da influência das *reviews* partilhadas por outros utilizadores (Yoon et al., 2019) nas *reviews* atuais.

General Index

AGRADECIMENTOS	iii
ABSTRACT.....	iv
RESUMO.....	v
General Index.....	x
Table Index	xii
Figures Index	xii
List of Abbreviations.....	xiii
Chapter 1. INTRODUCTION	1
Chapter 2. LITERATURE REVIEW	4
2.1. e-WOM: Defining the concept in the museum context	4
2.2. The stage of the visitor experience: <i>Museumscape</i>	7
2.2.1. What is the museum?.....	7
2.2.2. The Museum Experience	8
2.2.2.1. The Museumscape	9
2.3. Visitor Satisfaction	12
Chapter 3. METHODOLOGY	15
3.1. Study objectives	15
3.2. Data Collection and Study Setting	16
3.3. Data Analysis	18
3.3.1. Data Analysis Procedures	19
Chapter 4. RESULTS.....	23
4.1. Demographic Analysis.....	23
4.1.1. The attributes and sub-attributes with impact on the visitors' experience.....	25
Chapter 5. DISCUSSION OF THE RESULTS.....	33
5.1. Visitors' Profile Analysis.....	33
5.2. <i>Museumscape</i> 's attributes and sub-attributes.....	34
Chapter 6. CONCLUSION	38
6.1. Implications for research.....	39
6.2. Implications for practice	39
6.3. Limitations and further research.....	40

REFERENCES.....41
APPENDIX 1: Occurrence of attributes and sub-attributes resulting from codification
.....50
APPENDIX 2. Examples of references coded for each sub-attribute.....52

Table Index

Table 3.1. Museums' information.....	17
Table 3.2. Analysis Matrix	20
Table 3.3: Categorical Matrix.....	20
Table 4.1: Descriptive Statistics.....	23
Table 4.2: Repeated Reviewers.....	25
Table 4.3: <i>Museumscape's</i> Attributes description	26
Table 4.4: Occurrence of <i>Museumscape's</i> attributes resulting from codification	26
Table 4.5: Occurrence of Sub-Attributes in <i>Ambient Conditions</i>	28
Table 4.6: Occurrence of Sub-attributes in <i>Exhibition's Quality</i>	29
Table 4.7: Occurrence of Sub-attributes in <i>Facilities and Convenience</i>	30
Table 4.8: Occurrence of Sub-attributes in <i>Museum Space Aesthetics</i>	31
Table 4.9: Occurrence of Sub-attributes in <i>Signs & Signage</i>	32
Table 4.10: Occurrences of Sub-attributes in <i>Staff Behaviour</i>	33
Table 5.1: <i>Museumscape's</i> Attributes and associated Sub-Attributes	34

Figures Index

Figure 4.1: e-WOM valence analysis	27
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List of Abbreviations

DGPC Directorate General for Cultural Heritage

e-WOM electronic Word of Mouth

ICOM International Council of Museums

UNESCO United Nations Educational, Scientific and Cultural Organization

UNWTO World Tourism Organization

VR Virtual Reality

WOM Word of Mouth

Chapter 1. INTRODUCTION

In the last third of the twentieth-century museums' field grew considerable (Harris, 2013). According to United Nations Educational, Scientific and Cultural Organization (UNESCO)(2020), from 2012 to 2020, the number of museums increased by 60%. In Portugal, was registered an increase of 238 museums between 2000 and 2019 (Fundação Francisco Manuel dos Santos, 2020). As with other relevant cultural attractions, museums have an important role in the tourism industry (Bauer, Sohn & Oliveira, 2019; Durão, 2009) and can contribute to the local economic growth (Llop & Carod, 2012). In the twenty-first century, it was notable tourism increase and its impact on the economy (Pennings, 2015). However, it is necessary to mention a big unforeseeable event that affected societies globally: the Covid-19 pandemic. Until March 2020, people could walk and travel, free and fearless: between countries, between cities, exploring and looking for memorable experiences. However, due to the Covid-19 pandemic, tourism growth changed, being one of the most affected sectors, with a 74% drop in 2020 over 2019 (World Tourism Organization (UNWT), 2021). According to UNESCO (2020) report, the cultural tourism sector was particularly affected, namely museums. However, this sector answered the challenges quickly and are working in strategies to keep their operations. This global pandemic brought some changes to museums operations and, according to Billock's (2020) article, some clues in redesigning the museum experience, in terms of space design, facilities and collateral services.

This study aims to give continuity to previous studies and add some knowledge to the museum sector, mainly studying the visitors' experience, through the electronic Word of Mouth (e-WOM).

Understanding visitors' experience feedback, it is important for the museums to design their strategy regarding the offer according to different needs and expectations (Gonçalves, 2012) and understand visitors' satisfaction (Chan, 2009). Museums use more Internet features to promote their product and attract visitors (Bauer et al., 2019). Also, the Internet can be used to understand the visitors', namely through e-WOM

(Alexander, Blank & Hale, 2009; Antón, Camarero & Garrido, 2019; Dellarocas, 2003; Hausmann, 2012; Kempniak, Hollywood, Bolan & McMahon-Beattie, 2017; Rodgers & Wang, 2011). Understanding e-WOM could be a tool to apprehend what people are saying about the product (in this case, museums) and create e-WOM campaigns to reach the marketing goals (Chu & Kim, 2018).

The academics concern on museums has arisen and the studies associating museums, and e-WOM already started to get academics' attention (Alexander et al., 2018; Antón et al., 2019; Conti, Vesci, Castellani & Rossato, 2020; Hausmann, 2012; Zanibellato, Rosin & Casarin, 2018). Zanibellato et al. (2018) observed little research on e-WOM and Marketing museums than suggested the importance of more investigation on e-WOM to improve the quality of museums' offers. Thus, the authors developed an international study in this field, understanding the features that influences the experience (positively or negatively). Conti et al. (2020) found a gap in research about museum space and the physical surrounding, proposing a conceptualization for the *museumscape*. In the thesis about visitors' management in Portuguese museums, Durão (2009) has shown the increasing demand for Portuguese museums; the study focused on interpretation techniques of the visitors' management but suggested the importance of finding out visitors' opinion. This suggestion was considered to design this research. Besides this, there were not found any similar study about e-WOM and the Portuguese museums' reviews. The empirical investigation will focus on the Portuguese context.

To fill the gap on research related to e-WOM and arts consumption namely in the museums' field (Zanibellato et al., 2018), the present study aims to give continuity and enhance the scientific knowledge on Museum Experience and e-WOM. Thus, this study main purpose is to investigate the attributes that impact the visitor's experience in museological contexts, through e-WOM. The pioneer conclusions about visitors' satisfaction from TripAdvisor reviews (Zanibellato et al., 2018) together with Conti et al. (2020) study about the *scape* in museums, looking at its relation with the visitors' experience, allowed to design and purpose the following specific objectives:

- To analyse reviewers' profile based on their activity on TripAdvisor: origin, seniority and date of experience;

- To classify the attributes of a museum experience according to its nature: core, peripheral services and ambience;
- To identify the most relevant attributes and sub-attributes of a museum experience mentioned by e-WOM reviewers;
- To examine the relationship between the performance of museum attributes and satisfaction.

A literature review in e-WOM, *Museumscape*, and Customer Satisfaction will follow, proceeded by qualitative thematic evaluative analyses, to understand which and how museum features influence the visitors' experience, followed by the results and the conclusions.

Chapter 2. LITERATURE REVIEW

2.1. e-WOM: Defining the concept in the museum context

When defining e-WOM is necessary to go back to the concept of Word of Mouth (WOM) studied since the origin of Communication Sciences (Buttle, 1998). Arndt (1967, cited in Buttle, 1998: 242), one of the first WOM researchers, defined it as an “oral, person-to-person communication between a receiver and a communicator whom the receiver perceives as non-commercial, regarding a brand, product or service”. Some authors explain the Electronic Word of Mouth as an evolution of Word of Mouth in Web 2.0. context (Cheung & Lee, 2012; Chu & Kim, 2018; Trusov, Bucklin & Pauwels, 2009). Even comparing e-WOM with WOM, authors point out differences between the concepts due to the attributable online communication characteristics. Whereas the traditional WOM is spread in the personal social network (Cheung & Thadani, 2010), generated naturally (Dellarocas, 2003), written or spoken (Babić Rosario, de Valck & Sotgiu, 2020), in e-WOM, the information exchange happens outside this personal social range, in a larger and virtual network (Babić Rosario et al., 2020; Cheung & Thadani, 2010; Cheung, Luo, Sia & Chen, 2009). As consumers are not just talking with peers, e-WOM is a global phenomenon, and it is anonymous. Therefore consumers’ voice is amplified (Litvin, Goldsmith & Pan, 2008), which means a more significant influence than in the traditional WOM (Hausmann, 2012; Lange-Faria & Elliot, 2012). e-WOM is generated in a specific controlled space, where it’s possible to require from e-WOM’s sender the type of information and control the content features (Dellarocas, 2003), because consumers can express their opinion in assorted formats (written, rating, audio, video, photo)(Babić Rosario et al., 2020). Also, the Internet allows to measure and record e-WOM communications, so consumers and organizations can access and save the information any time, and the receiver does not need to be available at the moment the review is generated (Babić Rosario et al., 2020; Cheung & Thadani, 2010; Cheung et al., 2009).

Regarding the evolution in communication studies, technology and e-WOM knowledge, it is defined by Babić Rosario et al. (2020: 427) as “consumer-generated, consumption-related communication that employs digital tools and is directed primarily to other consumers”. Yoon, Kim, Kim and Choi (2019: 685) explained that

“the most frequently used forms of e-WOM are consumer reviews written by those who previously used the products and want to share their opinions and experiences, namely, post-purchase evaluations.”.

The e-WOM valence is a structural feature of e-WOM message, meaning the message could be positive, negative, a mix of positive and negative, or neutral (when facts are presented, without a positive or negative valence) (Rodgers & Wang, 2011). This feature has been received attention from recent studies (Cheung & Thadani, 2010; Filieri, 2016; Zanibellato et al., 2018). Based on Filieri (2016) findings, consumers trust negative reviews more than positive and perceive extreme evaluations to be more untrustworthy. Also, in their investigation about restaurant reviews, Yoon et al. (2019) found similar words/expressions along with the reviews, suggesting that reviewers pay attention to the previous reviews. Therefore, good reviews will generate good reviews. Positive evaluations are important, but negative WOM and e-WOM are relevant to analyse and understand customer dissatisfaction (Su & Teng, 2018).

