Research on Motivation, Experience, Satisfaction and Behavioral Intention of Museum Tourism—A Case of Macau Museum

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Abstract With the continuous development of the society, the functions of museum go beyond collection, conservation, display of cultural and spiritual heritage. It has developed into a multifunctional institution with education, leisure, entertainment, social significance. Modern museums not only provide people with place to learn new knowledge, but also serve as new tourist attractions for the city. Now, museum tourism is becoming a major driving force to stimulate economic growth of the city. Visiting the museum itself is a process of experience, the study of which can greatly promote the development of museum and help fully realize its functions. This paper aims to study the visitor's motivation, experience, satisfaction, and behavioral intention, and some relevant suggestions are put forward as a result of the research.

Keywords Research on motivation · Experience · Satisfaction · Behavioral intention · Museum tourism

1 Introduction

Museums provide multifunction including education, leisure, entertainment, social interaction, etc. They not only provide people a place to absorb knowledge and experience history, but also serve as new tourist attractions, which are in turn a more and more important economic driving force for many cities, especially in tourism industry. Giving that promising economic prospect, more and more attention from government is focused on museums, in hope that economic and cultural value can be explored to a greater degree. Tourism sector as well, need a more diversified product portfolio where museum can play certain part. Visiting

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museum is a process of experience from the perspective of customers. The perception of this experience has influence on their satisfaction and behavioral intention. As a result, evaluation about museums, even the whole tourist destination.

2 Literature Review

2.1 Museum Experience

Museums provide visitors with the experiences through design environments, exhibits, events, crowd activities, shops, restaurants, websites, and other services. These factors that influence visitors experiences are mainly sorted into four categories: physical comfort and accessibility, such as well designed museums, safe parking, pavement, seats and resting area, clean lounge, etc.; friendliness, such as welcome behavior, security and others employees; interpretation, narration, and ways to find information, i.e., the use of multimedia; recreation and leisure facilities (Kotler 1999). Goulding (2000) summarized four factors that influence the experience of visiting a museum: (1) Social-cultural factors, which includes cultural identification, continuity of theme and story, conversation and story building from evaluation of stimulus, social interaction. (2) Cognitive factors, which contains the creation of mindful activity, involvement and engagement, inner reflection and imagination, variation of stimulus to create a meaningful "whole," perceived authenticity. (3) Psychological orientation factors, which includes scene setters, routing, and mapping. (4) Physical and environmental factors, including crowding, seats, and noise. Stogner (2009) discussed the important impact of the media has on the museum experience. He regard that rational use of the new technology can change the experience of museum visiting. Technologies enable the museum with entertainment capability, immerse the visitors in the theme and even encourage them to interact with the museum; make visitors access to the information immediately; provide visitors visual enjoyment; help to fulfill self-related experiences and make knowledge acquisition to be more specific and targeted; help to improve the sharable attributes of experience; help to motivate the visitors creativity.

So far in the measurement of the main assessment tools on experience, Experience and Strategy Module proposed by Schmitt (1999) has been used relatively widely. It aims at using a form of experience module-that is "sense," "feel," "think," "act," and "relate," and coordinates these five dimensional modules with experience medias, including communication, vision, language mark, product exhibit, joint brand shaping, space environment, websites, electronic media, and personnel to attract consumers and to provide the foundation to experience marketing, which final goal is to create a perfect experience to the customers. This study combined the definition of these five experience modules, namely "sense," "feel," "think," "act," and "relate" from Schmitt's Experience and Strategy Module and the related attributes of museum experience, and proposed the question items regarding to the dimension of museum experience in the questionnaire.

2.2 Motivation, Satisfaction, and Behavioral Intention

2.2.1 Motivation

As an important educational and leisure setting like museum, the research of the motivation factors of people visiting a museum has been widely attached importance to, and helped the industry insiders to understand the expectations of different visitors' experiences in the museum. Perarik et al. (1999) considered that visitors would not return to the museum unless they had found their desirable experience type. Doering (1999) concluded that if the driving interests of visitors are different, then their choice of experience is also different. According to Packer and Ballantyne (2002), motivational factors includes individual characteristics, such as personal goals, capability beliefs, etc.; scene characteristic, such as opportunities for learning; aspects that arouse interest, etc. Through the study of the relevant literature review, they summarized five motivational factors that influenced the visitors' experience: (1) Learning and discovery (the desire to discover new things, expand knowledge, be better informed and experience something new or unusual); (2) Passive enjoyment (the desire to enjoy oneself, to be pleasantly occupied and to feel happy and satisfied); (3) Restoration (the desire to relax mentally and physically, to have a change from routine and recover from stress and tension); (4) Social interaction (the desire to spend time with friends or family, interact with others and build relationships); (5) Self-fulfillment (the desire to make things more meaningful, challenge abilities, feel a sense of achievement and develop self-knowledge and self-worth).

