Ethiopian Journal of Environmental Studies & Management 19(Suppl.): 896 – 909, 2026
ISSN:1998-0507 doi: https://ejesm.org/doi/v19iSuppl.7
Submitted: October 3, 2026 Accepted: November 12, 2026

VISITOR'S PERCEPTION OF FEDERAL COLLEGE OF WILDLIFE MANAGEMENT NATURAL HISTORY MUSEUM, NEW BUSSA, NIGERIA

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Abstract

The study assesses the visitor's perception of Federal College of Wildlife Management Natural History Museum in New Bussa, Niger State. The study was undertaken to ascertain the Visitors' level of engagement with museum specimen in the study area, determine the visitor/exhibition interactive behaviors and investigate visitors' thoughts, attitudes, and beliefs to the museum specimen, Data were collected using structured questionnaire and oral interviews to acquire information from sampled visitor's to the museum. The data was analyzed using descriptive statistics in tables and charts. The findings from this study indicate that visitors showed a 60% higher level of interest in big games, while 15% of visitors indicated a higher level of interest in artwork/photographs. The findings show that 60 mins (5 mean time) was the longest time spent in the hall viewing exhibit displays. The interactive behaviors between visitors and the exhibit indicate that carefully observing the big games received the highest percentage of responses (25%) and for the bird specimens commenting behaviors received the highest responses20% followed by naming 15% and pointing 10% response. The finding on the general behavior of the visitors as the visit goes on indicates that curious participants' behaviors make up the largest percentage of visitors (36.5%), while discerning independents behaviors make up the lowest (15%). Also 40% of the respondents, indicated that learning is the greatest benefit they derived from visiting FCWM-NHM, while 15% said that environmental mastery was their benefit being least. Based on the results, it has been established that visitors who have satisfying experiences at museums benefit in ways that go beyond the exhibition itself and affect their general well-being even after they depart the museum and resume their normal lives. Hence the curators should conduct regular visitor surveys to monitor perceptions and identify areas for improvement.

Keywords: *Visitor, Perception, FCWM. Natural History Museum, Nigeria*

Introduction

Comprehending visitors' perceptions is an important and challenging task in a museum (Krantz *et al.*, 2009). The promotion of understanding and enjoyment of the natural world is greatly aided by natural history museums. Understanding visitors' perceptions of these museums is essential to improve their experience and engagement. In order

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to ensure that museums have the desired effect, information regarding visitors' attitudes, preferences, and past experiences is essential for museum practitioners, evaluators, and researchers. Numerous researchers have attempted to explain the reasons behind people's museum visits, leading to a variety of descriptive classifications (Falk, 2009).

Visitors are divided into two groups by Bond and Falk (2012): Affinity Seekers: The museum draws visitors because it resonates with their feeling of identity and/or heritage. Respectful Pilgrims: People visit the museum because of a sense of obligation or duty. They regard their visit as a means of paying respect to the memory of the people the memorial/institution represents. These categories are not frequent in most museums, and effective methods for spotting them are still lacking. While nationality, religion, gender or political affiliation did not seem to be the primary motivations behind most people's visits to art museums, children's museums, zoos or science centres (Bond and Falk 2012).

Reasons for Museum Visit

Around the world, a large number of natural history museums are changing around their collections and creating exhibits that get visitors thinking about current scientific concerns and significant societal challenges. The natural history museums -NHM use a physical interactive to help you understand the process and display its objects in a way that invites you to consider how and why they are shown. The displays hope to get you to consider the broader applications of science through interactives, one start to comprehend the purpose of the displays by going to the museum. The storyline includes the building's architecture, history, and residents just as much as the artifacts and interactives that were on show (Falk, 2009).

Visitors Ideas of a Natural History Museum

In a natural history museum, the perception of visitors comprises their individual experiences, observations, and interpretations of the displays and exhibits. It includes a range of factors, such as:

