MASTER THESIS

# Income Policies of Public Museums

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## TITLE

INCOME POLICIES OF PUBLIC MUSEUMS


## ABSTRACT

The study of museums is an essential topic in the sphere of cultural economics. Museums as a typical form of cultural organization also produce economic values, such as externalities. Moreover, museums as merit goods also have the social educational value and it preserves the cultural heritages. Because of the nature of merit goods, the pricing for the entry of museums is always a controversial issue. In one way, as a form of educational and social-cultural group, museums should aim at maximum access to citizens by lowering admission charge or even free of charges. On the other hand, museums have to also avoid losses in financial aspect. The aim of this thesis is to discover how to attract more visitors and how to obtain more income for public museums.

Nowadays in China, due to the reduction of the government subsidies, public museums are encouraged to seek innovative and entrepreneurial solutions to gain more income. The Shanghai museum is a successful example that achieves in balancing money-earning and attracting visitors. By conducting the case study of the Shanghai Museum, the results reveal that opening theme restaurants, souvenir shops inside museums, licensing the publications of their exhibitions, obtaining more private donations and commercial sponsorships as well as business partnership are diverse sources to procure more income. Moreover, examples of attracting more museum-visitors and of enhancing their 'willingness to pay' and 'willingness to visit' are: to practice innovative pricing policies, improving the quality and content of exhibitions, offering more free related services, organizing more educational programs, and arranging more diverse social activities. The enhancement of the 'willingness to pay' and the 'willingness to visit' can give rise to more income for public museums.



## KEY WORDS

Public museums; Pricing mechanism; Price differentiation; Individual preferences; The contingent valuation method; Willingness to pay; Willingness to visit;

## 1.Introduction

Museum, as an important entity for conserving, researching and exhibiting the heritage of human tangible and intangible civilization, is always worth economists' attentions. A study on the economic aspects of museums is essential because museums produce cultural and historical value, and it also gives rise to economic value (e.g. charging entry tickets and other extended services). The pricing issue of the admission to museums has been discussed for a long time. As previously mentioned, the functions of museums are collecting, preserving, researching, interpreting as well as exhibiting (Noble, 1970), it determines the intrinsic attribute of museums much more to be a merit good and an educational institute rather than a profit-making organization. Museums as social merit goods have cultural value, bequest value, prestige value and education value that convey the messages of human history, civilization and other human inheritances. According to these values that museums embody, museums should be socially public. However, in fact museums are not public goods because they are exclusive and rival. These are characteristics of a private good. But despite they have these characteristics museums are mostly established by the government. This is what we call club goods. Museums allow only a limited number of visitors to enter by means of charging entry tickets. Only people who pay for tickets are entitled to enter museums.

Therefore, by virtue of the significant meaning of museums in society, museums should promise the maximum access to citizens to reach maximum social welfare. The entry fee for visiting museums cannot be charged too high as it is very likely to discourage people from visiting museums. The British Labor party announced in December 1997 that the access to museums is a cornerstone of all government's cultural policies, and these cultural treasures should be available to many people but not only few (Department for Culture, Media and Sport, 1997). So based on this standing point of view, the services of museums should be available to most people in society, the access to museums should be charged very low or even free of charge.

Nonetheless, because of the 'cut-offs' from government subsidies, public museums are likely to meet the financial budget problems and are also encouraged to obtain diverse sources of financial income and gain more revenue. According to Bailey (1998), museums services are not free; there must be someone that has to pay for it. The marginal cost for each extra visitor is not zero. Even charging an admission fee cannot exactly cover the costs of running the museums. In this situation, increasing the total revenue for museums is an important issue. Therefore, the price setting for visiting museums needs to coordinate both moneymaking and attracting people.

In the following chapters, various pricing paradigms and what determines the ticket prices will be discussed. Whether it is justified and necessary to charge admissions will also be elucidated. In order to generate more income for museums, the study will be based on both supply side and demand side. From the demand side, arranging more special temporary exhibitions, organizing more social activities and educational programs, offering more free related services and practicing innovative ticket pricing are main solutions to increase the number of visitors and attract more infrequent and new visitors. In addition, opening museum theme restaurants as well as souvenir shops are good choices to increase general income. From the supply side, obtaining more sponsors and corporate clients, selling services and personal donations are imperative.

In the research part, a case study of the Shanghai Museum will be conducted. The Shanghai Museum as a typical public museum is one of the largest and most famous public museums in Mainland China. The Shanghai Museum is located in the downtown of Shanghai and it enjoys the highest reputation in the area of Shanghai. It mainly conserves and exhibits ancient arts. The Shanghai Museum also organizes touring exhibitions within China and abroad. Moreover, The Shanghai Museum arranges periodical temporary exhibitions. The collections of the temporary exhibitions are borrowed from museums in other cities and abroad. The Shanghai Museum has also its own museum restaurant and souvenir shop inside. Therefore, the Shanghai Museum is a representative case and the study of the income policies of the Shanghai Museum would be socially relevant. The aim of the case study is to discover how the Shanghai Museum explores diverse funding sources and in what ways they procure more income.

## 2. Motivation and Research Questions

Museum as a social and cultural merit good should aim to maximize access of citizens. Nonetheless, the entry prices should be balances with the general income of citizens. Also, museums need to avoid losses to make a long-run success. The motivation of this research is to find out a way to enhance the total revenues of museums and increase the access off citizens, and to solve the constraints between the capacity and the subsidy. The result of this research aims to be mutually beneficial to museums and citizens in society.

### 2.1 Research Questions

In this thesis, I will focus on the sectors of pricing systems of museums, what determines the entrance tickets, how to charge the price of entrance to museums, and eventually how to enhance the total revenues of museums. The research questions are whether the charging policies can influence people's willingness to pay for the tickets and willingness to visit museums, and what are the innovative solutions to increase the income for public museums.

### 2.2 Sub-questions

1.What are the pricing paradigms of public museums in general?

2.Apart from the income of ticket sales, what are other sources of financial funding?

3.How to attract more visitors and how to enhance visitor's Willingness to pay for and Willingness to visit public museums?

# 3. Theoretical background

## 3.1 Pricing Paradigm for Entrance

In general, museums have various ways to set the admission charges, which include free charging, weekday tickets, and special prices for young people, senior citizens, etc. The trend of free entrances to visit museums was initially proposed by the personal donation by Sir Hans Sloan to the British museum. Thus far, most UK national museums are free of entry charge. In US, there are also many free-entry museums and almost all national museums do not levy charges for admission. According to Frey and Meier (2006), there are three main arguments in favor of zero price entrance. In the first place, there are a number of voices maintaining the idea that the entry for the museum should be free of charge because museums enjoy many positive externalities that can be compensated by tax money and those who visit museums bring the most benefits to the museum. People consume the souvenirs in museum shops and eat in the museum restaurants that make interesting amounts of income to museums. The second argument supporting the free charges suggests that the museum's marginal cost for each extra visitor is zero, so the entry to museum should also be zero. This assumption is based on the economic efficiency argument. However, this argument has already argued to be false. According to presumption by Baily and Falconer (1998), charging zero based on zero marginal cost is misunderstanding of allocation efficiency rules. The third reason for free admission is what I have mentioned in the very beginning, the function of museum is a sort of cultural capital which delivers cultural value and upgrades people, some economists believe that free entry would encourage more people to visit museums. Nevertheless, according to O'Hagan (1995), the econometric study shows that the demand of museum services is price-inelastic. In addition, people with low income and low education background are not very inclined to visit museums when the entry is free (McFelter, 2006). People have tastes and interests in museums will come to visit museums (Frey and Steiner 2010). Therefore, there is no evidence to show that changing price of the entrance can enchant more visitors.

Besides the free entry setting, there are also other options for the entry pricing of museums. Alternative options include donation boxes, applying seasonal prices and free day entries. With regard to the price differentiation, some museums charge different groups people different prices, such as offering lower tickets to pupils, social seniors. Moreover, in comparison to weekdays, museums apply higher entry fees during weekends. According

to the empirical study by Steiner (1997), the extra free day policies would slightly generate more revenues, because the loss from free admission was not compensated for by larger sales in museum shops and restaurants.

### 3.2 What determines the price of tickets?

To understand what determines the mechanism of price setting, the intrinsic nature of museums has to be discussed. In accordance with theories proposed by Bedate et al (2009), public museums are particularly considered to be club goods or semi-public goods. They have the characteristics of a private good but they are provided by the government. The main elements that influence the admission fee for museum basically depend on the public or private instinct of museums. Public museums aim at educating citizens and preserving human cultural inheritance and they are non-profit focused, as they receive financial support from government subsidies. The public museum could afford to set ticket price below the long run average cost or efficiency threshold as the loss from ticket sales are cancelled out by subsides. The situation of private museums is different. Private museums are under constant pressure to gain revenue to survive in the market. The top incentive for the managers of purely private museums is to increase their income because their lives are totally dependent on admission charges, souvenir shops, theme restaurants and also additional money from social donations and sponsorships (Frey, 2006). Therefore, in terms of commercial nature of private museums, the entrance needs to consider both income and access to achieve their goals.

In addition, individual preference is another determinant for setting admission prices. Many scholars argued that the contingent valuation method is one of the most predominant influencing factors in estimating the demand for museums (Bedate et al, 2009, Frey et al, 2006, Sanz et al, 2003). The contingent valuation method refers to measuring the nonmarket value of cultural goods or public goods and estimating the economic value that how much people are willing to pay or willingness to accept. The ‘Willingness to pay’ implies that a museum can charge visitors the price that they are willing to pay instead of setting a fixed market price for everyone (Sanz et al, 2003, Towse, 2002). In this case the income of museums can be maximized. However, the failure of the contingent valuation comes up when it applies to people who do not visit museums or people who visit museums infrequently. This failure can be resolved by offering free entry within limited period, so that non-visitors or infrequent visitors can be surveyed to their Willingness to pay. The contingent valuation method will be discussed later in following sectors.

The government or the museums themselves control the price of the ticket. Firstly the market cannot be an efficient reflector of the real value of a museum. Secondly, a large amount of museums are supported by tax and the government has to step in and make sure the operation of the museum goes well and serves the community. Then the museum tickets will be based on a governmental given price or sometimes even for free. Frey et al (2006) stated that there are three ways to determine price: admission fee, opportunity cost, price of alternative

activities. Frey et al (2006) have also discussed the superstar museum effect and the shrinking market demand for small museums. This reveals that the market mechanism still works on the museum link.

The landmark superstar museums can indeed charge higher prices than some less famous museums just because its special status, namely when demand surpasses supply and price will go up. Furthermore, the quality of the exposition or the special temporary exhibition would also influence the price to a certain extent. Museums who do not charge their permanent collection would charge higher visiting fees for the special exhibitions.

### 3.3 To charge or not to charge and how to gain more revenues

As I analyzed in the sector of pricing paradigm, the arguments in favor of free admissions museums seem to be false. First of all, free charging based on zero marginal cost or allocative efficiency is purely a misunderstanding of economic theory regarding efficiency, because the marginal cost for each additional visitor does cost a lot such as heating, security, and even cost for space especially during congested peak period. Secondly, as it is mentioned previously, the demand of museum services is price-inelastic, because people with low income or low education would not visit museums more frequently if there is free admission to museums. In most of cases, the behavior of visiting museums is a result of taste formation and personal interest, that is to say, people who have tastes for museums would always go to museums regardless of gratis entry or paying ticket, and people who do not have tastes for museums would not change their decisions by gratis admissions. The average museum visitors are from relative higher social classes (Frey and Steiner, 2010), which again prove that the attendance of museums does not decrease proportionally by charging entry prices.

Furthermore, the free admission policy can only be feasible with extensive governmental grants and public subsidy. However, the services of museums per se are club goods rather than public goods, they are excludable: the charging museums can exclude people who refuse to pay the ticket. Museums can also be rivalry when the content of exhibitions hold by different museums are similar and museums are during peak periods. Therefore, charging entry fee is quite necessary for museums to magnify income and access. They could adopt differentiated pricing policy or price differentiation to generate more income from admission (Towse, 2002), higher payment for the tickets would support museums to afford better services. The policy of providing concessions could effectively boost the access to museums. In most cases, seniors and students enjoy the maximum reduction on ticket prices.

As I mentioned in the beginning, according to Bailey (1998), museums services are not free; there must be someone that has to pay for it. The marginal cost for each extra visitor is not zero. Even charging admission fee cannot exactly cover the costs of running museums. In this situation, charging the entrance ticket to visit museums is justified and increasing income for museums is an important issue. Donation as an essential fashion of supporting museums would still remain popular (Frey et al, 2006). Financial aid from local commercial organizations is also a very important constituent for museums' revenues.

