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TITLE: Exploring Interactive Elements of Presentation and Experience during Covid-19 pandemic in Stavanger Museums

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Exploring interactive elements of presentation and Experience during the Covid-19 pandemic in Stavanger museums

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ABSTRACT

Same as other sections in the tourism industry, museums and heritages sites have been experiencing troublesome times caused by the Covid-19 pandemic. The current thesis calls into exploring the interactive elements of experience and presentation factors in Stavanger museums since the start of the Covid-19 pandemic in Norway. By clarifying the situations in different museums, new insights and knowledge are provided for managers to consider them in similar circumstances in the future. Unfortunately, few researchers have addressed the museums during the Covid-19 pandemic in Norway and especially Stavanger.

To advance our understanding, interview as a qualitative research method was selected, which provide profound knowledge about the topic. Informants were Stavanger museums' managers, curators and educators. The findings from the research illustrate the main restrictions such as face masks, one-meter distance and using sanitizer, and their negative impact on co-creation and engagement of the visitors. In addition, the lack of on-site attributes negatively influenced immersion and co-creation. Therefore, museums' creative strategies follow these challenges in engaging visitors.

Moreover, it was noted that due to the closure of the border, people's motives mainly shifted from education to relaxation and escapism. Besides, the pandemic shock was an eye-opening time for Stavanger museums regarding their weaknesses in digitalization. By considering different literature and studies, based on the finding, practical implications are provided for managers. For example, one comprehensive solution to many challenges and difficulties in engaging people during the pandemic is applying more digitalization. In addition, it is highly recommended to study people's motivations and expectations from museums during this time, which provides beneficial information for the managers to embed in their management and marketing strategies.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

FOREWORD

The current thesis was written as a part of a master's degree in Hotel and Tourism Management at the University of Stavanger. The work has been carried out in the spring semester of 2021.

First, I would like to thank God humbly for the strength He has given me throughout my life.

I believe the success and accomplishment of any project depend on the encouragement and supports of many others. Therefore, I take this opportunity to express my gratitude to the people whose participation and supports have been crucial in completing this thesis.

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INTRODUCTION

Background

Museums are a crucial tourist attraction element and a significant reason people travel to a destination(Allan & Altal, 2016). In recent years, one of the essential topics studied is museum visitors' experiences and personal attitudes, such as satisfaction in the museum context (Radder & Han, 2015). These topics intrigued many researchers in the Nordic area, as six out of ten Scandinavian journals have studied experience and its significance (Björk, Prebensen, Räikkönen, & Sundbo, 2020). Liu categorized the museum studies into three groups: 1) visitor evaluation studies in which seek the purpose of museums, exhibitions 2) visitor market studies that examine visitors' behaviors and personal attitudes such as emotions 3) exploratory studies of theoretical validation, which refers to various topics including psychology and sociology (Sheng & Chen, 2012).

The museum experience is a mix of different attitudes and sentiments of visitors about situations and happenings in museums (Kim Lian Chan, 2009). One of the concepts that emerged in recent years in the museum experience context is co-creation. Co-creation emphasizes that consumers do not play a passive role in the experience process but are active (Antón, Camarero, & Garrido, 2018). In other words, as Tynan and Mckechnie believe, visitors' experiences are the fruit of their co-creation(Antón et al., 2018). Furthermore, this co-creation happens while firms get in and maintain contacts or other relationships such as responding to customers (Antón et al., 2018).

Since people's awareness about museums and museums' content is growing, and they are increasingly more interested and involved in all kinds of museums, understanding their motivations, behaviors, satisfaction and dissatisfaction is essential (Trunfio, Lucia, Campana, & Magnelli, 2020). Furthermore, barriers that people can face for visiting and using provided services in museums such as economically, socially, culturally, and physically should be considered. These barriers can influence museums' tools and activities to provide satisfying experiences(Trunfio et al., 2020). One of the models studying interactive experience is proposed by Falk and Dierking. In the interactive experience model, three contexts are considered to answer why people visit museums, their desires, and the impressions of the visits (Dierking &

Falk, 1992). From a visitor-center perspective, this model contains the social, personal, and physical contexts(Dierking & Falk, 1992).

Museums and heritage monuments as cultural and tourism places have been influenced by various political, financial, and recently pandemic factors due to Covid-19. During the last years, the nations has experienced different pandemics, which caused closing borders, further restrictions, and lockdowns. On 11 March 2020, the World Health Organization (WHO) announced a pandemic due to the Covid-19 virus (Cobley et al., 2020). Wuhan or China was not the only city or country that endangered Covid-19 but all the courtiers (Cobley et al., 2020). This virus spread so fast to 60 courtiers, and people were asked to stay home and keep at least a one-meter distance(Cobley et al., 2020). Almost all the museums and galleries around the world have been closed (Associated Press, 2020). With less level of restrictions, museums were not closed.

During this time, one of the facilities that could help museums keep themselves and their values alive was digital tools and technology. Since the emergence of the World Wide Web, museums have made an effort to be engaged in digital activities (Corona, 2021). In addition, with the emergence of social media platforms, museums' communication approaches, education programs, and marketing strategies changed(Corona, 2021). Digitalization in different forms helped museums and other sectors to keep their communication with their visitors and customers.

Indeed, managers during this time confront three main problems, specifically required changes in museums' management, event and exhibitions' designs and social distancing impacts(Vayanou, Katifori, Chrysanthi, & Antoniou, 2020). This phenomenon indicates that managers and people are not prepared for disasters. The possible reason can be that they did not get enough lessons from previous. While several research objectives are available for the researcher to benefit from to achieve the research aim, there are not enough beneficial papers and practical research for industries.

Thesis Aim

While by emerging Covid-19 pandemic, many industries experienced hard times and many failures, it can be an opportunity to be ready and prepared for the future. Studying the changes in visitors' behaviors in museums and galleries because of the Covid-19 pandemic can give managers and administrative new insights and ideas about the actual happenings during this

challenging time. Furthermore, it can help them to be prepared for the next crisis or pandemic. Studying managers' perceptions about this time can bring more realistic insights. Besides, comparing Stavanger museums' situation with famous and significant museums worldwide can help Stavanger managers improve their actions.

As a result, a rational and creative way of thinking has been used to gather our ideas for generating straightforward research questions. We examine our strengths and interests, browse the media and find relevant literature topics that apply to our areas of interest to formulate research questions. The main question was decided to answer "How museums' interactive elements of presentation and experience have been influenced during Covid-19 pandemic?". To get more detailed answers and to cover other aspects as well to offer a thorough point of view about the issue, other questions as followed will be investigated and answered:

- What are the main lockdowns and restrictions?
- Did the people's motivations change during the Covid-19 pandemic?
- How did museums interact and engage visitors during the Covid-19 pandemic?
- How much could museums employ social media and digitalization during the Covid-19 pandemic?
- What was the main challenge for managers and staff?
- Did museums have financial problems?

Thesis Design

For this thesis, it was decided to have descriptive and explorative study designs. Since this topic did not study before, exploring new areas provide new insights and perspectives for academic and industry seems useful. Furthermore, describing the situations such as restrictions in museums and financial crisis during the Covid-19 pandemic brings us more information about practically of them. Moreover, based on this thesis supervisor's suggestion, museums' websites were taken into consideration to be described and analyzed. The observation results can provide helpfully and complement data for the digital part of the interview guide.

To facilitate the interview process for interviewees and interviewer, the questions were categorized to facilitate the interview process for interviewer and interviewees. These sections helped us for explaining the results as well. Most of the codes were derived from the data during

thematical analysis and coding. These characteristics direct us to exploratory, content-driven (Guest, MacQueen, & Namey, 2012). Besides, to generate and collect data, a semi-structured interview was selected. The possibility to address follow-up questions and asking more questions about the topic aid the author in investigating and explore better.

To have better foundations of research, the interactive experience model proposed by Falk and Dierking is applied. Since it aims to profoundly understand interactive elements of presentation and experience in museums during Covid-19 pandemics, other pieces of literature and categorizations are considered. The following figure presents the pieces of literature employed and their flow.
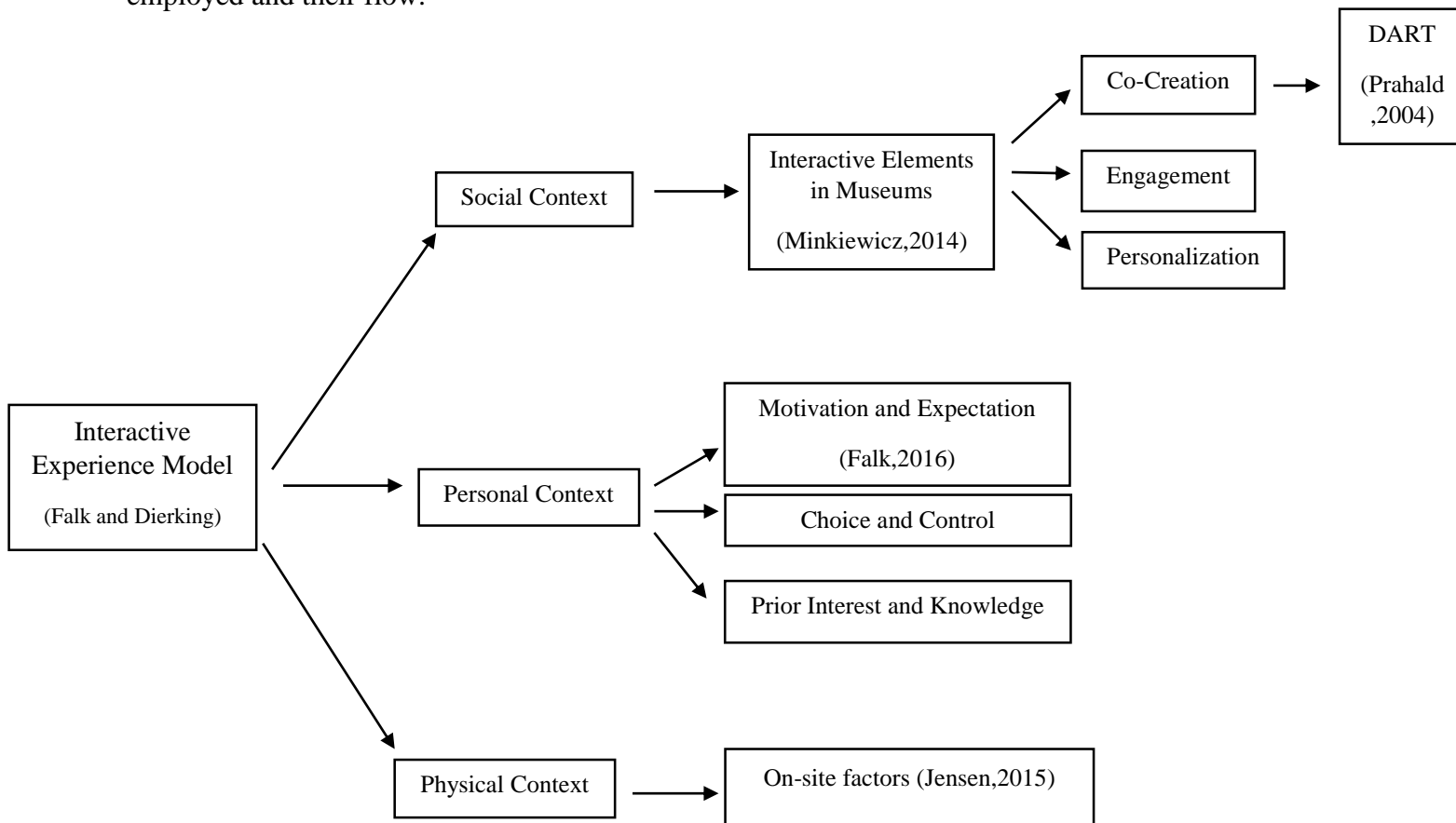

Figure 1: The literature model followed in the literature review

Thesis Structure

This research originated from our interest in the experience field. Since the Covid-19 pandemic brought hard times for all the industries, especially the tourism and heritage site industry, I found it very interesting to acknowledge how museums reacted to the impacts of the Covid-19 pandemic on their operations. Therefore, I search for deeper understanding by consulting subject matter experts about problems facing the museum sector and the direction of the field during the Covid-19 pandemic.

To achieve our goal of answering our research questions, I structured the thesis in seven chapters with their sub-sections. The first chapter, the introduction, explains this study's background, the thesis purposes, and the model. The second chapter presents conceptual and theoretical knowledge based on the literature review on previous researches and existing theories to support this research. In the following chapter, the methodology clarifies the methods, target groups and ethical concerns. Finally, in the result section, the findings based on the determined themes are presented. In order to gain a profound and comprehensive perspective, various aspects will be interpreted in the discussion part. Viewing issues from different and various sides aid in offering better advice and suggestion to managers and researchers. Thus the managerial implication and further research sections provide recommendations for managers and researchers based on the analysis and understanding from the discussion part. The thesis finishes with the study conclusion part.

LITERATURE REVIEW

Experience

Experience has received more attention during the last decades. This concept can be seen as a subjective, intangible and personal phenomenon (Morgan, Lugosi, & Ritchie, 2010) in which cognitive and emotional stimuli both happen simultaneously (Kim Lian Chan, 2009). Experience can happen in two-time dimensions: first, one can experience something in one moment, or it can evaluate a situation occurrence (Morgan et al., 2010). As a result, tourist experience can be a combination of past or present conditions or each of them individually (Jensen, Lindberg, & Østergaard, 2015).

Experience has been defined from different aspects during the last years(Godovykh & Tasci, 2020). Many scholars proposed the definitions from a general perspective and others identify experience with the help of its components (Godovykh & Tasci, 2020). In recent years, some scholars have emphasized the emotional and behavioral components of the experience (Godovykh & Tasci, 2020). Some others insist on cognitive factors involved in the experience process. There is no unique and definite measurement(Godovykh & Tasci, 2020). Although there are difficulties and problems with definitions and measurement, all the scholars agree that experience is related to the higher needs of human beings. According to Maslow's hierarchy, higher demands are related to searching for novelty, enjoyment, socialization, and learning (N. Prebensen, J. Chen, & M. Uysal, 2018).

Nowadays, people, especially tourists, are gaining more control over the process and component of the experience(N. Prebensen et al., 2018). In other words, they will have their narratives, which are influenced by their interactions with the experience environment and tangible aspects(N. Prebensen et al., 2018). Besides, the facilities and atmosphere of the experience environment have various impacts on people's role in creating their experience or co-creation of their experiences(N. Prebensen et al., 2018).

Museum

Museums and heritage sites are prominent cultural and educational organizations (Liao, Zhao, & Sun, 2020). International Council of Museums (ICOM) proposed a definition for

museums as "museum is a non-profit making, permanent institution in the service of society and of its development, and open to the public, which acquires, conserves, and enjoyment, material evidence of people and their environment" (ICOM,2010). Museums provide many benefits to societies. For example, they have cultural benefits to their destinations, such as preserving historical monuments, memories pride of the heritage sites(Ambrose & Paine, 2012). Furthermore, online and offline activities such as lectures, websites, cultural events, and ceremonies engage people in social and cultural benefits (Ambrose & Paine, 2012).

Museums can make contact between different generations and age groups (Kelly, 2006). Local museums, same as national museums, provide benefits to local communities. For instance, local museums develop pride for localities (Kelly, 2006). Furthermore, local people can benefit from tourists who visit their hometown for available museums (Kelly, 2006). Getting involved in different exhibitions and events makes people feel belonging and involved (Kelly, 2006).