In TripAdvisor, the reviewers' feedback is made through written reviews and rating (1 to 5). Rating systems are a method for consumers to express their evaluation of the product or service, usually on a scale from one to five (De Pelsmacker, Dens & Kolomiiets, 2018; Hong & Pittman, 2020; Zanibellato et al., 2018), and it reflects the quality of the product (Hong & Pittman, 2020) as well as satisfaction (Zanibellato et al., 2018). Alexander et al. (2018), in a study on online user reviews and museums, found an association between the topics mentioned in the reviews and the rating given, suggesting that e-WOM valence is correlated to the rating, and Yoon et al. (2019) found a positive relationship between e-WOM valence and the rating.

Due to the easy Internet access (Cheung et al., 2009), when searching in online platform about a product, users are concerned with the credibility (Cheung & Lee, 2012) and the quality of recommendation (Cheung et al., 2009; Filieri, Alguezaui & McLeay, 2015). Filieri et al. (2015) added that quality and trustworthiness, together, influence the purchase decision. Filieri (2016) demonstrated that consumers trust in reviews to get information about a product, but the review must be factual, detailed, and provide relevant information. Cheung et al. (2009) showed the positive impact of helpful

information for the consumers' decision when searching in online communities, and Tsao and Hsieh (2015) concluded that good e-WOM quality has a positive influence on customer decisions when in independent platforms (as TripAdvisor). Also, the type of website matters when the consumer is searching for information: if consumers know/trust the website, they will have a favourable attitude when choosing to adopt/not adopt the information (Kim, Kandampully & Bilgihan, 2018; Filieri, 2016; Tsao & Hsieh, 2015).

Cheung and Lee (2012) found that reviewers' intentions and motivations to share their opinions on online platforms are based on reputation, sense of belonging to the community, and enjoyment of helping. In the museums' field, Antón et al. (2019) found that visitors feel the need to recognize and appreciate the museum and help other visitors through positive shares after a positive experience. However, a negative experience does not impact the online share motivations.

e-WOM, as the traditional WOM, is related to the purchase decision (Cheung & Thadani, 2010; Cheung et al., 2009; Trusov et al., 2009). All the advantages of online communication make e-WOM a popular source of information (Cheung et al., 2009), including for travellers (Lange-Faria & Elliot, 2012; Litvin et al., 2008) and museums' visitors (Antón et al., 2019; Hausmann, 2012; Kempniak et al., 2017). Therefore, museums' management should work on e-WOM (and WOM) as a marketing tool (Hausmann, 2012), and museums must design the visitors' experience to offer a maximum satisfactory visit because satisfied visitors generate positive e-WOM (Antón et al., 2019).

Before the digital revolution, museums' reviews were usually performed by professionals (writers, travellers, critics, journalists) or managers and nowadays, it is possible to find along the internet reviews written by the visitors (Alexander et al., 2018; Su & Teng, 2018). Zanibellato et al. (2018) showed that reviews on TripAdvisor's museums are constantly increasing and suggested that museums must improve the reviews valence. In their research, Zanibellato et al. (2018) found the importance of study the e-WOM valence to understand visitor satisfaction, concretely analysing "how the attributes of a visitor's experience have an impact on the visitor's

satisfaction in different ways” (Zanibellato et al., 2018:85). Therefore, Zanibellato et al. (2018) designed an explanatory sequential mixed methods research using quantitative text-mining and qualitative content analysis on TripAdvisor reviews from the ten most reviewed art museums. Based on the Three-Factor Theory of customer satisfaction and the Critical Incident Technique, the authors analysed the negative and positive happenings of the visitors' experience through the e-WOM valence; discovered then the satisfiers and dissatisfiers. It was found that artistic content is the feature with the most significant positive influence in e-WOM, followed by not having to line up to enter the museum and the architecture of the building. The most negative e-WOM drivers are crowded exhibition halls, long queue to enter the museum, and the layout of the museum path. It was also found that the quality of the museum’s collection and its architecture can trigger both positive and negative e-WOM.

Conti et al. (2020) studied the *museumscape* attributes and their influence on positive WOM. An exploratory study with a quantitative methodology was conducted through direct interviews and a structured questionnaire to visitors in three Italian art museums. It was found that *exhibition space aesthetics* and *art gallery quality* had significant positive effects on positive word of mouth. Otherwise, *facilities and convenience*, *ambient conditions*, and *signs and signage* did not significantly influence the visitors’ positive word of mouth.

2.2. The stage of the visitor experience: *Museumscape*

2.2.1. What is the museum?

Museum concept has origin around the beginning of the second millennium b.C., in Mesopotamia, where people collected and displayed objects; thus, the word “Museum” has derived from Greek (Kotler, Kotler & Kotler, 2008).

The museum definition by the International Council of Museums (ICOM) is:

A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and

enjoyment. (Museum Definition, Prospects and Potentials (MDPP) report and recommendations, ICOM's Executive Board, December 2018).

2.2.2. The Museum Experience

Pine and Gilmore (1998) described the Experience Economy as the economy's evolution next stage (after services economy); so services were turned into experiences where the customer is a participant. According to this perspective, customers seek memorable experiences. Thus, the experience will be more memorable as long as most of the five senses are activated, which will create a competitive advantage (Pine & Gilmore, 1998).

Schmitt (1999) introduced a new marketing approach: experiential marketing, which aim is to turn consumption into holistic experiences, where the consumers are seen as individuals who behave rationally and emotionally, with the purpose to achieve a pleasurable experience. Schmitt and Rogers (2008: 114) explained that "experiences are private events that occur in response to some stimulation". The experiences are provided by marketers when giving stimuli to consumers (Schmitt & Rogers, 2008).

Schmitt (1999) described five types of experience or experiential modules (SEMs): sensory experiences (SENSE); affective experiences (FEEL); creative cognitive experiences (THINK); physical experiences, behaviours, and lifestyles (ACT); and social-identity experiences (RELATE). Tsaur, Chiu and Wang (2007) found that each experience of experiential marketing affects the emotion, therefore the satisfaction. According to Pizam and Tasci (2019), an experience occurs in a service environment and results from consumer senses, feelings, and experiences.

What is the museum product? If in the goods, it is easy to identify the product because it is defined according to physical attributes; in services, the product is intangible (McLean, 1997). In museums, according to McLean (1997), the product is the visitor experience, and it results from both tangible and intangible services, towards which the visitor reacts psychological (and not physical), so the visitors' experience is perceived through all the inputs received during the visit. The visitor experience initiates before entering the museum (Rowley, 1999). According to Alexander et al. (2018), it starts

with informative research about the museum and its services. Much of it occurs online (includes reading reviews). Once at the museum, the visitor will experience the exhibition and all the available tangible and intangible services (Chan, 2009; de Rojas & Camarero, 2008). The experience continues after the visitor leaves the building, and it is extended to visitor's memories, social media shares and TripAdvisor reviews (Alexander et al., 2018).

As stated by Kotler et al. (2008), museums offer memorable experiences, ideas, and unique activities, so the experience provided by the museum is characterized by being authentic, aesthetic, inspirational, and a space of knowledge.

Because each visitor is an individual, he/she will look for different kind of services or products. Consequently, the experience will be different (Bonn, Joseph-Mathews, Hayes & Cave, 2007; Falk, 2016; Rowley, 1999). Also, different kind of museums will deliver different experiences according to visitors' preferences. Hence, it is important to find a strategy focused on visitors' wants (Su & Teng, 2018). The museums must know the visitors' needs and expectations (Kotler et al., 2008; Kotler & Kotler, 2000) without abandoning the focus of their mission (McLean, 1997) and still look for strategies to capture new visitors, provide better experiences and benefits to actual and potential customers (Kotler & Kotler, 2000). The museum's visitor experience must be seen as the interaction between the museum and the visitor, not just about the visitor or just the museum or the exhibition, because "visitors are the museum and the museum is the visitor" (Falk, 2016:35).

2.2.2.1. The Museumscape

Kotler (1974:50) defined the atmospherics concept as the "conscious designing of space to create certain buyers' effects". The author argues that consumers' behaviour is influenced not only by the product or service itself but by the "total product" (Kotler, 1974:48) where the place of consumption is included. Therefore, the design can work to achieve the desired behaviour from the customers. Later, Bitner (1992) introduced the servicescape concept as the result of combined environmental features (exterior, interior and ambient conditions) that influence internal responses and behaviours (for

employees and customers) and can be controlled (Bitner, 1992; Booms & Bitner, 1982). According to Bitner (1992), examples of these features are lighting, colours, signage, textures, quality of materials, style of furnishings, layout, and wall décor temperatures. Booms and Bitner (1982) and Bitner (1992) pointed out the importance of identifying the desired behaviour and the consumers' emotional needs to design the servicescape.

An evolution of these concepts is the *experiencescape*, the place where the experience happens (Frochot & Batat, 2013). According to Pizam and Tasci (2019:34):

Experiencescape is the sensory, functional, social, natural, and cultural stimuli in a product or service environment, surmounted with a culture of hospitality, all of which accrue to an experience for different stakeholders and result in positive or negative cognitive, affective, and behavioural reactions toward products, services, brands, and firms.

The visitor experience is the aggregation of the images in visitors' minds, which results from the impact of atmospherics and servicescape (McLean, 1997). According to Mossberg (2007), servicescape is parallel to experiencescape, and the author argues that the physical environment, other visitors, products, and souvenirs will impact the visitor experience. Kotler et al. (2008) argue that Architecture, Seating, Relaxation Spaces, and Specialized Facilities are important in building the museum experience. According to McLean (1997), the location and physical infrastructure have an impact on the visitor experience at museums (it can be labyrinthic, too small, overcrowded, just have one direction, etc.,...), the location of the services must consider all the visitors' profiles (adults, children, disable), as well as the timing of maintenance works, must be strategically planned; overcrowding should be avoided; signs are important to support design or exhibitions choices (why it's too dark, why the object is missing, for example).