### 3.4 Diversity in charging methods to gain more earned income

Based on those findings in the previous section, charging entrance fees is reasonable and the pricing of the admission tickets should be considered an important way to generate income. The fundamental principles for increasing income depend on increasing the number of visitors, increasing the visiting frequency of current visitors and enhancing the visitors' Willingness to pay for the admission tickets (Hall, 2007). In this section the various innovative charging manners would be analyzed.

As I discussed previously, there are various options for the entry pricing of museums, such as donation boxes, seasonal prices, family tickets and weekday tickets. As I have mentioned, museums could practice the strategy of price differentiation, which is to charge different groups of people with different prices according to their willingness to pay by testing the contingent valuation. The adoption of price differentiation can maximize the income and reach as many consumers as possible. For instance, offering the lower price ticket to people younger than 25 and older than 60 could reach the target group of young people and seniors in society. Charging tourists more expensive than local visitors can earn more income because tourists are generally less sensitive to the price and they are willing to pay higher than normal prices. Charging higher admission tickets during weekend than during weekdays can maximize the income obtained from weekdays and weekend and guarantee attendance rates. There is an innovative charging strategy suggested by Frey (1994), he presumed that during the periods of high demand, museums can set two types of entrance tickets, one type of ticket s priced higher and another one is priced relatively lower. Visitors with high opportunity costs can choose to pay higher priced tickets in order to spend little time in short queue, but visitors with limited budgets can just spend longer time in queuing by paying lower priced tickets. In this case, museums during busy periods can earn more income by adjusting prices of different types of admission tickets, and visitors would also be benefited from types of tickets with respect to time saving.

There is also another innovative pricing system conducive to raise museums' income, called 'pay as you go' (Frey and Steiner, 2010), it means that museums can charge visitors up to their estimated pricing margin. The visitors pay the charge when they leave, and the charging is based on how many minutes they have visited. This method is still based on persons' willingness to pay, people pay according to their own evaluations of the goods (museums) and needs (facilities they use). Moreover, museum is a type of experience good. It means the previous experiences or knowledge is very important to influence if you want to go there again. Non-visitors have no knowledge or no previous experiences about museums, so it's hard to attract them to visit museums.

But if museums charge at the exit instead of at the entrance, non-visitors as well as infrequent visitors would be greatly encouraged to enter museums to experience the exhibition of museums, and after visiting, they can decide if they want to stay inside museums longer or leave immediately. The payment of visiting depends on how long they have visited. The adoption of ‘Pay as you go’ pricing policy can save visitors’ time and money. The practice of ‘Pay as you go’ pricing policy would greatly increase the earnings from tickets by in creasing the number of visitors, the frequency of visiting, and also visitor’s willingness to pay (ticket prices). If applied properly, ‘Pay as you go’ could be foreseen as a promising way to generate more revenues in the near future.

### 3.5 Super star museums and Special exhibitions

Because the essential solutions to increase profits consists of increasing the number of visitors, increasing the rate of returning possibilities (increasing the frequency of visiting "Willingness to visit"), enhancing the index of visitors' Willingness To Pay (in other words, increasing the admission price), museums need to think about arranging new forms of exhibiting ways or introducing new collections of exposition in order to become more attractive to frequent and incidental visitors (Hall, 2007).

In the museum world, there are two main developments that become popular as a trend in future. Those two trends are becoming superstar museums such as British Museum and Louvre Museum, and holding periodical special exhibitions (Frey, 2006). Being a superstar museum, it is possible to exploit economies of scale by reaching out to a large number of people, and to enjoy an enormous amount of revenues from bookshops and restaurants in the museum. Learning from the examples of super star museums, museums can generate more income by means of publishing, licensing and merchandising. The influential museums try to publish their own books, catalogues, annual reports and DVD for their museums and license the photos of their collections in terms on selling the copy right to other shops and also make various stationeries printed with the logos of museums. Such as British museums, in their museum shops, you can find book remark printed with the photo of the museum architecture; Van Gogh museum in Amsterdam sell multiple pens, rulers and something similar printed with oil paintings by Van Gogh.

On the other hand, holding periodical special exhibitions could attract more visitors and save the fixed costs for museums. From the demand side, the higher income that people obtain would lead to larger amount of money they wish to spend in visiting specially arranged temporary exhibitions. In addition, the special exhibition could also attract new visitors, because the collections of special exhibitions are usually sourced from foreign countries. For instance, the Shanghai Museum is one of most reputational museums in China that practices periodical special exhibitions; they have little own permanent collections but mostly exhibit the collections borrowed from museums in other cities or in other countries. In 2005, the Shanghai Museum borrowed the collection of Egyptian Mummies from the British Museum, the income from the box offices increased one third than income generated during the time of normal exhibition. The visitors consist of tourists and local citizens, and two third of visitors are tourists; this fact shows that incidental visitors are attracted to visit this temporary exposition considerably.

From the supply side, holding touring exhibitions and temporary foreign-sourced exhibition could considerably save the cost for museums. The essential resource inputs such as technical facility, scientific research expense and maintenance fees are taken care by the permanent venues and only the additional temporary costs are covered by the current museum. Moreover, politicians and public officials have strong passion for sponsoring the special exhibitions. The business companies also tend to sponsor the special cultural events in order to attract more social attentions. All in all, museums will give local persons a cultural background attachment, and museums will provide a unique experience to complete the tourism experience of the city.

### 3.6 Innovative approach to generate more unearned income

Besides the income from box offices and related services, private donations and commercial sponsorships as well as business partnership are also important constituent to generate income for museums. There are various approaches for unearned income that museums could adopt to obtain more income. Here the unearned income for museums includes public grants and commercial fundraising. Donations are one essential source of revenue. (Frey et al, 2006). Museums could place the donation boxes at the entrance, and provide extra benefits such as free drinks, or small gifts to the visitors who donate as a way of reward and encouragement. According to Hall (2007), with respect to the fundraising, there are diverse approaches to raise the unearned income.

Finding sponsors to increase the income is important. There are many wealthy individuals and commercial organizations in society, and museums need to encourage them to donate. The justification for donating to museums by commercial sponsors is that museums can provide needed community service, such as adding advertising exposure of the sponsors' names, the reputation could be gained for the sponsors in this cases. Developing partnerships with other attractions or business can achieve a win-win situation. Collaborating with other organizations can result in mutual benefits. Hosting special events such as festivals, conference or charity auction or garage sale can bring huge revenues to museums. At the same time museums can also raise attentions and awareness in order to keep long-term success by maximum visiting. Funding the foundations can also be an efficient way to raise funds. For instance, BC Community Foundations offer financial support to both non-profit and profitable cultural organizations. Another approach is organizing some special gaming events such as raffles, casino nights, prize draws and bingos. The gaming events could attract more people in the first place, and money generated here is generally net profits in the second place. But gaming licenses are required in this case.

### 3.7 Taste formation

In the previous section, I have analyzed that enhancing people's Willingness To Pay for and Willingness to visit public museums is an effective solution to generate more income for public museums. The way of measuring 'Willingness to pay' and 'Willingness to visit' is to ask how much they would like to pay, and how frequent they would like to visit. The more frequent people wish to come and the higher price they wish to pay, the higher income that museums will gain. This assumption can also be supported by the theory of taste formation. According to the theory of taste formation (or taste cultivation), people's tastes and individual experiences play an indispensable role in appreciating the cultural goods. People's tastes for appreciating the cultural goods are cultivated by previous experiences or exposures to the cultural goods in childhood and are subject to family influences. And the taste for it is acquired over time with exposures (Levy-Garboua, 2002).

Museums are social and cultural capital of a society and exhibit diverse human culture and arts. The behavior of visiting museums requires the tastes for it and the consumption of museums depends on the tastes of the person. People visit museums because they are interested in visiting museums for the purpose of expanding their horizon and enriching their knowledge. Therefore, people with interests in visiting museums are estimated to be less responding to the changes in prices or any types of charging solutions. The increase in prices would hardly lead to a decrease in the quantity demanded and the decrease in prices would hardly lead to an increase in the quantity demanded. Therefore, lowering the ticket price or even offering free admissions of public museums would not necessarily encourage a larger number of people. People who do not have interests in visiting museums will not visit museums anyway even it is charging free.

Based on the inelastic demand assumption for museums, the change in ticket prices does not strongly influence the number of visitors. As a consequence, an increase in the price of the tickets would slightly result in an increase in the total revenue of museums rather than a decrease in the number of visitors. According to this, the 'Willingness to pay' and the 'Willingness to visit' would hardly be negatively influenced by the price of the ticket, but mostly be involved with the change in the quality of the exhibitions of museums. Therefore, improving the quality of exhibitions and services in museums could be efficient to enhance people's Willingness To Pay and Willingness to visit, which will accordingly generate more income for museums.

### 3.8 The strengths and weakness of the contingent valuation method

Previously I have mentioned the pricing determinant based on individual preferences, it is realized by the contingent valuation. The contingent valuation method is a survey technique that directly asks individuals about their willingness to pay or willingness to accept on a given hypothetical scenario in order to make a better preservation of some social cultural goods. The contingent valuation method measures the estimated economic value of the non-market demand for various cultural goods or services (Noonan, 2003). In the case of determining what price to charge for admission tickets of public museums, the contingent value method could provide a view of people's willingness to pay for visiting museums. The advantages of practicing the contingent value are that it directly measures people's potential willingness to pay, rather than the observed data. Moreover, people who are surveyed could give their rational decisions based on their known information and knowledge (Throsby, 2003). It is approved that individuals are the best to judge their own utility and benefits (Throsby, 2003).

However, there are also problems about the contingent valuation when people are not fully informed of knowledge of the cultural goods. As it is well known that the judgments from well-informed respondents are more useful than judgments from ill-informed respondents. However, Cultural goods acquire a taste for judgments. And the process of taste formation takes times. In this case, the contingent valuation method failed to capture the fully informed contingent estimations of cultural goods (Throsby, 2003). Because the measurement of people's contingent valuation is purely based on what they say they would do, which is opposed to what they actually do and what they are observed to do, so respondents may not be serious about their real estimation of values. What respondents would do might not fully reflect what they actually do, and it is the weakness of the contingent valuation method. Biased answers also limit the validity of the valuation. People who are surveyed may not estimate the real value for the goods but express their personal feelings against the valuation question itself. Therefore, the differences between hypothetical decisions and actual decisions, insufficient information and biased answers make the contingent valuation method hardly to fully represent the economic value of cultural goods.

# 4.Research Design & Methodology

## 4.1Research Design

### *4.1.1 Qualitative research design*

This thesis consists of a qualitative and quantitative approach. The qualitative part will be based on the literature review and the case study of the Shanghai Museum. In the beginning of the thesis, I elucidated on the pricing paradigms of the entrance of public museums and the factors that determine the prices of the tickets. Later I have discussed whether it is justified to charge an entrance fee to museums. Lastly I have also analyzed various methods to charge visitors and the diversity of funding sources to finance public museums. Accordingly, I can conclude that charging a fee for admission tickets is justified. The innovative forms of services as well as various sources of funding to public museums can efficiently enhance the income of public museums.

The case study of the Shanghai Museum is based on interviews with museum officers and museum visitors. The Shanghai Museum is a province-level public museum and it is located in the city center of Shanghai. The Shanghai Museum is granted slightly by public subsidies. For the Shanghai Museum, seeking the various commercial opportunities is required for them. During the interviews the museum officers, I asked for information about the solutions for generating more income in real case. For instance, what do they do to attract new visitors and keep old visitors, what pricing paradigms do they practice to charge visitors, and how do they get various sponsors from privative persons or companies, etc.

### *4.1.2 Quantitative research design*

The quantitative study will be conducted by the contingent valuation survey method. The contingent valuation method is adopted here to estimate people's potential 'willingness to pay' and 'willingness to visit' public museums with imagined situations. As I described in the earlier sector, the strength of adopting the contingent valuation method is to measure people's potential 'willingness to pay' and 'willingness to visit' based on their rational decisions on a hypothetical scenario. In this survey, I made questions asking people's potential contingent values with imagined situations.

The results of the survey should be clear to represent that whether practicing the various new policies would lead to an increase in the level of Willingness to pay and Willingness to visit of people, which will lead to an

increase in the total income of public museums. To analyze the results of respondents of the survey, I uses crosstabs and calculate the Cramer's V, because the optimal choices of the survey questions are set in the format of continues ordinal variables and crosstab is meant to test the relationship between the ordinal or nominal variables. Two sample T test will also be used to compare the population means of two groups: Willingness to pay regarding public museums that don't practice those new policies and Willingness to pay regarding public museums that practice those new policies, Willingness to visit public museums that don't practice those new policies and Willingness to visit public museums that practice those new policies.

