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E-PROCEEDING OF

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GREEN & SAFE CITIES
2022**

“Sustaining the
Resilient, Beautiful and Safe Cities
for a Better Quality of Life”

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“ **Sustaining the Resilient, Beautiful and Safe
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A PILOT STUDY OF USER PERCEPTION ON RECREATIONAL ACTIVITY IN ENHANCING MUSEUM EXPERIENCE

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Abstract

Museums today play an increasingly essential role in society as a result of their increased position in comparison to their early predecessors. Besides visually appealing displays and exciting exhibits and stimulants, recreational activities may be one of a museum's most essential draws. The purpose of this pilot study is to assess the credibility and reliability of the planned research on the level of users' perceptions in the context of recreational activity in museums before the full paper is implemented. Thorough studies on the role of the museum to accommodate leisure and recreation for the user are done through literature review and users' perceptions are determined and evaluated using a quantitative method, which is measured through the distribution of a structured questionnaire and the data was then analysed using Statistical SPSS. This pilot study revealed the changing role and definition of museums in its literature study and overall users' perception towards museums with a recreational activity is still not yet anticipated by the users for the context of the current local museums but yet the users are hoping for better integration of physical recreational activity within a museum for the better museum experience.

Keywords: *Museum Visitor, Experience, Perception, Satisfaction, Recreational Activity*

INTRODUCTION

Research Background

The word museum has ancient roots. It was a philosophical institution or a place of contemplation in its Greek form, mouseion, which meant "seat of the Muses." The use of the Latin derivation, museum, appears to have been limited to centres of philosophical discussion in Roman times. With its college of experts and famed library, the magnificent Museum of Alexandria, built by Ptolemy I Soter early in the 3rd century BCE, was more of a prototype university than an institution to preserve and explain material components of one's past. The name "museum" was reintroduced in 15th-century Europe to describe Lorenzo de' Medici's collection in Florence, although the phrase meant "comprehensiveness" rather than "structure." The term "museum" was first used in Europe in the 17th century to designate collections of curiosities (Lewis, 2021).

The 'museum phenomenon,' defined as "the enormous expansion in the number of museums throughout the world, " happened in the second half of the twentieth century, especially since the 1970s, was prevalent (Macdonald, 2006). The era then followed the urban period, where the cities were home to more than half of the world's population during the twenty-first century (Orloff, 2008). The interaction of the two, the museum and the city, has

become a worldwide phenomenon. Museums have evolved into spectacular city landmarks, development tools, and assets in the global competition for investment and tourism (Tzortzi, 2015).

Stephen Weil, one of the decade's significant thinkers on museum concerns, has suggested that it is necessary to make a difference between the function of museums and their goals. Museums are often characterised in terms of their most specific purpose, according to Weil (1990). "A definition's basic value is to highlight what is unusual and unique about the topic it describes," Weil said, "and what is distinctive and different about museums; is that they collect and show items." As a result, Weil contended that museums are responsible for the practice of collecting. However, according to Weil, the notion that collecting is done for a "larger and publicly beneficial goal" is often disregarded in definitions.

The aim and ideals of museums have substantially changed over the previous century, to the point where collections, which were formerly so crucial to museums, are now considered secondary. ICOFOM – ICOM's International Council of Museums – has been debating several critical museological issues since 1977, including the museum's economic role, social function, and the importance of research. These issues are already returning vigour in disputes about the ICOM Definition's practical ramifications (Brown, 2018). According to a recent definition of a museum provided by the International Council of Museums (ICOM), a museum is an institution that is open to the public, non-profit, permanent, and in the service of society and its development. It is responsible for acquiring, conserving, researching, communicating, and exhibiting the tangible and intangible heritage of humanity and its environment for the purposes of education, study, and amusement (ICOM, 2007).

During this modern era, the museum has grown in importance, becoming a more public role than its forerunners; museums not only function as an exhibition and serve the function of collection and research, as well as education and recreation (Chieh,2012). As a result of their expanded position relative to their early predecessors, museums today play an increasingly important role in society. The fact that the modern museum is primarily a public institution contributes to developing this role by underpinning its symbolic and utilitarian functions that directly benefit the general public and society (Stephen,2001). Apart from visual exhibitions and stimulants, recreational activities can be one of the key attractions for a museum and give visitors a more stimulating experience.