Burton et al. (2009) conducted an in-depth interview in two major museums in Australia. Analysis of the depth interviews identified four clusters of factors that facilitated or impeded informants' leisure choices: logistics (time to reach destination, transportation, parking), finite time (alternative leisure commitments, a willingness to visit a museum only in a specified pattern, need for more flexible and creative opening hours), cost (cost of museum entry, cost of associated items such as food, parking, and the other consumption activities except the tickets) and fulfillment of museums generally and specific attractions within them (educational enrichment, cultural variety, pleasure) as the important factors.

Although the research of motivational factors has been paid highly attention by the academia. But most scholars' research were limited to explore the definition of these motivational factors and the study on the relationship of these motivational factors and the other factors that influence visitors' experience was scarce, for example physical environment of the museum, etc., as a consequence, it has reduced the integrating effectiveness of the research on motivational factors into the practice. This paper combined the characteristics of museum theme, motivation of leisure and recreation and motivation of visiting museum, and used these aspects as the basis parts of the motivation scales in the questionnaire.

2.2.2 Satisfaction

Cardozo (1965) first put forward the discussion of satisfaction, and he believed that satisfaction differs according to individual preference, expectation, perception, motivation, etc., good customer satisfaction would increase repurchase intension of the customer. Singh (1988) found that satisfaction is the feeling of contentment regarding to the multidimensional, multiobject product attributes. Customer satisfaction construct contains price of a product, service efficiency, service personnel attitude, company overall performance and degree of closeness to customers' ideal company, etc. (Ostrom and Lacobucci 1995). Burns et al. (2003) divided tourist satisfaction construct into facilities, service, and information and recreation experience. Gobster and Westphal (2004) classified tourist satisfaction into five dimensions: environment landscape, safety facilities, service facilities, cleanliness, and convenience. From the above discussions among scholars about satisfaction, we can learn that satisfaction can be generally sorted into overall satisfaction and satisfaction concerning to multidimensional product attributes. This paper proposed question items related to satisfaction based on literature review and museum attributes.

2.2.3 Behavioral Intention

Engel et al. (1995) regard behavior intention derived from attitude, it means the specific activity or behavior disposition that consumer would take after the consumption. Zeithaml et al. (1996) suggested that behavior intention can be viewed as what a tourist will behave in the future based on his or her subjective judgment, and is split broadly into favorable and unfavorable behavior intentions. Boulding et al. (1993) using repurchase intention and willingness to recommend to measure consumer behavior intention. Jones and Sasser (1995) argued that behavior intention includes willingness to repurchase product or service and initiative recommendation behavior to relatives and friends. Zeithaml et al. (1996) used five dimensions: loyalty, switch intension, willing to pay more, external response and internal response to measure the consumer behavior. Cronin et al. (2000) regard favorable behavioral intentions are associated with a service provider's ability to get its customers to (1) say positive things about them, (2) recommend them to other consumers, (3) remain loyal to them (i.e., repurchase from them), (4) spend more with the willingness to tell others about service providers and so on. Summing up the above literature review, the author decided to use willingness to revisit, willingness to recommend, willingness to publicize virtue, willingness to purchase relevant product as the question items in terms of behavior intention of the questionnaire in this paper.

2.3 Research Hypothesis

The framework of the current study is derived from a preceding discussion of relevant literatures and theories, and aims at exploring the relationship about visitors'

motivation to museum, museum experience, satisfaction, and behavior intention. Thus, there is strong support for interaction effects to take place among these variables:

Hypothesis 1: There is a correlation between visitors' motivation to a museum and their museum experiences, satisfaction, and behavior intentions

Hypothesis 2: Visitors' motivation to a museum has a positive effect on their satisfaction with the museum

Hypothesis 3: Visitors' motivation has a positive effect on their behavior intentions

Hypothesis 4: Visitors' museum experience has a positive effect on their satisfaction

Hypothesis 5: Visitors' museum experience has a positive effect on their behavior intentions

Hypothesis 6: Visitors' motivation to a museum has a positive effect on their museum experiences