Moreover, museums as an educational institution, by providing experiential settings, offer spiritual and intangible benefits (Pallud & Straub, 2014). These benefits can be named life enrichment, learning from experiences, possibilities for communications, and gratifications (Pallud & Straub, 2014). One of the elements that can dramatically impact the experience and interactions is the demographic characteristics of visitors (Chang, 2006). These factors play a significant role in the quality of their experience, which managers should take care of(Chang, 2006). However, museum visiting is not evenly spread in the population (Black, 2005). The first factor that can be mentioned is age. The group of elementary school students constitutes a large portion of museum visitors(Chang, 2006). After this group, families can be settled in a second position (Chang, 2006). In general, people between 25 to 44 and children between 5 to 9 are the most frequent visitors(Chang, 2006).

Furthermore, women are more interested in visiting museums than men(Chang, 2006). Educational level is positively associated with visiting museums. With higher education, people go to first art, science and technology, and natural museums more than other tourism attractions (Chang, 2006). This perspective was proved by Larsen, who believes that high social groups such as well-educated people tend to visit museums more than other social groups (S. Larsen, 2007).

Based on Perera (2015), heritage sites and museums carry out five missions. The two essential missions collaborate with other organizations and people and make the sites and events more alive and dynamic (Perera, 2015). Offering authentic experience and finding the best communication approach with the community are the two other museums' duties(Perera, 2015). Many researchers and scholars believe museums' most essential and core mission is protecting valuable and irreplaceable resources(Perera, 2015). Although this concept has been followed during the last decades, Anderson and other scholars alleged that museums had shifted from collection-centered to visitor-oriented institutions(Pallud & Straub, 2014). This shed light on the New Museology concept. In New Museology, more emphasis is allocated to education and entertainment (Pallud & Straub, 2014). This concept changed museums' relationship with their societies (McCall & Gray, 2014). While museums were supposed to focus on their collections in traditional museology, in new museology, their social and political roles are emphasized(McCall & Gray, 2014). As a result, one of their mission in new museology is to connect and contact societies(McCall & Gray, 2014).

Interactive Experience Model

Falk and Dierking believed that experience is not limited to during visits, but before and after visits play an essential role (Sheng & Chen, 2012). Furthermore, demographic characteristics of visitors, the design of exhibitions, and the content of the museums are not sufficient items to investigate visitor experience(J. H. Falk, 2016). Since scholars have been applying these lenses and parameters for observing visitor experience, findings are limited(J. H. Falk, 2016). The contextual learning model proposed by John Falk and Dierking has been considered as a standard framework to describe a set of interacting relevant factors (Figure 2)(J. H. Falk, 2016). In this model, it is said that visitor's experiences happen when museums, exhibitions, and visitors are situated in a unique moment when both of them are one(J. H. Falk, 2016).

In the interactive model, it is believed that all the experiences take place in three contexts, namely: personal, social, and physical(Chang, 2006). Social context involves all interactions one can have with others(Chang, 2006). Falk said there are items in a personal context, namely motivations and expectations, prior interest or knowledge, and third choice or control (Anderson, 2004). Falk (2016) believed that two criteria clarify the level of learning that visitors can have

from experience: prior knowledge and interest. First, frequent visitors are more likely to gain information before visiting (J. H. Falk, 2016). This matter is because regular visitors visit museums two or three times per year or more than seven or more times per year (J. H. Falk, 2016). Second, these people have mostly the most profound interest in the content of museums (J. H. Falk, 2016).

Three items play advance organizers and orientation in the physical context are design and reinforce events and experiences outside the museums (Anderson, 2004). The physical context points to all tangible assets in the environment, such as layout and collection (Chang, 2006). In the museum context face to face, interactions are necessary between staff and visitors to have bargaining and information exchange properly(Gilmore & Rentschler, 2002).

Figure 2: The museum visitor experience model (J. H. Falk, 2016,p.161)

Since studying these three contexts existed in museums can clarify the relationship between these three contexts and experience, it can help managers enhance their managerial practices(Sheng & Chen, 2012). Museums are different in the type of their collection, but their main goal is the same for all of them(Gilmore & Rentschler, 2002). While it is accepted that museums focus on exhibitions and objects, visitors' experiences are related to other things as well.

Interactive elements in museums

Some scholars have made an effort to clarify interactive elements in museums. One of the most successful researches was conducted by Minkiewicz and his colleagues. Their study classified the interactive features specialized for heritage sites and museums in three groups: co-production, engagement, and personalization (Minkiewicz, Evans, & Bridson, 2014). Tourism and heritage site visitors are inclined to create their experience and be more active(Minkiewicz et al., 2014). This co-production facilitates engagement. One of the most comprehensive definitions of engagement is as "a psychological state that occurs under interactive, co-creative customer experiences with a focal agent/object It is a multi-dimensional concept subject to a context and stakeholder specific expression or relevant cognitive, emotional and behavioral dimensions"(Brodie, Hollebeek, Jurić, & Ilić, 2011,p.260). In other words, engagement can be considered the cognitive and psychological immersion in experience and beyond the mere presence in the experience environment (Minkiewicz et al., 2014).

Another factor assists engagement is personalization (Minkiewicz et al., 2014). Experience consumers and visitors select a self-direct path of the possible and available choices based on their interests and needs(Minkiewicz et al., 2014). As Fisher and Smith assume, researchers choose the items to contribute to ownership feeling in consumers (Fisher & Smith, 2011). Elements such as interactions with staff and other visitors or technology can induce visitors to specific options and choices(Minkiewicz et al., 2014). All these factors contribute to broadening visitors' co-creation phases.

Co-creation

Recently, many researchers have been emphasizing more participative and interactive experiences, especially in the tourism and hospitality industry, in which experiences are the main items to be sold to customers(Mohammadi, Yazdani, Pour, & Soltani, 2020). As Prahalad and Ramaswamy proposed, service industries emphasized the value of offered services and products (Coimbatore K Prahalad, 2004). Nowadays, the focus is shifting from the embedded value in tangible aspects to intangible ones offered in experiences (Payne, Storbacka, & Frow, 2008).

Ramaswamy and Gouillart explained the co-creation concept as "the act of creating products and services through the collaboration between customers, managers, employees and

other beneficiaries of the company" (Ramaswamy & Gouillart, 2010,p.4). Co-creation indicates tourists' willingness or, generally, consumers in designing, producing, or consuming an experience (Campos, Mendes, Valle, & Scott, 2018). In co-creation experience, interaction is the most important element because of re-orientation from providing service to providing experience in leisure industries (Campos et al., 2018). As a result, tourists play more active roles than passive roles in the experience process (Payne et al., 2008).

Experience should have the capacity that tourists can be engaged in activities for several reasons such as developing, exploring a multisensory environment and making connections with others (Campos et al., 2018). Active role in making experience, engage and involve the tourists emotionally and cognitively into the experience. Involvement in the tourism context is defined as "an unobservable state of motivation, arousal or interest toward a recreational activity or associated product" (N. K. Prebensen, J. S. Chen, & M. Uysal, 2018,p.97). As it is evident, nowadays offered experience is heavily dependent on tourists' role and tendency to participate and engage in experience and environment(N. K. Prebensen et al., 2018)

For tourism to have a memorable consumption experience, the organization must make management and marketing principles to engage tourists in the co-creation of experience (Campos et al., 2018). In other words, as Gronroos highlights, providing and affording considerable opportunities for co-creation is an organizations' responsibility(Grönroos, 2006). Since frontline staffs have the most contact with tourists, their role in generating co-creation experiences is significant(Campos et al., 2018). In addition, several researchers emphasized the importance of interaction and communication between visitors and service providers in experience procedures (N. K. Prebensen et al., 2018).

From a tourist perspective, tourists expect to have opportunities to be co-creators of their experiences(Binkhorst & Den Dekker, 2009). In other words, they expect to be involved in onsite experience activities (Binkhorst & Den Dekker, 2009). While involving tourists in co-creation can begin before visiting and ask about their needs and expectations by organizations, onsite co-production of experience is highly significant(Binkhorst & Den Dekker, 2009; Campos et al., 2018). In addition, some researchers believe that tourists and visitors should participate in entertainment-focused or learning-based activities different from everyday routine (Campos et al., 2018). One of the ideas is that people are bored of being passive and have desires to persist in

active physical participation, intellectual and cognitive activities and gaze thoughts (Campos et al., 2018).

Co-Creation Elements in Museums

In the museum context, Prahalad and Ramaswamy noted four co-creation blocks applicable in the museum context: dialogue, access, risk assessment, and transparency (Coimbatore Krishna Prahalad & Ramaswamy, 2004). First, dialogue provides information sharing, understanding, and comprehensiveness between message sender and receiver (Coimbatore Krishna Prahalad & Ramaswamy, 2004). In other words, both parties can reveal their value in the value creation process, especially organizations(Coimbatore Krishna Prahalad & Ramaswamy, 2004). Second, consumers feel ownership when they have the feeling of access (Coimbatore Krishna Prahalad & Ramaswamy, 2004). Visitors should sense this feeling of access in various interactive points (Coimbatore Krishna Prahalad & Ramaswamy, 2004). Third, risk assessment indicates the necessity of sharing more information about experiences by companies for consumers who are willing to become co-creators of value and experience. This phenomenon is due to consumers' responsibility (Coimbatore Krishna Prahalad & Ramaswamy, 2004). Finally, trusting between consumers and museums are important. For gaining trust, transparency about the situation is the key (Coimbatore Krishna Prahalad & Ramaswamy, 2004).

Dialogue, access, risk assessment and transparency — DART is not sufficient factors for companies to offer compelling experiences in co-creation (Coimbatore Krishna Prahalad & Ramaswamy, 2004). However, all these elements play a significant role in visitors' satisfaction. In other words, one of the aspects that help visitors participants be satisfied is to be involved in the value-making process explained before (Björk et al., 2020). Furthermore, on-site factors related to presentation have a marked effect on co-creation and satisfaction(Jensen, Li, & Uysal, 2017).

Visitor types based on their motivation

Understanding tourists' and visitors' motivations are essential since it influences visitors' behaviors(Allan & Altal, 2016). Pleasure and emotional involvement resulting from visiting a heritage attraction or museums are the most important reasons and motivations for people to see (Allan & Altal, 2016). This emotional involvement brings relaxation and calmness for

visitors(Allan & Altal, 2016). The museum industry has two types of visitors based on a benefits-based approach, namely mindful and mindless. This categorization is based on using a cognitive state of mind (Kim Lian Chan, 2009). Mindfulness is defined as " a state of mind which results in greater understanding and appreciation" (Moscardo, 1996,p.377). Moscardo believed that individuals who are " active, interested, questioning and capable of reassessing the way they view the world" can be seen as mindfulness (Moscardo, 1996,p.382).

Mindfulness gains importance when interpretation is necessary since adequate understanding is possible with people's awareness of the situation, active information processing, focused behavior, and the perception of interest, participation, and control in carrying out activities(Campos et al., 2018). Moscardo believed that mindful visitors have a high level of education and are more aware of museums' content (cited in Kim Lian Chan, 2009). On the other hand, mindless visitors are more intrigued with entertaining facilities and socialization (Kim Lian Chan, 2009).

Furthermore, John Falk presented a typology for museum visitors based on visitors' needs (J. H. Falk, 2016). The basic of this categorization is not the default criteria in cultural organizations such as age, gender, education, but visitors' reasons or motivations to visit museums(McCray, 2010). These five groups can be explorers, facilitators, experience seekers, professional hobbyists, and rechargers(J. H. Falk, 2016). Falk believes that people visit museums based on the reason which reflects their personality(McCray, 2010). For instance, some people wish to find new things and are curious about them, representing the explorer group (J. H. Falk, 2016). Visiting new and vital cultural institutions is why experience seekers go to museums(J. H. Falk, 2016).

Another group seeks more information and knowledge for themselves, friends, and family members(McCray, 2010). In other words, motivation for people is to investigate their inner personality as well as gaining knowledge and broaden their worlds and thoughts (Allan & Altal, 2016). Learning new things is mainly emphasized by studies(Black, 2005). This group is called facilitators(J. H. Falk, 2016). Furthermore, some visitors visit professionals or hobbyists museums (J. H. Falk, 2016). Finally, some people are relaxation seekers who are called rechargers(J. H. Falk, 2016). In other words, escape from daily life and social interactions can be different motivations for London Gallery visitors(Allan & Altal, 2016). While exploration and

relaxation are influenced by gender, other reasons are free from this influence(Allan & Altal, 2016). On the other hand, studies proved that relaxation is positive relation with pleasure (Allan & Altal, 2016). Thus, while people can have different reasons and motivations to visit, one or two reasons dominates others(Black, 2005).

The expectation of museum visitors

One of the essential items that museum managers and staff should consider is the expectation of visitors. Unfortunately, there are not adequate specialized researches about this topic (Sheng & Chen, 2012). The pre-attitude influences visitors' expectations about future experiences (J. H. Falk, 2016). In other words, experiences are influenced by expectations directly. These pre-attitudes can be contributed from reading brochures, different types of information on the internet and even other visitors (Sheng & Chen, 2012).

Sheng and Cheng (2012) summarized visitors' expectations in five groups:

1. The first type of expectation is about exposure to exotic features and cultures, which bring about easiness and fun moments. These feelings can lead to relaxation and positive emotions.

2.Experiencing familiar culture and entertainment, the same as having the possibility to touch physical objects and having fun while shopping and seeing strange people and things, can be the second expectation of the museum visitors.

3. Buying souvenirs and having companionship with people with the same interest or generally related to personal identification is another type of expectation.

4. Historical reminiscences which arouse legendary character, experience historic feeling and even pitiful experiences and emotions.

5. Most modern expectation for visitors is escapism from daily pressures. Nowadays, people need different places to escape from everyday life pressure and difficulties (Sheng & Chen, 2012).

Black (2005) looked at visitors' expectations from a more general and family perspective. First, he mentioned that families prefer to be engaged in fun activities and activities together(Black, 2005). In other words, they prefer to be active and not passive. Secondly, suitable facilities for children and picnic sites are critical (Black, 2005). Thirdly and lastly,

learning opportunities for all family members of different ages are crucial(Black, 2005). Following these elements help museums to satisfy their visitors regardless of age, gender.

On-site attributes of museums

Many researchers have been interested in studying experience and related concepts such as expectation, satisfaction, emotions. However, few researchers in recent years have studied the effect of presentation platforms on tourists' and visitors' experiences. One of the recent studies in the Nordic area devoted to the impact of the presentation platform is conducted by Øystein Jensen and his colleagues. Their research considers the visitor type and tourist attraction site type to examine the impact of on-site and environmental factors on visitors' satisfaction(Jensen et al., 2017).

Two elements are regarding on-site elements to attract visitors to tourists' destinations: the fix parts and the process(Jensen et al., 2017). While tangible items are considered in a fix-part, such as collections and constructions, in process, the activities and flow are focused(Jensen, 2014; Jensen et al., 2017). In addition, human variables such as "employee appearance and behavior, interactions with other customers, availability and perception of floor staff" can be considered (Forrest, 2013,p.206). Both of the mentioned elements are manageable by managers in order to gain visitors' satisfaction(Jensen et al., 2017). While it was believed that people are intrigued mostly by "Human-made buildings," the impact of offered services cannot be overlooked. In other words, physical features and services are complementary in offering satisfactory experiences (Jensen et al., 2017).

Moreover, physical features are applied with different aims. Some of the instruments and physical elements are related to the site's central theme and interpretation, while others facilitate the service process(Jensen et al., 2017). These physical features influence the cognitive, emotional and behavioral responses of visitors (Forrest, 2013). Since exhibitions in museums are interdisciplinary actions (Forrest, 2013), spiritual and physical aspects are significant both. As Swan claimed, there are two attributes regarding the experience process (Swan & Combs, 1976). One is related to the assessment of physical items named instrumental, and the other, expressive, is related to the physiological part of the process(Swan & Combs, 1976). Both of these attributes contribute to visitors' satisfaction(Jensen et al., 2017). Furthermore, decorations and aesthetic items are not served only to attract people but to enrich their experiences (Forrest, 2013). As a

result, the atmosphere and environment of the attraction site influence expressive and instrumental attributes and visitors' satisfaction and experience(Jensen et al., 2017).