PROBLEM STATEMENT

In Malaysia, the first museum started in the interest of Sir Hugh Low in ethnography, zoology, botany and geology, which then founded the Perak Museum in Taiping (Lenzi, 2004). Since then, museums have always comprised of a building that displays a collection of personnel interest or the archive of national highlights in history but in the recent definition of museum, the role expanded beyond collection and exhibition. The modern museum plays a bigger role in society and even helps promote the tourism sector.

Trauer (2006) mentioned that tourism involves not only experiential value but also emotional components. The previous study has been done by Bigne et al. (2005) in the context of theme parks on the relationships between service experience, emotions, disconfirmation, satisfaction, and their consequences to help improve the quality and satisfaction of the experience. However, there aren't many studies that look at recreational activity as a component in determining user satisfaction (Markus et. al.,2019).

In this context, this paper proposes to study the relationship of these satisfaction factors with recreational activities within museums on how recreational activity within museums is able to impact the overall users' perception. This vital research gap will be addressed in this study as proposed by the author to study the user perception on recreational activity within a museum.

Research Aim & Objectives

The aim of this pilot study is to access the credibility and reliability of the research planned before the full paper is implemented concerning the relationship of satisfaction factors in the context of recreational activity in museums, specifically whether recreational activity within museums influences users' perception.

The following are the study's objectives:

1. To identify the questionnaire's reliability and effectiveness on evaluating user's perception toward recreational activity within a museum before employing it for actual research.
2. To examine the level of users' perception towards recreational activity within a museum.
3. To evaluate the factors that influence users' perception of a museum experience.

Research Questions

Based on the aim and objective, the research questions for this paper are structured as follows;

1. What is the current level of users' perception of recreational activity within a museum?
2. What are the factors that affect users' perception of a museum experience?

Research Significant

The necessity to create revenue has played a role in the museum's ability to attract large crowds to its exhibits. Mintz (1994) asserted that the junction of education and entertainment is what the public wants to see and experience. The construction of the building, its amenities, and its surrounding environment (rather than merely its contents) is intended to lure and enchant visitors.

Museum has become a place for recreational experiences. Without jeopardising its conventional functions, the modern museum may do well to analyse itself—and, presumably, discover some benefits—by putting itself, if only for the sake of discussion, inside the greater definitional context of the leisure institution (Stephen,2001). Thus, this study will discover museums' relation and overall impact on the recreational experience for the visitors.

LITERATURE REVIEW

Added Role of Museums

The purpose of this research is to examine the function and role of museums as social glue and leisure activity and the traditional building shell with exhibit contents. As a result, the concept of the museum as the fundamental function in terms of collection, landmark, social gathering place, or tourist attraction is being investigated in order to understand the impact of museums on society. This chapter contains a summary of the literature review that was conducted in connection with the study. The usual studies that have been conducted on the role of museums are summarised in Table 1, which may be found below.

Table 1

Summary of Literature Review on the Role of Museum

	Author & Year	Title	Role of Museum
1.	Weil, S. E. (1990)	Rethinking the museum: And other meditations.	<ul style="list-style-type: none"> • A museum fulfils its educational mission by "building a collection of...works that it strives to make both physically and intellectually accessible".

		<ul style="list-style-type: none">• As a result of their contact with artefacts that are "not generally a part of their everyday life," when really rare and cherished pieces are discovered among a museum's exhibited collections, they "give visitors with an extraordinary experience."• Museums have a broader goal of providing a significant public benefit via the execution of their responsibilities and the utilisation of their resources than just preserving cultural heritage.
2.	Greenhill E. H. (1994)	The Educational Role of The Museum <ul style="list-style-type: none">• A museum is a broad idea, and as a result, museums are vastly different in their organisational structure, which may be effectively used to meet unique local circumstances.• The museum's educational responsibilities have grown; these include leading exhibition creation teams and conducting visitor studies and managing and presenting educational programmes.
3.	Stephen A. (2001)	The Contemporary Museum and Leisure: Recreation As a Museum Function <ul style="list-style-type: none">• A contemporary museum is a place where classical cultural functions are combined with radically redefined ones.• Museums play a crucial role in modern culture as a repository of knowledge, a source of civic pride, and a place to foster social interaction and foster a sense of community. Museums provide opportunities for people to spend time with friends and strangers alike.
4.	Falk J. H (2009)	Identity and The Museum Visitor Experience <ul style="list-style-type: none">• A museum is a learning institution that places a high priority on the education of individuals and communities' education to cultivate responsible citizens who can make constructive contributions to urban development and community well-being.
5.	Tzortzi K. (2015)	The museum and the city: Towards a new architectural and museological model for the museum? <ul style="list-style-type: none">• The concept of the museum as a social place and urbanity is linked to the idea of the museum being geographically and visually associated with the surrounding city, and the establishment of public space within the building or adjacent to it is part of this concept.