1. Emotional responses: A sense of wonder, awe, curiosity, or empathy towards the natural world and its inhabitants. Visitors to natural history museums perceive science more appropriately when viewed through a more practical, "need-to-know" framework (Falk & Dierking, 2002). This viewpoint helps people understand science in a way that makes sense to them at that particular moment in time. Need to know can also be situational and temporary, as in the case of a museum visitor who, upon seeing something that seems out of the ordinary or strange, stops, concentrates on it, reads the label, and tries to integrate the new information into their mental schema of the world (Falk *et al.* 2006). In museums, learning takes place on two different levels: purposeful learning linked to interests and hobbies, and unique, situational learning sparked by a spark of curiosity. A regular museum visit can have an impact on both long-term science literacy acquisitions (Falk *et al.* 2006).
2. Cognitive understanding: Acquiring knowledge of scientific terms, taxonomies, and the complexities of the natural world. Cognitive experiences, which include learning new information or expanding one's understanding, centre on the interpretive or intellectual parts of the experience (Doering 1999). According

to Packer (2008), cognitive experiences were more prevalent at the Museum of Natural History. An attempt is made to discuss how museums, and natural history museums in particular, help the public understand science. Thinking back on the mindset required to visit a science centre is fascinating.

3. Connection and relevance: Relating exhibits to one's own experiences, cultural background, or current events. Tourists may draw some intriguing links between fulfilling experiences and restorative results, such as the absence of fatigue, agitation, and distraction from other worries, and the sensation of being renewed, restored, thinking, contemplative, peaceful, and at ease (Kaplan, *et al.,* 1993).

4. Engagement and interaction: Using multimedia tools, reading labels, and engaging in hands-on activities are examples of engagement and interaction (Falk *et al.,* 2006).

5. Aesthetic appreciation: Admiring the beauty and craftsmanship with which displays, exhibits, and museum architecture are created. Experiences with objects, or those that centre on something outside the visitor, include being moved by beauty, seeing "the real thing," and witnessing rare or valuable objects.

6. Social experiences: Sharing experiences with others, discussing exhibits, and creating memories. Social experiences focus on interactions with friends, family, other visitors or museum Staff. Is one of the "satisfying experiences" that individuals seek - and generally find - in museums (Doering, 1999).

7. Cultural and historical context: Being aware of the museum's responsibility for protecting scientific history and cultural heritage.

8. Personal growth and inspiration: Having the drive to learn more, follow interests in science, or take action for environmental conservation. The service environment, includes ambient conditions such as temperature, lighting and noise; spatial layout and functionality; and signs and symbols such as the quality of furnishings which explicitly and implicitly convey expectations and "image." these features influence customers' (or visitors') cognitive, emotional and physiological responses to the environment (Bitner, 1992), By taking into account these factors, museums may improve the experiences of their visitors, encourage closer ties with the natural world, and create an atmosphere that is more welcoming and stimulating.

Visitor Time-Related Behaviors

The notion that visitors spend more time at the exhibitions they like is the basis for the use of visiting time as a measure of visitor satisfaction in numerous studies aimed at assessing the effectiveness of museum exhibitions (Chiozzi and Andreotti, 2001).

An exhibition's success and the extent to which visitors use it are to be determined by analyzing time-related behaviors in various museum contexts. This is based on the assumptions that "diligent visitors" - those who stop at more than half of an exhibition's elements - spend more time in the exhibitions. It is believed that monitoring time is a great method to understand visitors' motivations and behaviors, but emphasized that tracking time is useless if one ignores the factors that influence a behavior's appearance. As visitors' behavior can generally be predicted and seems to be strongly influenced by the elapsed time of visit. When an exhibition arouses the interest of a group of visitors with little

time on hand, then visitors will show behaviours that do not imply prolonged stops in front of displays. On the other hand, when visitors seem not to like a particular exhibition, visitor/exhibition interactions will be substantially reduced and, in certain cases, fully eliminated (Chiozzi and Andreotti, 2001).

Behavior Description; Andreotti and Chiozzi (1999) listed the following as behaviours seen in a museum;

Cursory glance: Rapid glimpse at the exhibition without stopping

Careful observation: Stopping to look at the exhibition

Brief reading: Deliberate glance at texts

Comprehensive reading: Reading with full attention

Commenting: Verbal or gestured communication about the exhibition

Pointing: Showing with the forefinger or with a movement of the head

Naming: Reciting the names of the objects contained in a glass case

Evaluation of Museum Visits

Evaluation of museum visits can be done as follows;

According to Chiozzi and Andreotti (2001), attention is used to evaluate museum visits because it appears to be the first step in any learning sequence as evidence correlating visual attention and; cognition was found in a museum context whereby family visitors displayed similar patterns of attention, correlating closely with time in the museum. Visitors behaved in similar ways 15 minutes after they entered, for example, but behaved differently after 5 minutes than after 50 minutes for instance visitors' principal focus of attention was recorded each 5 seconds, selected from four options: Attention to an Exhibit, to the Setting, to Own Social Group, or to Other People. "Can't tell" observations were also recorded. The observations, were averaged; and ratios for each focus of attention were calculated as measures of how visitors directed attention over the course of the visit (Chiozzi and Andreotti, 2001).