In order to make the research more socially relevant and significant, I would also make the demographic analysis of the respondents. To analyze their attitudes toward free-entrance museums, and to test if there is the impact of the demographic background on people's taste formation for visiting museums, and whether the free-charge policy can generate more potential visitors.

### 4.2 Operationalization and Sampling of interview group

To operate the qualitative interviews, the units of the analysis in this research are officers from the Shanghai museum and museum visitors. The sample group of museum-visitors is obtained through the visitors' database of the Shanghai museum (Visitors who book tickets online need to fill in their basic information and contact method) and it is provide by museum officers. Here, visitors who haven't registered on the database of the museum are not reached. And because the sample of museum visitors is selected by the museum, the sampled population is quite limited. The interview is going to conduct via email and Skpye.

### 4.3 Interview Guide

The semi-structured interview is preferred because semi-structured interviews encourage the interaction between interviewers and interviewees, and it enables a two-way communication by providing space for adapting the questions according to interviewee's reactions. I made topic lists and all questions are formulated in accordance with the topic lists. During the interviews, I noted down the important and useful messages which are coherent to the topics and able to reflect the points I focus on, such as the questions "how much is the entrance ticket" and "what pricing polices does the museum adopt", etc. The conversations are conducted by means of email and Skpye.

#### *-Topic List and starting questions*

In the interviews with the museum staff, the followed topics are to be involved:

- The general financial situation of museums: describe all sources of income
- Which pricing paradigms they practice
- By what means museums fulfill the entrepreneurial goal
- By what means they obtain sponsors

So the interviews will be conducted with the topics formulated above. To start the interviews, I asked simple questions such as "what types of the collections are exhibited in the Shanghai museum?" or " is this museum popular in Shanghai?" to relax the interviewees and prepare them for the remainder of the interviews. For the first topic, I mainly focused on the general financial background of the museum, for instance, what funding sources that a museum could obtain currently.

For the second topic, I asked about "does the museum charge any forms of fee to visit museums and which pricing paradigm the museum implements". Moreover, I asked, "in general which group of people is the main source of the visitors" and "in which way you think it is possible to attract new/more visitors", "to what extent you think the taste cultivation is important for people's Willingness to visit and Willingness to pay for visiting museums". Additionally, I am also interested in their observations regarding a change in the number of visitors with a change in the ticket prices.

For the third topic, the questions are like "how to seek the entrepreneurial funding sources and how to enhance the total income" to know more about what ways the museum could adopt to gain more income.

The last topic is initiated by asking whether they possess any private sponsors and in what means they obtain the sponsors.

In the interviews with the museum-visitors, the following topics are focused on:

- Information upon their personal background
- Their reasons for visiting museums
- Whether a change in price would influence their decisions for visiting museums
- What is the most important quality of the museum to determine their Willingness to pay for and Willingness to visit museums

To start the interviews, I asked them about their age, educational background and their jobs. Moreover, I will ask what motivates them to visit museums and whether the taste is the strongest incentive. Furthermore, I would like to ask if they are discouraged to visit the museum when the prices of museums increase, and lastly I will ask “what qualities of museums could attract you to visit the museum and which is the most important quality to determine your willingness?”

### 4.4 Survey design and operation

In the quantitative research part, the contingent valuation survey technique is utilized. The unit of analysis in this research is the population in Mainland China. The survey research is most suitable to be utilized in this quantitative research, because the survey method is able to target a rather large population and practice conveniently through Internet, and the answers for survey questions are standardized so that I'm able to compare the results to make analysis.

The survey is given in the appendix and it is distributed via Facebook (www.facebook.com) and Renren (www.renren.com). Facebook is so far one of the most popular and far-reaching online virtual communities all over the world. Renren is as well a popular online virtual community among Chinese citizens in China mainland, and it works similar to Facebook and it is called 'Chinese Facebook' in the mainland. Via Facebook and Renren, the survey published on public pages would be able to access a large population efficiently and reach representative groups of Chinese people in mainland and overseas. Although it should also be noted that by using social media as a tool for gathering data, which does mean that a large group of the population is not reached by the survey. The new generation in China has already familiarized itself with social media. Furthermore, thanks to the high prevalence rate of personal computer and Internet, middle-aged Chinese citizens also embraced Internet communities very considerably. According to data shown below, in 2010, there are over 420 million Internet users in China with double-digit growth rate in last four years, and China is currently the word's largest Internet market[1]. But this is still not applicable to some parts of senior citizens, because some senior citizens don't have computer or Internet at home. Therefore, people who don't use Facebook and Renren are missed from the population sampling. However, this does not affect the validity of the survey as because the sample group is roughly the same.

[1] Source: http://www.techinasia.com/china-internet-growth-and-online-behavior/

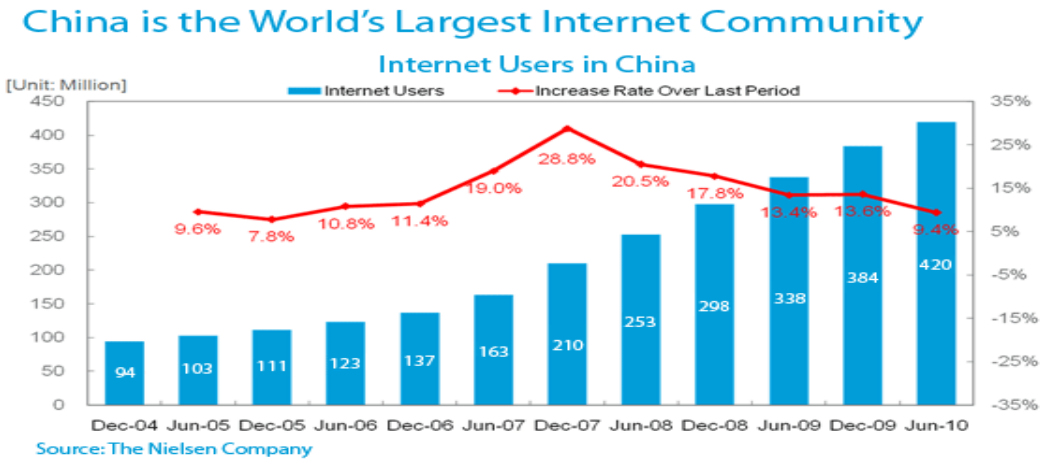


Fig.1

To analyze the results from the survey, I will make two sample T test and Crosstab to build a causal relation between new charging policies of museums and peoples' Willingness to visit and Willingness to pay. Firstly to test people's Willingness to pay for and Willingness to visit public museums in general, and then to test people's Willingness to pay for and Willingness to visit public museums when they practice various new policies. After testing the values of people's Willingness to pay for and Willingness to visit, I will use SPSS to process the data to see if there are any relations between people's Willingness to pay and Willingness to visit and those various policies including holding new forms of exhibitions, arranging special events and activities, offering free related services and organizing educational programs organized by public museums.

The survey is designed to demonstrate whether there is a causal relation between people' Willingness to pay and Willingness to visit and the innovative changes occurring in public museums. The variables set in the survey are Willingness to pay, Willingness to visit, Public Museums regarding Educational Programs, Public Museums regarding Holding Periodical Special Exhibitions, Public Museums regarding Arranging Social Events, Public Museums regarding Offering Free Related Services (such as free parking, free Wi-Fi and free drinks). The levels of measurement of those variables are set to be ordinal.

In the survey, I examine the level of the 'Willing To Visit' by measuring the frequency of visiting public museums within the last three months. The frequency of visiting public museums is the indicator to demonstrate how much the visitors wish to visit public museums on the condition that all kinds of innovative policies practiced by public museums. The answer category of the frequency for visiting public museums would be (1) 0 time, (2) from 1- 3 times, (3) from 4 to 7 times, (4) from 8 to 12 times, and (5) more than 12 times. Option (2) is

considered as low frequency, option (3) and (4) is considered as moderate frequency and option (5) is considered as high frequency. Low frequency denotes low level of Willingness to visit, moderate frequency denotes moderate level of Willingness to visit and high frequency denotes high level of Willingness to visit. People who choose option (1) for visiting public museums are considered as not willing to visit public museums.

To examine the degree of people's 'Willingness to pay', the only indicator is the currency, so the answer categories would be (1) 0 euro (2)) 1 to 4 euros (3) 5 to 10 euros, (4) 11 to 20 euros, (5) 21 to 35 euros (6) above 35 euros. The options from option (1) to option (6) represent the degrees of Willingness to pay. And I calculate the means of the scores for each group of people with low level of willingness to visit, moderate level of Willingness to visit and high level of public museums. Ranking the scores would standardize the variable 'Willingness to pay'. To examine the visitors' opinion upon the innovative charging policy of 'Pay as you go', the answer categories would be ranged from *strongly agree* to *strongly disagree*, and I construct the scale by ranking the different level of agrees and disagrees from point (1) to point (5) in order to standardize all options. The middle (3) means the neutral attitude.

Moreover, because the survey purposes are to exam the causal relation between 'Willingness to pay', 'willingness to visit' and all innovate changes in public museums. I would ask the question upon people's Willingness to visit and Willingness to pay with respect to regular public museums and public museums that arrange special exhibition, social events, etc. respectively in attempt to get the comparison upon Willingness to pay and Willingness to visit between regular public museums and the public museum that practice those new policies. In this survey, the new solutions in public museums are specified to be arranging periodical special exhibitions, organizing various forms of social events and gaming activities, providing educational presentations, offering free related services. Therefore, the value for variable Public museum regarding presentations is set as (1) not providing educational programs such as workshops and presentations, (2) arranging educational programs such as workshops and presentations. The value for variable Public museum regarding holding periodical special exhibitions is set as (1) not holding various forms of exhibitions, (2) holding various forms of exhibitions. The value for variable Public museums regarding organizing various forms of social events and programs is set as (1) not organizing of social events and activities, (2) organizing social events and activities. The value for variable Public museums regarding offering free related services such as parking and drinks is set to (1) not offering free related services, (2) offering free parking services and free drinks.

# 5. Data Analysis

This chapter is going to demonstrate and analyze the results of the interviews and the survey research.

## 5.1 Analysis of interviews

In accordance with the information I collected form the interviews with the officer of the Shanghai museum, the Shanghai museum is seeking diverse forms of funding sources. Currently they obtain the earned income from ticket sales, souvenir shops, museum theme restaurants, and licensed copy right of images of the collections. They obtain the unearned income from local government subsidy, business collaboration with local corporations, as well as private donations. The museum practices the weekday ticket that is cheaper than weekend ticket, and gives discounts to students and soldiers, and offers free entrance to handicapped and senior people in the society. Besides these, by the order from the government policy, the Shanghai Museum reduced the ticket price from 20 rmb / 2 euros to 15 rmb /1.5 euros in 2008, and the number of visitors firstly increased from 1,050,000 per year to 1900,000 per year in 2009, and after 2009, the number of visitors started decreasing and now remained at approximately 1,200,000 per year. In the beginning there were many potential and infrequent visitors attracted to visit the museum as the price decreased, but in a long run, visitors who don't have a developed taste for visiting museums quitted visiting museums after a while. Mostly visitors who like visiting museums keep visiting the museum regularly. That is the reason for why the number of visitors during the period of charging the lower price does not differ significantly from the number of visitors during the period of charging the higher price. This phenomenon is corresponding to the argumentation of the price inelasticity of the demand for cultural goods. The visiting rate is slightly influenced by the price. More over, the Shanghai Museum cooperates with big and famous museums from all over the world, such as British museum, Tokyo national museum, etc. The Shanghai Museum periodically borrows collections from foreign museums and display for a short period. This policy of holding temporary periodical exhibitions attracts a lot of incidental visitors and potential visitors. For the periodical special exhibition, the museum charges 20 rmb /2 euros extra for visiting, but the number of visitor doesn't decrease but it even increases. In 2005, the Egyptian mummy collection borrowed from the British museum attracted a lot of tourists from other cities to visit, the museum earn three-fold more revenue than regular exhibitions. So, organizing the periodical special exhibition is their main solution to attract more visitors.

Besides the earned income, the Shanghai Museum also collaborates with Local corporations by means of renting the museum restaurant and other halls for business conferences, annual gala, and other activities. In this

situation, the museum receives a lot of sponsors. More over, the Shanghai Museum also receives interesting amounts of personal donated collections and donations from private sponsors each year.

According to the interviews with museum visitors, I have interviewed in total five museum visitors. Their ages are within the range of 20-35. All of them have university degree. According to their responses, they visit the museum for their own interest, and also for socializing with other people. Hereby I'd like to demonstrate the representative sample of the interview conversation.