Furthermore, it is important to pay attention to the employees as they play an essential role in the marketing mission because they are service providers and the only ones the visitors will interact with. Therefore, friendly and responsive employees will provide a

good service, good experiences and then satisfying visits (Kotler et al., 2008). Cunnell and Prentice (2000) found that visitors collect the physical atmosphere and the experiential aspects, judgements, emotions, and interest along with the visit. Su, Nguyen, Nguyen and Tran (2020) defended that the sense of belonging in heritage sites increases when visitors have enjoyable and refreshing experiences. Richards, King and Yeung (2020) found that visitor needs, expectations, and the experience's context will influence the result of the experience.

The visitor expectations, previous experience and all the museum offerings and services must be considered in the total visitor experience (Kotler & Kotler, 2000) because visitors will evaluate their experiences as a whole, not based on some individual characteristics (Morgan, 2006).

Regarding the atmospherics and servicescape concepts and due to the relevance of physical surroundings and the adoption of the servicescape framework in specific fields (e.g., festivalscape, winescape, shipscape), Conti et al. (2020) introduced the *museumscape* concept: “The museumscape represents the physical space and the general atmosphere experienced by museum visitors during their whole museum visiting experience” (chapter 2.2). Built on Bitner’s (1992) servicescape theory and the three original categories: ambient conditions; spatial layout and functionality; signs, symbols and artefacts, and then in previous museum studies, Conti et al. (2020) defined the six components of *museumscape*, in other words, the relevant cues that influence the museum visitor experience:

- Ambient conditions: related to the museums’ physical space and physical environment where features as temperature, interior colours, cleanliness of the building, flooring, lighting, ambient scents, and sounds can be evaluated.
- Staff behaviour: it includes everything related to the staff, from their appearance to their behaviour and knowledge.
- Facilities and convenience: it is about the museum functionality, specifically collateral services such as restrooms, cloakrooms, ticket office and audio guides efficiency.

- Art gallery quality: it is about the exhibition components, such as aesthetic aspects of the exhibition, quality of the space and the reputation of artworks.
- Exhibition space aesthetics: including the pleasure or harmony offered by the interior ambience.
- Signs and signage: this category englobes the signage to guide visitors around the building and during the exhibition.

In Zanibellato et al. (2018) study, the following categories were used to analyse the reviews: core (artworks and artists featured in the exhibition); peripheral services (reception, gift shop, food services, mediation devices and other facilities) and ambience (architecture of the museum building, display, layout, and other environmental factors). These categories were defined based on the study of visitor satisfaction and online reviews about museum visitors in similar contexts (Zanibellato et al. 2018: 79).

2.3. Visitor Satisfaction

Kempiak et al. (2017) show that information, communication, engagement, and atmospherics influence the experience, therefore satisfaction. Quality, customer satisfaction, and customer experience are three concepts that must work together because a quality service will generate a good experience and satisfaction (Rowley, 1999). As mentioned above, positive satisfaction generates positive e-WOM (Antón et al., 2019).

Customer Satisfaction is one of the Marketers' concerns in the tourist business, including in museums (Rowley, 1999). Following Dave Power III of J. D. Power and Associates (cited in Bitner, 1992), customer satisfaction results from the difference between the customer expectation and what customer perceives he gets. More recently, de Rojas and Camarero (2008: 526) defined satisfaction as: “sensations or feelings generated both by cognitive and emotional aspects of the goods and services, as well as an accumulated evaluation of various components and features”.

Customer satisfaction is reflected after the whole visit experience (de Rojas & Camarero, 2008; Rowley, 1999), and it is a proper measure to understand it (Harrison & Shaw, 2004). Satisfaction should be analysed periodically to know visitors' preferences and needs (Yucelt, 2001).

Satisfaction (de Rojas & Camarero, 2008) and quality service (Berry, Zeithamal & Parasuraman, 1985; Rowley, 1999) are precepted when the customer's expectations are fulfilled. The expectations result from past experience in the same environment or a similar one, or what the person read or heard about the place/local/product/service (Bitner, 1992). It is important to understand and manage customer expectations rather than what customers want (Pine & Gilmore, 2011), and manage the expectations to match the service available (Rowley, 1999). Since expectations influence the response to the place, the disconfirmed expectation – which is when the evaluation of the product is lower than expectations (Oliver, 1976) – will make the person dislike the place; otherwise, if the environment match or exceed expectation, the customer will be positively satisfied (Bitner, 1992; Falk, 2016).

According to Falk (2016), a high-quality service, a high-quality museum experience, and personal engagement are what fully satisfies the visitor. In their study, Del Chiappa, Andreu and Gallarza (2014) confirmed that emotions are related to satisfaction when visiting a museum, suggesting the importance of know customers' feelings and measure satisfaction according to cognitive and emotional components. Also, Cutler and Carmichael (2010) argue that satisfaction is more than evaluate expectations and should be measured regarding emotions, relationships and self-identity. Satisfaction depends on person to person (Bitner, 1992) and service to service according to psychological and physical variables (Falk, 2016).

In museums, if the visitor is satisfied, it will be reflected in repeating sales, positive WOM, and consumer loyalty (Bearden & Teel, 1983). The after purchase behaviour is observed mostly in satisfaction and associated with the recommendation intentions (Antón et al., 2019; Harrison & Shaw, 2004; Kempiak et al., 2017). According to Harrison and Shaw (2004), re-purchase is seen only in extreme satisfaction levels or when the museum makes substantial changes.

Visitors will decide to recommend an attraction after a positive or negative evaluation of the visit (Kempiak et al., 2017). In line with Antón et al. (2019), the intention to review depends on satisfaction level. Highly satisfied or not satisfied levels will lead customers to share reviews, but in medium levels of satisfaction, less intention to share is verified. It is important to provide the best experience for visitors to receive positive recommendations (Kempiak et al., 2017).

Chapter 3. METHODOLOGY

3.1. Study objectives

Zanibellato et al. (2018) pointed a lack of research related to e-WOM and art consumption, namely in the museums' field; this was the main reason to develop the present study, to give continuity and enhance the knowledge on Museum Experience and e-WOM. More recently, Conti et al. (2020) found a gap in previous studies regarding the museums' atmospheric features and identified for the first time the *museumscape*'s categories. Thus, it was found relevant to explore and develop research on *museumscape* concept and associated categories.

This study investigates the attributes that impact the visitor's experience in museological contexts, through e-WOM. Thus, the following specific objectives are proposed:

- To analyse reviewers' profile based on their activity on TripAdvisor: origin, seniority and date of experience;
- To classify the attributes of a museum experience according to its nature: core, peripheral services and ambience;
- To identify the most relevant attributes and sub-attributes of a museum experience mentioned by e-WOM reviewers;
- To examine the relationship between the performance of museum attributes and satisfaction.

It is a qualitative exploratory study. This approach is applied when the subject is under-explored, and the existent studies are not enough to appropriately understand the subject (Creswell, 2007; Merriam & Tisdell, 2016).

This study follows a deductive approach (Bardin, 1977), essentially because the visitors' evaluations analysis is based on both Zanibellato et al. (2018) and Conti et al. (2020) analysis models. However, it is also inductive (Bardin, 1977) since the analysis of the empirical data has enabled the creation of new analysis subcategories.

3.2. Data Collection and Study Setting

This study relies on data gathered from a secondary source (Adams, Khan, Raeside & White, 2007)¹, specifically virtual documents² (Bryman, 2012): reviews shared through User Generated Content in the platform TripAdvisor.com. Following previous studies, TripAdvisor was chosen since it is recognized as a powerful tool to study User Generated Content in tourism (Han, 2021; Lu & Stepchenkova, 2012) and museums (Zanibellato et al., 2018). As stated on the official website, TripAdvisor is the biggest travel platform in the World, available on a website or mobile app; it is used by hundreds of millions of travelers per month to research 887 million reviews of nearly eight millions business (Tripadvisor, 2021). When searching in this platform, users will find information about the place (location, address, timetable, and a brief description), the average rating (from 1 to 5), and the reviews about the experience given and written by users who had a previous experience. Also, TripAdvisor seeks the authenticity of the review and reviewer, managing fake reviews or other fraudulent activity (TripAdvisor, n.d.). Other relevant studies (Zanibellato et al., 2018; Alexander et al., 2018) followed the same approach.

The museums under investigation were selected from all the Portuguese institutions with a presence on TripAdvisor (2020). The five museums with more reviews were chosen, spread amongst the categories Art Museums and Speciality Museums in Portugal: Calouste Gulbenkian Museum – Founder’s Collection, Museu Nacional do Azulejo, Museu Coleção Berardo, Museu Nacional dos Coches, and National Museum of Ancient Art (names as designated on TripAdvisor.com (2020)).

¹ Secondary sources: documents are available to collect and analyse, but were not produced for research purposes (Adams, Khan, Raeside & White, 2007).

² Virtual Documents: Documents are sources of data that can be read, have not been produced for the study purpose, are available and relevant for the study. Virtual Documents correspond to the Documents that appears on the internet (Bryman, 2012).

Table 3.1. Museums' information

	Calouste Gulbenkian Museum - Founder's Collection	Museu Nacional do Azulejo	Museu Coleção Berardo	Museu Nacional dos Coches	National Museum of Ancient Art
Category on TripAdvisor	Art Museums	Specialty Museums, Art Museums	Specialty Museums, Art Museums	Specialty Museums	Specialty Museums
Total Number of reviews on TripAdvisor	8,439	4,191	2,448	1,585	1,250
Localization	Lisboa	Lisboa	Lisboa/Belem	Lisboa/Belem	Lisboa
Opening Year	1969	1958	2007	1905	1884
Visitors in 2018 a)	485,637 c)	219,420	998,831	320,027	153,615
Visitors in 2019 b)	492,361 d)	233,595	1,060,644	317,201	150,777
Total Number of visitors in 2018 and 2019	977,728	453,015	2,059,475	637,228	304,392
Total Number of reviews on TripAdvisor in 2018 and 2019	587	418	236	72	90
Rating	4,5	4,5	4,5	4,5	4,5

Source: Own elaboration

- a) The information about 2018 was collected from Museu Coleção Berardo website, from Calouste Gulbenkian Museum(Founders' Collection and Modern Collection) website and Directorate General for Cultural Heritage (DGPC) report (DGPC, n.d.)– DGPC manages National Museum of Ancient Art, Museu dos Coches and Museu Nacional do Azulejo
- b) Regarding the year 2019 the information was collected from Museu Coleção Berardo website, the Calouste Gulbenkian Museum number was sent by the museum's marketing department and the information about the museums managed by DGPC was collected from a Portuguese news website whose source was DGPC(Jornal Economico, 2020) because DGPC did not published an official report for the referent year.
- c) and d) Visitors' Number corresponding to Calouste Gulbenkian Museum, since was not found information exclusively for Founders' Collection.