The goal of cluster analysis is to create groupings that are internally similar but differ from one another in clear and significant ways (Kachigan, 1991; Tan *et al*., 2006). It's useful to consider the proverb "Birds of a feather flock together" when trying to understand this concept. And method known as K-means cluster analysis divides visitors into a predetermined number of natural clusters. Crafting the statements and rating scales is crucial to the resulting clusters, since statements are the variables by which the clusters are formed. In order to cluster visitors, the study generates a set of rating statements as variables. Rating statements are particularly helpful because they explore deeper than demographics to explore the opinions, attitudes, and beliefs of visitors. Rating statements furthermore offer interval data that can be subjected to cluster analysis and K-means analysis (Krantz *et al.*, 2009; Hammer, 2011).

Museums have a strong commitment to sharing their philosophies and values regarding the significance of their holdings. A database of attendance, demographic, and lifestyle data is created through visitor surveys and attendance counts; visitor motivations, expectations, and the calibre of the visitor experience are gathered through observation, workshops, and focus groups, among other techniques. The purpose of the permanent exhibition within the building is to encourage visitors to think more deeply about the processes of biodiversity and evolution.

The FCWM Natural History Museum – NHM aims to promote awareness and appreciation of the natural world to students and the publics. Despite the ecological, educational and tourism importance of natural history museums, limited research has examined visitors' perceptions and experiences at the Federal College of Wildlife Management (FCWM) Natural History Museum. Existing visitor studies often focus mainly on demographic characteristics, while visitors' perceptions, opinions and responses to museum exhibits receive less attention. Understanding these perceptions is important for evaluating the quality and relevance of the museum experience and for identifying opportunities to improve visitor engagement. Therefore, assessing visitors' perceptions of the FCWM Natural History Museum will provide useful information for museum management, enhance visitor experience, and support the promotion of ecotourism and educational tourism at the College. This assessment evaluates visitors' perceptions of the museum, identifying strengths and areas for improvement.

The objectives include to:

1. Determine the Visitors' level of engagement with museum specimen in the study area
2. Determine the visitor/exhibition interactive behaviors
3. Investigate visitors' thoughts, attitudes, and beliefs to the museum specimen

The Study Area

Federal College of Wildlife Management is in New Bussa, the administrative headquarters of Borgu Local Government Area of Niger sate, and it is situated between latitudes 9^{o}N and 11`N and longitude 2$^{o}$E and 4`E, it has a total population census of 171, 965 people.