3 Methodology

3.1 Sampling/Selection of Subject

In this study, data collection was carried out in Macao Museum from May to July in 2011, which is located in Mount Fortress. It was built by the Jesuits in the seventeenth century, and opened on April 18, 1998. Through its plentiful exhibits, the Macao Museum demonstrates the peaceful coexistence of life of the various communities that have inhabited the city for centuries and their histories to the visitors. The Macao Museum consists of three levels: Genesis of Macao Region (1st floor)—Presentation of the origins of Macao, commercial activities, religions and cultures of the two civilizations for centuries. Popular Arts and Traditions in Macao (2nd floor)—Different aspects of traditions and popular art of Macao; industries and activities which are now rare or even disappearing as well as entertainment, daily life styles, religious ceremonies and traditional festivals in different stages of Macao history. Contemporary Macao (3rd floor)—Display the characteristics of contemporary city life and the outlook for the future of Macao. The Macao Museum is the only comprehensive museum in Macao, and as an important window to display its historical and cultural charm to the outside world, the museum is very representative and has certain popularity as well as a large stream of visitors. Due to these advantages, the Macao Museum is conducive to convenience sampling and the author decided to use it as an example in the research.

3.2 Research Procedure and Questionnaire Design

The empirical study of the current research consists of four phrases:

(1) Propose the research framework and theoretical hypotheses to facilitate the research and further the questionnaire design; (2) Develop a draft questionnaire by forming the structure and items through literature review and research framework;

(3) Conduct a pilot test and then further adjust the way of asking questions and revise the question items. (4) Implement the final survey formally and acquire adequate data to study the relationship between visitors' motivation, museum experience, satisfaction, and behavior intention.

During the questionnaire design process, the questionnaire structure and items were preliminarily developed and the relevant variables were measured through a conceptual analysis of literature and hypotheses proposing. The questionnaire's final version included five parts: demographic characteristics of participants, motivation to visit the museum, museum experience, satisfaction, and behavior intention. Derived from literature review, the scales of motivation were summarized into to bring more appealing topics in conversation, to expand knowledge field, to pursuit of like-minded friends, to obtain comfort and happy experiences, to increase communication time with relatives and friends, to improve personal value and self-fulfillment, to relieve the pressure, to educate the next generation. The museum experience part consisted of five dimensions, which were sense, feel, think, act, and relate experiences, and totally includes 29 items. Satisfaction was measured by these four aspects, namely museum environment, activity, service, and experience, and three questions about the overall satisfaction. The concept of behavior intention here meant favorable behavior intention which was mentioned by Zeithaml et al. (1996) and was measured by six question items: willingness to revisit, regarding the museum as the first choice of leisure and recreation, recommending the museum to relatives and friends, recommending the museum to other people, willingness to publicize virtue and willingness to purchase product. With a five-point Likert scale, participants indicated their attitudes by checking how strongly they agree or disagree (1 = strongly disagree; 5 = strongly agree). The higher score a visitor gives means the stronger positive intention of this visitor.

From April 30 to May 1, 2011, the author conducted a small-scale survey among the visitors on the open space of the access to the Macao Museum. A convenience sampling method was used and the pre-survey had distributed 71 questionnaires, 61 of these were valid and the response rate was 85.9 %. The Cronbach's coefficient alpha value analysis was as follows in Table 1.

Table 1 Reliability of the pilot survey

	Cronbach's alpha
Visitors' motivation to the museum	0.730
Visitors' perception of experience at the museum	0.953
Sense experience	0.851
Feel experience	0.835
Think experience	0.787
Act experience	0.779
Relate experience	0.842
Satisfaction after visiting the museum	0.923
Behavior intention after visiting the museum	0.953

The reliability level for each item had all exceeded the critical value of 0.7, and it confirmed that the measurements used in this study have achieved adequate level of reliability, thus the questionnaire is available to distribute. A few words and expressing were revised and finalized according to the pilot test results, and the final formal survey instrument was conducted to the visitors on the open space of the access to the Macao Museum on June 15–July 12, 2011, using a convenience sampling method. A total of 500 questionnaires were distributed, resulting in 467 that were valid. The response rate is 93.4 %.