From the museums' page on TripAdvisor (2020) was collected: museum name, the total number of reviews, location, category, overview (this is a brief description of the museum), rating and the reviews. Also, to complete the information about the museums it was added the opening year and the number of visitors from 2018 and 2019.

Data was collected between 2018 and 2019 in the English language. Following the criterion of information saturation (Merriam & Tisdell, 2016), 1403 reviews were collected and analysed. In similar research, Zanibellato et al. (2018) analysed 1000 reviews. In each review it was collected information about the reviewer: name, origin, number of contributions³ and helpful votes⁴; and regarding the reviews were collected: rating⁵, review date, review text and the experience date.

3.3. Data Analysis

The data were analysed with a categorial and evaluative thematic content analysis where content is systematically analysed and classified according to their meanings (Adams et al., 2007; Bardin, 1977; Esteves, 2006). Since the essential operation of content analysis is the categorization, in this study, data is categorized through thematic analysis (Bardin, 1977; Esteves, 2006) as the themes are distributed in categories according to the common characteristics, counted, and compared (categorial analysis); and evaluative, the frequency of judgements are evaluated as well as the direction (positive, negative or neutral). Categories were found according to the repeated themes, and then themes were distributed in sub-categories regarding the direction (positive, negative, and neutral) (Rodgers & Wang, 2011; Zanibellato et al., 2018).

Following Conti et al. (2020), the broad categories to analyse *museumscape* were defined. The sub-categories were adapted from Conti et al. (2020) and Zanibellato et

³ Contributions: the total number of contributions made by the user classified that determine the Reviewer's Status in TripAdvisor Online community (New Reviewer: 3-5 reviews; Senior Reviewer: 6-10 reviews; Contributor: 11-20 reviews; Senior Contributor: 21-49 reviews; Top contributor: 50+ reviews) (TripAdvisor, 2020).

⁴ Helpful Votes: in each review there is a button where readers can click if consider that review helpful. Helpful votes represent the total number of helpful considerations by the review readers (TripAdvisor, 2020).

⁵ Rating: Experience evaluation, from one to five (1-Terrible; 2-Poor; 3-Average; 4-Very good; 5-Excellent) (TripAdvisor, 2020).

al. (2018). The content analysis results are also a source of subcategories in an inductive process (Bardin, 1977). The data analysis allowed to find the attributes and sub-attributes of the visitors' experience, revealing which *museumscape*'s attributes impact the museum experience.

3.3.1. Data Analysis Procedures

The data analysis process was organized according to Bardin (1977), following a pre-analyses, where the data was organized; the material exploration, which is the coding process; and the interpretation of the results.

Data were collected manually and then organized in an Excel spreadsheet, where the reviews were numbered and classified with the reviewer's information (reviewer's origin, contributions, helpful votes, date of the experience and date of review) and the review content. The reviews were "floating-read" for a first understanding of the content, to get know the type of words used and the size of reviews (Bardin, 1977). The exploration step is devoted to the codification process, which is the transformation of the raw data to establish an understanding of the text by representing the content of his expression (Bardin, 1977). In this study, the corpus (Vala, 1990) was constituted by the 1403 reviews, the recording unit was defined as the theme, and the review content refers to the context unit (Bardin, 1977).

It was created an analysis matrix⁶, which worked as a guide to managing the categorization process. The literature review allowed the design of the broad categories; therefore, the analysis matrix (table 3.2) was created with the *museumscape* attributes defined by Conti et al. (2020). According to Esteves (2006), it is necessary to define the criteria to attribute a recording unit to a category. Consequently, this matrix worked as a tool when making decisions during the coding process.

⁶ Following the example in Esteves (2006, 116) were created a first analysis matrix which were reformulated during the categorization process. Also, Bardin (2011, 150) suggests setting a categorial matrix inspired on previous studies to help the analyst in the categorization process.

Table 3.2: Analysis Matrix

Category (Conti et al., 2020)	Category description
Ambient Conditions	Museums' physical space and physical environment; where features as temperature, interior colours, cleanliness of the building, flooring, lighting, ambient scents, and sounds can be evaluated.
Art Gallery Quality	Exhibition components, such as aesthetic aspects of the exhibition, spaces quality and the reputation of artworks
Exhibition Space Aesthetics	The pleasure or harmony offered by the interior ambience.
Facilities and Convenience	Museum functionality, specifically collateral services such as restrooms, cloakrooms, ticket office and audio guides efficiency.
Signs and Signage	The signage to guide the visitor around the building and during the exhibition.
Staff Behaviour	Includes everything related to the staff, from their appearance to their behaviour and knowledge.

Source: Own elaboration, based in Conti et al. (2020)

The codification was proceeded using the software Nvivo 12, a software program to assist the qualitative analysis often referred to as a Computer-assisted qualitative data analysis software program (CAQDAS) (Bryman, 2012).

The coding process revealed the categories and subcategories, it was started with the categorial matrix (Table 3.3) based on Zanibellato et al. (2018) and Conti et al. (2020) studies.

Table 3.3: Categorial Matrix

Category/Museumscape's attributes	Subcategory/Museumscape's Sub-Attributes	Zanibellato et al. (2018)	Conti et al. (2020)
Ambient Conditions	Building	x	
	Crowding	x	
	Display	x	
	Humidity		x

	Layout	x	
	Lighting	x	
	Photos	x	
	Queue	x	
	Temperature		x
Art Gallery Quality	Artist Reputation		x
	The artworks	x	x
	The style of architectural decorations		x
Facilities and Convenience	Audio Guide	x	
	Cloakroom		x
	Food Services	x	
	Gift Shop	x	
	Guidebook	x	
	Guided Tour	x	
	Rest Area/Seats	x	x
	Ticket Price	x	
Signs and Signage	Directional signage to the museum (from outside)		x
	Installed signboard		x
	Signage/Labels	x	x
Staff Behaviour	Guides and staff		x
	Responsiveness on request		x
	Willingness to help		x

Source: Own elaboration based in Conti et al. (2020) and Zanibellato et al. (2018)

The codes from the content reviews were created. Firstly, the themes were found, grouped into the subcategories (corresponding to *Museumscape's* Sub-Attributes) where the codes were distributed into positive, negative or neutral subcategories. As stated before, these sub-attributes were designed based on Zanibellato et al. (2018) and Conti et al. (2020) findings, but also new sub-attributes were revealed. When adapting and designing these sub-attributes, it was considered the criteria for categories construction referred to in Esteves (2006): mutually exclusivity, homogeneity, exhaustiveness, pertinence, productivity, and objectivity.⁷

⁷ Mutually exclusivity: the content in each category is exclusive; homogeneity: the criteria to classify must be coherent; exhaustiveness: all the record units belong to a category; pertinence: the categories are created according to the study purpose; productivity: the categories give fruitful results; objectivity: there is only one category for each record unity. (Esteves, 2006)

After defining the sub-attributes, these were assigned to the correspondent categories. Thus, we presented a matrix with the categories (*museumscape's* attributes), subcategories (*museumscape's* sub-attributes), and the reviews coded in positive, negative, or neutral sub-categories.

The last step of the empirical analysis was the quantification, this process allows to find out the frequency of some occurrences (Esteves, 2006). It was considered as enumeration units⁸, the record units. In this study, the quantification allowed to know the frequencies for each subcategory and category. Thus, the frequency of positives, negatives or neutrals reviews in each subcategory and the results about the attributes with more impact on the visitors' experience appeared.

⁸ Enumeration unity: when proceeding to quantification is necessary to select the enumeration unity that corresponds to what is counted (Esteves, 2006)

Chapter 4. RESULTS

4.1. Demographic Analysis

Some demographic characteristics were studied with the reviewer's data, such as the reviewer's origin and status in the TripAdvisor community. Also were analysed some features of the reviews like the overall rating and review's date. Table 4.1 shows these results.

Table 4.1: Descriptive Statistics

Demographics	Dimensions	Number of Reviews (N=1403)	
Reviewer's origin	Africa	13	
	Asia	48	
	Europe	538	
	North America	560	
	Oceania	56	
	South America	12	
	Not Specified	176	
Reviewers' Status in TripAdvisor Online community	New Reviewers (1-2)	18	
	Reviewer (3-5)	50	
	Senior Reviewer (6-10)	60	
	Contributor (11-20)	124	
	Senior Contributor (21-49)	269	
	Top contributor (>50)	882	
Date of posting	2018	January	66
		February	62
		March	69
		April	73
		May	85
		June	65
		July	56
		August	53
		September	77
		October	95
		November	68
		December	36
		Total	805
	2019	January	50
		February	37
		March	51
		April	55
		May	54
		June	49
		July	48
August	43		

	September	65
	October	72
	November	44
	December	30
	Total	598
Rating	Terrible (1 star)	7
	Poor (2 stars)	19
	Average (3 stars)	63
	Very Good (4 stars)	295
	Excellent (5 stars)	1019

Source: Own elaboration based on Zanibellato et al. (2018)

From 2018 to 2019, most of the reviewers came from North America (560 reviews) followed by Europe (538 reviews). Regarding the reviewer's status on TripAdvisor online community, there are more reviews from Top contributors (269) than New Reviewers (18). The number of contributions decreases as the status decrease.

Throughout 2018, the five museums analysed received more reviews than in 2019. During both years, October was the month with more reviews and December when fewer reviews were posted. The number of reviews increases in the classification scale, from Terrible (1 star) to Excellent (5 stars) being Excellent reviews the tendency (1019 reviews).

The date when the experience occurred has been analysed by crossing it with the repeated reviewers (through the username) to determine out how many reviewers visited more than one museum in the same year and verify reviewers who visited more than one museum in different years (Table 4.2).

Most of the reviews (1106) belong to reviewers who visited only one museum (1106 reviewers). The reviewers who visited two museums in the same year were 105. Reviewers with three museums visited in the same year were 15. It is also possible to verify that eight reviewers visited four museums in the same year. Furthermore, Table 4.2 shows that none of the reviewers visited the five museums analysed in the same year. It was also observed repeated reviewers who visited the museums in different years, namely one reviewer that visit the same museum in a different period.