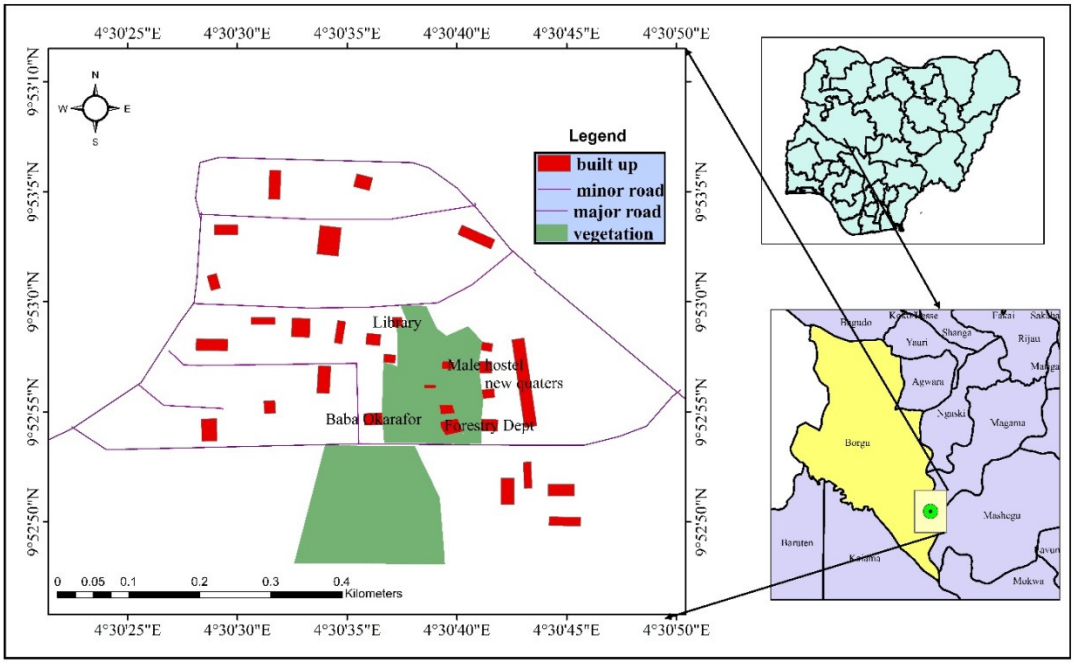


Figure1: Map of the study area

Materials and Method

Data Collection Techniques

The methodology used includes the use of structured questionnaires and oral/observation interview. A total of sixty (60) structured questionnaires was administered to visitor respondents. Data collection was designed to assess the level of visitor interest in museum and, as far as was practical, to take account of the variables that may affect this. Visitor interest was measured as the proportion of visitors that stopped at an animal viewing area (''attracting power'') and, when stopped, the length of time in seconds that they viewed the animal (''holding'' or ''viewing'' time). It is believed that by recording attracting power as well as a precise, interval, measure of interest (holding time), one could gain a more complete picture over visitor behavior.

Unobtrusive observations were made on visitors as they approached a viewing exhibit. Once a visitor is selected, it was recorded whether he/she made a definite stop at the viewing display or not. If they did, the time spent viewing the specimen was also recorded, any kind of behavior showing visitor/exhibition interaction (cursory glance, careful observation, brief reading, comprehensive reading, commenting, pointing, naming was recorded)

Additional information was also recorded during the visitor stop, such as the relative activity of the visitors in question using rating statements (on a scale of 1–7; 1 being essentially quite/low and stimulated by curator presence to 7 being extremely activate/ high. Once the researcher had completed the observation of the visitor, a structured questionnaire was administered to the visitor for him to respond. Data was recorded with pen, paper, and stopwatch—techniques commonly used in unobtrusive visitor studies (Serrell, 1998). Data was collected between April 2024 and August 2024.

Data Analysis

The result was analyzed using Descriptive Statistics (Table, Graph, and Charts). Mean-Time interval was averaged; and ratios for each focus of attention calculated as measures of how visitors directed attention over the course of the visit (Chiozzi and Andreotti, 2001). Mean time per visited display ($\bar{t}_{vd}$) was calculated as follows:

$$\bar{t}_{vd} = T_{ex} / VD$$

Where T_{ex} is the total time dedicated to the exhibits, so as to say the total time spent in the halls multiplied by 0.5 minutes (theoretical average crossing time i.e. time spent crossing the exhibit).

VD is the total number of group displays visited.

Rating statements was used, since they go beyond demographics, investigating visitors' thoughts, attitudes, and beliefs, this was analyzed using K-means cluster analysis (Krantz *et al*., 2009; Hammer, 2011).

Results

From the results, the Table 1 shows the socio-demographic characteristics of the respondents. The result gathered shows that the males (70%) were more than the females (30%). Majority of the visitors came from other states (40%). The age under 30years recorded the highest (65%), while first time visitors account for the highest (60%), and (90%) respondents agreed that they are happy and satisfied over what they have seen in NHM, FCWM.

Figure 1 shows the visitor interest on the types of exhibits. The figure shows that 60% of visitors indicate a higher level of interest in big games on a 7-point rating

scale and 40% on a 5–6 point scale, while 15% of visitors indicate a higher level of interest in artwork/photographs on a 7–point rating scale, 35% on a 5–6 and 1-2–point scale. The Figure 2 shows the time Mean time (in minutes) per available display, the result shows that 60 mins (5 mean time) was the highest time spent in the hall viewing exhibit displays, while 25mins (2.08mean) was the least time spent by the visitors.

The interactive behaviors between visitors and the exhibit are depicted in Figure 3. The findings indicate that carefully observing the big games received the highest percentage of responses (25%) and that (pointing 15%, brief reading 15%, commenting behaviours 10% and naming 15%) received the lowest percentage. For the bird specimens commenting behaviours received the highest responses 20% followed by naming 15% and pointing 10% response.