Me: How old are you?

Interviewee: I'm 25 years old.

Me: what is your educational background?

Interviewee: Bsc in Architecture

Me: do you visit museums often?

Interviewee: yes quite often

Me: what motivates you most to visit the museum?

Interviewee: I am fond of visiting the museum and I'd love to invest time inside of museums. I suppose that visiting museums is a good way to fulfill my free time.

Me: if the museum enhances the admission price, does it discourage you from visiting the museum?

Interviewee: I don't think so, but it depends on how much the ticket is going to be set. If the price is within the range that I can afford, I will still go visiting the museum.

Me: what quality of the museum you supposed to be the most important to determine your passion for visiting the museum?

Interviewee: I think that it depends on the quality of the exhibition, and the content of the exhibition. Usually I'm fonder of the type of nature museums and history museums, I like appreciating ancient civilization as well as learning knowledge from the past. But I really don't pay too much attention of the admission price, it doesn't matter how much the price would be. If I like a particular exhibition substantially, I would go always.

Me: questions are finished and thank you very much for your time.

From the interview I conducted above, it is explicit to see that people visiting the museum is for their tastes satisfaction and spiritual enjoyment. The changes in the price would not significantly influence their willingness to visit museums. More over, the quality and content of the exhibitions is more imperative to determine the Willingness to visit of the potential visitors.

## 5.2 Analysis of survey research

### *-Demographic analysis of the respondents*

I have received in total 100 respondents from the survey distributed via the public pages on Facebook and Renren, thus I'm going to analyze the results of 100 samples. In the survey, I have asked the questions about their gender, age, educational background and salary, those information will help to analyze the demographic background of the respondents. Firstly I would like to show the frequency tables of the respondents regarding gender, age, educational background and monthly income.

**Statistics**

Gender

| | | |
|---|---|---|
| N | Valid | 100 |
| | Missing | 0 |
| Mode | | 1.00 |

**Gender**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 61 | 61.0 | 61.0 | 61.0 |
| | Female | 39 | 39.0 | 39.0 | 100.0 |
| | Total | 100 | 100.0 | 100.0 | |

Table 1

According to the table shown above, the mode of the gender is 1, which denotes male. Male respondents weight 61% of total respondents, and 39% are female respondents.

**Statistics**

Age

| | | |
|---|---|---|
| N | Valid | 100 |
| | Missing | 0 |
| Mode | | 4.00 |

**Age**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Under 18 | 6 | 6.0 | 6.0 | 6.0 |
| | 18-24 | 33 | 33.0 | 33.0 | 39.0 |
| | 25-34 | 19 | 19.0 | 19.0 | 58.0 |
| | 35-44 | 38 | 38.0 | 38.0 | 96.0 |
| | 45+ | 4 | 4.0 | 4.0 | 100.0 |
| | Total | 100 | 100.0 | 100.0 | |

Table 2

According to the table shown above, the mode of the age is 4: ranging from 35 to 44. Among the respondents, 6% are under 18 years old, 33% respondents belongs to the category of 18 to 24, 19% are within 25 to 34, 38% are within 35 to 54, and 4% respondents are above 45 years old. According to the recent national statistics of citizen's age distribution in china, the data shown in the graph below is precisely consistent with the age distribution of those samples, thus it is plausible to presume that the population samples I received from the survey research are representative of Chinese people with respect to age.

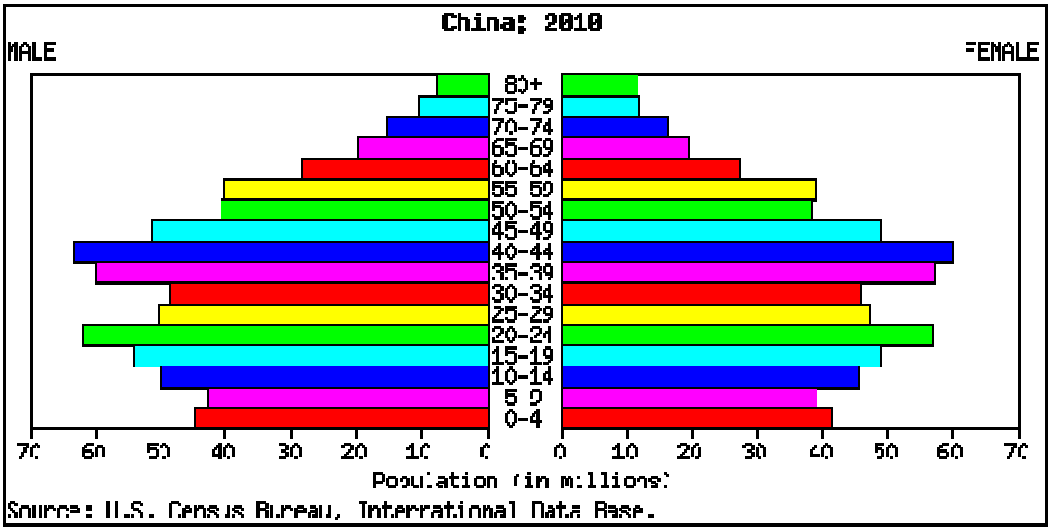


Fig.2[2]

**Statistics**

Education Background

| | | |
|---|---|---|
| N | Valid | 100 |
| | Missing | 0 |
| Mode | | 2.00 |

**Education Background**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Below university | 13 | 13.0 | 13.0 | 13.0 |
| | Associate degree | 32 | 32.0 | 32.0 | 45.0 |
| | Bachelor degree | 29 | 29.0 | 29.0 | 74.0 |
| | Postgraduate degree | 14 | 14.0 | 14.0 | 88.0 |
| | PHD | 12 | 12.0 | 12.0 | 100.0 |
| | Total | 100 | 100.0 | 100.0 | |

Table 3

From the table shown above, the median of the educational background of respondents is 3, which signifies

[2] Source: http://www.nationmaster.com/country/ch/Age_distribution

Bachelor degree. More over, among the 100 respondents, 13% are below university, 32% have associate degree, 29% are bachelor degree, 14% hold master's degree, and 12% of the populations are with PHD background.

**Statistics**

Salary per month

| | | |
|---|---|---|
| N | Valid | 100 |
| | Missing | 0 |
| Median | | 3.00 |

**Salary per month**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | No income | 13 | 13.0 | 13.0 | 13.0 |
| | Below 4,000RMB/appro.480euros | 33 | 33.0 | 33.0 | 46.0 |
| | From 4,000RMB/480euros to 8,000RMB/960euros | 27 | 27.0 | 27.0 | 73.0 |
| | From8, 000RMB/960euros to 12,000RMB/1,440euros | 13 | 13.0 | 13.0 | 86.0 |
| | From 12,000RMB/1,440euros to 20,000RMB/2,400euros | 9 | 9.0 | 9.0 | 95.0 |
| | Above 20,000 RMB/ 2,400 euros | 5 | 5.0 | 5.0 | 100.0 |
| | Total | 100 | 100.0 | 100.0 | |

Table 4

In the table 4, the median of the monthly income is 3: between 480 euros to 960 euros. Among the respondents, 13% of the respondents don't have monthly income, 33% of the respondents receive below 480 euros per month; 27% of the respondents receive between 480 euros to 960 euros per month; 13% receive between 960 euros to 1,440 euros monthly; 9% receive between 1,440 euros to 2,400 euros monthly, 5% of the respondents receive more than 2,400 euros per month.

### *-Relation between demographic background and people's tastes*

After showing the demographic background of the respondents, I'd like to test the influence of the educational background and monthly income on their preference in visiting public museums. Below the crosstab table shows the percentage of the people with each corresponding educational level in the total population in each category of attitude.

**Preference for visiting public museums * Education Background Crosstabulation (percentage in column)**

| | | | Education Background | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | | | Below university | Associate degree | Bachelor degree | Postgraduate degree | PHD | |
| Preference in visiting public museums | Interested | Count | 1 | 3 | 11 | 10 | 9 | 34 |
| | | | 7.7% | 9.4% | 37.9% | 71.4% | 75.0% | 34.0% |
| | Neutral feeling | Count | 5 | 24 | 16 | 3 | 2 | 50 |
| | | | 38.5% | 75.0% | 55.2% | 21.4% | 16.7% | 50.0% |
| | Not interested | Count | 7 | 5 | 2 | 1 | 1 | 16 |
| | | | 53.8% | 15.6% | 6.9% | 7.1% | 8.3% | 16.0% |
| Total | | Count | 13 | 32 | 29 | 14 | 12 | 100 |
| | | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Table 5

According to table shown above, to compare the data by rows, for people who are interested in visiting public museums, the largest percentage (75%) of people own PHD degree; for people who are neither like nor dislike in visiting public museums, the highest percentage (75%) goes to people who hold Associate degree; for people who are not interested in visiting public museums, the highest percentage (53.8%) belongs to people who are educated below university level.

Accordingly, I can assume that the respondents with the higher educational background are more inclined to be interested in visiting museums than the respondents have the relatively lower educational background. In other words, the higher educational that people have, it is more possible that people are fond of visiting museums.

The following crosstab shows the percentage of the population with each category of income in the total number of the population in each level of interest in visiting museums.

**Preference for visiting public museums * Salary per month Crosstabulation (percentage in column)**

| | | | Salary per month | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | | | No income | Below 4,000RMB/ 480euros | From 4,000RMB/ 480euros to 8,000RMB/ 960euros | From 8,000RMB/960euros to 12,000RMB/1,440euros | From 12,000RMB/1,440euros to 20,000RMB/2,400euros | Above 20,000 RMB/ 2,400 euros | |
| Preference for visiting museums | Like | Count | 1 | 4 | 12 | 10 | 4 | 3 | 34 |
| | | | 7.7% | 12.1% | 44.4% | 76.9% | 44.4% | 60.0% | 34.0% |
| | Neutral feeling | Count | 5 | 23 | 14 | 2 | 2 | 2 | 50 |
| | | | 38.5% | 69.7% | 51.9% | 15.4% | 44.4% | 20.0% | 50.0% |
| | Dislike | Count | 7 | 6 | 1 | 1 | 1 | 0 | 16 |
| | | | 53.8% | 18.2% | 3.7% | 7.7% | 11.1% | 0.0% | 16.0% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Total | Count | 13 | 33 | 27 | 13 | 9 | 5 | 100 |
| | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Table 6

As it can been seen from the table above, to compare data by rows, for people who are fond of visiting public museums, the highest percentage which is 60% of samples receive above 2,400 euros per month; for people who hold neutral feeling against visiting public museums, the highest percentage which is 69.7% of samples receive the monthly income below 480 euros; for people who don't have fondness for visiting public museums, the highest percentage which is 53.8% of respondents don't have income. To conclude, it is explicit to notice that people who have relatively higher monthly income are more likely to have fondness for visiting museums than people who have relatively lower monthly income.

### *-Relation between demographic background and people's Willingness To Pay and Willingness To Visit*

Besides the observed frequency tables done above, it is also significant to test the influence of demographic factors such as the educational background and the monthly income on people's Willingness to pay for and Willingness to visit public museums.

Below it is the crosstab regarding people' educational background and their corresponding Willingness to pay.

**Willingness to pay for the public museum * Education Background Crosstabulation (percentage in column)**

| | | | Education Background | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | | | Below university | Associate degree | Bachelor degree | Postgraduate degree | PHD | |
| Willingness to pay for the public museum | 0 euro | Count | 9 | 6 | 1 | 0 | 1 | 17 |
| | | | 69.2% | 18.8% | 3.4% | 0.0% | 8.3% | 17.0% |
| | Within 1 to 4 euros | Count | 2 | 18 | 10 | 2 | 0 | 32 |
| | | | 15.4% | 56.2% | 34.5% | 14.3% | 0.0% | 32.0% |
| | Within 5 to 10 euros | Count | 2 | 8 | 18 | 7 | 4 | 39 |
| | | | 15.4% | 25.0% | 62.1% | 50.0% | 33.3% | 39.0% |
| | Within 11 to 20 euros | Count | 0 | 0 | 0 | 4 | 5 | 9 |
| | | | 0.0% | 0.0% | 0.0% | 28.6% | 41.7% | 9.0% |
| | Within 21 to 35 euros | Count | 0 | 0 | 0 | 1 | 2 | 3 |
| | | | 0.0% | 0.0% | 0.0% | 7.1% | 16.7% | 3.0% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Total | Count | 13 | 32 | 29 | 14 | 12 | 100 |
| | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Table 7

According to the crosstab with observed frequency table shown above, to compare data by rows, for the respondents who wish to pay nothing to visit public museums, the highest percentage 69.2% are below university education; for the respondents who wish to pay the ticket price ranging from 1 to 4 euros, the highest percentage 56.2% of samples population have Associate degree; for the respondents who wish to pay the ticket price ranging from 5 to 10 euros, the highest percentage 62.1% of samples population hold Bachelor degree; for the respondents who are willing to pay the price within 11 to 20 euros, the highest percentage 41.7% of total samples have PHD background, and the second highest percentage 28.6% of the respondents are with Post-graduate education background; for the respondents who intend to pay within 21 to 35 euros, the highest percentage 16.7% of samples have PHD background as well.