		<ul style="list-style-type: none">• In 1989, Ieoh Ming Pei transformed the Louvre into a public space, with the glass pyramid that marks the entrance to the museum serving as its focal point. This is an exemplary example of this type of transition.• The museum as a symbol, as opposed to the museum as an urban landmark, is offered as a more sophisticated concept. It is perhaps one of the most talked-about instances of a museum that, via its architectural form and structure, aspires to be a physical manifestation of the memories of the city and as a result, acquires a symbolic purpose.
6.	Brown K. & Mairesse F. (2018)	<p>The Definition of The Museum Through Its Social Role</p> <ul style="list-style-type: none">• Definition by ICOM 2007- A museum is a non-profit, permanent institution serving society and its development that is open to the public and that acquires, conserves, researches, communicates, exhibits, and communicates the tangible and intangible heritage of humanity and its environment for the purposes of education, study, enjoyment, and scientific research.• The focus on the museum's social role appears to be of crucial importance to the museum world today and to be underappreciated by the current definition of the term.• Using the question: Should the museum's international definition be based on the most recent trends while the institution continues to view itself in a different light, or is there an "essence" of an "institution" that should be preserved, this article questions the definition of a museum.• While museum practice will continue to evolve in future decades, the paper explained that we are already confronted with changes that appear to question several of our commonly accepted definitions.
7.	Lewis G. D. (2021)	<p>Museum: Cultural Institution</p> <ul style="list-style-type: none">• A non-profit organisation devoted to the preservation and interpretation of the first

		physical evidence of humans and the environment.
		<ul style="list-style-type: none"> • A variety of purposes have been established for museums, including serving as recreational facilities, scholarly venues, or educational resources; improving the quality of life in the communities where they are located; attracting tourists to a region; promoting civic pride or nationalistic endeavour; and even transmitting overtly ideological concepts.
8.	Grincheva N. (2021)	<p>City museums in the age of datafication: could museums be meaningful sites of data practice in smart cities?</p> <ul style="list-style-type: none"> • This paper discussed the link and synergy between city museum ideals and programming and growing smart city difficulties and dilemmas in a fast-paced urban environment characterised by processes of rising digitisation and datafication. • The author also suggests future research should widen and deepen geographical coverage of the empirical framework, as well as include case studies from smart cities in various parts of the world, where city museums may have developed explicit or implicit links and connections to smart city visions, narratives, and agendas, among other things.

From Table 1 on the role of museums based on the available literature since 1990, the role of museums has started to broaden not only limited to collection of personal interest but it is responsible in educating the public and preserving the culture as mentioned by Weil (1990). It is supported by a study by Greenhill (1994) indicating that museums have the responsibility in terms of education in conducting and managing studies also presenting educational programs.

Entering the 21st century, the definition of museums starts to shift from just a personal collection to a more utilitarian role in society. The available literature starts to study the role of the museum as a leisure and recreational space for the public as mentioned in a study by Stephen (2001) that a museum is not the only source of knowledge but a place to promote social interaction and build a sense of community followed by a study by Falk (2009) that emphasize on the priority of museum to educate to create responsible citizen for the community well-being. The utilitarian role of a museum is then supported by a study by Tzortzi (2015) explained the concept of the museum as a social place, not only benefitting to the public but also becoming a symbol of urban development with its symbolic purpose and yet more recent study by Brown & Mairesse (2018) still questioning the definition of a museum to includes its social role.

However, the latest literature by Lewis (2021) and another study by Grincheva (2021) starts to rejustify the role of a future museum whether the role going to expand beyond its public role to promote social interaction to become a digital archive or a still approaching the age of datafication.

In conclusion, since its inception, museums have developed both in terms of their main purpose of exhibiting social collections and their worth to society, as well as in terms of their perception of their own place in society.

Museum as Social Space

The contemporary museum is, for the most part, a public space; it is not, as was the case in earlier times, the exclusive domain of a select few. The museum's ascent from the shadows of privilege into the arena of public life (and popular culture) has ramifications that go beyond its physical location. Today's museum serves an unexpected purpose, as a venue for a leisure experience. This is the case because much contemporary museum visiting occurs during periods of time that can be classified as leisure time, draws on discretionary income, and frequently occurs with the expectation of having a pleasurable experience — the same conditions that, among other things, describe the contexts of many other forms of recreation and amusement (Stephen, 2001). Stephen (2001) states that the perspective of the museum as a context for recreation does not have to be in conflict with the museum's functions of collecting and educating, nor does it have to be in conflict with Weil (1990) and Goodman (1988)'s explication of the role of the museum as one that contributes to a high quality of life for the general public.