4 Analysis and Results

4.1 Demographic Characteristics of Respondents

In the 467 valid samples, there is no obvious difference in terms of the proportion of males (44.5 %) and females (55.5 %). As it was shown in Table 2, the majority of visitors ($n = 324$, 69.4 %) were young, aged between 19 and 24 years old. Followed by those aged between 30 and 40 years old ($n = 86$, 18.4 %). The percentage of the top two sample size of all tested sample was 87.8 % in the age structure. With respect to gender and age distribution, female respondents were slightly more than male, mostly aged between 19 and 40 years old in the research of visitors at the Macao Museum. The monthly income of the test sample was mainly distributed in 1,000 yuan RMB (including less than 1,000) and 1,001–5,000 yuan RMB, added up to 62.96 % of the total sample size. The monthly income of respondents mainly concentrated in the medium and low-income population, thus the author predicted that the reasonable ticket price is one of the reasons that many medium and low-income visitors chose to go to the Macao Museum. Higher accessibility can help the museum realize the purpose of popularize the general public education. In terms of education background, nearly half of the respondents (49.9 %) achieved a bachelor degree, and the differences between the proportions of those obtained high school degree (17.1 %), technical college degree (14.3 %) postgraduate degree and above (15.6 %) were relatively small. Students constituted a higher percentage (30.6 %) of the participants, followed by employees engaged in service industry (19.5 %) and manufacturing (13.7 %) industry.

Table 2 Reliablity of the Survey

	Cronbach' alpha
Motivation	0.759
Sense	0.857
Feel	0.840
Think	0.850
Act	0.815
Relate	0.820
Satisfaction	0.914
Behavioral intention	0.863

As far as visitor identities is concerned, there is a great proportion gap between foreign visitors and local residents as the former constituted 94.4 % of all the respondents while the later only took a tiny percentage of 5.6 %. It can be seen that the Macao Museum still have many shortcoming in realizing the goal of educating local resident and there is a big space for improvement.

4.2 Reliability and Validity of Questionnaire

This study has a relative high reliability level. The Cronbach's coefficient alpha value for visitor motivation measure scale is 0.759. With regard to visitor perceived museum experience, the Cronbach's alpha value for its five dimensions are as follows. "Sense experience" (0.857), "Feel experience" (0,840), "Think experience" (0.850), "Act experience" (0.815), and "Relate experience" (0.820). The reliability level of each dimension exceeded the acceptable level 0.8; therefore, it can be said with confidence that the measures were reliable.

4.3 Descriptive Statistic Analysis of Visitors' Motivation, Experience

As we can see from the Table 3, the second item "to obtain comfort and happy experiences" and the fourth item "to expand knowledge field" ranked the top two score with 3.85 and 3.87 respectively, regarding the mean scores of all items in the

Table 3 Means of every dimension in the questionnaire

	Items	Mean
Motivation	Enhance the popularity	2.91
	Expansion of the field of knowledge	3.85
	Find friends	2.70
	Self enjoyment	3.87
	Increase communication in the relatives and friends	3.38
	To enhance the value of individuals	3.74
	Alleviate the usual pressure	3.43
	Educate the next generation	3.26
Sense (mean: 3.75)	A clear visited theme	3.71
	Exhibition content rich	3.60
	Illustrates the text clear	3.70
	Facilities for the disabled	3.61
	Good rest facilities	3.73
	A quiet and comfortable environment	4.11
	High-tech help experience	3.81

(continued)

Table 3 (continued)

	Items	Mean
Feel (mean: 3.64)	Feel respected	3.67
	Feel joy	3.91
	Integration into the atmosphere	3.64
	Professional	3.49
	Staff trusted	3.55
	To be welcomed	3.57
Think (mean: 3.61)	To stimulate thinking	3.74
	More meaningful life	3.68
	Creative topics	3.48
	Satisfy curiosity	3.63
	To deepen the knowledge to understand	3.70
	Stimulate product interest	3.45
Act (mean: 3.5)	Stimulates the exchange	3.44
	Experience activities	3.46
	Souvenirs	3.37
	Share experiences with friends	3.63
	Continued interest in learning	3.58
Relate (mean: 3.68)	Get to know new friend	3.18
	Agree with exhibits information	3.60
	Promote quality	3.72
	Value for money	3.61
	To achieve the purpose	3.78
Satisfaction	Environmental satisfaction	3.93
	Activity satisfaction	3.62
	Service satisfaction	3.76
	Experience Satisfaction	3.76
	Overall satisfaction	3.79
	Meet expectations	3.62
	Beyond expectation	3.25
Behavioral intention	Visit again	3.44
	Leisure choice	3.17
	Recommend to friends and family	3.58
	Publcsize to others	3.60
	Recommend to others	3.64
	Purchase willing	2.91

section of visitors' motivation to a museum. The first item "to bring more appealing topics in conversation" and third item "to pursuit of like-minded friends" got the lowest mean scores, and the scores were 2.91 and 2.70 respectively. It can be seen that visitors to Macao Museum relatively agreed with that "to obtain comfort and happy experiences" and "to expand knowledge field" are the primary visiting motivation. In relation to museum experience, the sixth item "the overall