Accordingly, from the data described above, I can conclude that people with the relatively higher educational backgrounds wish to pay a higher price for the tickets of public museums than people with the relatively lower educational backgrounds. And since previously I postulated the assumption that with the higher educational background, people are more inclined to have interested in visiting museums, therefore, I can induct an assumption that people have interest in visiting museums would like to pay higher prices to visit museums.
Hereby the next crosstab describes people's educational background and Willingness to visit public museums.

**Willingness To Visit the public museum * Education Background Crosstabulation (percentage in column)**

| | | | Education Background | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | | | Below university | Associate degree | Bachelor degree | Postgraduate degree | PHD | |
| Willingness To Visit the public museum | Don't visit | Count | 8 | 5 | 0 | 0 | 1 | 13 |
| | | | 61.5% | 15.6% | 0.0% | 0.0% | 8.3% | 13.0% |
| | From 1 to 3 times | Count | 4 | 17 | 16 | 3 | 1 | 41 |
| | | | 30.8% | 53.1% | 55.2% | 21.4% | 8.3% | 41.0% |
| | From 4 to 7 times | Count | 1 | 9 | 10 | 9 | 4 | 33 |
| | | | 7.7% | 28.1% | 34.5% | 64.2% | 33.3% | 33.0% |
| | From 8 to 12 times | Count | 0 | 1 | 3 | 2 | 7 | 13 |
| | | | 0.0% | 3.1% | 10.3% | 14.3% | 58.3% | 13.0% |
| | Above 12 times | Count | 0 | 0 | 0 | 0 | 1 | 1 |
| | | | 0.0% | 0.0% | 0.0% | 0.0% | 8.3% | 1.0% |
| Total | | Count | 13 | 32 | 29 | 14 | 12 | 100 |
| | | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Table 8

As it can been seen from the table above, to compare the data horizontally the observed frequencies show that for people who generally don't visit public museums, the highest percentage 61.5% of the respondents are below university education; for people who visit public museums generally within 1 to 3 times within three months, the highest percentage 53.1% of the people have Associate degree; for people who usually visit public museums from 4 to 7 times during three months, the highest percentage 64.2% of the people have Bachelor degree; for people who visit public museums from 8 to 12 times during the period of three months, the highest percentage 58.3% of the samples have Doctorate diploma and the second highest percentage 14.3% of the samples hold Post-graduate degree; for people who generally visit public museums above 12 times within three months, the highest percentage 8.3% of the respondents have Doctorate diploma.

Hence, it is plausible to presume a statement that people who have the relatively higher educational background tend to visit public museums more frequent than people who have the relatively lower educational background. Moreover, according to the assumption concerning the taste formation which suggest that people' educational level influence their tastes for visiting museums, thus it's logical to presuppose that people who have tastes for or interests in visiting museums would visit museums more frequently than people who don't have fondness for visiting museums.

Further more, the crosstab with observed frequency regarding people's monthly salary and Willingness to pay for visiting public museums is shown below.

**Willingness to pay for the public museum * Salary per month Crosstabulation (percentage in column)**

| | | | Salary per month | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | | | No income | Below 4,000RMB/480 euros | From 4,000RMB/480euros to 8,000RMB/960euros | From8, 000RMB/ 960euros to 12,000RMB/1,440euros | From 12,000RMB/1,440euros to 20,000RMB/2,400euros | Above 20,000 RMB/ 2,400 euros | |
| Willingness to pay for the public museum | Don't want to pay | Count | 10 | 3 | 1 | 1 | 0 | 0 | 15 |
| | | | 76.9% | 9.09% | 3.7% | 7.7% | 0.0% | 0.0% | 17.0% |
| | Within 1 to 4 euros | Count | 3 | 20 | 7 | 1 | 2 | 0 | 33 |
| | | | 23.1% | 60.6% | 25.9% | 7.7% | 22.2% | 0.0% | 34.0% |
| | Within 5 to 10 euros | Count | 0 | 10 | 19 | 8 | 2 | 0 | 39 |
| | | | 0.0% | 30.3% | 70.3% | 61.5% | 22.2% | 0.0% | 39.0% |
| | Within 11 to 20 euros | Count | 0 | 0 | 0 | 3 | 4 | 2 | 9 |
| | | | 0.0% | 0.0% | 0.0% | 23.1% | 44.4% | 40.0% | 9.0% |
| | Within 20 to 35 euros | Count | 0 | 0 | 0 | 0 | 1 | 3 | 4 |
| | | | 0.0% | 0.0% | 0.0% | 0.0% | 11.1% | 60.0% | 4.0% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Total | Count | 13 | 33 | 27 | 13 | 9 | 5 | 100 |
| | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Table 9

According to the data from the crosstab above, to compare the data horizontally, for the people who don't wish to pay for the entrance ticket to visit public museums, the highest percentage 76.9 % of them don't have monthly income; for the people who are willing to pay within 1 to 4 euros to visit public museums, the highest percentage 60.6% of them receive below 480 euros per month; for the people who are willing to pay the entrance price ranging from 5 to 10 euros, the highest percentage 70.3% belongs to people who receive the monthly salary ranging from 480 to 960 euros; for the people who are willing to pay within 11 to 20 euros to visit public museums, the highest percentage 44.4% of the respondents receive the monthly income ranging from 1,440 to 2,400 euros; for the people who are willing to pay the ticket price within 20 to 35 euros, the highest percentage 60.0% of the respondents receive above 2,400 euros each month.

Hereby, I can suppose that the people who receive the relatively higher income tend to pay the higher price of tickets to visit museums. More over, based on the presumption that people who have the higher income are inclined to have tastes for visiting museums, thus I can also make the assumption that the people who have interests in visiting museums tend to visit museums more often than the people who are not fond of visiting museums.

**Willingness To Visit the public museum * Salary per month Crosstabulation (percentage in column)**

| | | | Salary per month | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | | | No income | Below 4,000RMB/480euros | From 4,000RMB/480euros to 8,000RMB/960euros | From8,000RMB/960euros to 12,000RMB/1,440euros | From 12,000RMB/1,440euros to 20,000RMB/2,400euros | Above 20,000 RMB/2,400 euros | |
| Willingness To Visit public museums within three months | Don't visit | Count | 9 | 4 | 0 | 1 | 0 | 0 | 14 |
| | | | 69.2% | 12.1% | 0.0% | 7.7% | 0.0% | 0.0% | 14.0% |
| | From 1 to 3 times | Count | 4 | 18 | 15 | 2 | 2 | 0 | 41 |
| | | | 30.8% | 54.5% | 55.6% | 15.4% | 22.2% | 0.0% | 41.0% |
| | From 4 to 7 times | Count | 0 | 11 | 11 | 10 | 2 | 0 | 34 |
| | | | 0.0% | 33.3% | 40.7% | 76.9% | 22.2% | 0.0% | 34.0% |
| | From 8 to 12 times | Count | 0 | 0 | 1 | 0 | 5 | 4 | 10 |
| | | | 0.0% | 0.0% | 3.7% | 0.0% | 55.6% | 80.0% | 10.0% |
| | Above 12 times | Count | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 20.0% | 1.0% |
| Total | | Count | 13 | 33 | 27 | 13 | 9 | 5 | 100 |
| | | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Table 10

According to the crosstab above, for the people who don't visit public museums generally, the highest percentage 69.2% of them are not receiving monthly income; for the people who are willing to visit public museums from 1 to 3 times within three months, the highest percentage 55.6% receive the salary ranging from 480 to 960 euros each month; for people who visit public museums from 4 to 7 times within three months in general, the highest percentage 76.9% of them receive the monthly salary ranging from 960 to 1,440 euros; for the people who visit public museums from 8 to 12 times during the period of three months, the highest percentage 80.0% of the respondents receive the monthly income above 2,400 euros, and the second highest percentage 55.6% of the respondents receive the monthly income ranging from 1,440 to 2,400 euros; for people who visit public museums above 12 times during three months, the highest percentage 20.0% of them receive above 2,400 euros per month.

Hereby it is explicit that the people who have the relatively higher monthly income tend to visit public museums more often than the people who have the relatively lower income. Based on the assumption that people who have the higher income tend to be more possible to have interests in visiting museums, it is plausible to suggest that people who have interests in visiting museums tend to visit museums more frequently than people who don't like visiting museums.

### *-Analysis about people's attitudes towards free-entrance policy*

For the survey questions regarding showing the attitude against whether people feel more likely to visit public museums when museums practice free-visit policy. The following frequency analysis shows the percentages of people in each answer category in the total sample population.

**Statistics**

Attitude regarding visiting free-entry museums

| | | |
|---|---|---|
| N | Valid | 100 |
| | Missing | 0 |
| Median | | 4.0 |

**Attitude regarding visiting free-entry museums**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Agree | 3 | 3.0 | 3.0 | 3.0 |
| | Agree | 6 | 6.0 | 6.0 | 9.0 |
| | Neutral Attitude | 15 | 15.0 | 15.0 | 24.0 |
| | Disagree | 31 | 31.0 | 31.0 | 55.0 |
| | Strongly Disagree | 45 | 45.0 | 45.0 | 100.0 |
| | Total | 100 | 100.0 | 100.0 | |

Table 11

According to the data from the above, I can obtain the fact that the median of the ordinal variable is 4: disagree. More over, there are 3 percent of the respondents strongly agree to the statement; 6 percent of them moderately agree to the statement; 15 percent of them neither agree nor disagree to the statement; 31 percent of them moderately disagree to the statement and 45 percent of the respondents pose strong disagree to the statement. Hence I can conclude that most respondents don' think that they would be more encouraged to visit public museums when public museums implement free entrance policy.

### *-Relation between people's tastes and people's attitude towards free-entrance policy*

According to the theory regarding the taste formation and demand for cultural goods, the demand for cultural goods is estimated to be price inelastic (Throsby, 1977), thus the quantity demanded for the cultural goods is less sensitive to the change in prices. Therefore, based on this argumentation, I can conclude that the lowering of the ticket price or even offering free ticket of public museums would not necessarily lead to a larger number of visitors. People who are not interested in visiting museums will not visit museums in any conditions even it's for free. However, there is no previous research done to test whether the argumentation on demand for cultural goods also apply to the population in China, hereby it's significant to test the assumption that the quantity demand for cultural goods in China is price-inelastic. The survey question "the policy of charging entrance fee

to visit public museums would necessarily discourage you to visit public museums, and the free entrance policy would increase the chances that you will visit public museums" would be used to test this assumption.

**Attitude regarding visiting free-entry museums * Preference for visiting public museums Crosstabulation (percentage in column)**

| | | | Preference for visiting public museums | | | Total |
|---|---|---|---|---|---|---|
| | | | Like | Neutral feeling | Dislike | |
| Attitude regarding visiting free-entry museums | Strongly Agree | Count | 1 | 1 | 1 | 3 |
| | | | 2.9% | 2.0% | 6.2% | 3.0% |
| | Agree | Count | 2 | 3 | 2 | 7 |
| | | | 5.9% | 6.0% | 12.5% | 7.0% |
| | Neutral Attitude | Count | 4 | 9 | 1 | 14 |
| | | | 11.8% | 18.0% | 6.2% | 14.0% |
| | Disagree | Count | 10 | 19 | 2 | 30 |
| | | | 29.4% | 38.0% | 6.2% | 30.0% |
| | Strongly Disagree | Count | 17 | 18 | 11 | 46 |
| | | | 50.0% | 36.0% | 68.8% | 46.0% |
| Total | | Count | 34 | 50 | 16 | 100 |
| | | | 100.0% | 100.0% | 100.0% | 100.0% |

Table 12

According to the table shown above, to compare the data horizontally, for people who strongly agree to the statement, the highest percentage 6.2% of the respondents generally like visiting public museums; for the people moderately agree to the statement, the highest percentage 12.5% of them don't have fondness for visiting public museums; for people who hold neutral attitude against the statement, the highest percentage 18.0% also hold neutral feeling for visiting public museums; for people who moderately disagree to the statement, the highest percentage 38.0% of them neither like nor dislike visiting public museums, and the second highest 29.4% of the respondents generally have interest in visiting public museums; for people who strongly disagree to the statement, the highest percentage 68.8% of them generally have passions for visiting public museums.