Museum as a Facilitator of the Leisure-Time Experience

Education

The significant role played by the museum item in the establishment and operation of the museum has already been mentioned. A museum; also, might be viewed as a facilitator of the visitor's leisure experience. According to Joffre Dumazedier, one of the purposes of leisure is to make a freely chosen effort to increase one's knowledge (Edginton et al., 1998). The utilisation of museums for educational purposes is a significant role of the institution. While learning at a museum differs from learning in a traditional classroom in a variety of ways, it is important to note that learning at a museum is done without many of the rules and obligations that accompany learning in a traditional classroom—a distinction that is critical when discussing leisure.

Contemplation

Contemplation was used to cultivate the intellect in ancient Greek civilization, and it was considered to be beneficial. Notably, Aristotle and numerous other Greek philosophers felt that the ability to reason and think distinguishes the human from other creatures (Goodale and Godbey, 1988). According to him, humans might come "as close as possible to exercising what is most godlike or divine inside our nature" via contemplation (Goodale and Godbey, 1988). Contemplation was made feasible by the availability of time for the free Greek citizen, but the Greeks skillfully repurposed the objective component of leisure (i.e., free time) as an opportunity for nurturing the good citizen in the first place. The museum provides this chance, both literally and metaphorically, by showing works of art that invite viewers to take a step back and contemplate—and, if possible, withdraw into the complex and deeper universe and message of the artwork. While sitting in the ordinary space of the museum, a person can transcend mundane experiences and move into deeper expressions of the experience while seated in the ordinary space of the museum (Stephen, 2001).

Social Experience

The museum, particularly the modern museum with its array of ancillary rooms (e.g., café, theatre, store), provides visitors with an opportunity to interact with one another. According to Edginton et al. (1998), social connection is a component of many different forms of leisure participation. Other scholars have emphasised the importance of the social experience in the context of leisure time activities (Shaw, 1985).

METHODOLOGY

Sample and Data Collection

According to Preko et al. (2020), three primary types of collection in museums are archaeology, ethnography and art. Thus, the Lembah Bujang Archaeological Museum, the National Museum of Malaysia, and the Penang State Museum and Art Gallery have been selected as the three museums with the three primary collections discussed. A pilot study is conducted to test the reliability of the survey before the real survey is conducted, thus the participants in this pilot study all come from the Lembah Bujang Archaeological Museum and there are a total of 20 participants. The study's sample size was determined based on a projected data analysis approach (Malhotra, 2007). Preko et al. (2020) suggested a minimum of 100 participants in a similar study evaluating museum satisfaction, which would also be employed for this study with a total of 300 overall participants for three different museums.

A quantitative approach will be utilised to determine the users' perception with the museum experience for the purposes of this research. Quantitative research data will be measured by distributing structured questionnaires with a 5-point Likert scale ranging from strongly disagree (=1), disagree (=2), not sure (=3), agree (=4), to strongly agree (=5). The structured questionnaire will be fulfilled by museum visitors who just completed their tour to guarantee that the visitor had recent experience for more reliable data on their perception regarding the museum experience and whether it can be impacted positively with the inclusion of recreational activities. This approach was chosen since participants were easily accessible and able to complete the self-administered questionnaire (Creswell, 2014; Etika et al., 2016).

The structured questionnaire will inquire about the respondents' demographic data, including gender, age, educational level, marital status and personal monthly income range. The first three items align with the study from Housen (1987) as the standard data surveys on museum visitors, while marital status was added by Chieh (2012). According to the findings of the survey, parents and children are the most frequent visitors. It represents a person's family life cycle and may have an impact on the experience of visitors. The monthly income range was also added due to Falk and Dierking (1992) suggesting that museum-visiting behaviour is also affected by personal economical status.

In order to evaluate user perceptions, the variables were derived from a prior study conducted by Rojas and Camarero (2006) that yielded four measuring variables: *expectation*, *perceived quality*, *satisfaction*, and *recommendation*. The *ability to facilitate memorable events* was subsequently added as a variable since, according to a study by Trauer (2006), it is one of the factors affecting user satisfaction.