Table 4.2: Repeated Reviewers

Repeated reviewers with Visits in the same year	Number of museums visited in the same year	Number of reviewers
	1	1106
	2	105
	3	15
	4	8
Repeated reviewers with Visits in different years	Number of museums visited in different years	Number of reviewers
	3	1
	2	1
	Revisited one museum (had visited two museums in the previous year)	1
	1 (had visited two museums in the previous year)	2
	2 (but one review does not have experience date)	1

Source: Own elaboration

4.1.1. The attributes and sub-attributes with impact on the visitors' experience

The 1403 reviews analysed resulted in 4,384 references about the attributes and sub-attributes that impacted the visitors' experience.

The codification allowed to describe and classify the *museumscape's* attributes (table 4.3): *Ambient Conditions*, *Exhibition's Quality*, *Museum Space Aesthetics*, *Facilities and Convenience*, *Signs & Signage* and, *Staff Behaviour*. These attributes were adjusted from the initial analysis matrix based on Conti et al. (2020) (table 3.2).

Appendix 1 shows all the occurrences, and Appendix 2 demonstrates examples of references coded for each sub-attribute.

Table 4.3: *Museumscape*'s Attributes description

Attribute	Attribute description
Ambient Conditions	Museums' physical space and physical environment; where features as temperature, interior colours, cleanliness of the building, flooring, lighting, ambient scents and sounds can be evaluated.
Exhibition's Quality	Exhibition components, such as aesthetic aspects of the exhibition, spaces quality and the reputation of artworks
Museum Space Aesthetics	The pleasure or harmony offered by the ambience of the whole space.
Facilities and Convenience	Museum functionality, specifically collateral services such as restrooms, cloakrooms, ticket office and audio guides efficiency.
Signs & Signage	The signage to guide the visitor around the building and during the exhibition.
Staff Behaviour	Includes everything related to the staff, from their appearance to their behaviour and knowledge.

Source: Own elaboration, based in Conti et al. (2020)

Table 4.4: Occurrence of *Museumscape*'s attributes resulting from codification

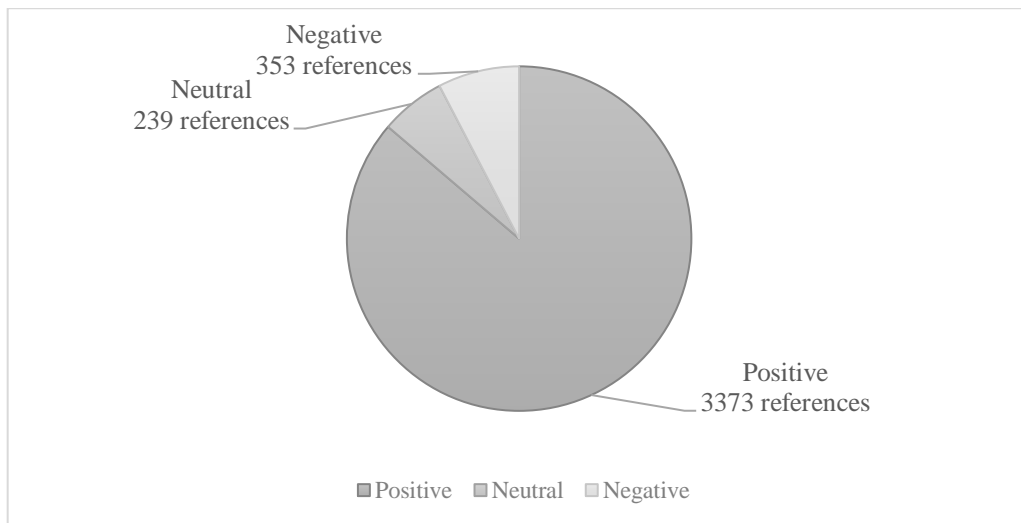
Attributes	Number of references			
	Positive	Neutral	Negative	Total Number of References
Ambient Conditions	859	155	71	1,085
Exhibition's Quality	1,914	41	109	2,064
Facilities and Convenience	557	69	100	726
Museum Space Aesthetics	302	0	9	311
Signs & Signage	78	1	43	122
Staff Behaviour	55	0	21	76

Total Number of References	3,765	266	353	4,384
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Source: Own elaboration

The attribute with more impact on the visitor’s experience is the *Exhibition’s Quality* (1,085 references) followed by the *Ambient Conditions* (1,085 references) and subsequently the *Facilities and Convenience* (726 references). *Museum Space Aesthetics* has 311 references, *Signs & Signage* 122 references and the attribute with fewer references (76) is *Staff Behaviour*. The global direction of the reviews analysis shows more positive reviews than negative or neutral (Figure 4.1).

Figure 4.1: e-WOM valence analysis



Source: Own Elaboration

Each attribute contains aggregated sub-attributes. Some of these emerged during the coding process. Table 4.5 illustrates the results of the *Ambient Conditions* attribute and associated sub-attributes.

Table 4.5: Occurrence of Sub-Attributes in *Ambient Conditions*

Attribute	Sub-Attributes	Number of References			Total
		+	Neutral	-	
Ambient Conditions	Accessibility	14	0	6	20
	Building	191	75	14	280
	Crowds	79	1	7	87
	Display	112	28	4	144
	Exterior Space	239	5	2	246
	Layout	122	12	23	157
	Lighting	14	0	8	22
	Photos	14	2	1	17
	Physical Space Dimensions	32	30	0	62
	Queue	16	0	3	19
	Temperature	6	2	2	10
	View conditions	12	0	0	12

Source: Own elaboration

Building (280 references), *Exterior Space* (246 references), *Layout* (157 references) and *Display* (144 references) are the sub-attributes with more impact in *Ambient Conditions*. The *Exterior Space* sub-attribute emerged during the coding process and covered the aspects related to the exterior space of the building (ex.: “The grounds and the gardens were spectacular.”). *Temperature* (10 references), *View Conditions* (12 references) and *Photos* (17 references) are the sub-attributes with fewer references. *View Conditions* is a sub-attribute that was not present in the categorial matrix and encompass the opinions about how the artworks can be admired (ex: “Very few barriers to prevent close viewing of the pieces.”). More sub-attributes were also found, namely *Accessibility* — which brings together the references regarding the aspects of circulation for people with mobility issues (ramps/stairs) and the lifts (ex.: “The building is accessible for wheelchairs and strollers.”), and *Physical Space Dimensions* (ex.: “The museum is large”).

All the sub-attributes have more positive than negative reviews, and the one with more positive reviews is the *Exterior Space*. *Building* is mainly classified with neutral reviews, and the sub-attribute in which negative reviews are more accentuated is *Layout*. The sub-attribute *View Conditions* has only positive references.

Table 4.6: Occurrence of Sub-attributes in *Exhibition's Quality*

Attribute	Sub-Attributes	Number of References			Total
		+	Neutral	-	
Exhibition's Quality	About the Collector	45	9	5	59
	Artworks from reputable Artists	151	0	4	155
	Collection Diversity	201	0	15	216
	Curatorship	35	0	6	41
	Historical and Cultural Enrichment	213	0	2	215
	Overall Collection's and Artworks Quality	1,229	32	76	1,337
	State of Conservation	18	0	1	19
	Uniqueness	22	0	0	22

Source: Own elaboration

The *Exhibition's Quality* attribute comprehends all the aspects related to the collection and the artworks shown in the museum. The sub-attribute with more relevance is the *Overall Collection and Artworks Quality* (1,337 references), which came up during the coding process and reflected the global appreciation of the collection and the pieces of artwork exhibited. The importance of diversity and variety was noted during the coding process, and the *Collection Diversity* sub-attribute emerged (ex.: “(...) with a good variety in the collection. Very diverse (...).”). It seems to be the second sub-attribute that impacts most in *Exhibition's Quality* (216 references). Another new sub-attribute is the *Historical and Cultural Enrichment*, which express the quotes about the knowledge and information obtained during the visit that contributed to the visitor's enrichment, in general terms and regarding the region visited (ex.: “A fascinating way to help understand Portuguese history through its beautiful art and artefacts.”). This sub-attribute is the third with more impact in the associated attribute (215 references). There were found references with opinions about the collectors, concerning Calouste Gulbenkian Museum and Coleção Berardo, and the sub-attribute *About the Collector* aroused (ex.: “This is the collection of a man who had an eye for beautiful things”). The sub-attribute *Curatorship* also came up during the coding process (ex.: “One of the best-curated museums I've seen in many yrs.”). The coding process also revealed

the sub-attribute nominated as the *State of Conservation*, related to preserving the pieces (ex.: “Beautifully preserved coaches.”). Since the exhibitions' uniqueness and originality were mentioned, a new sub-attribute emerged: *Uniqueness* (ex.: “This is a unique museum in Lisbon and Portugal.”).

Most positive and negative reviews came from the *Overall Collection and Artworks Quality* sub-attribute. There are only two sub-attributes with neutral references: *Overall Collection and Artworks Quality* and *About the Collector*. *Uniqueness* only has positive references, and the *State of Conservation* only has one negative reference.

Table 4.7: Occurrence of Sub-attributes in *Facilities and Convenience*

Attributes	Sub-Attributes	Number of References			Total	
		+	Neutral	-		
Facilities and Convenience	Cloakroom	5	1	0	6	
	Food Services	256	34	22	312	
	Gift Shop	42	16	22	80	
	Guidebook	3	0	5	8	
	Guided Tour	9	0	2	11	
	Multimedia Displays	App	22	1	4	27
		Audio	2	1	10	13
		Taxi App	1	0	0	1
		Video	10	0	4	14
		Virtual Signage	2	0	0	2
		Virtual Tour	4	0	0	4
	Rest Areas & Seats	5	0	6	11	
	Restrooms	4	1	5	10	
	Ticket Office Efficiency	2	0	4	6	
	Ticket Price	180	12	11	203	
Timetable	1	3	5	9		
Workshop	7	0	0	7		

Source: Own elaboration

The *Facilities and Convenience* attribute aggroup the references about museum functionality, specifically the collateral services. As shown in Table 4.7, the sub-

attributes in *Facilities and Convenience* with more impact are the *Food Services* (312) and *Ticket Price* (203).