To conclude, the result of the test is consistent with the theory of the demand for cultural goods, which submits that the demand for cultural goods is hardly price elastic, or price relevant. So, for at least the respondents from China, their demand for visiting museums is not influenced by the prices of tickets.

### *-Respondents' attitude towards innovative pricing policy*

Regarding to the question "if public museums practice the 'Pay as you go' charging policy, you are greatly encouraged to visit museums" in the survey, there are 44 out of 100 respondents strongly agree with this statement, and 42 respondents agree with it, 12 respondents hold neutral attitude towards it, and 1 respondent disagree to this statement, and no respondent strongly disagrees. The frequency table below demonstrates the result of the analysis.

**Statistics**

Opinion towards 'Pay as you go' policy

| | | |
|---|---|---|
| N | Valid | 100 |
| | Missing | 0 |
| Median | | 2.00 |

**Opinion towards 'Pay as you go' policy**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly agree | 45 | 45.0 | 45.0 | 45.0 |
| | Agree | 42 | 42.0 | 42.0 | 87.0 |
| | Neutral attitude | 12 | 12.0 | 12.0 | 99.0 |
| | Disagree | 1 | 1.0 | 1.0 | 100.0 |
| | Strongly disagree | 0 | 0.0 | 0.0 | 0.0 |
| | Total | 100 | 100.0 | 100.0 | |

Table 14

As it is shown from the table above, the measure of central tendency for ordinal level data is Median and Median here is 2, which indicates "Agree". There is 45% of the sampled population that strongly agrees that practicing the innovative charging solution 'Pay as you go' would encourage them greatly to visit public museums, 42% of the sampled population moderately agrees to this statement, and 12% of the sampled population slightly neither agrees nor disagrees to it. 1% of the sample population disagrees to it. 0% of the sample population strongly disagrees to this statement. Hereby I can draw a conclusion that public museums that implement 'Pay as you go' charging policy could encourage people considerably to visit.

### *-Cramer's V analysis concerning people's Willingness To Pay and Willingness To Visit with changing variables*

The survey is also designed to test the relation between peoples' 'Willingness to pay' for public museums that do not practice various new policies and people's 'Willingness to pay' for public museums that practice various new policies, the relation between people's 'Willingness to visit' public museums that do not practice new policies and people's 'Willingness to visit' public museums that practice new policies. I have to distinguish between the independent variable and dependent variable. The independent variables in this research are the 'Public museums regarding exhibiting various innovative forms exhibitions', the 'Public museums regarding arranging social events and social activities', the 'Public museums regarding offering educational presentations' and the 'Public museums regarding offering free parking and free drinks'. The dependent variables in this research are people's 'Willingness to pay' and people's 'Willingness to visit'. The 'Willingness to pay' and the 'Willingness to visit' are expected to be influenced by the independent variable 'Public museums regarding arranging diverse forms of exhibitions such as the periodical special exhibition and the touring exhibition', the independent variable 'Public museums regarding arranging social events and social activities', the independent variable 'Public museums regarding offering educational programs such as presentations and workshops', the independent variable 'Public museums regarding offering free related services such as parking, Wi-Fi and drinks'.

Because the survey is designed to test the causal relation between the ordinal variables 'Willingness to pay' for public museums without practicing those new policies and 'Willingness to pay' for public museums practicing those new policies, the casual relation between the ordinal variables 'Willingness to visit' public museums not practicing new policies and 'Willingness to visit' public museums implementing various new policies, the Chi-square test is adopted to analyze the data by SPSS. In order to express the strength of the relationship in a formalized way, there is a measure of association- Cramer's V- whose value lies between 0 (no relation) and 1 (Strong relation). The interpretation of Cramer's V is:

<0.10 (very weak/no relation)

Between 0.10 and 0.20 (weak relationship)

>0.30 (strong/very strong relationship)

The tables below present the output of crosstabs processed by SPSS. The first table shown below is the crosstab that exhibits the relation between the 'Willingness to pay' and the 'willingness to visit' public museums, and the 'public museums regarding holding educational programs':

**Willingness to pay for the public museum * Public museums regarding educational programs**

**Crosstab**

| | | | Public museums regarding educational programs | | Total |
|---|---|---|---|---|---|
| | | | None | Arranging educational programs | |
| Willingness to pay for the public museum | None | Count | 17 | 0 | 17 |
| | | | 17.0% | 0.0% | 8.5% |
| | Within 1 to 4 euros | Count | 32 | 15 | 47 |
| | | | 32.0% | 15.0% | 23.5% |
| | Within 5 to 10 euros | Count | 39 | 24 | 63 |
| | | | 39.0% | 24.0% | 31.5% |
| | Within 11 to 20 euros | Count | 9 | 25 | 34 |
| | | | 9.0% | 25.0% | 17.0% |
| | Within 21 to 35 euros | Count | 3 | 24 | 27 |
| | | | 3.0% | 24.0% | 13.5% |
| | Above 35 euros | Count | 0 | 12 | 12 |
| | | | 0.0% | 12.0% | 6.0% |
| Total | | Count | 100 | 100 | 200 |
| | | | 100.0% | 100.0% | 100.0% |

Table 14

According to the data in the table above, there are 100 samples of Willingness to pay regarding public museums don't provide educational presentations and another 100 samples of Willingness to pay regarding public museums providing educational presentations, keeping other independent variables constant. According to the data, public museums that don't provide educational presentations, there are more people willing to pay within 1 to 10 euros, and no people willing to pay above 20 euros; for public museums providing educational presentations, there are more people willing to pay within 11 to 35 euros, and there are 12% of respondents willing to afford above 35 euros for the admission ticket. So based on our samples, I can assume that people wish to pay higher tickets for public museums that provide educational presentations.

Here a group of hypothesis is set:

H0: In the population, there is *no* relationship between people's 'Willingness to pay' for public museums and the educational programs organized by public museums.
H1: In the population, there is a relationship between people's 'Willingness to pay' for public museums and the educational programs organized by public museums.

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 62.583[a] | 5 | .000 |
| Likelihood Ratio | 76.527 | 5 | .000 |
| Linear-by-Linear Association | 58.804 | 1 | .000 |
| N of Valid Cases | 200 | | |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.00.

**Symmetric Measures**

| | | Value | Approx. Sig. |
|---|---|---|---|
| Ordinal by Ordinal | Phi | .559 | .000 |
| | Cramer's V | .559 | .000 |
| N of Valid Cases | | 200 | |

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Table 15

In accord with the data in the table above, Cramer's V is 0.559 which is obviously larger than 0.3, it indicates that there is very strong correlation between variable Willingness to pay and variable Public museums regarding presentations. Thus the alternative hypothesis is approved to be valid.

**Willingness to attend the public museum * Public museums regarding educational programs**

**Crosstab**

| | | | Public museums regarding educational programs | | Total |
|---|---|---|---|---|---|
| | | | None | Arranging educational workshops and presentations | |
| Willingness to visit public museums within three months | Don't visit | Count | 14 | 0 | 14 |
| | | | 14.0% | 0.0% | 7.0% |
| | From1 to 3 times | Count | 41 | 11 | 52 |
| | | | 41.0% | 11.0% | 26.0% |
| | From 4 to 7 times | Count | 34 | 33 | 67 |
| | | | 34.0% | 33.0% | 33.5% |
| | From 8 to 12 times | Count | 10 | 39 | 49 |
| | | | 10.0% | 39.0% | 24.5% |
| | Above 12 times | Count | 1 | 17 | 18 |
| | | | 1.0% | 17.0% | 9.0% |
| Total | | Count | 100 | 100 | 200 |
| | | | 100.0% | 100.0% | 100.0% |

Table 16

As I can see from the data in the table above, there are 100 samples of Willingness to visit regarding public museums that don't provide educational presentations and another 100 samples of Willingness to visit regarding public museums providing educational presentations, keeping other independent variable constant. In the light of the data in the table, for public museums that don't provide this extra educational programs, there are more people not willing to visit or visit from 1 to 7 times within three months; for public museums that provides the educational programs like educational presentations, there are more people willing to visit from 8 to 12 times and even more than 12 times within three months. Thus I can assume that people wish to visit public museums that provide educational presentations more frequently than public museums that don't arrange extra educational services such as educational presentations.

Here a group of hypothesis is set:

H0: In the population, there is *no* relationship between people's 'Willingness to visit' public museums and the educational programs organized by public museums.

H1: In the population, there is a relationship between people's 'Willingness to visit' public museums and the educational programs organized by public museums.

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 63.754[a] | 5 | .000 |
| Likelihood Ratio | 74.848 | 5 | .000 |
| Linear-by-Linear Association | 19.673 | 1 | .000 |
| N of Valid Cases | 200 | | |

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is .50.

**Symmetric Measures**

| | | Value | Approx. Sig. |
|---|---|---|---|
| Ordinal by Ordinal | Phi | .565 | .000 |
| | Cramer's V | .565 | .000 |
| N of Valid Cases | | 200 | |

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Table 17

According to the data in the table above, Cramer's V is 0.565 which is larger than 0.3, it shows very strong relation between variable Willingness to visit and variable Public museums regarding educational presentations, so the hypothesis that there is a relationship between people's Willingness to visit and the educational programs is accepted.

The crosstab for the relation between the 'Willingness to pay' and the 'Willingness to visit' and the 'periodical special exhibitions' is shown below:

**Willingness to pay for the public museum * Public museums regarding arranging periodical special expositions**

**Crosstab**

| | | | Public museums regarding arranging diverse types of exhibitions | | Total |
|---|---|---|---|---|---|
| | | | Not organize diverse forms of exhibitions | Arranging diverse forms of exhibitions | |
| Willingness to pay for the public museum | None | Count | 17 | 0 | 17 |
| | | | 17.0% | 0.0% | 8.5% |
| | Within 1 to 4 euros | Count | 32 | 5 | 37 |
| | | | 32.0% | 5.0% | 18.5% |
| | Within 5 to 10 euros | Count | 39 | 36 | 75 |
| | | | 39.0% | 36.0% | 37.5% |
| | Within 11 to 20 euros | Count | 9 | 39 | 48 |
| | | | 9.0% | 39.0% | 24.0% |
| | Within 20 to 35 euros | Count | 3 | 13 | 16 |
| | | | 3.0% | 13.0% | 8.0% |
| | Above 35 euros | Count | 0 | 7 | 7 |
| | | | 0.0% | 7.0% | 3.5% |
| Total | | Count | 100 | 100 | 200 |
| | | | 100.0% | 100.0% | 100.0% |

Table 18

As it can been seen from the data above, there are 100 samples of Willingness to pay regarding public museums that don't arrange periodical special exhibitions, and another 100 samples of Willingness to pay regarding public museums arranging periodical special exhibitions, keeping other independent variables constant. In accord with the data, for public museums that don't organize periodical special exhibitions, there is a bigger amount of people willing to pay the price ranging from 1 to 10 euros, and no one willing to pay more than 35 euros; for public museums holding periodical exhibitions, there are more people willing to pay between 11 to 35 euros, and even 7 people willing to pay above 35 euros for the admission ticket. Based on samples, I can assume that people wish to pay higher tickets to visit public museums that hold periodical special exhibitions than public museums without arranging special exhibitions.

Here a group of hypothesis is set:

H0: In the population, there is *no* relationship between people's 'Willingness to pay' for public museums and the special exhibitions organized by public museums.

H1: In the population, there is a relationship between people's 'Willingness to pay' for public museums and the special exhibitions organized by public museums.

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 68.823[a] | 5 | .000 |
| Likelihood Ratio | 82.330 | 5 | .000 |
| Linear-by-Linear Association | 62.929 | 1 | .000 |
| N of Valid Cases | 200 | | |

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 3.50.

**Symmetric Measures**

| | | Value | Approx. Sig. |
|---|---|---|---|
| Ordinal by Ordinal | Phi | .587 | .000 |
| | Cramer's V | .587 | .000 |
| N of Valid Cases | | 200 | |

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Table 19

According to the data in the table above, Cramer's V is 0.587 and it is larger than 0.3 so it reveals a very strong relation between variable Willingness to pay and variable Public museums regarding periodical special exhibitions. Thus H1 is accepted.