The scale of *expectations* is comprised of six components and derived from Higgs, Polonsky, and Hollick's (2005) scale, which was also adapted to the specific instance of museums and exhibition centres. Six items on the scale of *perceived quality* were modelled based on Brady and Cronin's (2001) approach, which considers three dimensions: quality of the result, quality of the staff interaction, and quality of the physical environment while the Oliver scale (1997) was used to measure *satisfaction* (four items). Lastly, the scale used to evaluate the variable *recommendation* (three items) is modelled based on the study by Rojas and Camarero (2006) while the scale to measure the *ability to facilitate memorable events* (three items) is introduced by the author based on a prior study by Trauer (2006).

The data is then analysed with Statistical SPSS in order to determine the reliability of the questionnaire through the application of the Cronbach's Alpha method. This is done in order to ensure the reliability of the survey that was carried out in order to determine whether or not recreational activities can positively influence users' perceptions of a museum.

RESULT AND ANALYSIS

Reliability Test

The purpose of the pilot study is to ensure that the sample size can be chosen to represent the overall participant for the full survey that is going to be conducted so that sampling error can be reduced and the degree of accuracy can be increased. The Cronbach's Alpha was calculated to determine the reliability level. The Cronbach's Alpha value of the construct's dimensions surpasses 0.60, indicating that they have a high dependability value (Nunnally and Bernstein, 1994).

Table 2

All Variables' Cronbach's Alpha Value

Variables	Item	Description of Items	Corrected item-total correlation
Expectation	A1	I think there will be qualified professionals in the museum offering me information and answering my requirements	0.52
	A2	I think the content of the exhibit will be unique and different from what I could find in other museums	-
	A3	I think this museum is to offer me an interesting informative or educational experience	-
	A4	I expect the objects, materials and information in the exhibit to be of high cultural and historical interest	-
	A5	I expect there are some physical recreational activities within the museum experience	-
	A6	I expect to have fun and leisure time during my visit to the museum	-
Perceived Quality	B1	At every moment employees in the museum have showed their willingness to look after me in the right way (interaction quality)	-
	B2	The installations are better than those in other museums I have visited (physical environment quality)	0.44
	B3	I consider the exhibition are physically engaging and interesting (physical environment quality)	0.31
	B4	I think the museum incorporate lots of physical recreational activities within the	0.36

		materials and exhibition (physical environment quality)	
	B5	I think the visit to the museum to have been a good informative or educational experience (quality of results)	0.45
	B6	I think the visit to the museum to have been a fun and relaxing (quality of results)	0.31
Satisfaction	C1	This is one of the very best interpretation museums that I could have visited	-
	C2	I am pleased with my decision to visit this museum	-
	C3	I have really had a good time and experienced fun visiting this museum	-
	C4	I wish the museum would have incorporate more engaging physical activities	-
Recommendation	D1	I will positively talk about this interpretation museum	0.79
	D2	I will recommend somebody to visit this museum	0.84
	D3	I will recommend somebody to visit this museum better if this museum includes more physical recreation activities in its materials	0.38
Ability to Facilitate Memorable Event	E1	I think the visit to this museum has been one of the memorable events for me	-
	E2	I remember most of the material exhibited in this museum	0.63
	E3	I think I remember more clearly material exhibited that incorporated more physical activities	0.60

Note: (-) = Items that had a corrected item-total correlation of less than 0.3 were deleted.

The Cronbach Alpha analysis was used to measure the items for each variable; expectation, perceived quality, satisfaction, recommendation, and ability to facilitate memorable events. The minimal value for a corrected item-total correlation was 0.3 and above (de Vaus, 1986), and the scale was regarded credible if the alpha value was 0.6 and higher, according to the De Vellis (1991) criteria.

The result of the analysis shows that only one item A1 in assessing expectation has a corrected item-total correlation above 0.3 resulting in Cronbach's Alpha value below 0.6. As a result, the items in the expectation variable need to be restructured in order to assess the user expectation in future studies.

For measuring perceived quality, it involves 6 items and only one item is deleted since its corrected item-total correlation value was less than 0.3, although the total Cronbach's Alpha value of the six items was 0.62. The item is "At every moment employees in the museum have showed their willingness to look after me in the right way (interaction quality)". The Cronbach's Alpha value that was obtained as a result of the revised analysis was 0.61 after the

removal of this item. This demonstrates that the remaining five items are valid in assessing the perception of users' perceived quality.

On the other hand, the analysis shows that all items in satisfaction resulted in a corrected item-total correlation value not exceeding 0.3 which indicates that each item in measuring satisfaction are cannot be used and no association between an item in measuring the satisfaction and will require restructuring for future studies.