In studying visitors' level of engagement with exhibits at FCWM-NHM, we noticed that certain clusters of visitors responded similarly to specific statements. As seen in Table 2 which displays the mean rating by each cluster. The numbers represent the percentage rate of respondents in each cluster. This analysis reveals four distinct clusters based on the respondents' preferences and behaviors. Cluster 1 at the top with response 'I'm interested in learning about the tools used and I enjoy learning about NHM are similar, while the statement- in cluster 5' Some terms used are difficult to understand is quite different from all clusters.

Figure 4 depicts the general behavior of the visitors as the visit goes on. Curious participants' behaviours make up the largest percentage of visitors (36.5%), while discerning independents behaviours make up the lowest (15%). The benefits of FCWM-NHM on visitors are depicted in Figure 5. Of the respondents, 40% said that learning is the greatest benefit from the experience, while 15% said that environmental mastery was the least beneficial.

Table 1. Demographic Characteristics of Study Participants (%)

Characteristic		**Number[n=60]**	**Percent**
Gender	Male	42	70
	Female	18	30
Origin	Immediate communities	15	25
	Niger State Visitors	21	35
	Others States	24	40
Age	Under 30	39	65
	Over 30	21	35
Previous visits	First time	36	60
	Repeat	24	40
Perception	Satisfied	54	90
	Not Satisfied	6	10

