BEYOND JUST FUN: REVITALISING A GAME MUSEUM FOR IMPARTING KNOWLEDGE

"The commitment to education as central to museum's public service must be clearly expressed in every museum's mission and pivotal to every museum's activities"

- American Association of Museum

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ABSTRACT

Museums across the world are focusing on imparting learning experience for visitors by adding value to their exhibits. In particular, game museums emphasize on increasing interaction to disseminate effective learning by targeting specific visitor communities. This paper focuses its study on strategically developing game museums in South-East Asian region. One of the private higher education institutes in Singapore has started first-of-its-kind game museum in the region. The paper identifies issues of the Game Museum of this institution and provides recommendations based on empirical analysis and theoretical research based on the Theory of Learning, Theory of Knowledge, and the Interactive Experience Model for Museums. The analysis involves a combination of quantitative and qualitative research. The quantitative analysis comprised of an online questionnaire involving 130 participants. The qualitative analysis constituted semi-structured interview with the founder of the museum and in-person interviews/telephone surveys with 20 participants divided into two distinct categories: students and professionals.

We uncovered significant issues of the museum which include lack of awareness about the museum, the inexistent association with outside communities and a dearth of learning opportunities. The results ascertain that the most relevant improvements required for the museum include: a) Realigning museum operations for establishing a connection between the museum and its stakeholders, b) Overcoming the challenge of limited resources in the form of space, manpower, funds, etc., and c) Applying Information Technology (IT) tools to facilitate effective communication with its visitors. Additionally, the report includes a recommendation plan to address few key issues which resist the museum from attaining its core vision of imparting effective, interactive and enjoyable learning experience.

Keywords: Game museum, Games and effective learning, Visitor-centered approach, Information technology tools.

1. Context

A museum is a place, which has a collection and exhibition of various articles which may be of historical, cultural, artistic or scientific importance. A video game museum, as the name suggests, consists of a collection and exhibition of various video games and computer games. The very idea of a video game museum is to preserve the precious art of designing games meant for entertainment and learning (Deliyannis, Giannakoulopoulos & Varlamis, 2011). Such a place is a treat for the eyes of the people who are profoundly interested in the evolution of the gaming culture.

The vision of the founder of this museum is to establish it as a central point of reference in the South-East Asia region for learning retro games. The museum has a strong potential to offer ample learning opportunities for students and professionals. However, the current state of the museum demands further development and needs transfiguration to attain an exemplary state. This case study examined the business model of the museum in order to realize the university's strategic intent of creating a brighter future through discoveries that make a difference. The belief of the educational body to ignite and support a passion for learning is what drives us to foresee the game museum as an asset for the university. The purpose of the museum as quoted by the founder is to offer a place where students can do research and hands-on study related to gaming and to preserve a part of the huge heritage that games have. The report pledges to contribute significantly by addressing and associating these needs of the museum in line with those of the university. Thus, the report addresses the problems that the game museum is currently facing. Furthermore, the report represents quantitative and qualitative analysis in order to develop concrete recommendations to improve the state of the museum and to portray it as one of the most sought after video game museums on the world map. The report also entails how the proposed solutions can be implemented.

2. From Context to Literature

The paper covers literature that focuses on four key areas relevant to the case study into consideration. The literature chosen are a direct reference to the study leading to a typical review that could significantly contribute to the analysis and recommendations.

Current Trends in Video Game Industry

The video game industry is evolving and booming due to high technological advancement and research in the field. In the past, the video games were considered as a sheer channel of entertainment for commonly in young generation. However, today's scenario is video games are more evolving as a medium to relieve those stress releasing enzymes and to impart learning. Langlotz, Rhode and Whaley (2008) segmented the video game industry into five vertical stages: development, publishing, manufacturing, distributing and retailing. With improved speed and graphics, this dynamic global industry is identified by continuous innovation. Nintendo was the prominent and successful company in the creation of video games which has made a global business out of having fun and captured the early market in1980's, but later the giants – Sony and Microsoft came with their highly popular versions of Playstation and Xbox respectively. The wide array of users that the industry focuses on make it necessary to perform a detailed study of consumer preferences, competition, profit margin etc. (Langlotz, Rhode and Whaley, 2008).

The gaming industry is growing substantially and it is anticipated that the growth would be exponential in the coming years (Zackariasson 2012). As seen from the literatures, it is profoundly discovered that the industry is at its peak and is gaining momentum in terms of

growth. There is increasing awareness amongst the masses regarding games. This is largely attributed to the technology coming closer to every human being. Considering these arenas, the idea of a game museum is bound to attain an overhauling response, especially in a tech savvy market like Singapore.