All three items used in quantifying recommendations have corrected item-total correlation values above 0.3 with Cronbach's Alpha value of 0.80; this demonstrates that the item is suitable for assessing users' recommendations. Lastly, in order to measure the ability to facilitate memorable events, one item is omitted due to a corrected item-total correlation value lower than 0.3 which total Cronbach's Alpha for all three items is 0.63. The item is "I think the visit to this museum has been one of the memorable events for me". After the item is omitted, the analysis is redone and the value of Cronbach's alpha is 0.82 which indicates the remaining two items can be used to assess users' ability to facilitate memorable events.

Demographic Data

This pilot study was carried out at museums that were chosen according to predetermined categories that were derived from the literature. It was conducted in Lembah Bujang Archaeological Museum with a total of 20 participants who recently just finished their visit to the museums.

Table 3
Summary of Demographic Data of the Respondents

Demographic Data	Item	Frequency	Percentage (%)
Gender	Male	9	45.0
	Female	11	55.0
Age	Below 18	2	10.0
	19 to 24	5	25.0
	25 to 34	4	20.0
	35 to 44	2	10.0
	45 to 60	5	25.0
	Above 60	2	10.0
Educational Level	Primary School	1	5.0
	Secondary School	6	30.0
	Higher Education	13	65.0
Marital Status	Single	6	30.0
	Married	11	55.0
	Widowed	3	15.0
Estimate Monthly Income	Below RM2,500	11	55.0
	RM2,501 to RM4,500	4	20.0
	RM4,501 to RM10,000	2	10.0
	Above RM10,000	3	15.0

According to table 3, this pilot survey included 45% of male and 55% of female respondents, with only 10% of respondents being under the age of 18. 25% of those polled were between the ages of 19 and 24, and 20% were between the ages of 25 and 34. Plus, 10%, 25%, and 10% of respondents were aged 35 to 44, 45 to 60, and above 60 years old, respectively.

The majority of respondents 65% have a higher education level, compared to only 30% who have a secondary education level, and only 5% have a primary education level. In terms of marital status, 55% are married, indicating that the majority of visitors are married. Single and widowed respondents account for 30% and 15%, respectively.

Finally, in terms of estimated monthly income, up to 55% of respondents earn less than RM2,500 per month, while 20% make between RM2,501 and RM4,500. 10% of respondents earn between RM4,501 and RM10,000 per month, while 15% earn more than RM10,000.

Descriptive Analysis

Since two of the variables which are *expectation* and *satisfaction* achieve Cronbach's Alpha below 0.6, only *perceived quality*, *recommendation* and *ability to facilitate memorable events* are used in this analysis. Overall factor analysis from the viable collected data in justifying *overall users' perception* for the museum experience is not within the high range with a mean value = 3.83 and standard deviation = 0.35. This interpretation value is aligned with a study by Bahaman and Turiman (1999) which indicates the mean value for highly likely are ranging between 4.01 to 5.00.

This may attribute due to the low mean value for *perceived quality* which only has a mean value = 3.49 and a standard deviation value = 0.42. The most significant item in factor analysis for *perceived quality* is item B4: *I think the museum incorporate lots of physical recreational activities within the materials and exhibition (physical environment quality)* with the lowest mean value = 2.60 with a standard deviation value = 0.88. This strongly suggests that physical recreational activities within museum exhibition materials and exhibitions are still severely inadequate.

For *recommendation*, the mean value = 4.36 with a standard deviation of 0.47 can be considered high as it is between 4.01 to 5.00 (Bahaman and Turiman, 1999). All three items in assessing *recommendation* have a mean value exceeding 4.01. The most significant item is D3: *I will recommend somebody to visit this museum better if this museum includes more physical recreation activities in its materials* with a mean value = 4.65 with a standard deviation value = 0.48 which is higher than the overall mean value for *recommendation*. Thus, the result shows that the visitor would have a better experience in the museum and would recommend the museum better if it incorporate more recreational activity aligned with a prior study by Shaw (1985) suggesting the importance of the social experience in the context of leisure time activities.

The data also portrays a low mean value = 3.63 with a standard deviation = 0.50 for *ability to facilitate memorable events* with the most significant is item E2: *I remember most of the material exhibited in this museum* with a mean value = 3.20 and a standard deviation = 0.69 which are lower than the overall mean value for the variable. This could be linked to a less fascinating and engaging exhibition experience throughout the visit, resulting in a less memorable experience.