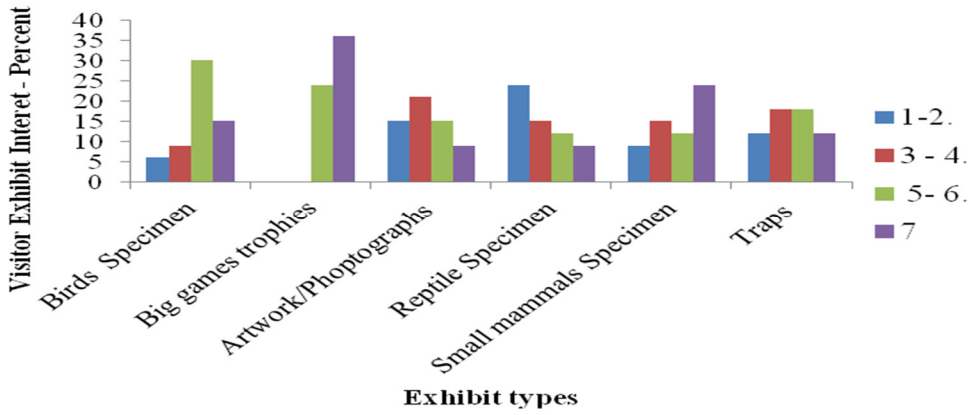


Fig. 1: Visitor Interest on the Types of Exhibits

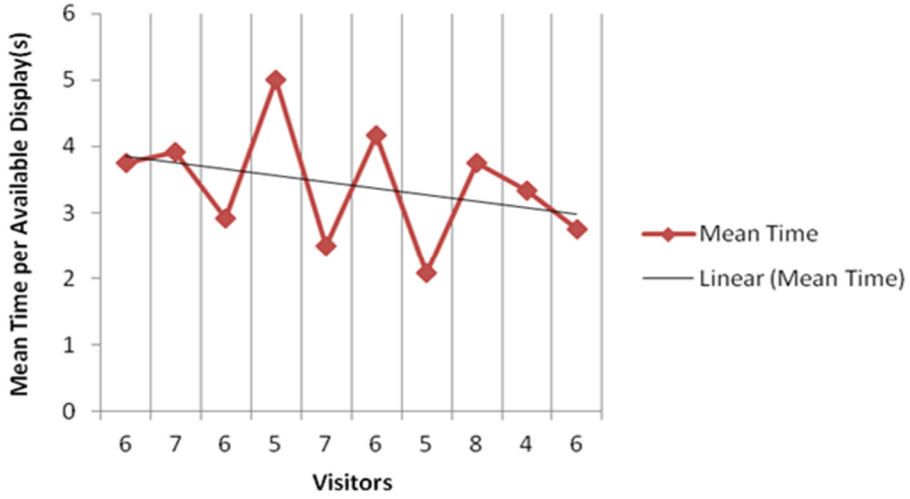


Fig. 2: Mean Time (In Minutes) Per Available Display

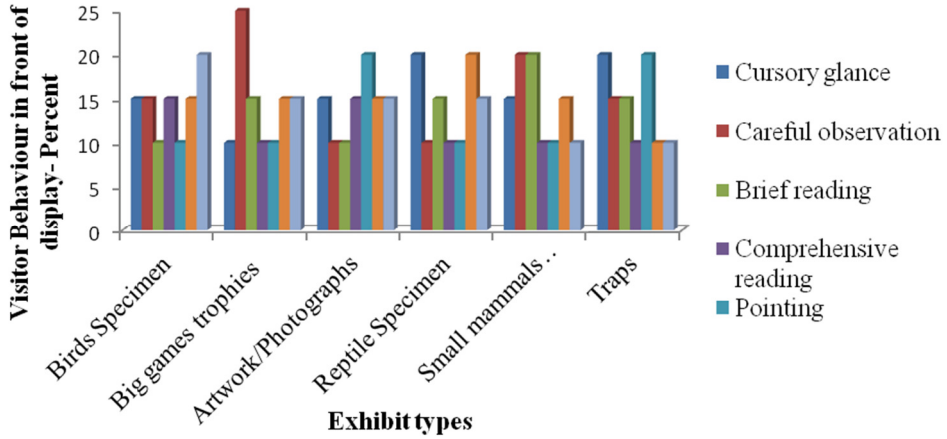


Fig. 3: Visitor/Exhibition Interactive Behaviours as the Visit Progresses

Table 2: Visitors' Level of Engagement with Museum Exhibit Similarity Cluster Size

Item	Cluster
I like to know about the tools/materials and techniques used by the Museum	1
I enjoy learning about the natural history museum	1
I like to view Natural Museum exhibits on my own, without explanations or interpretations.	2
I like discussing Natural history Museum exhibits displays with others	2
I prefer to hear concise explanations of NHM Purpose to help me know what the what the Museum is about	2
I feel comfortable looking at most types of exhibit	3
I like to read the stories presented in a Museum exhibits	3
My favorite way to view museum is on TV.	4
I like to connect with Museum works of art through music, dance, dramatic performances, readings	4
Some terms used in art museums are difficult for me to understand	-