New sub-attributes emerged during the coding process such as *Restrooms* (ex.: “Clean bathrooms.”); *Ticket Office Efficiency*, related to the efficiency of buying the tickets *in loco* or online (ex.: “The tickets can be purchased online, via museum's own website.”); and *Timetable*, concerning the opening hours or closed exhibitions (ex.: “Having bought our tickets, we were told that two of the exhibits were closed, which was disappointing.”). The *Workshop*, despite being an activity only provided by the Museu do Azulejo, was considered as a sub-attribute due to the significant number of reviews regarding its contribution to the enhancement of the global visitation experience (ex.: “They even offer a workshop where you can make your own tile.”). It was also found a sub-attribute related to the use of *Multimedia Displays* that combine *App*, *Audio Guide*, *Taxi App*, *Virtual Signage* and *Virtual Tour* sub-attributes.

Regarding the review’s direction, *Food Service* is the sub-attribute with the most positive reviews. It was verified a superior number of negative than positive references in the sub-attributes *Guidebook*, *Audio Guide*, *Rest Areas & Seats*, *Ticket Office Efficiency* and *Timetable*.

Table 4.8: Occurrence of Sub-attributes in *Museum Space Aesthetics*

Attribute	Sub-Attributes	Number of References			Total
		+	Neutral	-	
Museum Space Aesthetics	Harmony between Physical Space and Exhibitions	41	0	1	42
	Overall Aesthetics	85	0	2	87
	Pleasant Exhibitions	60	0	1	61
	Pleasant Interior Ambience	57	0	3	60
	Pleasant Surroundings	59	0	2	61

Source: Own elaboration

Table 4.8 describes and demonstrates the impact of the sub-attributes incorporated in the *Museum Space Aesthetics* attribute. It encompasses all the references about the beauty of the space, harmony and feelings of pleasure delivered by the ambience.

Overall Aesthetics, which arises during the coding process, is the sub-attribute most referred (87 references), and it comprehends the aesthetic evaluation of the whole space (ex.: “The museum itself is a very nice and pleasant place.”). Other more specific sub-attributes have similar values: *Pleasant Exhibitions* has 61 references; *Pleasant Interior Ambience* collected 60 references, and *Pleasant Surroundings*, 61 references. The less referred sub-attribute was the *Harmony* between physical space and exhibitions (42 references).

Table 4.8 shows more positive than negative references and the absence of neutral references in these sub-attributes.

Table 4.9: Occurrence of Sub-attributes in *Signs & Signage*

Attributes	Sub-Attributes	Number of references			Total
		+	Neutral	-	
Signs & Signage	Descriptions & Labels	74	1	27	102
	Directional signage to the museum (from outside)	1	0	5	6
	Directional signboard (inside)	3	0	11	14

Source: Own elaboration

Attribute *Signs & Signage* aggregates all the references about the signage in the museum. The most referred sub-attribute is the *Descriptions & Labels* (102 references), and the less referred (6 references) is the *Directional Signage to the Museum* (from outside).

The sub-attribute *Descriptions & Labels* has more positive than negative references. *Directional signage to the Museum* (from outside) and *Directional Signboard* (inside) collected more negative than positive references.

Table 4.10: Occurrences of Sub-attributes in *Staff Behaviour*

Attribute	Sub-Attributes	Number of References			Total
		+	Neutral	-	
Staff Behaviour	Overall Staff	39	0	18	57
	Willingness to Help	16	0	3	19

Source: Own elaboration

Staff Behaviour attribute is about all the aspects related to the staff. As shown in table 4.10, the most references (57) are about the global evaluation of the staff (ex.: “Staff polite and professional.”). Moreover, the sub-attribute *Overall Staff* came up during the coding process. Both sub-attributes show more positive than negative references, and no neutral reference was found.

Chapter 5. DISCUSSION OF THE RESULTS

5.1. Visitors’ Profile Analysis

Understanding the visitor’s profile is crucial to develop marketing strategies (McLean, 1997), and the results show that in the 1403 reviews analysed, most of the reviewers came from North America and Europe. In general, the reviews are mostly classified as Excellent (5 stars). This finding suggests that the reviewers were satisfied with their visit since satisfied visitors generate positive e-WOM (Antón et al., 2019).

The total number of visitors increased in 2019. However, in 2018 the total of reviews is superior to in 2019. Therefore, the number of reviews is not related to the number of visitors. During both years, October was the month with more reviews and December when fewer reviews were posted.

Most of the reviews belong to reviewers who visited only one of the five museums studied. However, it was observed that some reviewers visited more than one museum in the same year. One of the reviewers visited the same museum in two years. An extreme level of satisfaction explains it or because the museum made some substantial changes (Harrisson & Shaw, 2004).

5.2. Museumscape’s attributes and sub-attributes

The review's analysis brought up the attributes reflected through e-WOM that impact the visitors' experience: *Ambient Conditions*, *Exhibition’s Quality*, *Facilities and Convenience*, *Museum Space Aesthetics*, *Signs & Signage* and *Staff Behaviour*. The relevance of the initial analysis matrix based on Conti et al. (2020) and Zanibellato et al. (2018) is confirmed and enriched by new sub-attributes that were found during the coding process (Table 5.1).

Table 5.1: *Museumscape’s* Attributes and associated Sub-Attributes

Attribute	Sub-Attribute	
	Sub-attributes adapted from Conti et al. (2020) and Zanibellato et al. (2018)	Sub-attributes emerged during the coding process
Ambient Conditions		Accessibility
		Airing
	Building	
		Cleanliness
	Crowds	
	Display	
		Exterior Space/Grounds
		Flooring
	Humidity	
	Layout	
	Lighting	
		Museum Dimensions
	Photos	
	Queue	
Temperature		
	View conditions	
Exhibition’s Quality		About the collector
	Artworks from reputable Artists	
		Collection's diversity
		Curatorship
		Historical and cultural enrichment
	Overall collection’s and artworks' quality	
		State of conservation
	Uniqueness	

Facilities and Convenience		Bathrooms	
	Cloakroom		
	Food Services		
		Free Wi-fi	
	Gift Shop		
	Guidebook		
	Guided Tour		
		Multimedia Display	App
	Audio		
			Taxi
			Video
			Virtual Signage
			Virtual Tour
	Rest Areas & Seats		
		Ticket Office Efficiency	
Ticket Price			
	Timetable		
	Workshop		
Museum Space Aesthetics		Harmony between Physical space and exhibitions	
		Overall Aesthetics	
	Pleasant Exhibitions		
	Pleasant interior Ambience		
		Pleasant Surroundings	
Signs & Signage	Descriptions & Labels		
	Directional signage to the museum (from outside)		
	Directional signboard (inside)		
Staff Behaviour		Overall Staff	
	Willingness to help		

Source: Own elaboration, based on Conti et al. (2020) and Zanibellato et al. (2018)

Due to the importance of perceiving visitors' needs and expectations (Kotler et al., 2008; Kotler & Kotler, 2000; Su & Teng, 2018) to provide a better experience, it is necessary to understand the visitors' experience feedback (Gonçalves, 2012). It is achievable through e-WOM (Antón et al., 2019; Dellarocas, 2003; Hausmann, 2012; Kempniak et al., 2017; Rodgers & Wang, 2011). Furthermore, e-WOM study enables acquiring positive reviews (Antón et al., 2019; Kempniak et al., 2017). With the

attributes and sub-attributes established, the quantification and the evaluative analysis allowed to understand their impact on the reviewers' visit experience.

The global predominance of positive reviews matches with the overall museums' rating, confirming that visitors write a review in coherence with their rating (Alexander et al., 2018; Yoon et al., 2019) and illustrate general satisfaction with the experience (Antón et al., 2019).

Exhibition's Quality revealed to be the attribute with more significance for the visitors' experience, supporting Conti et al. (2020), whose results demonstrate *Art Gallery Quality* as one of the attributes which lead to recommendation intentions. With a predominance of positive mentions in this attribute, it is confirmed that the artistic content is the feature with the most significant positive influence in e-WOM (Zanibellato et al., 2018). The sub-attribute with more relevance is the *Overall Collection and Artworks Quality* highlighting the importance of the core product for the visitors.

Ambient Conditions is the second attribute with more references, confirming the impact of the physical environment on visitors' experience (Forrest, 2013; Goulding, 2000; Kottasz, 2006; McLean, 1997) and in satisfaction (Jeong & Lee, 2006). However, these findings are not aligned with Conti et al. (2020), who found a non-significant link between *Ambient Conditions* and recommendation intentions. In this attribute, *Exterior Space* is the feature that reflects most satisfaction and *Layout* is where reviewers reveal to be most dissatisfied. Zanibellato et al. (2018) argued that the museum's architecture could generate both positive and negative e-WOM. This study verified a predominance of neutral reviews in *Ambient Conditions*, more pronounced in the sub-attribute *Building*, reflecting its impact on the reviewers' experience, however, without generating satisfaction or dissatisfaction.

This study findings reveal that taking Photos does not have a relevant impact on the visitor's experience. The only negative review about photos is related to the fact that many people taking photos lead to a negative experience, confirming Zanibellato et al. (2018).

Food Services and *Ticket Price* mainly impact the visitors' experience on museum functionality and the collateral services. With particular highlight for free admission, discounts, and cheap tickets positive references, in line with McLean (1997), who argues that sales promotions (promotions and ticket discounts) increase visitors, stimulate repeated visits, and encourage purchasing at the museum; contrary to Zanibellato et al. (2018) who showed absence of impact on satisfaction regarding ticket price. Moreover, a substantial number of negative references are verified in the sub-attributes *Food Service*, *Gift Shop*, *Guidebook*, *Audio Guide*, *Rest Areas & Seats*, *Ticket Office Efficiency*, and *Timetable*, suggesting these negative features generated negative perceptions of the experience. According to Zanibellato et al.'s (2018) study, gift shop, audio guide and guide facilities are dissatisfiers (attributes that only influence satisfaction when negative incidents occur).

Conti et al. (2020) found that *Exhibition Space Aesthetics* greatly influence generating recommendations, contrary to the present findings: *Museum Space Aesthetics* does not show a relevant significance in e-WOM. *Signs & Signage* and *Staff Behaviour* are the attributes with less impact on the visitors' experience, in line with Conti et al. (2020).

Zanibellato et al. (2018) found some conflict in the literature concerning some dissatisfiers (such as *display*, *staff*, *accessibility*): some studies revealed its impact on satisfaction, but others not. Thus, the authors suggest that impact occurred when visitors had negative experiences and less impact when visitors experienced positive incidents. In this study, the features *display*, *accessibility*, and *staff* have mostly positive references, and demonstrate a low impact on overall visitors' experience analysis, supporting Zanibellato et al. (2018).