More emphasis has been drawn on creating the " interpretative environment " for success in site presentation and offering a satisfying experience to visitors. Thus, more focus has been drawn on creating the " interpretative environment" (Forrest, 2013,p.201).In other words, the co-creation aspect of experience and communications gain more importance(Jensen et al., 2017).

Digitalization

Last few years, dramatic changes in digital tools and their benefits forced museums to consider these types of devices in their practices (Anesa,2020). Technology has changed all the aspect of our lives and how we perceive and interpret our surroundings (Ahmed, Qaed, & Almurbati, 2020). Digital museums are defined as "a combination of digitally recorded images, sounds files, text documents, and other data of historical, art, scientific or cultural interest that are accessed through electronic media (Ahmed et al., 2020,p.1). Museums have focused on collection and authenticity while practicing their marketing and managing strategies (Anesa,2020). The exhibition helps museums to maintain their social value(Anesa,2020).

Social media are popular among people, and it is a part of their daily lives exclusive of age. It is said that young people use social media more than older adults, and it can be an excellent opportunity to engage the young generation with museums' online activities (Corona, 2021). This forces museums to use informal, immediate, and brief styles closer to millenniums' desires and needs(Corona, 2021).

Artificial intelligence (AI) has been helping museums to present themselves according to the situation (Gursoy & Chi, 2020). Some of the approaches in using digital tools related to heritage sites and museums are 360 view tours, Google map street tours, Virtual Reality, augmented reality, Mixed-Reality (MR). The two favorite and practical items in museums environments are VR and AR. Virtual Reality provides a 360-degree view for users helping users to have an interactive experience and perceive advanced illusory elements (Trunfio et al., 2020). This computer-simulated 3D environment caters to museum-digital narratives, which helps museum visitors be immersed in cultural exhibitions (Trunfio et al., 2020). Augmented Reality is recent technology development. In this technology, digital content is added to the image to make

everything more alive and natural. In AR, physical contexts and virtual ones are combined (Trunfio et al., 2020). This kind of digital tool has provided museums with various benefits such as "attracting more visitors, easing of renovating the place and implementing frequent updates without disturbing the business" (Ahmed et al., 2020,p.3).

Researchers identified two museum experiences considering mixed realities: " museum traditional experiences and museum experiences 4.0" (Trunfio et al., 2020,p.5). Museum traditional experiences indicate the help of new technologies in enhancing the role of museums for education and valorization. In this way, interaction, immersion, and accessibility are facilitated(Trunfio et al., 2020). Innovative elements of the mixed reality aid museums to offer better facilities and services related to interaction with technologies, immersion in socializing, escaping from hectic and daily life entertainment (Trunfio et al., 2020). All these actions contribute to advanced forms of experience 4.0(Trunfio et al., 2020)

Applying new virtual tools in museums and heritage experience contexts shed light on new visitor profiles. This issue is because they have diverse factors to interact with visitors precisely and are tailored(Trunfio et al., 2020). These aspects can be related to hedonic and emotional perceptions, learning, emotional satisfaction, pleasure and co-creation, escapism and entertainment(Trunfio et al., 2020).

Advantage of Digitalization

Digitalization has financial benefits to museums. Being available on the web and social media and online ticketing facilitates visitors to access museums and making revenue for museums. Furthermore, digitalization helps museums reduce their cost, not related to raw materials, utilities and operation but administration and market analysis. For instance, using electronic invoicing can be one example (Raimo, De Turi, Ricciardelli, & Vitolla, 2021). Moreover, digitalization helps museums to improve their brands and create value. Furthermore, it improves museums' reputations and enhances customer satisfaction and retention(Raimo et al., 2021).

Digitalization help museums to manage their budget better since it increases the revenue and reduces/cut costs and non-financial benefits required to improve intangibles. (Raimo et al., 2021). Digital tools improve interactions between staff and visitors virtually (Anesa,2020).

Furthermore, digitalization can aid museum managers in enhancing visitor experiences (Ahmed et al., 2020). Digitalization can set museums and heritage free from physical limitations and walls (Navarrete, 2019; Trunfio et al., 2020). As a result, museum information and online activities can be accessible regardless of time and location (Navarrete, 2019). New technologies help museums enhance their value by using unusual narrative and immersive experiences, mixing innovative entertainment and recreation with experiences(Trunfio et al., 2020).

Disadvantage of Digitalization

While applying social media has the advantage to museums, it has its disadvantages as well. Being active on Instagram, in digital exhibitions, the emphasis is still mostly on passive consumption (looking, listening, and reading). Some researchers investigated if a real and virtual visit can be substituted, but they could not find equivalence between them (Evrard & Krebs, 2018). One of the doubts that researchers have recently is that people are more interested in technology than art per se(Corona, 2021). Innovation in using digital tools needs innovation which needs resources(Navarrete, 2019). While big and famous museums have the financial and knowledge capacities to access more significant resources, small and medium organizations are more agile to adapt to ongoing changes (Navarrete, 2019).

One of the researchers' concerns is the authenticity of the online or even onsite museum visit. While some researchers think authenticity is one of the most significant elements, others believe tourists are more intrigued by enjoyable, meaningful, and memorable experiences (Navarrete, 2019). Timothy and Boyd thought that authenticity is a personal and subjective concept. (cited in Navarrete, 2019) . To ensure authenticity in digital presence, museums have considered strategies such as "developing a strong brand online, enabling access and reuse of quality images online" (cited in Navarrete, 2019). Other concerns are administration costs and rules of copy-right, contacts, and donor restrictions(Wallace & Deazley, 2016).

The fundamental of having successful digitalization is a cultural change of human resources in companies (Raimo et al., 2021). Based on the level of acceptance, the process of digitalization can be varied. Facebook or other types of social media are time and cost-demanding and skills (Corona, 2021). The frequency of posting or using social media is another issue since being too much or absent for a long time discourages people from following museums' online activities (Corona, 2021).

Museums' websites

At the beginning of the advent of the world wide web, museums had just their web portals to be managed. After the birth of social media platforms, museums can be more interactive and user-friendly to their visitors and audiences (Corona, 2021). Visitors can find primary and essential information such as museum physical address, means of transport, opening hours, tariffs, or discounts for particular groups(Corona, 2021). Museum websites are the most crucial marketing tool for communication and educational tools.

Museums as cultural and educational institutions contain sensations, engagement, and esthetics factors. Revealing these elements in museums' websites to users can intrigue people to visit museums (Pallud & Straub, 2014). These factors, especially esthetics elements, influence peoples' intentions to visit the heritage site online or physically(Kabassi, 2019). In other words, museums websites are categorized in Internet Presence Websites. These websites are not used as a means for sale but for providing information and, more importantly, advertising (Pallud & Straub, 2014).

Based on the Pallud and Straub research about visiting the museums after checking the museum websites, effective websites have been found. These elements are summarized in table 1 below. This research is essential since many users check the heritage sites' museums in advance. Furthermore, the attractiveness of websites can contribute to their physical presence in heritage sites (Pallud & Straub, 2014).

Content	Practical information such as (opening hours, prices, directions, and maps)
	Calendar of Events -- Search engine --Resources for education and research
	Description of the artifacts (mainly text) --Print function (especially for pictures)
	Extensive resources (access to online databases, in-depth studies, proceedings.)
	360-degree virtual tours (the museum is a partner of the Google Art Project)
Esthetics	Unified colors for all the sections of the websites (white and blue background)
	Several images of the collections (pictures of artifacts, rooms of the museums)
	White background, specific colors for each section --Zoom possibilities
	Numerous pictures (collections, artifacts, buildings)
	2D and 3D flash visits (provide a beautiful representation of the works of art)
Ease of use	The website is well structured and organized
	There is a site map so that all the sections that can be viewed at one glance

	Horizontal and vertical menus
	Very attractive website (colorful)
Made for the medium	No possibility to personalize the website -- Contact information
	Three targets are identified (members, volunteers, and donators)
	Or nine categories of visitors were identified: families, groups, disabled visitors,
	tourists, members, teachers, students, professionals, and associations)
	Newsletter -- Tailored visits
	The font size is flexible and can be modified by disabled people
Emotion	Download delay is short
	Text is attractive, uses short descriptions, uses superlatives and entertaining
	vocabulary to engage online visitors (such as highest, biggest, most, breathtaking,
	enjoy, magic)
	Emotional realm: see the video of the exhibition
	Very interactive websites that engage visitors (online games, tailored visits, videos)
	Rich features that appeal to the senses

Table 1 : Museums' website elements(Pallud & Straub, 2014)

COVID -19 Pandemic and Museums

Pandemic because of Covid-19 has stopped world especially tourism and hospitality industry on 2020. Big or small pandemics have impacted tourism during the last years (Gössling et al., 2020). Many researchers and experts believed that this crisis would make many changes in different ways to the tourism industry(Björk et al., 2020). Since the World Health Organization (WHO) confirmed pandemic due to the coronavirus, all organizations faced various challenges and problems. WHO (2020) released some guidelines to avoid infection and slow down the speed of disease. This guideline suggests people keep a one-meter distance at least, avoid touching face and things outside, wash their hands, use alcohol-based cleaners frequently, and avoid unnecessary travels and gatherings.

Social distancing and budget dilemmas have been making problems even worse (Kaur & Kaur, 2020). Organizations have been making an effort to connect with their customers digitally. Video conferencing and digital platforms such as Microsoft Teams, Zoom, and Slack have played a significant role in pandemic times (Kaur & Kaur, 2020). Besides, based on supply-demand theory, this circumstance imposes pressure in the tourism industry for lower prices. One

of the outcome of the pandemic is inbound and domestic travels (Sheresheva, 2020) because of forbidding international traveling and border closures. Consequently, as most of the researchers and tourism experts believe, the destiny of the tourism industry in the pandemic time depends on market actors' behavior and government decisions (Sheresheva, 2020)

UNESCO estimated that because of the pandemic, 90% of museums in the world had experienced lockdowns. Based on the reports, visitors' services and learning aspects have been chiefly negatively affected (Anesa,2020). During the pandemic, more requests and demands from visitors to have virtual access to collections and museums(Anesa,2020). Many organizations related to museums, such as the International Council of Museums (ICOM), International Committee for Documentation (CIDOC), have set their primary topic research as digitalization and digital transformation(Liao et al., 2020). Since international visitors cannot visit big and famous museums during the pandemic, new challenges and opportunities are brought to museums.

Nemo, Network of European Museum Organization, has surveyed the situation in European museums during pandemics (NEMO, 2020). They summarized their findings in five categories(NEMO, 2020). First, based on their results, many European museums were closed(NEMO, 2020). Second, most museums have tried not to lay off their staff to succeed (NEMO, 2020). Third, museums supporting private financial resources were more vulnerable during the pandemic and experienced a more challenging time(NEMO, 2020). Fourth, almost 90% of the museums were trigged to apply more digital tools(NEMO, 2020). Last, visitors and audiences mainly searched for educational and collection materials such as films and video content(NEMO, 2020).

METHODOLOGY

To examine the methodology of the current thesis, this part is dedicated to explaining design, sampling, measurement, data collection, reliability and validity, and ethical concerns.

Design

Based on Leavy (2017), there are five approaches to research, namely quantitative, qualitative, mixed methods research, arts-based research and community–based participatory research. While the quantitative approach is used to determine the existing relationship between variables, for instance, correlation or causal relationship, the qualitative approach deals with deepening understanding of the meanings and explanations people devote to social phenomena(Leavy, 2017). Therefore, this current study can be classified as qualitative research to observe and explore Norwegian museums' situations in pandemic time due to Covid-19. The reason for organizing this thesis into qualitative research is its accordance with all the characteristics of qualitative research proposed by the researchers.

Qualitative research is defined as "any kind of research that produces findings not arrived at through statistical procedures or other means of quantification"(Golafshani, 2003,p.600). Qualitative researchers try to examine the meaning of phenomena in the real-world or natural context in which researchers do not manipulate the variables and phenomena(Golafshani, 2003). Other characteristics of qualitative research can be the research scale, which is few cases with many variables, and sampling, which cannot be decided before starting the research and should be assigned during the study(Hignett & McDermott, 2015). Furthermore, data collection in qualitative research is seen as an iterative process which means that the focus of the study can be changed during the research(Hignett & McDermott, 2015). Finally, researchers try not to be objective in qualitative research since this objectivity may impose distance between researcher and participants(Hignett & McDermott, 2015).

Moreover, the characteristics of qualitative data, which are in the shape of words and pictures, facilitate research. Since it focuses on the events in a natural context, which helps show what happens in real life(Miles & Huberman, 1994), this type of data allows researchers to accurately explain the events and their consequences (Miles & Huberman, 1994). Besides, since

qualitative data is a good approach for discovering and exploring new fields (Miles & Huberman, 1994) and this thesis is almost a pioneer in examining the Stavanger museums' situations during the pandemic, this type of data fits the aim.

Conducting researches, researchers have different goals and purposes. Research purposes can be categorized into three categories: exploration, description, and explanation(W Lawrence, 2014) (Hesse-Biber & Leavy, 2010). Exploration research is used when the topic is so new, and there is little information about the subject, and it deals with basic facts(W Lawrence, 2014). On the other hand, descriptive researches are used when a picture and view of a situation is required to be clarified(W Lawrence, 2014). In explanation researches, researchers aim to explain the reasons for phenomena. In other words, these researches deal with why questions (W Lawrence, 2014). The current thesis can be seen as descriptive and explorative research since the author aimed to provide a picture of Norwegian museums 'situation during the pandemic, the same as exploring interactive elements.

Furthermore, this study is a case study. Stake defined a case study as: " a study of a bounded system, emphasizing the unity and wholeness of that system, but confining the attention to those aspects that are relevant to the research problem at the time"(Stake, 1988,p.258). A small population is investigated in detail with different methods(Punch, 2013). On the other hand, six analysis units are applied in social science research (Punch, 2013). Brewer and Haunter categorized them as " individuals, attributes of individuals, behaviors and setting (Punch, 2013). Since interactive elements are the main goal of this thesis, this can be categorized in the actions, reactions, and behavior of the museums' managers, staff, and visitors.

Stavanger museums

Stavanger, as a city well-known for its oil industry, has several museums. These museums attract many visitors nationally and internationally. However, there are some museums in Stavanger which have been drawn more visitors than others. One of these museums is the Norwegian Petroleum museum, most visited based on annual reports (Wikipedia, 2021). Furthermore, the Stavanger museum organization in 1877 was established. Today this organization contains eight museums, namely: Stavanger Museum Muségata 16, Stavanger Maritime Museum, the Norwegian Canning Museum, Ledaal, Breidablikkveien museum, Norwegian Printing Museum, and the Norwegian Children's Museum and Art museum

(Wikipedia,2021). All these museums are directed under one concept called MUST. In addition, the University of Stavanger has the largest museum in Stavanger under its supervision as the Museum of Archaeology. This museum is one of the most active museums regarding events and lectures (Wikipedia,2021). Moreover, Iron Age Farm (Jernaldergarden) is another museum and heritage site that the University of Stavanger manages

Sampling

Sampling is one of the most significant steps in the research process since it is time-consuming and costly or even impossible to study all populations related to the research question(Marshall, 1996) (W Lawrence, 2014) (Punch, 2013). Based on investigations in various papers, the author decided to apply non-probability sampling, which fits with the research design and thesis question. The reasons for employing non-probability are as:

1- In qualitative studies, the whole aspects and characteristics of the population are not identified, and even the reason to conducting qualitative research is to place them(Marshall, 1996). As a result, sampling should be deliberately into population characteristics in qualitative sampling to get deep insight into population attributes (Marshall, 1996).