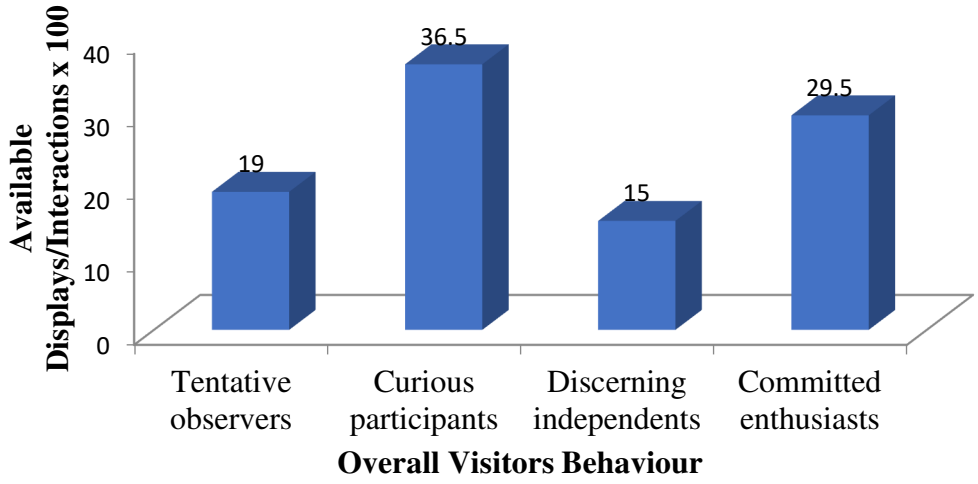


Fig. 4: Overall Visitors Behaviour

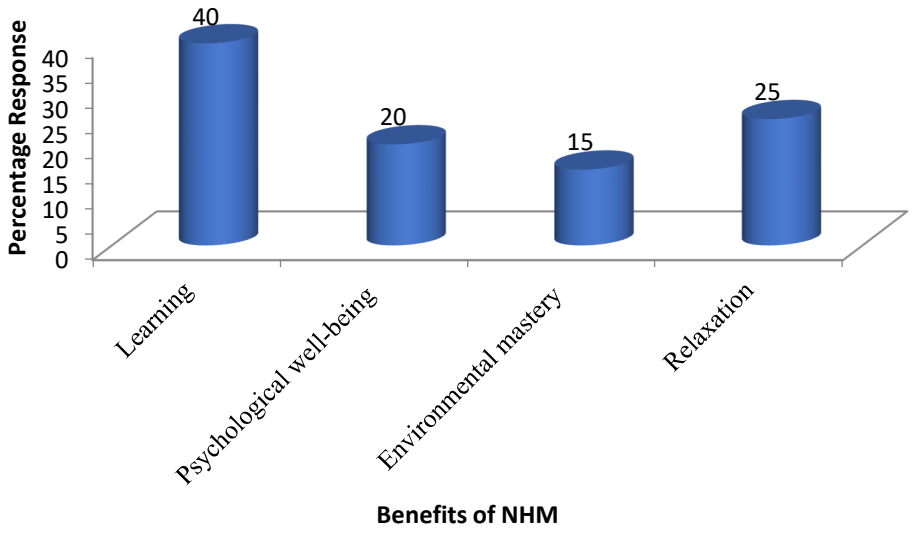


Fig. 5: Benefits of FCWM-NHM on the Visitors

Discussion

From the findings on the socio-demographic characteristics of the respondents, the finding indicates that majority of the visitors came from other states (40%), while first time visitors account for the highest (60%), and (90%) respondents agreed that they are happy and satisfied over what they have seen in NHM, FCWM. This agrees with Packer and Ballantyne (2002) report that, locals place greater value on the restorative aspects of their visit than do visitors from other states. This may be because the majority of the visitors were from other states and were "trying to see as much as they can because they are here for a short time."

From the findings in Figure 1 shows that 60% of visitors indicate a higher level of interest in big games more than other exhibit displays. While time could be properly used to evaluate the effectiveness of museum exhibitions, in this study the mean time per available display shows a negative trend through the visit. A long time of 60 mins (5mean time) was spent by 5 persons in the hall viewing exhibit displays, while 25mins (2.08mean time) was the least time spent by 5 visitors also (Figure 2). However, it neither considers the differences between exhibit arrangements in the ground, table and on the walls of the museum, nor the displays really visited. This finding is in line with Chiozzi and Andreotti (2001) report that spending longer time in the museum indicates that all the exhibits are highly more appreciated by visitors, although time analysis here did not show if visitors favored a specific exhibition or as a whole. It is evident that neither the pure assessment of time spent in an exhibition or in front of a display, nor the simple notion that visitors utilization of one display or another in the halls are sufficient to describe what really happens during the visit of the NHM and to justify the visitors' growing interest towards the exhibits in spite of their tiredness. Hence a detailed investigation of visitors' behavior in front of displays is carried out as seen in subsequent tables and figures. These

permit us to estimate the evolution of visitors' mood during the visit.

Our findings show that, on average, visitors to this museum spent only 30 minutes there. We most definitely did not anticipate that a quick visit to a museum would have such a significant impact on people's perceptions and knowledge, though perhaps a minor but discernible one. It did measure some changes (Rennie and Williams, 2006), as the museum's staff members who create the exhibitions do so with the knowledge that they will impact visitors' comprehension.

A first look at Figure 3 highlights how exhibition-related behaviors show considerable changes as the visit progresses. More in-depth analysis emphasizes a remarkable difference between the displays. The only behavior that follows a decreasing trend is comprehensive reading, which, in any case, is always at a low level (at the most, visitors engage in comprehensive reading at 10% of available displays). Moreover, comprehensive reading of texts requires concentration that is incompatible with most people. For, as the visit progresses, the percentage of displays where comprehensive reading takes place decreases. Big game trophies displayed on the wall and on the floor seem to arouse more physical involvement and to give visitors the impression that there is no need to carefully read texts because they appear to be able to communicate for themselves. The frequency of all the other behaviors having 20% each shows a percentage increase as the visit progresses.

Table 2 present the visitors' Level of Engagement with Museum Exhibit, the finding shows that there are 5 clusters arranged in a branched shape based on the provided data: This branch shows how each cluster is connected to the next one through similar values in different columns.

Cluster 1, with response 'I like to know about the tools and techniques used by the Museum', and 'I like learning about the natural history museum is similar. Next is cluster 2 with responses I like to view Natural Museum exhibits on my own, without explanations or interpretations, I enjoy discussing with others about Natural history Museum exhibits and I like to be told a straight-forward insight to help me know what the Museum is about are similar. I feel comfortable looking at most types of art and I like to know the story portrayed in a Museum exhibits are similar.