Differences in Overall Users' Perception Based on Gender

A T-test is performed on two independent samples to examine the level of differences in overall user perception based on gender. Prior to establishing the significance of the t value, the Levene test is used to determine the amount of significant difference between the two variants. The Levene test yielded $F = 0.26$ and a significant result $(P) = 0.87$ ($P > 0.05$). This suggests that the male and female variants are not significantly different. As a result, the t value can be calculated using the Equal Variance assumption. The following table clearly analyses the t-test results for two independent sample tests.

Table 4*Result of T-Test for Two Independent Samples (Overall Users' Perception)*

	Gender	N	Mean	T Value	Df	Sig
Overall users' perception	Male	9	3.90	0.79	18	0.44
	Female	11	3.77			

Table 4 shows that there is no statistically significant difference in overall users' perception depending on gender, with t value (18) = 0.79 and P = 0.44 (P>0.05). Both the male and female mean are 3.90 and 3.77, respectively, indicating that both genders have nearly identical indications in terms of their perception with the museum experience. This finding indicates that both genders are discontent, which may be attributed to a lack of recreational options in the museum.

Differences in Perceived Quality Based on Gender

A T-test is carried out on two different samples in order to investigate the degree of variation in perceived quality according to a person's gender. The Levene test is used to identify the amount of significant difference between the two versions before establishing the significance of the t value. This is done before establishing the significance of the t value. The results of the Levene test were F = 0.56 and a significant result of P = 0.45, indicating that P is greater than 0.05. This would seem to imply that the male and female variations are not all that different from one another. As a consequence of this, the t value can be determined by employing the Equal Variance assumption. The results of two different independent sample tests are broken down and analysed in-depth in the following table below.

Table 5*Result of T-test for Two Independent Samples (Perceived Quality)*

	Gender	N	Mean	T Value	Df	Sig
Perceived Quality	Male	9	3.37	-1.16	18	0.25
	Female	11	3.59			

With a t value (18) of -1.16 and a P value of 0.25 (P>0.05), Table 5 shows that there is no statistically significant difference between perceived quality based on gender. The mean for both men is 3.37, and the mean for women is 3.59. This suggests that the way men and women see and feel about their museum experience are not significantly different.

Differences in Recommendation Based on Gender

A T-test is carried out on two separate samples in order to investigate the degree of variation in recommendations that may be attributed to gender. The Levene test is employed to determine the amount of significant difference between the two variants. The Levene test yielded F = 0.67 and a significant result of P = 0.79 (P>0.05). As a result of this, the t value can be calculated using the Equal Variance assumption. The following table presents a comprehensive breakdown of the results of two separate and independent sample testing.

Table 6*Result of T-test for Two Independent Samples (Recommendation)*

	Gender	N	Mean	T Value	Df	Sig
Recommendation	Male	9	4.40	0.34	18	0.73
	Female	11	4.33			

Table 6 demonstrates that there is no statistically significant variation in the recommendation based on gender, with t value (18) = 0.36 and P = 0.73 (P>0.05). This is shown by the combination of the values t and P. The male data shows a mean = 4.40, and the female mean = 4.33; this indicates that people of either gender have roughly equal indications in terms of their recommendation of the museum.

Differences on Ability to Facilitate Memorable Events Based on Gender

A T-test is carried out on two different samples in order to investigate the degree of difference that exists between men's and women's ability to facilitate memorable events. The Levene test is performed first in order to establish the significance of the t value. This is done in order to identify the amount of significant difference that exists between the males and females. The results of the Levene test were F = 0.24 and a significant value of (P) = 0.62, indicating that the value is greater than 0.05. As a consequence of this, the t value can be determined by adopting the Equal Variance assumption. The results of two different independent sample tests are broken down and analysed in depth in the table that follows.

Table 7

Result of T-test for Two Independent Samples (Ability to Facilitate Memorable Event)

	Gender	N	Mean	T Value	Df	Sig
Ability to facilitate memorable event	Male	9	4.40	0.34	18	0.73
	Female	11	4.33			

Table 7 demonstrates that there is a statistically significant difference between male and female in terms of the ability to facilitate memorable events, with t value (18) = 2.69 and P = 0.01 (P<0.05). The fact that the mean value for male visitors was 3.92 and the mean value for female visitors was 3.39 is an indication that male visitors are able to facilitate memorable events more adequately than female visitors based on the data collected.