2- Second, since the central theme of qualitative researchers is norms, beliefs, values, attitudes, random or probability sampling can cause low-quality data since the researcher cannot choose more productive cases(Marshall, 1996). Random sampling indicates that the possibility for all the items to be selected is the same. In qualitative research, the attributes that are not equally distributed among the population(Marshall, 1996).

Another issue in research design is the sample size. While the quantitative research sample size is precise and determined before starting the data collection process, the qualitative research sample size is inaccurate and unfixed (Marshall, 1996). Because sample size in qualitative studies is ambiguous, it is recommended to continue interviewing until data saturation is reached (Marshall, 1996) (Hignett & McDermott, 2015). As a result, there are different and various beliefs about this issue. For instance, 5-25 interviews are recommended by Kvale and Brinkman(Hignett & McDermott, 2015). For this study, thickness and richness of data were focused rather than mere concentration on sample size. In general, the first plan for this study was to follow Kuzel's recommendation. He mentioned 4-12 cases for homogenous populations

and 12-30 for heterogeneous populations (Kuzel, 1992). Considering all the mentioned characteristics, since this study examines a phenomenon in the real world, the cases are planned to be between 8 to 12 informants and statistical procedures are not meant to be applied.

Measurement (Interview)

The primary method employed to collect data was the Interview. The interview is one of the best strategies to approach peoples' ideas, opinions, thoughts, and circumstances in reality(Punch, 2013). Interviews have been used to gather data about different topics such as political, therapeutic, academic reasons (Punch, 2013). For this thesis, a semi-structured interview was elected. In the semi-structured interview, in contrast with structure interview, where the exact questions are defined, the themes and topics covered and more investigated are determined(Qu & Dumay, 2011).

As one of the most used interview types, a semi-structured interview is the best option when researchers aim to study human and organizational behavior. It has both flexibilities of unstructured and accuracy of structure interview(Qu & Dumay, 2011). Besides, a semi-structured interview design gave the interviewer the likelihood to utilize probe. Probe questions permitted the author to investigate delicate issues and inspire important and complete data. The interview guide includes questions about topics to be discussed in advance to facilitate the interview process. After several revisions of the author and fellow the researcher's supervisor, the finalized interview guideline has been applied (Appendix A). Furthermore, to ensure the consistency of questions, a pre-test was conducted on a master student. Finally, after confirming the transparency of questions, the primary interviews were conducted.

The process of finding candidates for the interview took a long time. Since candidates, especially management positions, were hard to reach, getting the answer and setting time was more than expected. Based on other researchers' experience, the author believes that semi-structured would have been the best source to explore the situations in museums during the Covid-19 pandemic. Depending on the atmosphere situation and Iinformants' preference, questions were asked not following the schedule or even rarely skipping the questions if the interviewee was unwilling to answer. After observing the condition due to corona and restrictions, participants offered two more options: an online interview via Zoom and answering

the interview guide written and sending it back. These options aid the author in gathering more data.

Data Collection

Since for this study, a qualitative approach was chosen, three strategies were available to collect data. First, convenience sampling requires less time and cost for the researcher (Marshall, 1996), which is most commonly used(Acharya, Prakash, Saxena, & Nigam, 2013). In this technique, the easiest and first cases are selected to be studied (Acharya et al., 2013). Second judgment sampling or purposive sampling is a technique in which a sample is chosen based on researcher preference and knowledge(Marshall, 1996). As a result, data are often high since researchers can have more authority and information about cases (Question Pro,2021). The third is theoretical sampling. When researchers aim to generate a theory and collect data iteratively while choosing their following cases and sample, theoretical sampling is conducted(Marshall, 1996).

The second type, purposeful sampling, was used to gain better generalizability and high-quality answers for this study. Based on Burcaw suggestion, three types of museums should be considered (Burcaw, 1997) to get more generalizability. Museum collecting artistic works, museums collecting or exhibiting historical traditions and culture and museums related to science and technology(Burcaw, 1997). In order to invite these three types of museums, sending email, phone calls and inviting them personally by the presence in each museum were employed.

Using personal tools are forbidden by NSD and the University of Stavanger rules. To respect the privacy of the interviewees, all the interviews have been recorded by Dictaphone. Recording audio has advantages and disadvantages. From our point of view, as the interviewers, audio recording helped us maintain our concentration and focus on following pre-prepared questions. In addition, the recordings served as a significant help in analyzing process. On the other hand, audio recording can have negative impacts on the participants. This is possible that since the conversations were recorded during the interview, participants' focus was on the recording and manipulating their response which negatively influences the reliability (Saunders, Lewis, & Thornhill, 2019).

The interviews were also transcribed by the writer of this thesis in NVivo. Furthermore, as mentioned before, the participants were provided by online interviews. In order to follow guidelines of the University of Stavanger about collecting data, links for the Zoom meeting were shared with them.

Reliability and Validity

For all types of research, researchers' main task is to make sure readers about the reliability and validity of findings and results (Hignett & McDermott, 2015). Compared to quantitative research, where reliability and validity are two separate and different items, these items are treated the same as credibility and transferability or trustworthiness in qualitative research (Golafshani, 2003). Reliability concerning data quality and analysis has different meanings in quantitative and qualitative studies(Golafshani, 2003). Because of the other senses in studies, reliability can be seen as irrelevant in qualitative studies. Even Stenbacka believes that applying the tern reliability in qualitative researches can misinform and mislead the readers(cited in Golafshani, 2003). Thus, several scholars recommend applying dependability instead of reliability in qualitative studies(Golafshani, 2003).

Many terms describe validity in qualitative studies, and it cannot be limited to one term(Golafshani, 2003). However, because of the lack of fixed definitions, most researchers achieved their validity definition such as " quality, rigor and trustworthiness" (Golafshani, 2003,p.602). In comparison to quantitative studies, Patton believed that generalization is one of the critical items in validity; qualitative ones' generalizability is based on the case selected(cited in Golafshani, 2003). On the other hand, qualitative research aims not to generalize the results but to investigate and study a phenomenon deeply with as many variables as possible involved(Thomas & Magilvy, 2011).

There are some risks and threats regarding the trustworthiness and quality of qualitative data(Brink, 1993). These risks are related to four elements such as researcher, participants, environment and data collection methods(Brink, 1993). First, researchers can be threats if they follow a subjective approach and insisting on their previous findings or values(Brink, 1993). Second, participants, by hiding the truths and trying to show their personal opinions better than reality, can negatively influence the trustworthiness of the research(Brink, 1993). Furthermore, social context impacts the participants' answers. For instance, if the informant participates in a

private meeting with the interviewer, the possibility of revealing the truths is higher(Brink, 1993). Lastly, researchers can harm the trustworthiness and by expressing the methods vaguely (Brink, 1993).

As a result, the researcher has planned some strategies to ensure quality, rigor, and trustworthiness. First, the researcher confirmed that the choice of methodology is appropriate for answering the research questions. Second, the design is valid for the method, and the sampling and data analysis is proper. Moreover, by developing an interview guide, the researcher reduced the interviewer bias and attempted to create clear and understandable interview questions. As a result, all the interviews were conducted in private meetings and the focus group approach was avoided. Furthermore, participants' bias decreased by explaining all the details about participants' privacy and building a trust relationship.

Data Analysis

To understand the collected data, a method of encoding and analyzing the information should be defined. By searching and observing similar researches, the thematical analysis appears to be suitable for the current thesis. The thematical analysis is a "data reduction and analysis strategy by which qualitative data are segmented, categorized, summarized and reconstructed in a way that captures the important concepts within the data set"(Given, 2008,p.686). The process of thematical analysis is demonstrated in figure 3 below. These processes were done after each interview. The flexibility of thematic analysis facilitates search patterns in qualitative data sets (Clarke & Braun, 2014). Furthermore, by conducting thematic coding, new themes were linked to concepts that simplify qualitative data complexity (Clarke & Braun, 2014) (Given, 2008).
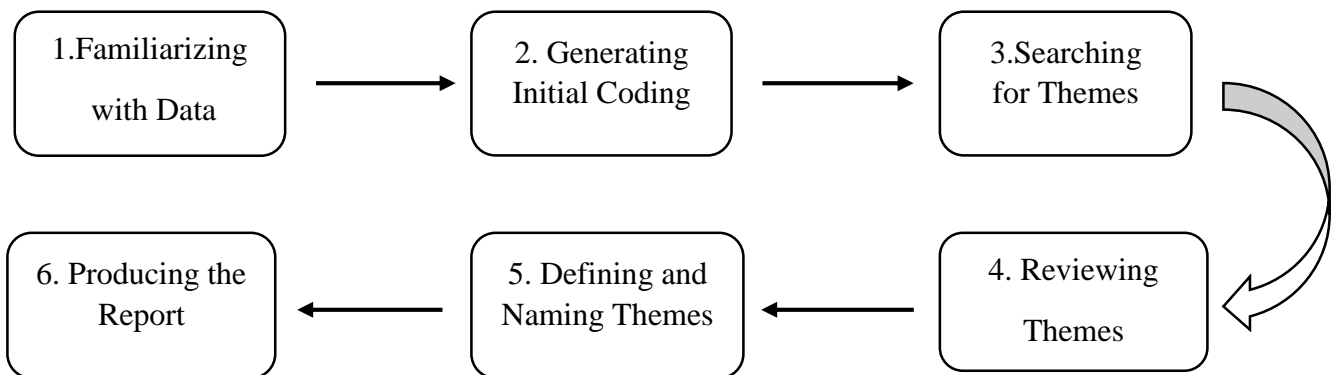
Figure 3: The thematical analysis process (Vaismoradi & Snelgrove, 2019) (Braun & Clarke, 2006).

For managing the data and analysis process, NVivo was employed. Nvivo, as computer software, facilitates the process of coding and extraction of data. Therefore, the author took necessary measures, such as renaming categories, linking them to other groups and topics, and linking them to research questions and data sets more effectively. Furthermore, for analyzing the museums' website, which was suggested by the thesis supervisor, professor Olga Gjelard, it was decided to be limited to observing mentioned factors in the museum websites' section in the literature review. The reason to restrict ourselves was; first, one section of the interview guidelines was dedicated to museums' websites. Second, going further required museums' visitors' ideas to misdirect us from the thesis question and focus.

Ethical Concern

One of the most considerable concerns for the author of this thesis was following all the ethical points during the research and interviews. In qualitative data collection, including all types of interviews, following ethics guidelines is as important as collecting data and knowledge(Miles & Huberman, 1994). Hopefully, there are different and standard guidelines for ethics in conducting qualitative researches, especially interviews. Some of the most general guidelines presented by researchers are listed as:

1. All participants should be informed about the study and its elements(Miles & Huberman, 1994).

2. Researchers should make sure that their participants participate voluntarily and there is no pressure on them to participate in interviews, observations(Miles & Huberman, 1994).

3.As mentioned by McCall and Simmons, in qualitative methods probably, people get emotionally hurt, or the data can have negative consequences for them. Therefore, it is necessary to devise strategies to reduce these harms to participants (Miles & Huberman, 1994).

4. Participants should be promised about their identifiability and privacy(Miles & Huberman, 1994).

Before conducting the investigation, it was obligatory to submit a Notification Form to the NSD. As a result, at the start of the data collection process, a confirmed and finalized interview guide was sent to Norwegian Centre for Research Data (NSD). NSD examined whether personal data are going to be collected or not. Furthermore, NSD informed the author how research should be processed and stored throughout the study (NSD, 2018). This is to ensure the confidentiality and anonymity of the research participants. After NSD approved the study design and data collection method, the Letter of Consent, which NSD provided, was developed. The Letter of Consent can be found in Appendix B. In Letter of Consent, participants were informed about their anonymity and how the personal data would be processed and stored.

Result

Achieved Sample

      To better understand the situation and reach a broader perspective, it was decided to study the museum in different cities in Norway, mainly Oslo, Bergen, Trondheim, Stavanger, and other large cities as the target group. An email invitation was sent to 32 museums in Norway located in different cities. Unfortunately, due to abnormal conditions caused by increasing infected cases in the early months of 2021, more than 95% of the invited museums did not respond. To reach the museums' managers and staff out, a telephone invitation was followed by the author. The planned sampling process could not be conducted because of the different rules imposed by different municipalities that resulted in additional and different restrictions and shutdown time. Since some of the Stavanger museums indicated their tendency and with the help and concession of Professor Olga Gjerald, the target sample was changed and focused on the Stavanger Museum.

Furthermore, different people from various positions, primarily managers, were interviewed to gain more profound and comprehensive information about the situation. Besides, based on NSD suggestion, quotes from informants' interviews are used without mentioning the name of the museums or categorization name. The reason for this decision was to protect their anonymity and lower down the possibility of tracking. To facilitate interviews for participants, three methods of data collection were employed. Table 2 presents the achieved sample. According to NSD guidelines, the participants' names and job positions are not mentioned in respecting interviewees' privacy.

	Date	Name of the museum	Method of collecting data
Interviewee A	1st of June	Petroleum Museum	Interview
Interviewee B	2nd of June	Stavanger Museum and Children Museum	Interview

Interviewee C	2nd of June	Stavanger Museum And Children Museum	Interview
Interviewee D	7th of June	Archeological and Iron Age Museum	Interview via Zoom
Interviewee E	9th of June	Art Museum	Interview
Interviewee F	9th of June	Archeological and Iron Age Museum	Receiving answers written (1)
Interviewee G	9th of June	Archeological and Iron Age Museum	Receiving answers written (2)
Interviewee H	11th of June	JÆRMUSEET (The science factory museum)	Interview
Interviewee I	18th of June	JÆRMUSEET (The science factory museum)	Receiving answers written

Table 2: Achieves Sample

Data Analysis

This section will describe the analysis of the data collected through online and face-to-face interviews and written responses. For analyzing the data, first inductive approach was applied. The inductive approach suits the aim and question of the research. The analysis starts with a question in this approach and is followed by observation and descriptions (Veal, 2017). Additionally, inductive studies do not contain confirmation of hypothesis (Veal, 2017). Consequently, inductive researches answer the question of the study (Veal, 2017). Additionally, with the intention of taken other studies and comparisons with other museums into consideration, a deductive approach was employed.

The data has been reviewed using thematical analysis, so common themes or ideas can be associated with the respective main elements of the interview guide. Each distinctive theme will be disclosed based on the differences and similarities between the subject code and the participants' answers and preferences. This chapter cites quotes from interviews that are used to emphasize critical themes. In our case, the author used the NVivo software from the very beginning to transcribe and analyze in-depth. In the beginning, the author queried all the interviews to understand the most repeated words and identify possible topics. The figure 4 shows that the most frequent interviews are the museum, restriction, exhibition, people, and visitors.

Figure 4: Word Frequency

Lockdowns and Restrictions

The participants were asked about the restrictions and lockdowns from the beginning of the pandemic in March 2020. The aim of asking this question was to investigate the severity and intensity of the regulations. Understanding these restrictions can be a great help for similar situations in the future. Based on the answers, it was clarified that Stavanger Municipality was in charge of ruling and distinguishing the compulsory and required restrictions and lockdowns. As a result, all the museums followed a general command for restrictions and lockdowns times. As one of the participants mentioned, the severity of rules was specific for each city in Norway:

"*because of the national laws everyone had to follow, but some museums in Norway had higher cases of covid-19 and had to follow laws made for their municipality depending on local covid-19 cases*".

The first lockdown happened in 2020 and it started on the 12th of March and ended on the 2nd of June. The second lockdown was in 2021, which was after Easter Eve and it began on the 16th of April and ended on the 7th of May. Although Stavanger Municipality imposed the general rules, the museums could change the details based on their needs and visitors' demands. For instance, the art museum and petroleum museum reopened after other museums in second lockdowns to fix some problems. Furthermore, the science factory museum opened almost in the middle of June which was based on their decision and not the municipality in the first lockdown. Besides the lockdowns, museums canceled nearly all the exhibitions planned for the early months of 2020. After reopening exhibitions and museums, guides were conducted on a limited scale.