environment is clean, quiet and comfortable" in the sense experience and the second item "make you feel happy and pleasant" in the feel experience possessed the highest mean scores of 4.11 and 3.91, respectively. While the lowest scores were the first item in the relate experience "impel you to make acquaintances with new friends" and the third item in the act experience "participating in making souvenirs are attractive," their mean scores were 3.18 and 3.37. It suggested that visitors have a relatively high perception toward the environment and atmosphere of the Macao Museum, but their perception over the interactive experience were relatively low. Regarding the five dimensions of experience, the highest mean score was sense experience, followed by relative experience, feel experience, think experience and act experience. It can be perceived that the visitors had a higher perception of the sense experience. Generally, most visitors had a relatively high satisfaction level of the whole Macao Museum and its various aspects, while the seventh item of the satisfaction section "this visit had exceeded my expectation" possessed the lowest score of 3.25. This means that the Macao Museum still has many improvement spaces in giving more surprises to the visitors and exceeding their expectation. As far as visitor behavior intention part is concerned, the highest mean score was recorded at 3.64 which went to the item "when other people ask you for advice, you will recommend the museum"; and the lowest score was "purchase exhibition relevant products" with only 2.91. We can draw a conclusion that there existed a relatively high passive behavior intention among visitors, thus in stimulating visitors' active behavior intention aspects there is plenty of room to improve. Selling relevant products of the exhibition is one source of the museum incomes; therefore, it is necessary for the Macao Museum to improve the appeal of the products related to the exhibition.

4.4 Correlation Analysis Between Visitors' Motivation, Experience, Satisfaction, and Behavior Intentions

The overall aim of this study is to explore if there are correlations between visitors' motivation and museum experience, and satisfaction after visiting a museum and behavior intention. Hence a Pearson correlation analysis is used to analyze the data. Due to the correlation coefficient(r) ranges from $+1$ to -1, the closer the index approach ± 1 the more significant of the correlation is indicated. The correlation index ranging from 0.70 to 0.99 indicates a high correlation, 0.40 to 0.69 indicates a moderate correlation and 0.10 to 0.39 indicates a low correlation. According to Table 4, there are two terms which had a correlation value more than 0.69 (high correlation), the correlation between museum experience and satisfaction was 0.704, and the correlation between satisfaction and behavior intention was 0.718. With the significance at the 0.000 level, less than 0.01, it indicated that there are positive, high correlations for both museum experience and satisfaction, and satisfaction and behavior intention. The other four terms had recorded the Pearson correlation value higher than 0.39 (moderate correlation) were as follows: visitors'

Table 4 Correlation analysis between visitors' motivation, experience, satisfaction, and behavior intentions

	Motivation	Experience	Satisfaction	Behavioral intention
Motivation	1	0.525**	395**	0.429**
Experience		1	704**	657**
Satisfaction			1	718*
Behavioral intention				1

motivation and museum experience (0.525), visitors' motivation and satisfaction (0.395), visitors' motivation and behavior intention (0.429), and museum experience and behavior intention (0.657) with a significance level of 0.000, less than 0.01. The results from these analyses illustrated that there were positive, moderate correlations between visitors' motivation and three other items, namely museum experience, satisfaction, and behavior intention. It also indicated that there is a positive, moderate relationship between museum experience and behavior intention.

4.5 Multiple Regression Analysis of Visitors' Motivation, Museum Experience, Satisfaction, and Behavior Intention

This study adopt the multiple linear regression analysis method to predicate how the value of visitors' motivation and experience would influence the value of satisfaction and behavior intention, and how the visitors' motivation would influence the museum experience. A stepwise regression analysis is applied to get an optimal regression function equation, thus only factors with significant effect were reserved.

(1) Linear Regression Analysis of Satisfaction on Visitors' Motivation, Museum Experience: The ΔR^2 value of the museum experience and satisfaction was recorded at 0.495, and it indicates that 49.5 % of satisfaction can be explained by visitors' museum experience and their R^2. The standardized regression coefficient of museum experience showed a positive and significant effect at the significance level of 0.05, while the standardized regression coefficient of visitors' motivation didn't show a significant effect so it was eliminated from the equation. The results revealed that if the standardized coefficient of museum experience increased, a significant increase would show on the standardized coefficient of visitors' satisfaction toward the museum. According to its significant influence on visitors' satisfaction, museum experience should be added into the regression equation. In this case, the values of Y and X would be visitors' satisfaction and museum experience, respectively. According to the coefficient and constant from the regression equation, a regression function equation was created: $Y = 0.610 + 0.844X$ (Table 5).