Technological Advancement

In the earlier days, the focus of the industry was on the games that could be played by connecting to television sets. Today, however, owing to the development in technology, many games are designed to be played on handheld devices apart from the mega interactive gaming consoles such as Microsoft's Xbox and Sony's Playstation and many hardware devices to enhance and provide a closer to reality user experience of playing games. Additionally, the concept of multi-player games is made possible due to the growth in high speed internet across the globe. Online games reduce the shipping cost of the companies, who then invest more into the software and digital marketing (Banks and Cunningham, 2013). The knowledge from audience research and visitor studies can be applied to develop a unique visitor-centered model for the museum (Schweibenz, 2008).

Strategy Implemented by Companies

In order to sustain the fierce competition, the gaming companies have to make an attempt to distinguish their product and to target a specific group of users. The demographic details of the target market such as age, gender, background, etc. are taken into consideration while designing games. As the ratio of casual female players against the amateur male players is increasing, games specific to the former are being launched lately. The games meant for education are fast capturing the market since they not only attract young consumers but also lure their parents (Hutchison, 2007).

Benefits of Museum as a Learning Centre

To some extent, museums can change people's lives. They enrich the lives of individuals and in turn are enriched by the skills and creativity of their visitors. The best museums should be accessible and offer a supportive environment for all, thus embodying the concept of social justice (Museums Change Lives, 2011). Moreover, increasing number of people taking part in the work of museums enables them to be active citizens and to transform their museums for the better (Museums Change Lives, 2011). Learning from and with the exhibits of the museum ensures involvement of the visitors on a large scale (Vartiainen & Enkenberg, 2013).

Museums Inspire People and Ideas

A research shows that people regard museums as places that burst out ideas and where learning is active (Museums Change Lives, 2011). People see museums fundamentally as a learning center for all. People trust museums highly and regard them as authoritative, expecting them to provide reliable information based on research. Therefore, it is believed that the best museums use their position of trust to encourage people to reflect on the contemporary challenges in society (Museums Change Lives, 2011). Museums increasingly act as facilitators, opening up interpretation with user-generated content, respecting people as participants, and also enabling them to engage in activities that meet their own needs. This will further increase the deep sense of ownership and attachment that people have for museums.

The Social Value of Museums

The five social values of museums are as comprising of collection; connection; education; aesthetic and economic (The value of museums, 2011). Collection value is the core business of museums which involves collection, preservation and exhibition. Connecting value endure

museums as the link between collections, the public and other interested parties, as well as their role in building a bridge between the past, present and future. Because of their learning environments, museums possess educational value. The enjoyment and pleasure people gain from their visit is called aesthetic value. Economic value includes factors such as generating revenue and creating job opportunities (Nicholson, 2012).

A social cost-benefit analysis reveals that every penny the government invests in museums generates another, in the form of tourist spending, improved knowledge (Vartiainen & Enkenberg, 2013) and tax revenues. In addition, the reason why museums attract visitors is that they want to enjoy the collections and learn more about them. Another social value of museums is that they can connect people having same interests and passion (The value of museums, 2011). Boylan (2004) mentions that a museum is meant to contribute knowledge, inherit rich culture and demonstrate evidence to history.

Understanding the importance of museums as a channel of learning addresses the need of the potential visitors and intrigues the intent of a museum in context. The knowledge imparted through the exhibits usher further development of the place through strong feedback. Thus, promoting a museum as a learning centre proves of vital importance in achieving the objective of reaching the community in a stupendous manner and seeking feedback for further development.

3. Research Design and Methodology

This research employed both qualitative and quantitative approach. It is essential to segment potential visitors of museum in order to formulating questionnaire for qualitative and quantitative study which helps to capture the specific expectations from each segment and then to frame the strategies targeting different groups of visitors. Visitor engagement is also impacted due to the properties of the objects in the museum (Eberbach & Crowley, 2005).In this study, visitors for the museum were segmented on two parameters (Schweibenz 2008) such as visitor's profile as either student or professional game developer and visit the museum using online channel or to walk down physically to the museum as in the below table.

Visitor Segment	Typical Characteristics
Student	Follow a formal structured learning approach as planned and facilitated by a teacher
Professional Game Developer	More focused and technical learning in a structured way
Online Visitor	Channel for communication is internet
Conventional Visitor	Like to learn about the exhibits in an interactive manner

The combination of quantitative and qualitative research for the study is complementary to each other. Quantitative research, in general, is rich in statistical data but lacks finite details; qualitative analysis, on the other hand, provides a means to understand the problem in detail but the findings cannot be generalized due to lack of statistical significant. Thus, we integrated both types of research with the assumption that it would help us to reach to sound conclusions. Honesty of the participants was important as recommendations proposed in this study are profoundly mounted on the responses collected through employed data gathering techniques. As participants were informed about confidentiality of the survey, it is less likely that participants would have manipulated their answers. We tried to capture the expectations from prospective visitors of the museum and combined these expectations with the findings from theoretical research to build the recommendation plan. All categories of potential visitors were captured in the study. It is our assumption that the sampling done for research was sufficient to gain the required knowledge to proceed with the study work.