Chapter 6. CONCLUSION

This study sought to understand which attributes of the *museumscape* impacts the visitors' experience through e-WOM, analysing 1403 reviews from the five most reviewed Portuguese museums in the categories Art Museums and Speciality Museums on TripAdvisor.

Regarding the visitors' profile, in reviews written in English, most reviewers came from North America and Europe and are within a higher status on TripAdvisor community.

Started with the *museumscape* attributes found by Conti et al. (2020), the results revealed the five main attributes which influence the visitors' experience: *Ambient Conditions*, *Exhibition's Quality*, *Facilities and Convenience*, *Museum Space Aesthetics*, *Signs & Signage*, and *Staff Behaviour*. The exploratory qualitative analysis conducted unveiled new *museumscape* sub-attributes (*Accessibility*, *Airing*, *Cleanliness*, *Exterior Space/Grounds*, *Flooring*, *Museum Dimensions*, *View conditions*, *About the collector*, *Collection's diversity*, *Curatorship*, *Historical and cultural enrichment*, *State of conservation*, *Uniqueness*, *Bathrooms*, *Free Wi-fi*, *Multimedia Display- App*, *Taxi*, *Video*, *Virtual Signage*, *Virtual Tour-*, *Ticket Office Efficiency*, *Timetable*, *Workshop*, *Harmony between Physical space and exhibitions*, *Overall Aesthetics*, *Pleasant Surroundings*, *Overall Staff*).

The main evidence of the study is that the core product of the museum revealed to be the principal attribute that influences the visitors' experience followed by the *Ambient Conditions*. The *Staff Behaviour* and the *Signs & Signages* are less relevant in the visitors' experience.

The *Multimedia Displays* sub-attribute includes the *museum's app*, *audio guide*, *virtual signage*, *video guide*, *virtual tour* (through Virtual Reality). This sub-attribute, discovered during the coding process, deserves special attention considering the usage of Multimedia technology in museums to provide unique, interactive, and multidimensional experiences (Luo, 2020; Trunfio & Campana, 2019). It highlights the Virtual Reality (VR) feature since the reviewers demonstrate satisfaction when viewing the coach's interior through this technology. Furthermore, the use of VR enables the

development of some valuable experiences that also promote heritage preservation (Guttentag, 2010).

The overall positive rating and the predominance of positive reviews demonstrated a general satisfaction with the experience (Antón et al., 2019; Kempiak et al., 2017; Bearden & Teel, 1983). This investigation allows us to confirm Zanibellato et al.'s (2018) findings of some dissatisfiers (attributes that only impact the experience when a negative incident happens). It is the case of *Facilities and Convenience* and the sub-attributes related to staff behaviour, display and accessibility.

6.1. Implications for research

Previous studies on e-WOM revealed the importance of this form of communication in the museums' context to understand the visitors' experience (Conti et al., 2020; Hausmann, 2012; Zanibellato et al., 2018). Zanibellato et al. (2018) verified a lack of research regarding the museums' field and e-WOM. Therefore, the results of the present study give continuity and reinforce the conclusions of previous literature and introduce new sub-attributes. By crossing both studies, one about the *museumscape* concept (Conti et al., 2020) and the other relying on e-WOM analysis in museological context (Zanibellato et al., 2018), it was possible the development of a broader approach to the e-WOM and *Museumscape* that was reinforced with the new sub-attributes added to the final categorization matrix. To our knowledge, this study revealed to be the first research concerning Portuguese museums and e-WOM.

6.2. Implications for practice

This research brings to light useful tips for museums' management to explore and improve their services as well as to take advantage of the e-WOM as a marketing tool, namely working on TripAdvisor, specifically considering:

-The exhibition quality and the *Ambient Conditions*, since these are the features of higher impact for reviewers. Museums should work on providing the best experience conditions in these two categories.

-The sub-attributes classified as dissatisfiers to avoid negative experiences, therefore, negative e-WOM.

-The usage of Multimedia Displays considering that multimedia is part of people's everyday life (Luo, 2020) and contributes to improving the visitors' experience (Guttentag, 2010; Luo, 2020; Trunfio & Campana, 2019).

6.3. Limitations and further research

The main limitation of this study was the manual collection of the data, which required more time spent during the data collection and its organization. Thus, future research should use specific mining software to collect data along the time.

Future studies should also explore how far the reviewers are influenced by other reviews (Yoon et al., 2019) since it was verified that some reviews have references regarding previous ones, and some quoted the same words.

The results shown did not include the sub-attributes with less relevance, suggesting future research to understand their impact, for example, in re-planning the museum space due to the Covid-19. Also, this study grouped the references concerning the *Multimedia Displays* available, revealing something new regarding Zanibellato et al. (2018) and Conti et al. (2020). Due to the recognizable increase of technology in museums, these features should be deeper explored in future research.

A decrease in reviews from 2018 to 2019 was verified. However, the number of visitors increased, but this incident was not analysed as it was not the main study purpose. The motivations of e-WOM could explain this decrease, and it would be interesting to study this phenomenon in future.

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APPENDIX 1: Occurrence of attributes and sub-attributes resulting from codification

Attribute	Sub-Attribute	e-WOM valence			Total	Total
		+	Neut ral	-		
Ambient Conditions	Accessibility	14	0	6	20	1,085
	Airing	2	0	0	2	
	Building	191	75	14	280	
	Cleanliness	3	0	0	3	
	Crowds	79	1	7	87	
	Display	112	28	4	144	
	Exterior Space/Grounds	239	5	2	246	
	Flooring	3	0	0	3	
	Humidity	0	0	1	1	
	Layout	122	12	23	157	
	Lighting	14	0	8	22	
	Museum Dimensions	32	30	0	62	
	Photos	14	2	1	17	
	Queue	16	0	3	19	
	Temperature	6	2	2	10	
View conditions	12	0	0	12		
Total	859	155	71			
Exhibition's Quality	About the collector	45	9	5	59	2,064
	Artworks from reputable Artists	151	0	4	155	
	Collection's diversity	201	0	15	216	
	Curatorship	35	0	6	41	
	Historical and cultural enrichment	213	0	2	215	
	Overall collection's and artworks' quality	1,229	32	76	1,337	
	State of conservation	18	0	1	19	
	Uniqueness	22	0	0	22	
	Total	1,914	41	109		
Facilities and	Bathrooms	4	1	5	10	726
	Cloakroom	5	1	0	6	

Convenience	Food Services	256	34	22	312	61			
	Free-Wifi	2	0	0	2				
	Gift Shop	42	16	22	80				
	Guide book	3	0	5	8				
	Guided Tour	9	0	2	12				
	Multimedia Display	App	22	1	4			27	
		Audio	2	1	10			13	
		Taxi	1	0	0			1	
		Video	10	0	4			14	
		Virtual Signage	2	0	0			2	
	Virtual Tour	4	0	0	4				
	Rest Areas & Seats	5	0	6	11				
	Ticket Office Efficiency	2	0	4	6				
	Ticket Price	180	12	11	203				
	Timetable	1	3	5	9				
	Workshop	7	0	0	7				
Total	557	69	100						
Museum Space Aesthetics	Harmony between Physical space and exhibitions	41	0	1	42	311			
	Overall Aesthetics	85	0	2	87				
	Pleasant Exhibitions	60	0	1	61				
	Pleasant interior Ambience	57	0	3	60				
	Pleasant Surroundings	59	0	2	61				
	Total	302	0	9					
Signs & Signage	Descriptions & Labels	74	1	27	102	122			
	Directional signage to the museum (from outside)	1	0	5	6				
	Directional signboard (inside)	3	0	11	14				
	Total	78	1	43					
Staff Behavior	Overall Staff	39	0	18	57	76			
	Willingness to help	16	0	3	19				
	Total	55	0	21					

APPENDIX 2. Examples of references coded for each sub-attribute

Attributes	Sub-Attribute	Positive	Neutral	Negative
Ambient Conditions	Accessibility	"The building is accessible for wheelchairs and strollers." (Museu Nacional do Azulejo)	-	"Insult to injury, be sure you have access to working legs because it is an accessibility nightmare if you are in a wheelchair" (Calouste Gulbenkian Museum)
	Airing	" A wide airy space" (Calouste Gulbenkian Museum)	-	-
	Building	"(...)a truly impressive building(...)" (National Museum of Ancient Art)	"The museum is in an old Moorish palace built centuries ago(...)" (Museu Nacional do Azulejo)	"Awful building - probably meant to be awe inspiring: massive scale though with some good large spaces and contrasting peeps through to the scenery beyond but basically very unsympathetic on the human scale" (Museu Coleção Berardo)
	Cleanliness	"the inside was extremely clean" (Museu Nacional do Azulejo)	-	-
	Crowds	"and it is not crowded (hoorays)" (National Museum of Ancient Art)	" but suggest an early arrival to beat the majority of visitors" (Museu Nacional do Azulejo)	"On a random, rainy Wednesday in April Belem was swarming with tourists" (Museu Nacional dos Coches)
	Display	"(...) and very well presented(...)" (Museu Coleção Berardo)	"The Founder's Collection is on one level, organized by region" (Calouste Gulbenkian Museum)	"the art shown here was a bit unorganized, without a visible red thread." (Calouste Gulbenkian Museum)

Exterior Space	"Hidden in a very beautiful and well preserved garden (...)" (Calouste Gulbenkian Museum)	"(...)separated by courtyards and garden areas(...)" (Calouste Gulbenkian Museum)	"The only disappointment was the garden in the cloister was very overgrown and could have been such a crowning glory (...)" (Museu Nacional do Azulejo)
Flooring	"The wooden floors are especially spongy and easy on your feet and legs--unlike marble-floored museums that can tire you out quickly" (Calouste Gulbenkian Museum)	-	-
Humidity	-	-	"Mold is everywhere (they have a big problem with humidity) so I'm not sure how much longer they intend to leave it without renovating, (...)" (Museu Nacional do Azulejo)
Layout	"It is well-planned and lay out easy to navigate(...)" (National Museum of Ancient Art)	"Museum split into different sections(...)" (Calouste Gulbenkian Museum)	"Laid out on three floors, it is slightly confusing as to where things are as the hilly site and the two entrances don't help" (National Museum of Ancient Art)
Lighting	"(...)works are well-lit(...)" (Museu Coleção Berardo)	-	"My only criticism is that the lighting in the museum is low to protect the exhibits." (Calouste Gulbenkian Museum)
Museum Dimensions	"There are four floors of artifacts to see, with the top floor being a great large expansive room" (National Museum of Ancient Art)	"This is not a large museum" (Calouste Gulbenkian Museum)	-