**Willingness To Visit the public museum * Public museums regarding arranging periodical special expo within three months**

**Crosstab**

| | | | Public museums regarding arranging diverse types of exhibitions | | Total |
|---|---|---|---|---|---|
| | | | Not organize diverse forms of exhibitions | Arranging diverse forms of exhibitions | |
| Willingness To Visit the public museum | Never visit | Count | 14 | 0 | 14 |
| | | | 14.0% | 0.0% | 7.0% |
| | From 1 to 3 times | Count | 41 | 2 | 43 |
| | | | 41.0% | 2.0% | 21.5% |
| | From 4 to 7 times | Count | 34 | 47 | 81 |
| | | | 34.0% | 47.0% | 40.5% |
| | From 8 to 12 times | Count | 10 | 39 | 49 |
| | | | 10.0% | 39.0% | 24.5% |
| | Above 12 times | Count | 1 | 12 | 13 |
| | | | 1.0% | 12.0% | 6.5% |
| Total | | Count | 100 | 100 | 200 |
| | | | 100.0% | 100.0% | 100.0% |

Table 20

As it is shown in the data above, there are 100 samples of Willingness to visit regarding public museums that don't arrange periodical special exhibitions and another 100 samples of Willingness to visit regarding public museums holding periodical special exhibitions, keeping other independent variables constant. Based on the data shown, for public museums that don't organize periodical exhibitions, there are more people willing to visit from 1 to 7 times and 14% of the respondents are not willing to visit within three months; however, there are relatively more people wiling to visit public museums that have periodical special expositions from 8 to 12 times or even above 12 times within three months, with respect to public museums that arrange periodical special exhibitions. Hereby I can presuppose that people wish to visit public museums holding periodical exhibitions more often then visit public museums without holding periodical exhibitions.

The hypotheses are postulated:

H0: In the population, there is *no* relationship between people's 'Willingness to visit' public museums and the special exhibitions organized by public museums.
H1: In the population, there is a relationship between people's 'Willingness to visit' public museums and the special exhibitions organized by public museums.

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 77.929[a] | 4 | .000 |
| Likelihood Ratio | 94.247 | 4 | .000 |
| Linear-by-Linear Association | 69.300 | 1 | .000 |
| N of Valid Cases | 200 | | |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.50.

**Symmetric Measures**

| | | Value | Approx. Sig. |
|---|---|---|---|
| Ordinal by Ordinal | Phi | .624 | .000 |
| | Cramer's V | .624 | .000 |
| N of Valid Cases | | 200 | |

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Table 21

According to the data in the table above, Cramer's V is 0.624, which is far more than 0.3, it reveals the fact that the relation between variable Willingness to visit and variable Public museums regarding holding touring exhibition or periodical special exhibitions is significant. Thus the alternative hypothesis is accepted.

The crosstab of the relation between the 'Willingness to pay' and the 'Willingness to visit' and the 'diverse social events' is shown below:

**Willingness to pay for the public museum * Public museums regarding social events and other activities**

**Crosstab**

| | | | Public museums regarding social events and other activities | | Total |
|---|---|---|---|---|---|
| | | | None | Arranging social events and other activities | |
| Willingness to pay for the public museum | None | Count | 17 | 0 | 17 |
| | | | 17.0% | 0.0% | 8.5% |
| | Within 1 euro to 4 euros | Count | 32 | 1 | 33 |
| | | | 32.0% | 1.0% | 16.5% |
| | Within 5 to 10 euros | Count | 39 | 26 | 65 |
| | | | 39.0% | 26.0% | 32.5% |
| | Within 11 euros to 20 euros | Count | 9 | 42 | 51 |
| | | | 9.0% | 42.0% | 25.5% |
| | Within 20 euros to 35 euros | Count | 3 | 16 | 19 |
| | | | 3.0% | 16.0% | 9.5% |
| | Above 35 euros | Count | 0 | 15 | 15 |
| | | | 0.0% | 15.0% | 7.5% |
| Total | | Count | 100 | 100 | 200 |
| | | | 100.0% | 100.0% | 100.0% |

Table 22

According to the data from the table above, there are 100 samples of Willingness to pay regarding public museums arranging social events and activities and another 100 samples of willingness to pay regarding public museums that don't arrange social events and activities, keeping other independent variables constant. According to the data, there are more people willing to pay the price ranging from 1 to 10 euros to visit public museums that don't hold social events and other forms of activities among 100 samples, and there is no one willing to pay above 35 euros; for the case of public museums holding social events and other forms of social activities, most respondents wish to pay the price ranging from 11 to 35 euros and even 15 people out of 100 respondents wish to pay above 35 euros. Based on this finding, I can presume that people are willing to pay higher tickets to visit public museums that hold various forms of social events and activities than public museums that do not arrange these events.

Hereby the hypotheses are postulated:

H0: In the population, there is *no* relationship between people's 'Willingness to pay' for public museums and the various forms of social events and activities organized by public museums.

H1: In the population, there is a relationship between people's 'Willingness to pay' for public museums and the various forms of social events and activities organized by public museums.

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 93.969[a] | 5 | .000 |
| Likelihood Ratio | 116.699 | 5 | .000 |
| Linear-by-Linear Association | 83.447 | 1 | .000 |
| N of Valid Cases | 200 | | |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.50.

**Symmetric Measures**

| | | Value | Approx. Sig. |
|---|---|---|---|
| Ordinal by Ordinal | Phi | .685 | .000 |
| | Cramer's V | .685 | .000 |
| N of Valid Cases | | 200 | |

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Table 23

According to the data above, Cramer's V is 0.685 which is far larger than 0.3, hence it reveals a very strong relation between variable Willingness to pay and variable Public museums regarding holding special events and activities. Therefore I can accept H1.

**Willingness To Visit the public museum within three months * Public museums regarding social events and other activities**

**Crosstab**

| | | | Public museums regarding social events and other activities | | Total |
|---|---|---|---|---|---|
| | | | None | Arranging social events and other activities | |
| Willingness To Visit the public museum within three months | Never visit | Count | 14 | 0 | 14 |
| | | % | 14.0% | 0.0% | 7.0% |
| | From 1 to 3 times | Count | 41 | 8 | 49 |
| | | % | 41.0% | 8.0% | 24.5% |
| | From 4 to 7 times | Count | 34 | 33 | 67 |
| | | % | 34.0% | 33.0% | 33.5% |
| | From 8 to 12 times | Count | 10 | 38 | 48 |
| | | % | 10.0% | 38.0% | 24.0% |
| | Above 12 times | Count | 1 | 21 | 22 |
| | | % | 1.0% | 21.0% | 11.0% |
| Total | | Count | 100 | 100 | 200 |
| | | % | 100.0% | 100.0% | 100.0% |

Table 24

In accordance to the data from the table above, there are 100 samples of Willingness to visit regarding public museums that organize various forms of social events and activities, and another 100 samples of Willingness to visit regarding public museums that do not organize diverse forms of social events and programs, keeping other independent variables constant. According to the data, with respect to public museums that don't organize diverse forms of social programs and activities, there are more people not willing to visit or visit from 1 to 3 times within three months compared with the number of people willing to visit museums that organize the diverse forms of social events within three months; when public museums organize diverse forms of social events and programs, there are more people willing to visit from 8 to 12 times within three months, and even 21 out of 100 respondents are willing to visit above 12 times within three months. Based on our samples, I can assume that people wish to visit public museums that hold various types of social events and programs more frequently than public museums that do not hold any social events and activities.

Hereby the hypotheses are postulated:

H0: In the population, there is *no* relationship between people's 'Willingness to visit' public museums and the various forms of social events and activities organized by public museums.

H1: In the population, there is a relationship between people's 'Willingness to visit' public museums and the various forms of social events and activities organized by public museums.

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 70.755[a] | 4 | .000 |
| Likelihood Ratio | 83.515 | 4 | .000 |
| Linear-by-Linear Association | 69.027 | 1 | .000 |
| N of Valid Cases | 200 | | |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.00.

**Symmetric Measures**

| | | Value | Approx. Sig. |
|---|---|---|---|
| Ordinal by Ordinal | Phi | .595 | .000 |
| | Cramer's V | .595 | .000 |
| N of Valid Cases | | 200 | |

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Table 25

According to the data in the table above, Cramer's V is 0.595 which larger than 0.3, so it shows that there is strong relation between variable Willingness to visit and variable Public museums regarding arranging various forms of social events and activities. Thus I would accept H1.

The crosstab of the relation between the 'Willingness to pay' and the 'Willingness to visit' and the 'free extra services' is shown below:

**Willingness to pay for the public museum * Public museums regarding free related services such as parking and free drinks, etc.**

**Crosstab**

| | | | Public museums regarding free parking and free drinks | | Total |
|---|---|---|---|---|---|
| | | | None | Free related services | |
| Willingness to pay for the public museum | None | Count | 17 | 0 | 17 |
| | | | 17.0% | 0.0% | 8.5% |
| | Ranging from 1 to 4 euros | Count | 32 | 13 | 45 |
| | | | 32.0% | 13.0% | 22.5% |
| | Ranging from 5 to 10 euros | Count | 39 | 24 | 63 |
| | | | 39.0% | 24.0% | 31.5% |
| | Ranging from 11 to 20 euros | Count | 9 | 26 | 35 |
| | | | 9.0% | 26.0% | 17.5% |
| | Ranging from 21 to 35 euros | Count | 3 | 24 | 27 |
| | | | 3.0% | 24.0% | 13.5% |
| | Above 35 euros | Count | 0 | 13 | 13 |
| | | | 0.0% | 13.0% | 6.5% |
| Total | | Count | 100 | 100 | 200 |
| | | | 100.0% | 100.0% | 100.0% |

Table 26

According to the data in the table above, there are 100 samples of Willingness to pay regarding public museums offering free related services such as free parking and free drinks when visiting museums, and another 100 samples of Willingness to pay regarding the public museum that do not offer free services such as parking and drinks, keeping other independent variables constant. In accordance to the data, for public museums that don't offer free parking and free drinks, there are more people willing to pay the price ranging from 1 to 10 euros; however, with respect to public museums offering free parking and free drinks, there are more people willing to pay between 11 to 35 euros, and even 13% of the respondents are willing to afford above 35 euros to visit. Hereby I can presuppose that people are willing to pay more for public museums that offer free related services such as parking and drinks than public museums that do not offer any free related services.

Hence hypotheses are postulated:

H0: In the population, there is *no* relationship between people's 'Willingness to pay' for public museums and the free related services provided by public museums.
H1: In the population, there is a relationship between people's 'Willingness to pay' for public museums and the free related services provided by public museums.

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 66.184[a] | 5 | .000 |
| Likelihood Ratio | 80.684 | 5 | .000 |
| Linear-by-Linear Association | 62.846 | 1 | .000 |
| N of Valid Cases | 200 | | |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.50.

**Symmetric Measures**

| | | Value | Approx. Sig. |
|---|---|---|---|
| Ordinal by Ordinal | Phi | .575 | .000 |
| | Cramer's V | .575 | .000 |
| N of Valid Cases | | 200 | |

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Table 27

According to the data in the table above, Cramer's V is 0. 575 and it is apparently larger than 0.30, therefore it denotes that there lies a strong casual relation between variable Willingness to pay and variable Public museum

regarding offering free parking and free drinks. Thus the H1 can be accepted.

**Willingness To Visit the public museum within three months * Public museums regarding free parking and free drinks**

**Crosstab**

| | | | Public museums regarding free parking and free drinks | | Total |
|---|---|---|---|---|---|
| | | | None | Free related services | |
| Willingness To Visit the public museum within three months | Never visit | Count | 14 | 0 | 14 |
| | | | 14.0% | 0.0% | 7.0% |
| | From 1 to 3 times | Count | 41 | 12 | 53 |
| | | | 41.0% | 12.0% | 26.5% |
| | From 4 to 7 times | Count | 34 | 30 | 64 |
| | | | 34.0% | 30.0% | 32.0% |
| | From 8 to 12 times | Count | 10 | 41 | 51 |
| | | | 10.0% | 41.0% | 25.5% |
| | Above 12 times | Count | 1 | 17 | 18 |
| | | | 1.0% | 17.0% | 9.0% |
| Total | | Count | 100 | 100 | 200 |
| | | | 100.0% | 100.0% | 100.0% |

Table 28

In accordance to the data from the table above, there are 100 samples of Willingness to visit regarding public museums that offer free parking and free drinks and another 100 samples of Willingness to visit regarding public museums that do not offer free extra services such as parking and drinks, keeping other independent variables constant. According to the data, with respect to public museums that do not offer free extra services such as free parking and drinks, there are more people not willing to visit or visit from 1 to 7 times within three months; however, there are more people willing to visit from 8 to 12 times within three months, and even 17% of the respondents are willing to visit above 12 times within three months, if public museums offer free extra related services such as parking and drinks. Based on this finding, it is possible to assume that people wish to visit public museums that offer free extra services such as parking and drinks more frequently than public museums that do not offer free extra services.