Study used online and offline survey. Majority of the participants involved in online survey are in the age group 15 to 35. Only less than 4% of participants are 36 and above. This would have significant impact on our analysis only if the possible answers of the people from this age group differ from those in the 15-35 age groups. In addition to the skewed age range, responses collected are prone to response biases of participants and could degrade the quality of the final output as significant part of the analysis is mounted on them. There are evidences from previous research work that response biases have the potential to invalidate the results of the study, especially in case of surveys and questionnaires (Furnham, 1986; Nederhof, 1985). Considering the possible adverse impact of the bias on the study presented, there was a need for us to find a way to negate the bias effect. Error induced by response bias can be eliminated by involving a number of respondents in the experiment (Gove and Geerken, 1977). In order to employ this strategy, we socialized and collected the responses from around 129 individuals. The present study did not cover the recommendations for all the issues identified during the research, but limits it to explore all the problems and to provide solutions only for top priority concerns. This keeps the scope for future work on this topic.

Almost 150 participants were involved in the study through online survey and face-to-face interviews. Out of all the participants, 129 candidates took part through online survey. Random sampling method has been used for online survey as it helps to reduce the impact of response bias on the results of the study. Socialization of the online survey link through social media facilitated random sampling. As the online survey also captured the demographic details, it was easier to analyse whether a certain group of potential visitors was unattended. Offline survey followed the online survey in order to close any gap present in the latter. Total 20 participants were interviewed in offline survey. As offline survey was part of qualitative research, selective subjects were interviewed rather than focusing on more number of participants. As there were very few respondents with professional background in offline interview, 40% of the subjects for qualitative research were selected from professional background.

To study the expectations of potential visitors from Game museum, we used survey/questionnaire and face-to-face interview with the participants. In addition, the other important source of information was interview with the founder of the game museum. Purpose of the online survey and face-to-face interview was to bring out the expectations of the potential visitors from museum. On the other hand, interview with the founder of the museum was intended to uncover existing issues associated with the museum. Socialisation of the link was done by using social media platform. Survey link is posted on Facebook communities and LinkedIn. This also ensured the random sampling. Random sampling is a technique used to tackle with the response bias.

In-depth analysis of the responses after statistical treatment led us to some important findings. For example, most of the participants were keen to play retro games and also to attend conferences/seminars on latest trends in gaming industry. Section 5.1 would put light on the analysis done on the captured data.

4. Findings, Discussion and Recommendations

The empirical analysis performed in the available timeframe led to the below findings:

Finding-1: Detachment from student community.

An intense need to establish a connection with the students to make the museum more relevant to their university lives. From the interviews with students, it has been observed that majority of the students who participated in the study were absolutely unaware about the museum or did not have a clear idea about what it stand for. Museums need to be more engaging and offering an enjoyable learning experience to their visitors (Falk, 2009). The curiosity level of the visitors should always be kept to the peak by augmenting the exhibits of the museum (Rudametkin et al., 2008). Discussion with the founder of the museum informed that the students learning 'Advanced Game Design' module in their academic curriculum are mainly aware about the museum. Whereas the other students are obscured from the museum considering that it is not purported towards them. From these findings, it can be concluded that there is a need to connect with a larger section of students, irrespective of their field of study.

Finding-2: Necessity of involving outside community in museum activities

Currently, there is no association between the museum and the external community related to gaming industry. The study tells us that many of the potential visitors, around 74% expect seminars, conferences along with hands on workshops. In order to fulfil these expectations, the museum management team should organize such events on a regular basis. Considering the niche market for the game museum, organizing successful events on large scale would require participation from outside community which includes other university students, professional game developers etc. The museum attracts very limited number of visitors from the outside communities. This in essence has isolated the museum from the pool of potential visitors and hence resurgence is required for attracting them.

Finding-3: Imbibing the culture of disseminating superior visitor experience

One of the chief issues identified at the museum is that the place requires conferring a joyful learning experience to its visitors. Currently, the museum has fewer exhibits that match the expectations of the potential visitors. The issue at hand lies in understanding the most effective way of attracting visitors to the museum by captivating a rich learning experience. In totality, the museum lags in implementing a visitor-cantered approach to serve people. A visitor-cantered approach is essential in eroding the boundaries between museum and the real world which connects exhibits with the masses (Hein, 2000). Hence, it becomes important to address this issue for understanding the most subtle way of building reputation and establishing a status quo for the museum.