In Stavanger, museums followed almost the same restriction in the museums' environment. Since corona cases have not been as large as Oslo and Bergen, Stavanger's limits were more manageable. After the first lockdown, most of the museums' staff should work from home and in the second lockdown, it was estimated that 50% worked in the museums and 50% worked from home. Most of the mentioned restrictions were the same in different museums. For instance, all the museums followed three physical restrictions: putting on face masks, keeping

one or even two-meter distance, and using sanitizer and anti-bacterial liquids upon arrival in the museums and before and after touching different surfaces. These restrictions were imposed on museums cafes as well.

Additionally, they followed the restriction related to arrangements and lectures. For the purpose of preventing infections, fewer people were accepted for arrangements and lectures. For instance, the auditorium in the art museum has 140 people, while hospitalized fewer people than 44. As well as the art museum, the capacity of the planetarium room decreased from 52 to 20 people at the same time in the science factory museum. In archeological and Iron age museums, the staff followed two limitations: an open museum for limited 20 persons in the exhibition (2-meter distance) and an open museum for 50 persons in the collection (1-meter social space). Besides, Museums were obliged to fill an online form to report upcoming events and lectures in advance. The report was to inform Stavanger Municipality and ensure about following restrictions. Moreover, they asked people to sign up their names and save visitors' names for at least ten days which assists museums in tracking possible infections.

Managers opened the museums but with limited school programs. All the museums, limited or on some occasions, canceled the guided tours for schools. Two underlying reasons can explain this condition. First, while most museums made an effort to make more programs for students and children, schools were afraid to participate due to the possibility of infections or the spread of disease between pupils in the early months of 2021. Furthermore, arranging and managing students and children is challenging since grasping the concept of holding distance and not touching is difficult. As one of the participants mentioned, this decision was beneficial to educators' safety as well:

 "We also have to protect our educators because that they can meet and we have decided that they can only meet two school classes in one day."

Museums were obliged to control the number of museums. Dependent on the existing visitors in the exhibitions, the museums' manager and staff decided if others could enter the museum. For instance, if visitors' behaviors were dangerous and uncontrollable, the team asked other visitors to come back and visit later (one hour).

"And but when we did, for example, in July last year, there was quite a busy lot of Norwegians visiting the museum. So then the staff there were allowed to stop selling tickets for a period so that they could say there are too many people in the exhibitions now and you have to come back later".

Moreover, they clean all the surfaces after visitors' used and checking and cleaning public rooms such as restrooms. Besides, museums' employees decided to close and take some of the tools and instruments out of the access. Dependent on the instrument function, museum managers and staff decided to take some of the instruments out of access. This decision was primarily imposed on the devices which required more touches and breath to use. For instance, in the science factory museum:

"First, we closed on only two things. One is a machine where you use your voice to break a glass, which means it's going to be a lot of spit. And the other one is where you put your hands in, and it comes out on the other side. People tend to put their faces in. So we just put some walls over that."

Figure 5: Voice Machine in Science Factory Museum

Another example can be the maritime dresses used in the Petroleum Museum. The museum provided authentic dresses used in petroleum sites and shores, shown in figure 6, to deliver as much as possible real experiences and feelings to the visitors by wearing them.

Figure 6: Petroleum museums' clothes

In general, interviewees reported the same constraints, but the intensity of these restrictions was dependents on their leading group of visitors. For instance, Stavanger and Children museum, whose main visitors are children and families, followed more cleansing procedures. Further, they believe that these restrictions were practical in preventing spreading infection since museums reported no cases. Finally, all these restrictions and limitations facilitate museums' staff to provide people with a safe environment.

Motivation and Visitor types

In the second section, interviewees were questioned about the visitors' types based on their motivations. This question clarifies why visitors visit each museum, providing valuable information for museums' marketing strategies. However, as one of the managers noted;

unfortunately, museums in Stavanger did not develop a system of measurement about this concept:

"We don't have any system of measuring this. So we don't have the statistics."

Considering that statistical analysis and numbers could not be found, participants' observations were taken into consideration. Regarding age, the art museum's café is the most popular place among seniors. The second groups are families with children and school groups. Schools students mostly visit the science factory museum during weekdays and children with their families during weekends. As a result, the age of the visitors is mostly between 8 to 14 years old. However, this museum devises strategies to have visitors from younger generations than eight to older ages than fourteen. Like the science factory museum, the children's museum's main target visitors were school students.

The main visitor group in archeological museums are university and school students and researchers. Since the archeological museum is associated with the University of Stavanger, more educational events are organized. In petroleum museums, primarily students and researchers were attracted. Apparently, the leading group of visitors for all types of the museum were students who pursue educational goals.

As one of the managers mentioned, due to the closed borders, the motivation of people to visit museums have altered:

"So we think that people rather than spending the weekends in bigger cities like London, or Paris, or Barcelona or whatever, they visit the local museums. And I think that many people, they think about museums, especially the locals, they tend to think that at a museum, I can go there whenever I want to. So I'll go there someday because I know it's interesting, but it's far more fun to go shopping and now, and or travel to any other country. So up and now, they have to use the things that are in their neighborhood. And I think that's the same with the students, you cannot travel back home, you cannot travel to any other, more exciting place. So then you see what could be interesting for me in this area."

Considering the mentioned notion, the severe situation resulting from the Covid-19 pandemic has benefited local museums such as Stavanger. Throughout the time when people

were obeying the government's decisions and warned about traveling abroad, museums took a higher place in people's leisure and spare time list. In other words, more people visited museums in Stavanger in search of relaxation, exploring engaging experiences and escaping from daily life.

Interaction

The central part and emphasis of the interview guide were asking the participant about the interactions and interactive elements in the museums during the Covid-19 pandemic. In this section, various aspects of the interactions were questioned. This process contributed to gaining detailed, comprehensive and profound knowledge about reciprocity and interrelationship communications.

By analyzing the interviews, it was clarified that the restrictions and limitations negatively influenced interactions. The participants, on the whole, demonstrated physical limitations established strict boundaries in communicating with visitors. For instance, putting on face masks or setting plastic shelters hindered receptionist staff from welcoming the visitors as it should be. Furthermore, educators and museums' staff admitted the responsibility of explaining the whole procedures of preventing infection during welcoming people at the beginning of their visit. As participants confirmed by mentioning and reminding the abnormal situation, they caused deep fear in visitors.

A current theme in the interviews was the sense amongst interviewees that following the Covid-19 pandemic, restrictions have been influenced people in interactions with others. Issue mentioned above applies to interaction with other visitors and heritage sites and museum staff. One of the participants mentioned:

> *"When people keep the distance, it's not that easy to talk to people, especially when we had the two meters' distance. So it's the interaction between staff and visitors and visitors. it's been almost nonexistent."*

Regarding social interactions and communications with staff, restrictions negatively affected it. Another informant believed that the reason for this issue is the hidden fear in people:

"Of course, it affects it because they feel a little bit anxious about other people, because they keep more distance I'm not sure, you know, Norwegian people normally are very shy anyway. So maybe when they visit the museum, they don't talk so much to each other. But definitely, it affects it. And especially if you have a guided tour situation, when people come together and be able to interact now it's even more, you know, to be standing there talking to them, you have to make sure that they actually stay away and keep back distance. So, so it's, it's not helping with the interaction, that's for sure. It's, you know, people are more isolated even more."

One point that should be taken into consideration is the characteristics of the Norwegian people. Being timid and nervous about communicating with other visitors and staff lead to fewer intercommunications in museums, even more than before the pandemic situation happened.

Engagement and Co-creation in making experience

The alternative aspect of the interaction's elements is associated with interacting with exhibitions and museums facilities. Since museums had been planning for co-creation and engaging visitors with exhibitions before Covid-19, many experiences required touching and playing with tools and instruments. However, because of the restrictions, museums staff and managers decided to limit using these devices. Furthermore, visitors preferred to keep their distance with exhibitions and not touching devices as much as possible:

"Because it creates a distance, both with staff and the exhibitions, because maybe you don't want to touch anything and try out the interactive things in so I think, yeah, it's we keep distance to both people and the parts of the exhibitions in some crazy way that we do."

Already stated matter is extended to children and young age visitors. While they do not have a sense of the situation as an adult are aware of the danger, their parents control and induce the possible threat to them:

"This toy car in the exhibition, that's sometimes in a weekend, you could see like ten children, playing with each other, coming from different families. Now you do not see

that. Now you see they hold their child, like protecting them from others. So they are in this thing that they are, like, with their words, but also with their action telling children that other children are dangerous they say that they have to stay apart It's not safe to play with the child. And so before that, that was no problem before."

As a result, all these problems and restrictions were not limited to physical aspect but psychologically too:

"I believe It does something with the human interaction. Definitely. Especially with children. Adults, I think we are, like, we understand the situation and aware of that, of course, I believe we are so affected. On the other hand, maybe we don't fully understand it ourselves, how it is affecting us."

Restriction stopped museums from following their scheduled programs and guided tours. Consequently, to get people engaged in the co-creating process of experiences, museums devised strategies considering the restrictions. Stavanger Museum, MUST, is the pioneer of these strategies. Since MUST manages all museums such as art, children and Stavanger museums, their methods are almost identical. They employed various approaches and tactics to engage and attract visitors. First, other senses such as hearing and smell were replaced because of people's unwillingness to touch. Second, experiences were created as personal, which required fewer interactions with others. Another strategy following personalization was to provide more tools to make them private.

"There were bags were things they could smell. And so they had their own bag. So they used to go around when they got to one point. It was said in the map that now take this thing or go that way."

In the archeological museum and Iron age museum, visitors and especially children were encouraged to find objects by themselves:

"More scavenger hunts like trails in exhibitions to trigger exploring and finding objects."

Fourth, videos and digitalization were applied. For instance, in the children's museum, the staff

made videos about oceans and natural ecology, which replaced the experience on the beach.

"They were used that they were supposed to have a lot of school groups going with that. Outside watch. All the things That's because it has nothing, it could not be done. Because of the COVID-19, they are making a video. It is not the same"

Museum managers and directors took advantage of these situations, and by being creative, they afford fantastic opportunities for families to create an experience with their children. Before the Corona situation, families felt secured and they allowed their children to play around the museums. With new conditions and lack of interaction elements, parents are obliged to make and share memorable experiences with their children. Museum took into account the unique and latest demand and created projects and plans for that. For instance, in petroleum museum:

"Actually, what we see as a good thing is that many families, they came to the museums before the pandemics. And the children that played in the back as well. And the parents sat down with their mobile phones, just waiting for the children to finish. So now, when we got these picture quizzes, they have to walk through the exhibitions where the children, especially the small children, because they can't do it alone. So that's actually a good thing. That now, the families they have to work together to get through the exhibitions, and they have fun together. They play now, but they do it together rather than alone."

Museums, to attract and engage children in the exhibitions, made an effort to increase their aesthetic aspects of the experiences. This strategy can compensate the lack of tools with the possibility of touching. Aesthetic elements such as color, shape, pattern, line, texture, etc., assisted the directors' objective.

"some very nice work with which is around mirror with light or yellow light around the edges, and the mirror slowly turns, and it makes the entire room yellow. And when you enter that room, it affects you because your color changes, and you can you can look in the mirror, you can play with that, and we do not have to touch anything. So that's also something that appeals to children a lot because they understand, you know, the playing effect. Also in that exhibition, there are a lot of portraits and, and also some mirrors, they can you can see yourself, interact with your own"

Although they made considerable effort to make substitutes to absorb people in museums' environments, they concede that it cannot replace the experience.

"They developed substitutes quickly so that so you can develop these packages that you can buy, and then you can buy and sit down by yourself the and make stuff from this package, you will find things that you can do, you can take this text and bring it home. That was a very nice substitute, but it is not the same at all, because the space has been for common activities and you know, doing making stuff together. So it has affected us a great deal."

Social media and Digital Tools Usage

This section of the interview required informants to give information on social media and digitalization. Informants were asked to indicate which type of social media they use. Those who answered this item stated that they used Instagram and Facebook as their social media platforms. Over half of those interviewed reported that the first days of lockdown in 2020, the need to communicate with people via social media increased. The Archeological Museum and Iron Age farm have been being active on Twitter as well. Furthermore, they started searching for social media platforms with a higher capacity to share videos and recorded films. As a result, they started their channels on YouTube.

A standard view amongst interviewees was that during this time, museums' websites gained crucial importance. Museums' websites assisted managers in informing the public about the upcoming situations regarding governmental rules and details such as opening and closing times, exhibitions. To post more videos and texts on their websites, most of them made slight changes to their settings to increase their technical capacities. Moreover, as one interviewee said, websites and regular museums' newspapers facilitated informing the public about the safety of the museums:

"so that part has been very important for us to ensure them that this is a safe place. And so what we have done is that we've posted that on our websites, and with our newsletters, always be right, to be safe. We have huge, high ceilings, a lot of space, and we take care to ensure that not up too many people are here; yeah, it's often a very calm place to come them and with fewer people."

The interviews' common view was that they had not paid enough attention to digitalization and social media. As the informants mentioned, most museums shared limited texts and pictures about the exhibitions and events before the pandemic. However, during lockdown and pandemic time, they endeavored to attract and engage audiences by sharing more intriguing content such as online exhibitions, links to press reviews, short videos and films related to shows and inviting people to use museums digitally.

The most surprising result of the data is that the timing of the Covid19 pandemic is an eye-opening moment for museums. The problems faced by the lack of knowledge of marketing and communication of social networks with the audience brought vital clues and warnings to the directors. Some participants stated that the reason was that they prioritized other tasks and responsibilities rather than committing to digitization:

"Because it made us realize that we can be really bad at communicating online that we normally, you know, we can't we do not prioritize that so much. We are a limited number of staff we prioritize research exhibition making, education, on-site education, and, and other things and collection management. Still, we haven't; we have not always said that we need to be more, you know, with digitalization, we need to be more fun with that, you know, but we say it and repeat it, but you do not."

Two other discrete reasons emerged from analyzing the responses. First, financial problems did not allow museums to be creative about this issue. In other words, museums' budgets could not cover the expenses of digitalization and using digital tools and hiring specialists. Furthermore, the museum believes that they will destroy museums' attractions by promoting and explaining events and exhibits. As a result, museums received a fewer number of visitors. They recently assumed that even if they share the experience, it cannot be replaced by physical presence and visiting people. Based on one of the informants, this matter is that it lacks sufficient authenticity, and it is impossible to share other stories from curators and educators.

"Not before we always thought that, you know, we should not spoil things, you know, Tell, tell people we people would have to come we would rather that people came. And if we sort of share things online before the opening, or something that people sort of getting fewer people for the actual event. But, of course, that is not true."

Another interviewee alluded to getting help from other organizations such as the University of Stavanger to make more innovative 360 degree videos and films. Art museums, as a pioneer, devoted considerable effort to fulfill the audiences' needs and improve art museums digital presence. Art museums leaders and curators collaborated with one of the startups related to the University of Stavanger, free of charge since the startup company was in its project research. This project encouraged art museums to provide more digitalization services for their audiences in the future. Consequently, with the aid of Stavanger Municipality, they offered new services:

"This summer is a project that was supported by Stavanger Municipality who is also a digital map of Anthony Gormley, the broken column, which is an artwork that is scattered around the city and we are responsible for maintenance and communication. So and we are still working on that project because we want to have it because now it is like a digital map. And you can click on that and get and read it and see images you know. Just read different information; if you also want to make this text-sound, listen to it. And also to put up some QR codes by the sculptures."