	Photos	"I liked that you could take snapshots" (Calouste Gulbenkian Museum)	"Photographs are allowed to be taken without flash." (Calouste Gulbenkian Museum)	"(...) my only 'gripe' with our visit to this museum was the amount of people taking photos who were oblivious to standing in others' way." (Museu Nacional do Azulejo)
	Queue	"No queues which was a bonus" (National Museum of Ancient Art)	-	"and most of the time you have to wait in line to get in" (Museu Nacional do Azulejo)
	Temperature	"Nicely air-conditioned" (Calouste Gulbenkian Museum)	"(...) air conditioned (...)" (Museu Nacional dos Coches)	"One note, there is no heat in the museum so on a cloudy rainy day it was actually colder inside than outside." (Museu Nacional do Azulejo)
	View conditions	"Very few barriers to prevent close viewing of the pieces. We had a very enjoyable experience" (Calouste Gulbenkian Museum)	-	-
Exhibition's Quality	About the collector	"Gulbenkian had the money to collect some great art and some excellent art and then he donated it to the city." (Calouste Gulbenkian Museum)	"Calouste Gulbenkian was a wealthy Armenian/Portuguese oil baron making a fortune in the Persian oil fields. His personal collection is housed here." (Calouste Gulbenkian Museum)	"He made his money killing the planet" (Calouste Gulbenkian Museum)
	Artworks from reputable Artists	"Nice paintings from Portuguese painters and also from the well known European painters Jheronimus Bosch and Alfred Durer etc." (National Museum of Ancient Art)	-	"I was disappointed that there was no Dali art available at the time of our tour" (Museu Coleção Berardo)

Collection's diversity	"But the museum has a large collection and different kind of art is to be seen here" (National Museum of Ancient Art)	-	"That is part of the problem: after a while, it's just tile after tile after tile" (Museu Nacional do Azulejo)
Curatorship	"If you appreciate Modern and Contemporary Art, you cannot miss this well curated museum." (Museu Coleção Berardo)	-	"Better curation would really help." (Calouste Gulbenkian Museum)
Historical and cultural enrichment	"(...)and you can actually learn the difference between the different types of chariots." (Museu Nacional dos Coches)	-	"(...)almost as if everyone agrees that it is a waste of time. We expected to learn more about the history and making of tiles in Portugal." (Museu Nacional do Azulejo)
Overall collection's and artworks' quality	"The artwork alone is beautiful but there is so much more. I loved the furniture, the china, textiles and silver exhibits" (National Museum of Ancient Art)	"There are three floors, and tiles of all ages from ancient to modern are displayed." (Museu Nacional do Azulejo)	"On the other hand, we did not enjoy at all the modern art collection." (Calouste Gulbenkian Museum)
State of conservation	"Beautifully preserved coaches" (Museu Nacional dos Coches)	-	"(...)though conservation is clearly a problem as several of the paintings, including very important works, are in desperate need of attention." (National Museum of Ancient Art)
Uniqueness	"(...)is the only collection of its kind in the world" (Museu Nacional do Azulejo)	-	-

Cloakroom	"As we were on our way to the airport we were also pleased to be able to leave our luggage at the cloakroom." (Calouste Gulbenkian Museum)	"Anyway, we soon had our luggage in the cloakroom (no rucksacks allowed in the exhibitions)" (Calouste Gulbenkian Museum)	-
Food Services	"There is an excellent little restaurant where you can get a very tasty lunch" (National Museum of Ancient Art)	"So I went to the cafeteria and got the fish special (Swordfish With rice and spinach) which with a glass of wine was €11.50" (Calouste Gulbenkian Museum)	"The only kick is that the cafe is too small for the crowds that want to eat there. Scramble for a table." (Calouste Gulbenkian Museum)
Free-Wifi	"The museum also has free WiFi." (Calouste Gulbenkian Museum)	-	-
Gift Shop	"There are also quality arty stores at the entrance" (Museu Coleção Berardo)	"There is a small gift shop" (Museu Nacional do Azulejo)	"Gift shops were limited and had high prices." (Calouste Gulbenkian Museum)
Guide book	"And good to take some booklets downstairs dedicated to every exposition - to get much aware of them, it's really worthy." (Museu Coleção Berardo)	-	"The only disappointment was the guide map was only in Portuguese or French, no English." (Museu Nacional do Azulejo)
Guided Tour	"We were amazed and the guided tour was interesting and informative." (Calouste Gulbenkian Museum)	" A guided tour would be a great improvement." (Museu Nacional do Azulejo)	-

Multimedia Display	App	"You can download an app that will allow you to see inside the coaches" (Museu Nacional dos Coches)	"Near the end of our tour, a docent showed us the museum app (MNAz on Android, not sure about Apple), which is loaded with explanations and other guidance in multiple languages. This would be a must for a complete tour, as WiFi is only available in the lobby and cafeteria. I hope my loss is your gain." (Museu Nacional do Azulejo)	"Be warned, it takes a very long time to download." (Museu Nacional do Azulejo)
	Audio	"There was an included audio guide that gave a lot of detail about many of the tiles, although it was more detail than we needed, so we didn't listen to everything. We still appreciated the offered information" (Museu Nacional do Azulejo)	"I do not speak Portuguese, so I might suggest the audioguide, which I did not utilize, due to my late arrival and rush to enter." (Museu Nacional do Azulejo)	"I would have rated this museum higher but there is no audio guide available" (National Museum of Ancient Art)
	Taxi App	"Even calling a taxi to return to our hotel was made easy using a touch screen, taxi summoning service." (Calouste Gulbenkian Museum)	-	-
	Video	"(...)animated videos on nearby screens helped us to understand the remarkable." (National Museum of Ancient Art)	-	"There was a video in one room which went for simply ages, but nowhere really showed the artistic process of decorating the tiles." (Museu Nacional do Azulejo)

	Virtual Signage	"The exhibit descriptions are on interactive video monitors." (Museu Nacional dos Coches)	-	-
	Virtual Tour	"You cannot touch the coaches but each (I think each) has a virtual tour inside so you can see what they were like." (Museu Nacional dos Coches)	-	-
	Rest Areas & Seats	"A lot of comfortable furniture - to take some rest in between." (Museu Coleção Berardo)	-	"Be aware there is absolutely no seating on either floor." (Museu Coleção Berardo)
	Restrooms	"And not to forget: the toilets, never in Portugal been in such clean toilets!" (Calouste Gulbenkian Museum)	"Restrooms (...)" (Calouste Gulbenkian Museum)	"(...)and the bathrooms are not very clean." (Museu Coleção Berardo)
	Ticket Office Efficiency	"The tickets can be purchased online, via museum's own website." (Calouste Gulbenkian Museum)	-	"The only real kick we had about this museum is that the ticket process is slow and the line was literally out the door" (Museu Nacional do Azulejo)
	Ticket Price	" A bargain at 10 Euros." (National Museum of Ancient Art)	"10 euro entrance per person(...)" (Calouste Gulbenkian Museum)	" (...)but the ticket is quite expensive (...)" (Calouste Gulbenkian Museum)
	Timetable	"and open on Mondays (many are not)" (Museu Coleção Berardo)	"We saw the founders collection but didn't make it to the gardens or the Modern building because they closed. We plan a return visit before we leave" (Calouste Gulbenkian Museum)	"unfortunately the top level was closed for ""unknown"" reason" (National Museum of Ancient Art)

	Workshop	"They even offer a workshop where you can make your own tile" (Museu Nacional Azulejo)	-	-
Museum Space Aesthetics	Harmony between Physical space and exhibitions	"and the architecture of the facility resonates well with the art pieces and artefacts on display" (Museu Coleção Berardo)	-	"Would have expected a more charming, quaint place to display these" (Museu Nacional dos Coches)
	Overall Aesthetics	"Always a pleasure and a feeling of wealthy and wellbeing after a walk through the wonderful gardens and a visit to the museum" (Calouste Gulbenkian Museum)	-	"but there is just something a bit anaemic about the museum." (Museu Coelção Berardo)
	Pleasant Exhibitions	"Everything in there is a pleasure to see. It's a must if you enjoy contemporary art but in any event the centre is worth every minute" (Museu Coleção Berardo)	-	"Wow... Never have I felt so underwhelmed in an art exhibition. I felt physically sick at its existence and hope one day it is burned to the ground and the dust blows into the nearest black hole" (Museu Coleção Berardo)
	Pleasant interior Ambience	"It's modern, comfortable, friendly atmosphere is conducive to spending a couple of hours in wonder." (Calouste Gulbenkian Museum)	-	"A slightly strange atmosphere." (Museu Coleção Berardo)
	Pleasant Surroundings	"Setting of gardens and park was peaceful." (Calouste Gulbenkian Museum)	-	"The surrounding gardens are lovely but hardly peaceful as the campus is surrounded by busy roads." (Gulbenkian)
	Descriptions & Labels	"There are enough explanations in English to make it quite enjoyable." (National Museum of Ancient Art)	"Luckily some of the info is also in English, though much is not, though it isn't hard to decipher." (Museu	" The individual pieces would have been better appreciated if there had been more individual

			Nacional do Azulejo)	information on the Art." (Museu Coleção Berardo)
	Directional signage to the museum (from outside)	"follow the adjusted signage from the old museum, nearby" (Museu Nacional dos Coches)	-	"Only drawback is the external signs to find the gallery are non existent." (Museu Coleção Berardo)
	Directional signboard (inside)	"There is a route mapped out to follow through several buildings up stairs and down - which generally shows the chronological development." (Museu Nacional do Azulejo)	-	"(...)but the signage from one to the other is poor and we passed several people who were clearly as lost as we were." (Calouste Gulbenkian Museum)
Staff Behavior	Overall Staff	"Staff were available but unobtrusive so the experience was a very pleasant one allowing space and time to consider the pieces undisturbed" (National Museum of Ancient Art)	-	"The front of house staff can be rude and officious." (National Museum of Ancient Art)
	Willingness to help	"Staff very helpful." (Museu Nacional do Azulejo)	-	"The receptionist was not helpful so we proceeded on our own" (Museu Nacional do Azulejo)