Finding-4: Necessity of identifying the key objectives of the museum

The need to ensue and develop key objectives of the museum arises from the clear intent of imparting learning opportunities to the game developers and visitors. A large body of respondents, approximately 53%, feels that one of the top objectives of the game museum should be to spread awareness regarding the games from different eras and to impart

knowledge. The other top reasons were perceived as providing a platform to play games on larger than life consoles. Stating the key objectives of the museum in addition to the vision of the founder could serve as a critical marketing channel. It would help the visitors understand their expectations from the museum in a clear and ecstatic manner (Waltl, 2006).

Finding-5: Creating learning opportunities for students

The vision to provide ample learning opportunities for the students is one of the potential findings from the interview with the founder. The issue lies essentially in identifying the exact modules through which learning could be achieved most effectively. Understanding how to build the game museum as a platform for game development is the key issue seeking focus. The motive of attaining the vision formulated by the founder needs to be addressed. This finding is of prime importance since it is directly extracted from the vision of the founder.

Finding-6: Need for embedding information technology tools

During the discussion with the founder it was discovered that the museum has very bounded online presence. Currently, the museum is destitute of a dedicated website. Further, the information about the museum is quite confined on the World Wide Web. Langlotz, Rhode and Whaley (2008) emphasized the importance of information technology in reaching the diverse group of visitors. In the absence of technology, it becomes difficult to reach the visitors who do not find easy accessibility to its physical form. Hence, the need of incorporating a website or a portal that provides a convenient method of visiting the museum in a virtual manner. Digital medium holds paramount importance in finding easy access to the museum than its physical manifestation.

For the museum, thus, there is a scope to employ information technology in an effective manner. The vision and mission of the museum would become more evident to a broader base of audience. Proper application of information technology techniques would significantly personify the communication between the museum and its visitors. Bearman, D., and Geber, K. (2008) state that a museum which is refrained from having an online presence and which does not have a database to store information about its collections is hardly considered professional.

Finding-7: Insufficient space for the museum

Currently the museum is compressed in one small corner of the library in the university campus. The insufficient physical space acts as a hindrance in creating richer experience for the visitors. For example, physical component of the museum can be extended to offer more than exhibitions which could include auxiliary services such as workshops, programming etc. (The future of museums, 2012). The smaller space disappoints the visitors and leaves a dismissive impact on their mind as identified from the interview with the founder. Although the exhibits may be compressively grouped within the leeway, the limited space hardly leaves any scope for further expansion or improvement.

Finding-8: Limited sources of finance to run the museum

This game museum has been allocated a sum of SGD $1000 per year towards museum operations. There is no other source of funding for the museum. However, setting and running a museum involves many activities which incur costs such as buying and maintaining retro game consoles. The annual budget of the museum may require additional money than the allocated sum. Insufficient funds can act as a constraint on the expansion plans of the museum.

Finding-9: Challenge of handling diverse expectations from potential visitors

The online survey conducted as part of quantitative study shows that potential visitors of the museum have diverse expectations about what museum should offer to the visitors. Most of these demands are heterogeneous in nature. It is a challenge for the museum management team to satisfy these diverse expectations. Even the perception of prospective visitors about the objectives of the game museum differs a lot. In order to adopt a sustainable model, it is important for the museum management team to address this challenge.

Finding-10: Unawareness about the museum

A notable issue of the museum is that very few people are aware about it. Our quantitative study shows that only 29.5% of participants are aware about a game museum. Being a new concept in the South-East Asia region, effective campaigning would be required for spreading awareness about the museum.

Finding-11: Students who were interested earlier are no more interested in gaming now

The quantitative survey shows that majority of the respondents used to play games very often in the past, but are not interested in gaming any more. Alternately, we verified this trend through the qualitative study and found that busy schedule and lack of interest in modern games were the chief reasons for this pattern.

5. Conclusion and Conceptualizing Framework derived from finding: Interactive Experience Model

Interaction between visitors and the museum exhibits is most essential in determining the success of a museum in serving its purpose. The dimensions in which the interaction can be traced vary from personal to social to physical context of the experience. Social connection can be achieved by projecting the museum as a platform for interaction between visitors belonging to the community with similar backgrounds (Falk, Dierking & Foutz, 2007). Creating new opportunities for learning is what drives imbibing a playful culture into the museum (Grenier, 2010). Interactivity is holistically considered to be one of the most effective ways of establishing communication with the visitors and to ensure that knowledge is imparted.

Interactive Experience Model
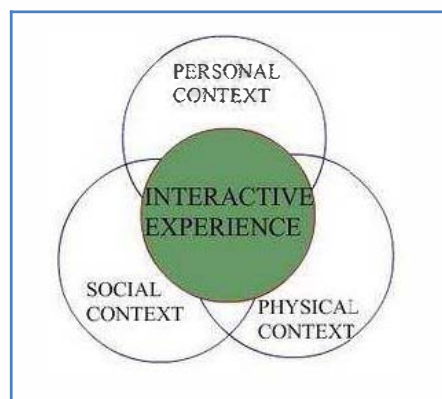
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