Other ideas were inspired by their successful experience related to technology. For instance, the art museum is planning to apply for 3d scan of the building to visit the building without being there physically. Besides, new technologies such as Cloud exhibitions make museums able to provide a complete experience for visitors.

Regarding VR and AR employment, it was clarified that most of the museums in the Stavanger do not use these technologies on a large scale. Petroleum, Stavanger and children museums used them before the Covis-19 pandemic. Moreover, art museums dedicated funds to a VR project some years ago, which brought success to them. Since when

53

people are using these tools, the VR glasses are so close to faces and are in touch with breath, they took them out. Furthermore, because of the high expenses of these devices, cleaning the glasses and body of the apparatus with alcohol after each use can damage them. In summary, these results show that museums found out about the benefits of social media and digitalization:

> *"Online exhibitions/content have a much larger reach than physical exhibitions. We are able to reach people that would never consider coming to the museum. It is a reminder of our existence and the stories we tell."*

Examining museums' websites

Based on professor Gjerald suggestion and discretion, the museums' websites that participated in the interview were analyzed. This review assists in gaining better knowledge and overview over museums' activities and capabilities regarding their websites. For this analysis, the parameters mentioned in the study of Pallud and Straub (2014) were implemented. The detailed results of examining different aspects, namely content, ease of use, esthetics, emotions, made for the medium and promotion, are presented in Appendix C.

In our exploration, it was clarified that the MUST group follows the same strategies. All the museums are presented on the MUST website, which contains leading links to each sub-group. The search engine can be found in all museums in MUST group (art, children and Stavanger museums) practical information, calendar of events, resources for education. They made an effort to use the colorful section on white background. In MUST group museums, users can see more pictures with descriptions in comparison to other museums. The speed of download is short and they tried to make the texts more attractive with intriguing words. On the main webpage of MUST, we could find more information related to members, volunteers, and possible jobs. As art museum members mentioned in the interview, they have a newspaper with approximately 600 subscribers. The events were well-planned and displayed in the three museums and all of them have a promotion on social media.

Petroleum museum is the only private museum that participated in the interview. It presented practical information, a calendar of events, a search engine and resources for education on its website. The website is well-structured and with white background with

several images of the meeting room. The download delay is short and a few videos about exhibitions can be found. The texts are holding attraction by being about different subjects such as families and children. In addition, oil museums had a promotion in social media.

The archeological museum and Iron farm museum have the same website structure as the University of Stavanger. One leading link is available on the archeological museum website for Iron Farm museum, which informs audiences about the opening time and address. In means that it does not have an independent website. The archeological museum is limited to practical information, search engines, and education resources shared with the University of Stavanger. Same as the archeological museum, the science factory museum is limited to essential information with few pictures.

As a result, all the museums have made more effort regarding the content, website structure, speed of the download, and promotion in social media and YouTube. However, unfortunately, the museums did not take the ease of use, aesthetics, and emotions and carefully considered the medium.

Finance

Like other tourism organizations, museum revenues have also been declining. This decrease is due to fewer visitors and a 60% to 70% reduction in ticket sales. Both public and private museums have received financial assistance from the government. The decrease in the number of visitors is due to two reasons. First, more than half of the annual visitors to museums are tourists from other countries. Second, since the borders were closed, visitors were limited to locals. On the other hand, locals tended to follow government and municipalities' commands in staying home and avoid unnecessary meetings and events. The good news is that the declined revenue of the museums did not lead to large-scale layoffs, and the contract ratio declined.

Informants were asked to indicate whether they tried alternative financial resources. One of the surprising and innovative solutions emerged in MUST organization. They added a delivery option to their websites. This solution benefited museums in two ways. First, they can earn money, be in touch with people, and message that museums are still active.

"We were afraid that they would forget about us. So we are working for that. Okay, we are shut down, but things are happening here still. So do not forget us Yeah. So both but also to gain some income, because that is what it is not the main income we have, but every penny counts."

Challenges

The Covid-19 pandemic happened unexpectedly and shocked most of the organizations. During this time, museums faced many challenges because of different reasons. Some of the challenges that museums and heritage sites are summarized. One of the most challenging concerns was to give people a feeling of being safe. While the government and authorities warned people to keep their distance and people are afraid to meet and communicate with others, museums struggled to convince society that museums are safe. Managers and directors are concerned about their staff and co-workers. Nevertheless, unfortunately, their mental health was negatively affected because of the situation and keeping them happy and satisfied. This issue was a primary challenge for managers. Uncertainty about the situation and restrictions banned schools from having their annual visits to the museums. However, as the museum specialized for young children, the science factory museum reached schools and even afforded transportation expenses. This issue indicates the lack of effective and efficient organization between demand and supply. After each lockdown, it was a start from zero for museums to reach their audiences again. Lack of knowledge in social media marketing intensified the difficulty:

"I think marketing and marketing is a challenge with the museum's a huge challenge because we are, we are, you know, in Institute and our main goal is to take care of the collections, yes. And to work around that, we have collected management, research, education so that we know how to show this works. And we are very, we are the limited number of people working and, and, of course, we have public funding, which is great, and also quite a lot of support from other private as this, but still, it really, really hard to find enough money to do marketing properly. It is complicated. So, we also have only one person in that whole museum opposite one person for ten museums. So, you know, we so we have to try to do it."

One of the challenges for museums was to force some of the people to follow the restrictions. For instance, in the science factory, people who used the café refused to write their names. In addition, while some of the museums, such as art, petroleum, and archeological museums' leaders made an effort to maintain contact between staff during lockdowns, some other museums experienced a lack of communication:

"I think for this meeting Museum, in particular, it was leadership, not talking to the people underneath. And so, when we were in lockdown, no one spoke to each other. We didn't have a single team's meeting; there is no communication."

Another challenge for museums is related to restrictions. As the informants mentioned, three characteristics of the limitations harden them to follow. First, some of the limits were contradictory and hard for people to understand. Second, some others were vague and the most significant one is that there were no practical restrictions when some restrictions were announced. Finally, one of the challenges mentioned was related to using a face mask while working. The staff has been struggling to work and talking for long hours with masks.

Discussion

Restrictions

In the first month of 2020, the world faced one of the widespread pandemics in history, which caused many shutdowns, strict restrictions and bankruptcies. Nordic countries, including Norway, Denmark and Finland, decided to shut down private and public sectors(Gjerald, Dagsland, & Furunes, 2021). Based on their situations and strategies, Nordic governments gained control and received fewer cases daily, which changed their approach and reopened gradually(Gjerald et al., 2021). The summer and winter of 2020 passed with many uncertainties for societies and governments, and the vaccinations started when writing the current thesis. This problematic and stressful situation because of the Covid-19 pandemic enforced immediate and long-term modifications and changes(Gjerald et al., 2021). Nordic countries devote meticulous attention to their cultural policies to the museums (H. Larsen, 2018). Furthermore, it is assumed that restrictions and different guidelines during pandemics influence people's behaviors and experiences (Cobley et al., 2020). Therefore, an initial objective of the project was to identify various aspects of visitors' experience in Stavanger museums during the pandemic time. To accomplish the primary goal of the thesis, the question "How museums 'interactive elements of presentation and experience have been influenced during Covid-19 pandemic?".

The data results indicate that Stavanger museums experienced two lockdowns at the beginning of 2020 and April 2021. Thus, museums have their doors open for visitors by placing local restrictions imposed by the Stavanger municipalities all of the year. Stavanger museums followed the guidelines proposed by the World Health Organization (WHO) but were less strict and basic. The fact that museums were not closed compared to other museums in Norway or other countries can indicate the effectiveness of the restrictions explained in the previous result section. However, one of the challenges staff faced was the vagueness and is contradictory to some of the limits. The mentioned issue caused mental and considerable confusion for visitors and contributed to difficulties for managers. Since museums are for people and the boundaries should be explained, unclear or contradictory rules lead to visitors' dissatisfaction. Furthermore, confusion about restrictions and limitations leads to less following the disciplines.

Experience

Considering the mentioned model, interactive experience model, and related literature and studies, it is evident that all the elements and items are highly correlated. This issue makes it impossible to examine museums' situation in separate sections as social, personal and physical context proposed in the interactive experience model by Falk and Dierking. As a result, the current study results will be discussed in a general and comprehensive approach.

Museums can provide the best experience for visitors in terms of space and time because of being able to be highly controlled regarding space and time. Alternative activities in museums are more limited than other tourist destinations such as theme parks, natural parks and cities(Antón et al., 2018). As a result, the provided experience and value proposed are highly controlled by museum managers and staff (Antón et al., 2018). This fact can authorize museums to pervading co-creation in the experience process. The mentioned ability empowers museums in dreadful times like universal epidemics since managing the experience process can keep the museums' doors open.

Physical restrictions found in the interviews, namely using face masks, keeping distance, and sanitizer, negatively influenced the interaction between people and staff. For example, using a face mask limits the possibility of clear transferring messages between people. This issue leads to an incomplete and unclear dialogue between curators and visitors, leading to visitors' dissatisfaction. Furthermore, it is encouraging to compare the interviewees' responses with those found by Olympia Karagkouni (2021). Olympia Karagkouia found that people who used protective masks experienced "greater difficulty in voice-breath coordination, message transmission and overall communication" (Karagkouni, 2021,p.12). As a result, the dialogue between partners was non-existence or was imperfect. In other words, many researchers believe that for experience-based consumption, such as experiences in the tourism and heritage industry, it is necessary to have verbal interaction between users and providers to transfer the values (Björk et al., 2020; Coimbatore Krishna Prahalad & Ramaswamy, 2004). Lack of communication and interaction with other visitors and staff leads to less social engagement with the atmosphere. Thus it is highly possible that museums' staff encountered the problem of low-level concentration about of visitors.

Another restriction was using sanitizer before and after touching surfaces and get in close and direct contact with tools. Although, as mentioned in the literature review, one of the visitors' expectations is to touch physical objects and surfaces(Sheng & Chen, 2012), visitors expect to use all their senses while visiting heritage sites and museums. Using all the senses help them to be deeply engaged in the environment(Jensen et al., 2017). The psychological effects of Covid-19, such as fear and anxiety, obstruct the normal experience process(Venuleo, Gelo, & Salvatore, 2020). Moreover, being aware and reminded of using anti-bacterial liquids always puts mental pressure on the visitors. Because of being aware of the environmental situation(J. H. Falk & Dierking, 2018), it is even possible that they prefer to stop themselves from touching and interacting physically with the environment, limiting the aspect of the experience, emotional stimuli and people's choices. In other words, since visitors assess high risk in touching and interacting with environment, they prevent themselves from participating in experience co-creation. As a result, the experience process regarding physical touch cannot be considered as a remarkable happening. These notions highlight the importance of touching availability mentioned in other studies. Other studies suggest that consumers who can experience touching physical feelings have a more long-lasting impression of the experience (J. H. Falk & Dierking, 2018; Hollenbeck, Peters, & Zinkhan, 2008).

Museum in Stavanger attempted to compensate for the lack of touching possibilities with other senses, which are less dangerous. Furthermore, replacing some aspects of experiences that required touching with the smell was creative. Even before the pandemic, it was a difficult task for museums to create experiences including all the senses(Jelinčić & Senkić, 2017). All the senses such as sights, smell, touching, hearing and smell allow getting better immersed in the experience and present time(Jelinčić & Senkić, 2017). Stavanger museums applied hearing and smell factors to the essence of the visit. One of the challenges they confronted was the mix of sounds and voices, which causes a noisy environment and, in the end, visitors' dissatisfaction. While the mentioned challenges can lead to dissatisfaction, using smell and other senses prolong the memorability of the feelings and experience(Minkiewicz et al., 2014).

Another method that museums employed to engage and attract visitors added to aesthetic elements. Although, as Olga Gjerald cited, managers may require sacrificing the aesthetic features to keep the environment safe (Gjerald et al., 2021), inserting some pleasing and artistic items saved museums from losing their visitors' interest, especially children. Aesthetic factors contribute to more interaction and reactions from the visitors' side(Mastandrea, Tinio, & Smith, 2021). However, museums had to sacrifice some aesthetic features; managers compensate that by applying " sensory perceptions, especially visual and haptic ones," which have a more significant role in attracting people(Antón et al., 2018,p.1408). The result of all the artistic, colorful and beautiful items is getting more attention from people, contributing to immersion mentally and psychologically in environment and experience(Mastandrea et al., 2021).

Unfortunately, same as other museums worldwide Stavanger museums made some items such as toys and clothes out of reach according to the situation(Cobley et al., 2020). It indicates the lack of instrumental factors in onsite factors of presentaiton. As Prebemsen assumed, experience consists of the right for people to use amenities for a while (N. Prebensen et al., 2018). Moreover, these items draw importance since they indicate the heritage site and museums (Jensen et al., 2017). Since primarily instrumental factors had to be taken out of access in this period, the possibility of dissatisfaction increases (Jensen et al., 2017). The withdrawal of items can lead to four consequences.

First, since these entities are related to the aesthetic characteristics of museums(Mastandrea et al., 2021), lack of their presence can decrease the attractiveness of the atmosphere and negatively influence the overall peoples' satisfaction (Jensen et al., 2017). Second, because of the crucial role of items in helping people immerse in the presence and experience(Forrest, 2013), the non-existence of these factors means less engrossment with the environment. Thirdly, the interaction possibilities with objects decrease. Less engagement in the environment and sharing content leads to less user-generated content by visitors after their trip (Vayanou et al., 2020). Finally, these actions limit people's access to the environmental facilities, which indicates a low level of ownership. As a result, museums and galleries' aspects of human experiences have been influenced(Cobley et al., 2020) and people received less perceived values(Jensen et al., 2017).

As implied, the environment, setting, or field of experience is more than just a physical setting (N. Prebensen et al., 2018).In the context of tourism, co-creations require that tourists be involved in psychological events and actively contribute to activities and interact with others and the environment (Antón et al., 2018). Participation is happening when the individuals become a critical factor in developing and creating the experience. In museums, active participation can be physical, emotional or mental, planned or spontaneous, and informal. (Antón et al., 2018).

Regarding the results from interviews, museums in Stavanger are not an exception in experiencing less active participation of visitors. Consequently, people's possibility of playing an active role decreased, and their roles were more passive, such as sightseeing. Furthermore, as a result of the decrease in the possibility of co-creation, visitors have less authority and control over their experience, leading to dissatisfaction (Payne et al., 2008).

It is surprising that Stavanger museums benefited from time and offered more experience in which families with their children can co-create memorable experiences. Their aim was primarily to provide quality time for families and especially children. Consequently, the Stavanger museums solved one of the old, lasting concepts of people spending time with their family members(Wu & Wall, 2017). While there are boundaries for people to have close communication, spending time with their family members can help create more value from the visit for people. This issue indicates that museums with co-creation can balance entertainment and education purposes(Antón et al., 2018).

At the same time, one unanticipated finding was that museums in Stavanger devised more personalized programs and plans for individuals and children in school groups. Unfortunately, although researchers suggest giving space and freedom to visitors to make their memories and experiences and even by being creative help them reach their perspective (Jensen et al., 2015), personalized programs adversely affect the interaction with others. In other words, since people were encouraged to follow their expertise and interest individually, the opportunity to socialize with others was seized. Thus, while co-creation refers to broadening people's experience by providing the opportunity for them to cooperate in creating an experience with others and entities(Ramaswamy & Ozcan, 2018), people were offered individual experience chances. On the other hand, while these plans tended to improve the educational aspect of the museums, non-sufficient social interaction in museums thwarted the educational purposes. The counteract is

because of the significant role of socializing and social interaction in learning (Vayanou et al., 2020).