Correlation Analysis

The correlation between the demographic data with the *overall users' perception* between the viable variables was analysed using the Pearson method to figure the correlation significance. This was determined based on the analysis that was performed using Statistical SPSS; if only the significant value (2-tailed) is lower than 0.05 (P<0.05), the correlation is regarded as being statistically significant. However, since this pilot study is carried out with limited respondents, the result may portray differently for a large sample of data.

Correlation between Demographic and Overall Users' Perception

In correlation between gender and overall users' perception, the result was not significantly correlated with the significant value (2-tailed) = 0.44 (P>0.05) with Pearson Correlation = -0.18. Based on the data analysis, this may be due to both males and females generally having similar thoughts in terms of perceived quality and recommendation resulting in not significantly different overall perception towards museum experience.

Age and overall users' perception have a significant value (2-tailed) = 0.49 (P>0.05) with Pearson Correlation = -0.16 which indicates it is not significantly correlated while the correlation between educational level and overall users' perception is significantly correlated with a significant value (2-tailed) = 0.00 (P<0.05) with Pearson Correlation = 0.58.

The analysis for correlation between marital status and overall users' perception was also found that it is not statistically significant with a significant value (2-tailed) = 0.29 (P>0.05) and Pearson Correlation = -0.24. This result is the same for the analysis between

estimated monthly income and overall users' perception resulting in a significant value (2-tailed) = 0.31 ($P > 0.05$) with Pearson Correlation = 0.23 which indicates it is also not statistically significant.

Correlation between Variables

Based on the analysis, the correlation between *perceived quality* and *recommendation* was not statistically significant with the significant value (2-tailed) = 0.14 ($P > 0.05$) with Pearson Correlation = 0.33. *Perceived quality* and *ability to facilitate memorable event* also resulted in not significantly correlated based on the analysis with significant value (2-tailed) = 0.30 with Pearson Correlation = 0.24. On the other hand, the correlation between *recommendation* with *ability to facilitate memorable event* is statistically significant with significant value (2-tailed) = 0.01 and Pearson Correlation = 0.56. The result shows that *ability to facilitate memorable event* is significantly affects user's recommendations.

DISCUSSION

RQ1: What is the current level of users' perception of recreational activity within a museum?

Based on the pilot study, the current level of *overall users' perception* towards recreational activity in museums is still not within a strongly agreeable level with the *overall users' perception* mean value of 3.83 which indicates the people visiting the museum are still not expecting to have significant experience in terms of recreational activity during their visit. The result may be due to the selection of a museum for the purpose of this paper which is the Lembah Bujang Archaeological Museum where the visitors came seeking additional knowledge for their visit. Another inducement from the data is that the paradigm of the local mindset is still expecting a museum just as a collection for exhibition and educational purposes apart from its social role.

RQ2: What are the factors that affect overall users' perception of a museum experience?

From the correlation analysis, we evaluated a non-significant correlation between the variables except for the significant correlation between the *educational level* with *overall users' perception*. The study shows that the *overall users' perception* may be affected heavily by the user's educational level. The grounds of these claims is rationale may due to higher educated users' may aware of their expectations and outcome during the museum visits compared to lower educated users. Thus, future museum management and museum design may require examining the perception of users only in the higher education bracket in creating a better overall museum experience.

CONCLUSION

Before the full-scale research project is carried out, this pilot study will evaluate its credibility to determine whether or not it should be carried out. Before they are used in an actual survey, this method is used to assess the validity and dependability of the questionnaire that was prepared (de Vaus, 1986). In addition, the purpose of this pilot study is to locate any potential issues that may surface during the main study. Its purpose is to determine whether or not the research question is appropriate. This pilot study discovered a number of issues with the sentence construction, as well as with the use of a 5-point Likert scale. However, the pilot study finds that the overall users' perception of museums with a recreational activity is still strong but they are hopeful for better integration of physical recreational in a museum. Thus, the author recommends for the full paper be conducted within more recent museums compare to the case study included in this pilot paper for future study.

Finally, museums have increased in prominence, taking on a larger public role than their predecessors; museums not only serve as venues for exhibitions, but they also serve as centres for research and collecting, as well as centres for education and recreational activities. Over the last century, the purpose and goals of museums have shifted dramatically, to the point that collections, which were formerly considered an essential aspect of museums, are now seen as a secondary concern. This study looked at an overview of the role of museums and the overall influence that museums have on the leisure experience that visitors have. Since their origin, museums have progressed both in terms of their primary mission of showing social collections and demonstrating their value to society and their understanding of their role in society. In this regard, museums have made significant strides.

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Tarikh : 20 Januari 2023

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