Cluster 4 with response I prefer to watch museum on TV and I like to connect with Museum works of art through music, dance, dramatic performances, readings, are similar and cluster 5 with response' some terms used in art museums are difficult for me to understand are alone.

In the overall visitor engagement as seen in Figure 4, the largest group of visitors is Curious Participants. Curious People feel at ease viewing exhibits and are interested in interacting with them in a number of ways, such as through readings and performances. Despite their emotions to art, this may be more emotional than intellectual, visitors in this category struggle with exhibit terminology and are not very comfortable discussing it to others. They are more casual in their exhibit engagement. The second largest group of visitors is made up of committed enthusiasts. Committed enthusiasts are self-assured, vivacious, extremely informed, and emotionally invested in art. They gaze at art and converse about it with ease. These visitors are information sponges who are interested in all forms and formats of exhibit-related material,

they are highly engaged and interested in learning.

Visitors in the second-smallest cluster are Tentative Observers. Tentative Observers don't have a strong sense of attachment to trophies or knowledge about art. They feel awkward discussing displays with others or giving explanations to others. Their interest is in learning simple, fundamental facts of artistic creations. They are less confident and more likely to find terms difficult.

Discerning Independents represent the smallest group of guests. Discerning Independents are self-assured, extremely intelligent, and emotionally invested in artistic creations. They feel at ease discussing and admiring the trophies. Discerning Independents are less interested in the justifications or opinions of others and prefer to create their own interpretations of displays, they are more independent in their viewing habits.

Benefits and Outcomes

In this study visitors explained their experiences in order to comprehend the outcomes or benefits of those experiences. How had the visit affected them? Visits to museums were also viewed as beneficial ways for families to spend quality time together as responded. Thus the following benefits were also expressed by the visitors;

Learning; Learning is defined as gaining new knowledge. Learning new things adds to the richness of the experience and changes you over time. A person experiences personal growth when they see new things.

Psychological well-being (personal growth, environmental mastery, purpose in life, positive relationships, and developing a greater cultural awareness) could probably be regarded as indicators of personal growth.

Environmental mastery; this was expressed in terms of new knowledge or experiences that were perceived as having value to the participant. It involved thinking about how to protect the environment and learning about the objects that were around.

Relaxation; The majority of visitors described their visit as "relaxing," adventurous qualities, peace and calm, or, After their visit, some guests described their reaction to the event using adjectives like "calm" and "peaceful." It is an enjoyable way to pass a day. It enhances or improves one. It's the feeling of accomplishment that comes from knowing you've done it, along with happiness and relief. Because everything is so well-organized, relaxed, and peaceful, I am more thoughtful. It's really good because it allows me to think clearly. It also makes you think about what you're looking at and makes you want more. There are things that we read and learned about today that I'll be thinking about when I go to bed tonight. In summary; well, it's definitely time to get away from the outside rat race. Consequently, it turns into a de-stressor, if you will, and allows us to increase our understanding. In particular, I think this museum's layout is fantastic, more open, current, and contemporary, you don't feel as enclosed as you sometimes do. I adore the lofty ceilings here. This FCWM-NHM layout is lovely overall. Lastly the respondents agreed that they are happy and satisfied over what they have seen in NHM, FCWM

Conclusion

From the findings three levels of the perception's significance are taken into account: the benefits the visitor receives, the experiences they participate in, and the

setting's qualities that they appreciate. The significance of "restoration" as a result of a museum visit is also highlighted by the study. NHM is a restorative environment, which enables visitors to relax and recover from the stresses of life. More so visitors see the FCWM natural history museum favourable because of its interesting displays, interactive features, and educational value.

Based on the results, it has been established that visitors who have satisfying experiences at museums benefit in ways that go beyond the exhibition itself and affect their general well-being even after they depart the museum and resume their normal lives.

The finding shows that K-means cluster analysis is a very useful analysis tool for museums that want to explore their visitors from a particular vantage point. Museum environments, though, can bring out different elements of visitors' inherent personalities and behaviors. Cluster analysis here explores museum-perceived ideas in order to provide an enhanced understanding of visitors.

Recommendations

The following recommendations are made base on the findings;

- Design more engaging activities and exhibitions for a variety of visitor age groups.
  To boost visitor flow, museums need to improve their accessibility and advertising.
- Organize new and temporary displays and activities to draw in both new and returning visitors.
- Conduct regular visitor surveys to monitor perceptions and identify areas for improvement

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