Table 5 Regression analysis of satisfaction on visitors' motivation museum experience

Dependent variable	Independent variable	B	β	ΔR^2
Satisfaction	Experience	0.844	0.704**	0.441
	Constant variable	0.610		

Table 6 Regression analysis between visitors motivation, museum experience and behavior intention

Dependent variable	Independent variable	B	β	ΔR^2
Behavioral intention	Experience	0.856	0.856	0.441
	Constant variable	0.374	0.374	

(2) The Regression Analysis between Visitors Motivation, Museum Experience and Behavior Intention: The ΔR^2 value of the museum experience and behavior intention was recorded at 0.441, and this means that 44.1 % of the behavior intention can be explained by the museum experience and its R^2. The standardized regression coefficient of museum experience showed a positive and significant effect at the significance level of 0.05, while the standardized regression coefficient of visitors' motivation didn't show a significant effect so it was eliminated. The results of the regression analysis revealed that if the standardized coefficient of museum experience increased, a significant increase would show on the standardized coefficient of behavior intention too. According to its significant influence on visitor' behavior intention, museum experience should be added into the regression equation. In this case, the values of Y and X would be behavior intention and museum experience, respectively. According to the coefficient and constant from the regression equation, a regression function equation was created: $Y = 0.374 + 0.856X$ (Table 6).

(3) The Regression Analysis between Visitors' Motivation and Museum Experience: The ΔR^2 value of the visitors' motivation and museum experience was recorded at 0.441, and this means that 30.9 of the museum experience can be explained by the museum experience and its R^2. The standardized regression coefficients of "self-improvement and enjoyment" and "sociality" showed a positive and significant effect at the significance level of 0.05. The results of the regression analysis revealed that if the standardized coefficient of "self-improvement and enjoyment" and "sociality" increased, a significant increase would show on the standardized coefficient of museum experience. Furthermore, it also revealed that "self-improvement and enjoyment" is identified as the item which has the most effect on museum experience. According to its significant influence on museum experience, "self-improvement and enjoyment" and "sociality" should be added into the regression equation. In this case, the values of Y, X_1 and X_2 would be museum experience, "self-improvement and enjoyment" and "sociality" respectively. According to the coefficient and constant from the regression equation, a regression function equation was created: $Y = 1.913 + 0.371X_1 + 0.113X_2$ (Table 7).

Table 7 Regression analysis between visitors' motivation and museum experience

Dependent variable	Independent variable	B	β	ΔR^2
Experience	To enhance the value of individuals	0.371	0.467	0.309
	Social motivation	0.113	0.160	
	Constant variable	1.913		

5 Conclusions and Discussion

5.1 Conclusions

As shown in Table 8, of all the test of the research hypotheses only Hypothesis 2 and Hypothesis 3 are rejected, the other hypotheses are all supported.

"To obtain comfort and happy experiences" and "to expand knowledge field" were the most cited in the motivation section. It indicated that most visitors to the Macao Museum agree with these two motivations as their primary motivations to visit the museum. By conducting a multiple regression analysis, the results revealed that the squared standardized coefficient of motivation does not explain satisfaction and behavioral intention very well and failed in reaching a significance level. Therefore, it indicated that motivation does not affect satisfaction and behavior intention, and there was no causal relationship between visitors' motivation, satisfaction, and behavior intention. But there indeed existed a moderate and significant correlation between visitors' motivation and museum experience, and moreover the coefficient values of "self-improvement and enjoyment" and "sociality" had shown a positive, significant effect on museum experience. Within the two motivations which had a positive impact on museum experience, "self-improvement and enjoyment" had more influential effect upon museum experience. These conclusions are similar to those of Zhongliang Dai, Liying Wu, and Yongyu Chen which were mentioned in the similar research findings in the second chapter. In relation to museum experience, the highest scores were recorded

Table 8 Conclusions of hypotheses

Hypothesis 1: There is a correlation between visitors' motivation to a museum and their museum experiences, satisfaction, and behavior intentions	Supported
Hypothesis 2: Visitors' motivation to a museum has a positive effect on their satisfaction with the museum	Not supported
Hypothesis 3: Visitors' motivation has a positive effect on their behavior intentions	Not supported
Hypothesis 4: Visitors' museum experience has a positive effect on their satisfaction	Supported
Hypothesis 5: Visitors' museum experience has a positive effect on their behavior intentions	Supported
Hypothesis 6: Visitors' motivation to a museum has a positive effect on their museum experiences	Supported

by "the overall environment is clean, quiet and comfortable" and "make you feel happy and pleasant," while "impel you to make acquaintances with new friends" and "participating in making souvenirs are attractive" had the lowest scores. It can be seen from the results visitors had a relatively high perception toward the environment and atmosphere of the Macao Museum, but their perception over the interactive experience were relatively low. Moreover, visitors had a higher perception of the sense experience. The results from the multiple regression analysis revealed that museum experience has a significant coefficient effect on satisfaction and behavior intention, and the standardized coefficients values were positive. It indicated that museum experience has a positive effect on satisfaction and behavior intention. The conclusion is very close to the research findings of scholars such as Zhongliang Dai where similar research findings were introduced in the second chapter, which suggested that museum experience has a positive impact on the behavior intention.