Readiness of the individual, in terms of physical ability and capability, competency, willingness to work with others, and the opportunity to participate, is a significant variable in the experience process(N. Prebensen et al., 2018). These parameters may affect the extent to which a prospective tourist as a consumer may create value in a setting as much as the environment is conducive to facilitating and creating value (Prebensen et al., 2018). While children and young ages were willing to play and cooperate with the same ages in experiencing in the museums, adults and curators inhibited them. These inhibitions were following the restrictions. Furthermore, since the emotional state of visitors influenced their tendency to be engaged in experience(Minkiewicz et al., 2014), the fear of spreading infection stops them from engaging. While visitors expect to have independence, a comforting and pleasant time during their visit(Jensen et al., 2017), the fear and anxiety leave them with unfulfilled expectations.

The social interactions can be seen as tourists' motivations in their visits and travels(Campos et al., 2018; Jensen et al., 2017; N. K. Prebensen et al., 2018). Since personal dimensions and characteristics of visitors, while interacting with emotional and environmental aspects of museums, create or impact the whole experience, personal contexts (in the interactive model of Falk) related to visitors are important (J. H. Falk & Dierking, 2018; Kim Lian Chan, 2009). Interestingly, during this time, especially the summer of 2020, people visited the museums even more than in other years. It indicates that locals visit the museums more than before since the borders to travel to other countries are closed. While before the Covid-19 pandemic, museums were mostly considered educational organizations, due to the lack of alternatives, Norwegian people think the museums are a new place for escapism from daily life and relaxation. In other words, people's motivations to visit museums have been changing from mere education to more leisurely nature motivations. It is worth noting that while people considered museums a place to release the burden of daily life, restrictions and limitations negatively influenced their relaxations time, even unconsciously(Venuleo et al., 2020).

Another central point to concede here is the beneficial reciprocal relations between Stavanger museums and locals. As mentioned in the literature review, primarily local museums

benefit the local societies. In contrast, during the Covid-19 pandemic and closure of national and international borders, Stavanger people keep them alive by visiting museums even less than before.

Furthermore, during the interview, the opinion of the managers about their essence and management was clarified. While the museum has to change its focus from collection-centered to education-centered over time, they are recently experience-centered (Kim Lian Chan, 2009). Therefore, Stavanger museums have a slight orientation toward new museology. In comparison to Stavanger museums, other European countries admitted the changes faster. This issue is because museum managers understand that the value-making process in the experience process can intrigue people to visit their institutions (Kim Lian Chan, 2009).

Regarding the interactive experience model, all the contexts, namely social, physical and personal, have been influenced during the pandemic. One of the cases with the interactive experience model is that it does not determine the level of importance of each context based on the situation. For instance, in the author's opinion during the Covid-19 pandemic, the personal context gains more importance since people's motivation and control over visiting altered thoroughly. As a result, while personal context is the start point of the trip, due to changes, it affected other contexts even more than before. Same as personal contexts, the physical context, which was considered an on-site factor in this thesis, is influenced more than regular times.

Albeit these three aspects are highly interconnected, the level of impact of each context is not determined. Furthermore, recently Falk added culture to the social part and called it sociocultural context(J. H. Falk & Dierking, 2018). One of the issues with this categorization is that culture can be personal as well. In other words, culture can be considered in the socialization field while, as evident in the results, Norwegian's unique culture and characteristics helped them follow guidelines.

Digitalization

Most museum managers and professionals are concerned about various issues such as the length of the pandemic, changes in visitors' behavior after corona time, financial impacts (Potts, 2020). In the new situation, cultural institutions had to cope with the reality of the lockdowns and find alternatives for reaching out to people(Vayanou et al., 2020). One of the solutions museums followed is replacing the onsite visit with online activities (Choi & Kim, 2021). According to the

ICOM report in 2020, museums have intended to enhance their digital communications, mainly social media and live streams(Presti, 2021).

In the definition of digitalization, all the activities such as viewing an online catalog, searching videos about museums in YouTube channels, sharing museums images on Instagram can be considered online heritage and museums (Navarrete, 2019). While many museums have experienced active and dynamic interactions with their audiences during pandemics till 40 to 80 percent (Vayanou et al., 2020), Stavanger museums became aware of their digitalization weakness. In other words, by the hit of the pandemic, Stavanger museums found their digitalization's foundations insufficient. The result of the Nemo survey and report supports our founding. Based on their result in Figure7, Norway has applied digitalization in almost medium-scale (marked green), which cannot be enough for mere strategy.
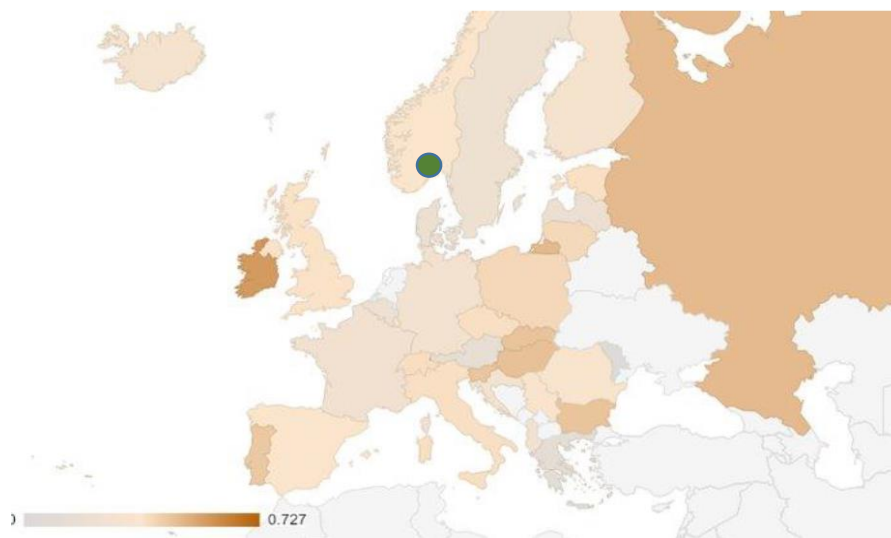
Figure 7: European countries digitalization usage   (Nemo -2020,p.13)

Pandemic situations intensified the flow of shifting the emphasis of social media as a communication tool to spreading cultural material(Agostino, Arnaboldi, & Lampis, 2020). Participating in social media platforms increases cultural participation(Agostino et al., 2020). Moreover, museums have tried to decrease the loneliness and isolation of people during corona time by increasing their digital services, which aimed to target and engage people staying at home (NEMO, 2020). As a result, pandemic time can be considered an excellent opportunity to

attract society's attention. In many scholars' opinions, Covid-19 has just sped up the evolution of the digital usage process within museums(Corona, 2021).

Besides, technology and digitalization enable museums and employees to make more possibilities for people to interact (Antón et al., 2018). At the pandemic's beginning, Stavanger museums were shocked by their shortcomings in employing social media and digitalization for marketing and engaging people. This was the time that they confronted their weakness. As necessary, most of them established new accounts on YouTube, which offer more possibilities for longer videos and streams. However, in the authors' opinion, setting in new platforms was late since all the social media activities require nourishing and appropriate tactics to promote. These issues have several reasons.

First, since Stavanger museums had not experienced lockdowns or limitations regarding visitors, they did not feel the overwhelming and immediate need to be more active in social media. Consequently, they focused on providing onsite experiences more than online. Second, as mentioned in the interviews, their budgets did not hire specialized social media marketing, and they lacked knowledge. This issue halted museums from improving their social media strategies. Thirdly, museums were afraid that online advertisements and exhibitions would reduce the attraction of the shows and exhibitions. In other words, before the Covid-19 pandemic, their concern was whether online collection replaces the onsite visits, which is impossible. The reason for the impossibility of online and onsite replacement is that digital and virtual galleries lack presence in museums' atmospheres, which is unique(Cobley et al., 2020). In other words, while digital museums help visitors have their visit in detail, the possibility of being in a museum environment and enjoying the reality of the existing items is taken from visitors.

Using digital technologies and social media during the pandemic by museums has brought benefits and ethical concerns to professionals in the museum context (Kist, 2020). One of the participants' concerns was about the authenticity of the online exhibitions. Obviously, with high knowledge and skills in providing online collections, the probability of unauthentic decreases. While some professionals are concern about the comfort and ease of visitors during their digital visits (Kist, 2020), some claim that the value and benefits of social interactions are getting more precise than before (Presti, 2021). Furthermore, they are concerned with censorship and the commodification of user data when using social media to contact and engage their visitors (Kist, 2020). While it was proved that technology could enhance visitors' experience

(Ruiz-Alba, Nazarian, Rodríguez-Molina, & Andreu, 2019), these issues raise questions about the role of social media in the museum context (Kist, 2020).

Regarding the benefits of applying technologies, after the 3D project by the art museum, managers were intrigued by new strategies as far as they asked other organizations such as universities to help them. These accomplishments proved to the managers that it is time to think differently about communicating with the audience. Furthermore, they realized that they could meet new audiences by applying new devices such as AR and VR. In other words, while borders are closed, digitalization release the museums from their walls and physical limitations to reach out to international audiences. Another benefit of digitalization and engaging people in interacting online is museums' stability (Choi & Kim, 2021).

Taking the speed up of digitalization during the pandemic, many museum managers believe that they will recover, but they will be different in many ways(Pennisi, 2020). Using technology tools such as AR and VR empower managers to reach their goals. This strategy requires human resources and courses for training them (Trunfio et al., 2020), which Stavanger museums were deprived of them. On the other hand, some museum professionals believe that this can be a precious time for museums to "return to our core function as an exhibiting, collecting, educational and research museums"(Cobley et al., 2020,p.117). Regarding Stavanger museums primarily categorized in traditional museums type, it is time and opportunity to step further in embedding and employing digital technologies rather than returning to their core function.

Fortunately, the internet provides functional tasks and aesthetics for websites(Pallud & Straub, 2014). By analyzing the participants' websites, it was clarified that their websites require more improvements and enhancements. As evident in the result part and Appendix C, Stavanger museums consider their websites as a platform to inform visitors about essential information. Most of the time, museums' websites are the first place where people check(Pallud & Straub, 2014). Furthermore, websites' design and characteristics can attract and conceive people to visit these cultural institutions. Since the aesthetic attributes of the website are the most critical factor (Pallud & Straub, 2014), it significantly influences audiences' opinions about the museum. Moreover, because societies perceive museums and galleries as beautiful places, they expect to witness this beauty on the websites. While there are sufficient facts and points about aesthetic

factors, most Stavanger museums did not pay enough attention to that. This issue is not equal for all of them because MUST groups have better aesthetic features which can be improved further.

On the other hand, the level of engagement is low on the websites. With the engagement opportunities such as quizzes, games, etc., the possibility of online co-creation ameliorates. Stavanger museums focused on content and practical information, while engagement and aesthetic features are related to people's psychological needs and help them escape daily life pressure(Pallud & Straub, 2014).

Finance

The year 2020 started with bringing tough times for the hospitality and tourism industry. Many types of research indicated that leisure industries are more sensitive to crises than others(Kowalczyk-Anioł, Grochowicz, & Pawlusiński, 2021). While most governments have reduced museums' budgets globally, museums have changed their strategy and focus from collection to be more visitor-oriented (Kotler & Kotler, 2000) to cope with financial pressures. Based on the Nemo (2020) report related to European museums, all the European museums struggled financially. As a result, museums whose income is primarily dependent on selling tickets lost more revenue during the pandemic because of lockdowns and fewer visitors. Stavanger museums are not exception.

During the pandemic time, both private and public cultural organizations suffered from low budgets. Fortunately, the Norwegian government assigned enough financial aid in support packages to museums. As mentioned in interviews, the government financial aid released considerable and intolerable pressure on museums managers regarding financial problems. Although Nemo (2020) reported that small and midsize museums laid off most of their employees, hopefully, the number of laid-off people was less than an exception. This flow halted the warning that the possibility of losing future talents arises(Gjerald et al., 2021). Furthermore, the result agrees with Pennisi's (2020) findings, showing that museums related to other organizations such as universities and municipalities could survive better(Pennisi, 2020).

One of the surprising findings was the MUST approach regarding financial problems. Must members attempted to keep the museums' shop open by providing delivery. This strategy could first compensate the lost income a little while keeping their connection

with their audiences. In addition, this movement can show the desire of museums to transmit the message that they are alive and dynamic even in the shutdowns period.

Moreover, museums had insufficient budget for social media marketing and applying digital tools indicated throughout the interviews. Insufficient funding for digitalization has a reciprocal effect. Devoting less money to social media and digital devices decreases organizations' power to attract and contact in modern days with their audiences. On the other hand, fewer visitors mean less income and budget. Stavanger museums can improve their marketing by taking examples from successful museums regarding social media marketing and taking alternatives budget sources. The data also hope that new and existing users will be eager to consolidate the online experience through personal visits when the museum reopens, helping to deal with financial threats(Anesa,2020).

Managerial Implication and Suggestion

Countries devised diverse and different strategies to deal with the pandemic. Museums are essential institutions with multiple missions and tasks. It is estimated that museums are among the best institutions to bring societies and communities back to their everyday lives (Cobley et al., 2020). With the inexperienced challenges that industries face, new revolutionary changes are required(Simone, Cerquetti, & La Sala, 2021). As all the researchers believe, with a positive perspective and spirit, we should learn enough lessons from this time and examine how these changes can shape museums' future (Potts, 2020). Our profound learning and studies about the pandemic time will help us survive better in similar situations in the future(Potts, 2020).

However, during interviews, none of the participants could estimate accurately the type of visitors based on their motivation to visit museums. Since understanding the causes and following the people's expectations can assist and support the marketing and management strategies, it is recommended that managers devise a measurement system for that purpose. Museum managers are also responsible for differentiating communication based on groups' needs (Trunfio et al., 2020). Socio-demographic characteristics and motivations can help managers and operators to devise more efficient strategies(Lee & Smith, 2015). Managers can improve their on-site presentation based on their visitors' needs and preferences by understanding these items. Improved aesthetic features intrigued people to visit museums and place them as the primary goal of trips.

Besides, it is highly possible that by better presentation factors, people's motivations to visit museums altered from mainly education to others such as escapism and hobbyist. One way of applying more engaging and absorbing presentation items is using technologies. If applied technologies required visitors' participation, co-creation improved and more satisfaction will be achieved (Jensen et al., 2017). Besides, one other way to overcome the lack of touching is by applying more personalized digitalization to the services. For instance, promoting intriguing applications and quizzes can help them to fill the gap about touching problems. Many researchers such as Kaur believe that companies' success is conditioned by their successful use of virtual applications (Kaur & Kaur, 2020). Therefore, companies should efficiently immerse their customers by using digital applications (Kaur & Kaur, 2020). Thus, it is recommended that museums managers employ suitable and functional technology approaches.

Moreover, museums had successful experiences applying aesthetic elements. For this reason, museums managers can apply more aesthetic factors to their sites to intrigue people. This method can be considered valuable, especially for museums with a high rate of children and young age visitors as Stavanger museum and Children museum.

Besides, museums provided quality time for families; during this time, one of the families' challenges was to socialize with other people rather than their family members. By devising marketing strategies and plans that focused on small groups of people as visitors know each other, museums could reduce the negative effect of personalization. The co- creation process is when customers or visitors try to get involved, but staff and managers should help them even be involved themselves(Björk et al., 2020).

Another point to be taken into consideration is about the prior experience of visitors (J. Falk & Storksdieck, 2005). While all the industries were shocked by the pandemic, visitors do not know what they should expect, and it is highly possible that they do not have experience from the same situations. However, museums attempted to do marketing and send the message that they are safe places to be visited because of spacious space and following protocols; the lack of knowledge about social media marketing (to reach people) made some problems for them. It is recommended to devise strategies that emphasize attracting visitors (Gilmore & Rentschler, 2002), especially in situations like pandemics when people do not have sufficient motivation to visit museums. They should also increase museum access to expert visitors,

facilitating millennials who are more familiar with technology than others (Trunfio, Lucia, Campana, & Magnelli, 2020).

Furthermore, one of the challenges staff faced during lockdown was a lack of communication with leaders and other workers. Therefore, it is better to establish a new system based on interrelationship communication and contacts, which can help both managers and personnel. This is an essential issue since curators and employees are directly working and dealing with visitors, contributing to a deep understanding of people's needs and choices. Furthermore, new technology and digital tools can help the museums regarding the mentioned issue. Moreover, based on the NEMO investigation about European museums, new working methods and more flexible work responsibilities in museums that this crisis has sparked should be considered for the future, including more flexible work methods and structures in museums in general. (NEMO, 2020).

Since museums are not-for-profit organizations supported mainly by the government and their primary income is from selling tickets and souvenirs, they faced financial problems during this time. It is suggested that museums find other ways to be their revenue sources which can be a supportive financial source. This approach decreases museums' dependency on the government as well. One way is providing online quizzes and applications about museums' themes which contribute to more engagement and involvement of individuals. Besides, I recommend that museums in Stavanger upgrade and ameliorate their websites based on previous researches. The mentioned suggestions contribute to more effective and international marketing. Additionally, collaboration with other organizations such as municipalities and universities can help museums be updated and devise better strategies with others' aid.

Future Research

The current thesis, study the situations in Stavanger museums during the pandemic from the manager's sights and perspective. The importance of this thesis lies in the essential duties of museum managers, which is to provide service with high quality. Quality of experience and quality provided are two concepts that planners, managers, and frontline staff can examine to understand the quality of service(Black, 2005). Providing high-value pleasant and fruitful experiences mentally and psychologically is the necessary key to museums'

sustainability and competitiveness (Antón et al., 2018). Furthermore, satisfying their visitors' needs and feelings, a more detailed and deeper understanding of peoples' experience during visiting museums is critical (Kim Lian Chan, 2009). As a result, in future research, more research is needed to investigate and study peoples' motivations, ideas, concerns, needs and expectations during this time regarding visiting museums. Exploring these concepts provides essential and profound knowledge and insights that assist managers in designing comprehensive strategies.

Furthermore, since most tourism players tend to use digital communication in the pandemic period, it is recommended to have more research about digitalization in the tourism and heritage industry(Björk et al., 2020), especially in Nordic and Norway. Future studies could fruitfully explore the appropriate digitalization and social media marketing approaches for Norway 's museums, especially Stavanger. These researches can help museums to compensate for the gap in their digitalization programs faster. Besides, Future research should consider the potential effects of on-site presentations more carefully. Studying the effect of on-site factors on individuals' experience and satisfaction is recently considered and requires more investigations.

Limitation

The current thesis, same as others, contains some potential shortcomings needed to be considered. First of all, the main challenge and limitation are that interpretation is a subjective procedure. Abstract concepts and themes are prone to be perceived and comprehended in different and various ways by people. Since the interviewees and interviewer are influenced by the mentioned issue, applying pre-determined parameters and reviewing other studies diminished the individualism and subjective influence. Another limitation is related to the language used in the interviews. Since the first and mother language of the interviewer and the participants were not English, transfer of concept faced difficulties in some points. In order to reduce and solve the problem, interviewees were asked to answer in Norwegian. it was translated by the author afterward (with the help of a Norwegian friend).

Although at the beginning of writing the thesis, it was planned to explore the Norwegian museums in different cities, due to different lockdowns and restrictions in other cities impacted by daily infected cases, invited museums did not answer or were unwilling to participate. As a result, and based on the supervisor's discretion, the sample changed to examine Stavanger museums. Because of unwillingness to interview, shut down in April, and busy schedules of the managers and curators afterward, the determined sample size as 10 to 12 decreased. With the purpose of decreasing the impact of this obstacle, more than one person from museums was asked to answer the questions. Thus, the interviewees participated in a museum with diverse job positions that provided profound and more comprehensive perspectives. Another pitfall is about one of the methods for gathering data. Written answers limited us to conduct following up questions and deep examination. Hopefully, by communicating with them via email, clarifications were provided.

On the other hand, since convenience and purposeful sampling were used in this study, the generalizability of the results cannot be guaranteed. One of the shortcomings of convenience sampling is that researchers may be biased (Acharya et al., 2013). To solve this problem, three types of museums, as planned and mentioned, were investigated successfully. Furthermore, to decrease the interview bias, the interviews were conducted after Professor Gjerald confirmed the interview guide. Peer review was taken with a master student who worked as a volunteer before in a museum.

Conclusion

All the sectors involved in the tourism and hospitality industries have experienced challenging and tough times for more than one year because of the Covid-19 pandemic. One of the recent scholars' interests is to investigate pandemic effects on tourism and leisure sectors. As one of the essential cultural players in societies, museums have been influenced by this shocking time. The present research aimed to explore the impact of the Covid-19 pandemic on the interactive elements of presentation and experience in Stavanger museums. The second aim of this study was to investigate other questions that complement the thesis's central question. Questions are related to digitalization, financial situation and type of restrictions. Fortunately, the suitable methodology aided the author in gaining a deep insight into the topic and reach the answers.

This study has identified that all three aspects of the interactive experience model were affected by the restrictions and limitations. Restrictions such as face masks limited the dialogue between museums' staff and visitors and hindered the co-creation and engagement. Since dialogue is essential for the social aspect of interaction, it is concluded that people experienced less involving and engaging experiences. In addition, taking some toys and instruments out of access negatively influences many dimensions such as the power of choice of people, the level of immersion, and interactives. One of the more significant findings to emerge from this study is that Stavanger museums made efforts to broaden the visitors' experiences to compensate for the adverse influence of restrictions. These activities include personalization of the experience, which leads to more freedom for visitors and less engagement with others. In addition, using other senses rather than touching, which imposed fear to people, contributed to more immersion. Besides providing programs engaging and immersing family members at the same time offered precious time to visitors

During the Covid-19 pandemic, museums were places for Stavanger people to relax and escape from daily life. In other words, closed borders contributed to a mutual and beneficial relationship between Stavanger citizens and museums. Broadly translated, our findings indicate that people's motivations and reasons to visit museums altered from mostly education to more leisure ones. This relaxation was intensified with added aesthetic factors. The on-site presentations gained more importance than before in attracting people to their trips to museums.

Besides, museums' shops were available even at the time of lockdown with the availability of delivery which meets the need of people to buy souvenirs.

Moreover, due to governments' warnings and event cancelation, people visit museums and heritage sites with high risk. Museums have been struggling with digitalization and reaching people out, especially at the start of the lockdowns. This issue is an essential finding in understanding the weaknesses of Stavanger museums in knowledge and skills in applying digitalization, which can serve as a solution to many problems. This research has thrown up many questions in need of further investigation. The most important topics for future research are the appropriate approach of social media marketing and digitalization, studying and investigating people's expectations, motivations, and experiences.

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Appendices

Appendix A: Interview Guide

I would like to thank you once again for being willing to participate in the interview for my master thesis. This interview aims to learn about the situation, incredibly interactive elements during the Covid-19 pandemic in Stavanger museums. There are no right or wrong answers or desirable or undesirable answers. I would like you to feel confrontable. The interview will last approximately 30 to 45 minutes during

I am reviewing the aspects of the consent form offered by NSD.

You have read the consent form. It states that the researcher would like to conduct the interview and ask about your experience and suggestions.

Could you please confirm or disconfirm that this is ok with you?

The research also asks to get permission (or not) to audio record our conversation in the consent form. If you are willing that your answers be recorded, please confirm it. Please let me know if, at any point, you want me to turn off the recorder or keep something you said on the record

If no, thank you for letting me, and I will take notes to respect your choice. Could you please confirm or disconfirm that this is ok with you?

If you have a question during or after the interview, please share it with me. I would be so glad to answer your questions.

Restrictions:

1) Have you experienced lockdown? And how many times?

2) Can you please explain what type of restrictions you followed because of corona in your museum?

Do you think these restrictions are the same for all museums?

To what extent could you impose these restrictions?

3) What do you think about the practice of restrictions? Are they useful?

Motivation /visitor type

1) What was the main motivation for people to visit the museum?

Experience:

1) In what way did you try to feel safe with the visitors during their visit?

2) How taking a one-meter distance and other restrictions such as a face mask affects your relationship (staff) with visitors? What was your main challenge in interacting with visitors?

3) How does taking a one-meter distance and other restrictions such as face mask affects the relationship between visitors? Was it the same as before?

4) With imposing restrictions physically, in what way did you engage visitors?

How did you try to give them the same and comprehensive experience? Especially for children.

How have VR and AR helped you to improve visitors' experiences?

Social media and website

1) Have you made changes to your website?

Did you have any challenges using the website more?

2) How do online exhibitions or content help you to have contact with your visitors?

3) How has social media helped you to be in touch with visitors?

Finance

1) Did you have financial problems? What are/were they?

2) Did you get financial aid?

3) Have you thought about alternative funding resources? Do you have a plan for that?

Future

1) Based on your experience, how can museums be ready and fit for this type of crisis?

2) What was your main challenge during this time?

Appendix B. Letter of consent

Are you interested in taking part in the research project
" (Examining interactive elements during Corona Virus pandemic in Norwegian museums)"?

This is an inquiry about participation in a research project where the primary purpose is to Examining interactive elements during the Corona Virus pandemic in Norwegian museums. In this letter, we will give you information about the meaning of the project and what your participation will involve.

Purpose of the project

An unexpected pandemic at the start of 2020 because of Covid-19 has influenced the whole industries, especially tourism and hospitality. They were imposing different and various restrictions or quarantine during 2020 cause long-lasting harm to this industry. One of the parts which experience this situation is museums. One of the critical questions coming up is what museum managers did to present these tourist attractions to visitors in Norway. How did Corona Virus affect Norwegian museums? How did the new situation affect the visitors' experiences in Norwegian museums?

Who is responsible for the research project?

The University of Stavanger, the Hotel management department, is the institution responsible for the project.

Why are you being asked to participate?

Since you, as museum manager or staff, know the reality of the situation and witnessed the changes, you can explain the problem, which can help better undressing future strategies.

What does participation involve for you?

If you chose to take part in the project, you would participate in a private interview. It will take approx. 30 minutes to 45 minutes. The interview includes questions about

•   How many times / how long you have been in lockdown? (what were the restrictions)

•   Have you used digital tools (digital museums)?

•   Do you think by digitalization, people get more active or passive in their experience? What did you do to get them involved/ make them active?

•   How does taking one-meter distance and other restrictions affect your relationship with visitors? What about the relationship between themselves?

•   Are people immersed in the museum environment and their experience with controlling restrictions?

•   In your opinion, what the most important motivations that people have for going to museums in Corona time are?

Participation is voluntary

Participation in the project is voluntary. If you chose to participate, you could withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. Therefore, there will be no negative consequences if you choose not to participate or later decide to withdraw.

Your privacy – how we will store and use your data

We will only use your data for the purpose(s) specified in this information letter. We will process your data confidentially and following data protection legislation (the General Data Protection Regulation and Personal Data Act). The supervisor of this project, Olga Gjerald, will have access to the data. Furthermore, I will store the data not using your name and just by code.

We will try to make the data as anonymized as possible. Since the data does not have a high level of personal aspect, we will make it anonymized based on the agreement with you.

What will happen to your data at the end of the research project?

The project is scheduled to end [30 July]. After that, all the recordings will be deleted, and all your data will be anonymized.

Your rights

So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you

- request that your personal data is deleted

- request that incorrect personal data about you is corrected/rectified

- receive a copy of your data (data portability), and

- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your data

What gives us the right to process your data?

We will process your personal data based on your consent.

Where can I find out more?

If you have questions about the project or want to exercise your rights, contact: University of Stavanger

• Our Data Protection Officer: University of Stavanger

• NSD – The Norwegian Centre for Research Data AS, by email: (personverntjenester@nsd.no) or by telephone: +47 55 58 21 17.

Yours sincerely

Project Leader   Student: Farzaneh Sheikhi

Olga Gjerald

Appendix C: The Result of Websites' Analysis

Content

	Oil museum	Archeological museum +Iron Age Farm	Science Factory Museum	Art Museum	Children Museum	Stavanger Museum
Practical Information	✓	✓	✓	✓	✓	✓
Calendar of events	✗	✓ it was not updated	✓ there was no event there	✓	✓	✓
Resources for education and research	✓	✓	✗	✓	✓	✓
Search Engine	✓	✓	✓	✓	✓	✓
Description of the artifacts	✗	✗	✗	✓	✗	✗
Print Function (Especially for Pictures)	✗	✗	✗	✗	✗	✗
Extensive Resources	✗	Access to the library of the University of Stavanger	✗	✓	✓	✓
360-degree virtual tours	✗	✗	✗	✗	✗	✗

Ease of Use

	Oil Museum	Archeological Museum	Science Factory Museum	Art Museum	Children Museum	Stavanger Museum

		+Iron Age Farm				
The Website is well-structured and Organized	✓	✗	✓	✓	✓	✓
There is a Site Map	✗	✗	✗	✗	✗	✗
Horizontal and Vertical Menus	✗	✗	✗	✗	✗	✗
Very attractive Website (Colorful)	✗	✗	✗	✓ better than others	✓ better than others	✓ better than others

Promotion

	Oil Museum	Archeological Museum +Iron Age Farm	Science Factory Museum	Art Museum	Children Museum	Stavanger Museum
Promotion on YouTube and other social media	✓	✓	✓	✓	✓	✓
Reports for Journal	✗	✗	✗	✗	✗	✗
Articles from other media are displayed	✓	✗	✗	✗	✗	✗
Promotion on Social Media	✓	✓	✓	✓	✓	✓

Esthetics

	Oil Museum	Archeological Museum +Iron Age Farm	Science Factory Museum	Art Museum	Children Museum	Stavanger Museum
Unified color for all the sections of the websites (white and blue background)	✓	✓	✓	✓	✓	✓
Several images of the Collection	Just the meeting room	Limited	✗	✓	✗	✗
White backgrounds, specific colors for each section	✗	✗	✗	✓	✓	✓
Zoom Possibilities	✗	✗	✗	✗	✗	✗
Numerous Pictures	✗	✗	✗	Better than others	Better than others	Better than others
2D and 3D flash visit (provide a beautiful representation of the art)	✗	✗	✗	✗	✗	✗

Emotions

	Oil Museum	Archeological Museum +Iron Age Farm	Science Factory Museum	Art Museum	Children Museum	Stavanger Museum

Download delay is short	✓	✓	✗	✓	✓	✓
Text is attractive, uses short descriptions, uses superlatives and entertaining vocabulary	Almost-can be more ✓	✗	✗	✓	✓	✓
Emotional realm: see the video of the exhibitions	✗	✗	✗	✗	✗	✗
Rich features that appeal to the senses	✗	✗	✗	Better than others	Better than others	Better than others
Very interactive website that engages visitors (Online games, tailored visits, videos)	✗	✗	✗	Better than others	Better than others	Better than others

Made for the Medium

	Oil Museum	Archeological Museum +Iron Age Farm	Science Factory Museum	Art Museum	Children Museum	Stavanger Museum

No possibility to personalize the website	✕	✕	✕	✕	✕	✕
Three targets are identified (members, volunteers, and donators)	✕	✕	✕	On the main website of MUST	On the main website of MUST	On the main website of MUST
Newsletter	✕	✕	✕	✓	✓	✓
The font size is flexible and can be modified by disabled people	✕	✕	✕	✕	✕	✕
Nine categories of visitors are identified: Families, groups, disabled, tourists, members, teachers, students, professionals and associations[1]	✕	✕	✕	✕	✕	✕

1-In most of the museums, just families, children, or schools are categorizing.