Visitors' satisfaction level of the whole Macao Museum and its various aspects were mostly high, and in terms of behavior intention, the lowest behavior intention was "purchase exhibition relevant products." The results of the correlation analysis found that there was a positive, significant correlation between visitors' motivation, museum experience, satisfaction, and behavior intention. Through the visitors' motivation didn't have a direct casual relationship with satisfaction and behavior intention, it still had a positive correlation with both satisfaction and behavior intention. By means of improving the positive impact on visitors' motivation and museum experience, we should see an increment in satisfaction and behavior intention.

5.2 Suggestions

Based on the previous results and findings, the present study provides some recommendations to the staff members of the Macao Museum regarding the operation and management, and offers suggestions for future research.

5.2.1 Effectively Enhance Interactive Experience, and Accelerate the Implementation Function of Educating Local Residents

With regards to respondents' demographic profiles, the majority of visitors were young, aged between 19 and 29 years. The group income, with student group is given priority to, belonged to a medium level. When conducting the survey, the author found out that most visitors, mainly referred to those not belonged to the ticket discount group, chose only to visit the Mount Fortress and then left. The main reason for that was the ticket prices outweighs the museum's own attraction, and resulted in the phenomenon that most visitors were belong to the ticket discount group. For this reason, the author suggests that the museum should extend free museum days, and increase the added value of visiting museum, such as

presenting visitors with some memorable small gifts, to increase the appeal of the museum and expand the source of visitors, so as to achieve the aim of promoting the history and culture of Macao.

Educating people is one of the most functions of museum, but as showed by the background information there is a huge gap between the number of visitors from outside and local residents. This indicated that further improvement of the function of educating local residents of the Macao Museum is needed. The author believed that the museum should strengthen the cooperation with the education department of the government, and foster the history and culture pride of local residents from childhood. Starting with the group of youngsters, it can influence the other groups around them indirectly, improve the overall quality of the local residents and enhance their interest in active learning local history and culture. The museum should also enhance the publicity among local residents to make the relevant activity information of the museum to be known by local residents more obviously and directly, and appropriately increase the interactive activities to promote the communication among people and enhance the entertainment feature of the museum, for instance the museum can set up a souvenir making participation activity link or provide computer equipments to make commemorative cards with the aid of high-tech so the visitors can make characteristic souvenirs that are appropriate for keeping to themselves or giving to others as a gift. Moreover, the museum can build a coffee shop at a proper location of the third floor where the characteristics of contemporary Macao are presented so that local residents can enjoy the leisure time in a historical and cultural atmosphere, enhance communication with their companions and it can even help them make new friends. Meanwhile, on the premise of improving the leisure and recreational atmosphere to attract local residents, this measure can provide a place where local residents could think and discuss the history and culture of Macao exhibited in the museum, accelerate the realization of the function of educating local residents indirectly and promote the sustainable development of the education function of the Macao museum.

5.2.2 Stimulating Self-improvement and Enjoyment Motivations of Visitors and Improving Museum Experience Effect

The research results revealed that visitors' motivation have a positive effect on museum experience, and among these motivations, "self-improvement and enjoyment" was the most influential one. It meat most visitors had a prior motivation of acquiring self-improvement and enjoyment. The results also indicated that visitors' experience have a positive effect toward satisfaction and behavior intention. For this reason, the author suggests that the museum should step up the publicity efforts and raise the visitors' motivation of self-improvement and enjoyment. For example, the museum can join hands with the local publicity and education institutions to promote the museum to the residents of other regions by means of television and joint activities, and stimulate curiosity about exploring Macao's history

and culture among potential visitors. In addition to improving the possibility of turning the potential visitors into actual visitor source, enhancing visitors' perception toward museum experience indirectly can also stimulate the motivation of self-improvement and enjoyment of potential visitors, and consequently increase their satisfaction with the museum and stimulate the favorable behavior intention.

5.2.3 Strengthening the Museum Experience to Enhance Visitors' Satisfaction and Favorable Behavior Intention

The research results confirmed that visitors' museum experience have a positive effect on satisfaction and behavior intention. And, given that, the author suggests that the museum should not only stimulating self-improvement and enjoyment motivations of visitors, but also helping to satisfy these motivations during the visiting process. The museum should pay more attention to improve the expression of the content which presented in each exhibits and guide services in order to achieve continuous improvement so that it can provide visitors with more comfortable and pleasant experience. For instance, conduct a study to identify what the visitors' most comfortable temperature and lighting are alike and make adjustment. Moreover, the museum can install an after visiting suggestion box, continuously collect visitors views and opinions toward the museum and adopt the constructive suggestions. According to the personal information that visitors filled in, the museum can send gifts to some visitors as a token of appreciation and gratitude so as to make the visitors feel that their personal values had been realized and satisfied. Besides, the museum can organize small activities inside the museum, such as distributing questionnaires about relevant knowledge of the exhibition content near the exit. By publishing the correct answers, the respondent who has all the correct answers would be rewarded with an exquisite small gift. By doing so, visitors can be aware of their knowledge acquisition situation after visiting the museum as well as getting substance results of museum experience, thus helps to increase visitors' satisfaction and favorable behavior intention.

Additionally, the museum can enhance the museum experience so as to improve the visitors' satisfaction level and behavior intention from these five dimensions: sense experience, feel experience, think experience, act experience and relate experience. Take the feel experience as an example, the museum should pay more attention to providing customized services, i.e. increasing artificial guided tour services, building more interactivity between service personnel and visitors to improve their feel experience. This can improve visitors' satisfaction from the emotion aspect, and stimulate visitors' favorable behavior intention. Regarding to think experience, the museum can provide visitors with thoughtful services and spaces, i.e. exploring which way of expression and what atmosphere is more beneficial to guide the thoughts of visitors, providing professionals to answer visitors' doubts and questions. In addition to relate experience, the museum can take an active part in international history and culture related conferences to further improve its popularity. Working together with the Macao

government, the museum should further build Macao's positive image as "Famous Historic and Cultural City" and introduce it to the world. By means of making it relevant to the social and cultural environment, this can have impact upon the potential community members.

References

Boulding, W., Kalra, A., Staelin, R., & Zeithaml, V. (1993). A dynamic process model of service quality: Form expectations to behavioral intentions. *Journal of Marketing Research*, *30*, 7–27.

Burn, R., Graefe, A., & Absher, J. (2003). Alternate measurement approaches to recreational customer satisfaction: satisfaction-only versus gap scores. *Leisure Sciences, 25*, 363–380.

Burton, C., Louviere, J., & Young, L. (2009). Retaining the visitor, enhancing the experience: Identifying attributes of choice in repeat museum visitation. *International Journal of Nonprofit and Voluntary Sector Marketing, 14*, 21–34.

Cardozo, R. N. (1965). An experimental study of customer effort, expectation and satisfaction. *Journal of Marketing Research*, *2*, 244–249.

Cronin, J. J. Jr., Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, *76*, 193–218.

Doering, Z. (1999). Strangers, guests or clients? Visitor experiences in museums. *Curator, 42*(2), 80–83.

Engel, J. F., Blackwell, R. D., & Miniard, P. W. (1995). *Consumer Behavior* (8th ed.). Texas: Forth Worth, Dryden Press.

Goulding, C. (2000). The museum environment and the visitor experience. *European Journal of Marketing, 34*(4), 261–278.

Gobster, P. H., & Westphal, L. M. (2004). The human dimensions of urban greenways: Planning for recreation and related experiences. *Landscape and Urban Planning, 68*, 147–165.

Jones, T. O., & Sesser, J. R. (1995). Why satisfied customer defect. *Harvard Business Review, 85*(2), 88.

Kotler, N. (1999). Delivering experience: Marketing the museum's full range of assets. *Museum News, 78*(3), 30–39.

Ostrom, A., & Iacobucci, D. (1995). Consumer trade-offs and the evaluation of service. *Journal of Marketing*, *59*(1), 117–128.

Packer, J. M., & Ballantyne, R. (2002). Motivational factors and visitor experience: A comparison of three sites. *Curator*, *45*(3), 183–198.

Schmitt, B. (1999). Experiential marketing. *Journal of Marketing Management*, *15*, 53–67.

Stogner, M. B. (2009). *The media-enhanced museum experience: Debating the use of media technology in cultural exhibitions*. Media in Transition 6 International conference, pp. 2–19.

Singh, J. (1988). Consumer complaint intentions and behavior: Definition and taxonomical issues. *Journal of Marketing, 52*, 93–107.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioural consequences of service quality. *Journal of Marketing Management*, *60*, 31–46.