So the hypotheses are set:

H0: In the population, there is *no* relationship between people's 'Willingness to visit' public museums and the free related services provided by public museums.

H1: In the population, there is a relationship between people's 'Willingness to visit' public museums and the free related services provided by public museums.

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 63.183[a] | 4 | .000 |
| Likelihood Ratio | 73.880 | 4 | .000 |
| Linear-by-Linear Association | 61.807 | 1 | .000 |
| N of Valid Cases | 200 | | |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.00.

**Symmetric Measures**

| | | Value | Approx. Sig. |
|---|---|---|---|
| Ordinal by Ordinal | Phi | .562 | .000 |
| | Cramer's V | .562 | .000 |
| N of Valid Cases | | 200 | |

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Table 29

Based on the data shown in the table above, Cramer's V here is 0.562, it is larger than 0.30 which shows a strong relation between variable Willingness to pay and variable Public museums regarding offering free parking and free drinks. Therefore, the hypothesis stating that there is a relationship between people's Willingness to visit public museums and the free related services provided by public museums could be accepted.

### *-Two sample T test of people's Willingness To Pay and Willingness To Visit with changing variables*

Besides the Chi-Square Test, Two Sample T-Test is also suitable to this research to further compare two population means with each other. In this empirical study, I can further compare the population means of people's Willingness to pay for and Willingness to visit public museums that do not arrange special exhibitions and the population means of people's Willingness to pay for and Willingness to visit public museums that arrange special exhibitions; compare the population means of people's Willingness to pay for and Willingness to visit public museums that do not offer free related services and the population means of people's Willingness to pay for and Willingness to visit public museums that offer free related services; compare the population

means of people's Willingness to pay for and Willingness to visit public museums that don't arrange various forms of social programs and the population means of people's Willingness to pay for and Willingness to visit public museums that arrange various forms of social programs; And compare the population means of people's Willingness to pay for and Willingness to visit public museums that do not organize educational programs and the population means of people's Willingness to pay for and Willingness to visit public museums that organize educational programs;.

Firstly, the 'Willingness To Pay' and the 'Willingness To Visit' regarding organizing various forms of exhibitions of public museums are to be analyzed.

**Group Statistics**

| | Public museums regarding arranging diverse types of exhibitions | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Willingness To Pay | Not organize | 100 | 2.4900 | .97954 | .09795 |
| | Arranging | 100 | 3.8100 | .97125 | .09713 |
| Willingness To Visit | Not organize | 100 | 2.4300 | .89052 | .08905 |
| | Arranging | 100 | 3.6100 | .72328 | .07233 |

Table 30

As it is shown in the table above, the population mean for Willingness to pay for public museums that not organize diverse forms of exhibitions is 2.49, the population mean for Willingness to pay for public museums that organize diverse forms of exhibitions is 3.81, it's explicit to see that the population mean of Willingness to pay for public museums that organize diverse types of exhibitions is larger than the population mean of Willingness to pay for museums that do not organize various forms of exhibitions.

More over, taking a look at the variable of Willingness to visit public museums, the population mean for Willingness to visit public museums that not organize touring exhibitions or other forms of exhibitions is 2.43, and the population mean for Willingness to visit public museums that organize various types of expositions is 3.61. Thus the population mean of Willingness to visit museums that organize other types of expositions is larger than the population mean of Willingness to visit public museums that not organize various types of exhibitions.

Because two groups are to be compared, there are two groups of population means and two groups of sample standard deviations. The formula of T test depends on whether we can presume sample standard deviation of the two groups to be equal. In order to test the Two Sample T Test, we first need to use another test of significance

to test the homogeneity of variances. In SPSS, the test for equal variances is called Levene's Test. It is equivalent to F-test for homogeneity of variances. For any test of significance, the null hypothesis and the alternate hypothesis for it need to be postulated. And further we need to postulate the null hypothesis and the alternative hypothesis for T test.

The Hypotheses for test of significance are shown in the appendix 9.1.1.

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Willingness To Pay | Equal variances assumed | .495 | .482 | -9.569 | 198 | .000 | -1.32000 | .13794 | -1.59203 | -1.04797 |
| | Equal variances not assumed | | | -9.569 | 197.986 | .000 | -1.32000 | .13794 | -1.59203 | -1.04797 |
| Willingness To Visit | Equal variances assumed | 3.991 | .047 | -10.286 | 198 | .000 | -1.18000 | .11472 | -1.40624 | -.95376 |
| | Equal variances not assumed | | | -10.286 | 190.010 | .000 | -1.18000 | .11472 | -1.40630 | -.95370 |

Table 31

According to the data shown in the table, p-value (0.482) of Levene's test is larger than alpha (0.05). Hence the H0 cannot be rejected and the H1cannot be accepted, which implies that we do presume equal variances between Willingness to pay for museums that arrange various forms of exhibitions and Willingness to pay for museums that do not arrange various forms of exhibitions. Now looking at the first row of the p-value for t-test. Because the alternate hypothesis for this t-test is directional, p-value should be divided by two, hence 0.00/2=0.00 and it is smaller than alpha (0.05), accordingly we could reject the H0 and accept the H1: the population mean of Willingness to pay for public museums that do not organize various exhibitions is smaller than the sample of Willingness to pay for public museums that organize diverse forms of exhibitions.

As for variable Willingness to visit, p-value of Levene's test (0.047) is smaller than alpha (0.05), hence the H0 should be rejected and the H1should be accepted: equal variances would not be assumed. Thus we look at the second row of the p-value for t-test, it indicates that p-value (0.00) divided by two is smaller than alpha (0.05). Hence the H0 can be rejected and we can accept the H1, which states that the population mean of Willingness to visit public museums that do not organize touring exhibitions or other diverse forms of exhibitions is smaller

than the population mean of Willingness to visit that organizes various types of exhibitions such as touring exhibitions, periodical special exhibitions, etc.

For the 'Willingness To Pay' and 'Willingness To Visit' regarding offering free related services, the table of Two Sample T Test is shown below:

**Group Statistics**

| | Public museums regarding free parking and free drinks | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Willingness To Pay | None | 100 | 2.4900 | .97954 | .09795 |
| | Provide free related services | 100 | 4.0000 | 1.23909 | .12391 |
| Willingness To Visit | None | 100 | 2.4300 | .89052 | .08905 |
| | Provide free related services | 100 | 3.6300 | .90626 | .09063 |

Table 32

As it is shown in the table above, the population mean for Willingness to pay for public museums that not provide free related services is 2.49, the population mean for Willingness to pay for public museums that provide free related services is 4.00, it's explicit to see that the population mean of Willingness to pay for public museums that offer free related services is larger than the population mean of Willingness to pay for museums that do not offer free related services. It implies that people wish to pay higher price to visit public museums that provide free related services.

More over, it shows the same story to variable Willingness to visit public museums: the population mean for Willingness to visit public museums that not offer free related services is 2.43, and the population mean for Willingness to visit public museums that offer free related services is 3.63. Thus the population mean of Willingness to visit museums that offer free related services is larger than the population mean of Willingness to visit public museums that not offer free extra services. It implies that people wish to visit museums providing free related services more often than museums that do not offer free related services.

To formulate the null hypothesis and alternate hypothesis for the test of equal variances, the H0 and the H1 are shown in the appendix 9.1.2.

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Willingness To Pay | Equal variances assumed | 4.015 | .046 | -9.560 | 198 | .000 | -1.51000 | .15795 | -1.82148 | -1.19852 |
| | Equal variances not assumed | | | -9.560 | 187.985 | .000 | -1.51000 | .15795 | -1.82158 | -1.19842 |
| WILLINGNESS TO IST | Equal variances assumed | .059 | .808 | -9.445 | 198 | .000 | -1.20000 | .12706 | -1.45056 | -.94944 |
| | Equal variances not assumed | | | -9.445 | 197.939 | .000 | -1.20000 | .12706 | -1.45056 | -.94944 |

Table 33

According to the Levene's Test, P-value of Levene's test is 0.046 which is smaller than alpha (0.05). Hence we reject the H0 and accept the H1 that we do not assume equal variances. So looking at the second row of the p-value of t-test. The p-value of t-test is 0.00. Because the H1 formulated for t-test is directional, p-value should be divided by 2, which is 0.00/2=0.00. As a result, p-value is smaller than alpha (0.05), hence the H0 should be rejected and we can accept the H1, which states that the population mean of Willingness to pay public museums that do not offer free related services is smaller than the population mean of Willingness to pay public museums that offer free related services.

In terms of Willingness to visit, p-value of Levene's test (0.808) is larger than alpha (0.05), so the H0 cannot be rejected, which implies we do assume equal variances. Now we look at the first row of the p-value of t-test, it indicates that p-value (0.00) divided by two is smaller than alpha (0.05). So we can reject the H0 and accept the H1, which states that the population mean of Willingness to visit public museums that do not organize free related services is smaller than the population mean of Willingness to visit that offer free related services.

The two sample T test of the 'Willingness to pay' and the 'Willingness to visit' regarding social events is shown below:

**Group Statistics**

| | Public museums regarding social events and other activities | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Willingness To Pay | None | 100 | 2.4900 | .97954 | .09795 |
| | Arranging social events and other activities | 100 | 4.1800 | 1.01881 | .10188 |
| Willingness To Visit | None | 100 | 2.4300 | .89052 | .08905 |
| | Arranging social events and other activities | 100 | 3.7200 | .88854 | .08885 |

Table 34

As it can been seen from the table above, the population mean of Willingness to pay for public museums that do not arrange various social events and activities is 2,49, the population mean of Willingness to pay for public museums that arrange various social events is 4,18, apparently the population mean of Willingness to pay for public museums that do not arrange various social events is smaller than Willingness to pay for public museums that arrange various social events. People wish to pay generally higher price for public museums that arrange various social events.

Looking at the variable of Willingness to visit public museums regarding arranging social events and activities. The population mean of Willingness to visit public museums that do not arrange various social events is smaller than the population mean of Willingness to visit public museums that arrange various social events. Therefore, within the 100 respondents, people wish to visit public museums that arrange social events more often relatively.

To formulate the null hypothesis and alternate hypothesis for the test of equal variances, the H0 and the H1 are shown in the appendix 9.1.3.

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Willingness To Pay | Equal variances assumed | .021 | .884 | -11.958 | 198 | .000 | -1.69000 | .14133 | -1.96871 | -1.41129 |
| | Equal variances not assumed | | | -11.958 | 197.695 | .000 | -1.69000 | .14133 | -1.96871 | -1.41129 |
| Willingness To Visit | Equal variances assumed | .002 | .969 | -10.254 | 198 | .000 | -1.29000 | .12580 | -1.53808 | -1.04192 |
| | Equal variances not assumed | | | -10.254 | 197.999 | .000 | -1.29000 | .12580 | -1.53808 | -1.04192 |

Table 35

According to the p-value of Levene's Test, p-value (0.884) is larger than alpha (0.05), which means that we do not reject the H0. Therefore, equal variances should be assumed. So looking at the first row of the P-value of T test. The p-value (0.00) divided by two is smaller than alpha (0.05). Thus the H0 should be rejected and we accept the H1: the population mean of Willingness to pay for public museums that do not organize diverse

social activities is smaller than the population mean of Willingness to pay for public museums that organize diverse social activities.

Looking at the variable of Willingness to visit public museums regarding organizing diverse social activities. P-value of Levene's Test 0.969 is larger than alpha (0.05), thus the H0 cannot be rejected and equal variances should be assumed. And looking at the first row of the P-value of T test, regarding Willingness to visit public museums, the p-value of t-test (0.00) divided by two is smaller than alpha (0.05). Thus the H0 should be rejected and we accept the H1: the population mean of Willingness to visit public museums that do not organize diverse social activities is smaller than the population mean of Willingness to visit the public museum that organize diverse forms of social events and gaming activities.

The two sample T Test of the 'Willingness to pay' and the 'Willingness to visit' regarding providing educational programs is shown below:

**Group Statistics**

| | Public museums regarding educational programs | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Willingness To Pay | None | 100 | 2.4900 | .97954 | .09795 |
| | Arranging educational programs | 100 | 3.9400 | 1.25384 | .12538 |
| Willingness To Visit | None | 100 | 2.4300 | .89052 | .08905 |
| | Arranging educational programs | 100 | 3.9200 | 3.07049 | .30705 |

Table 36

As it is shown in the table able, the population mean of Willingness to pay for public museums that do not provide educational programs is 2.49; the population mean of Willingness to pay for public museums that arrange educational programs is 3.94. Apparently, the population means regarding public museums that organize educational programs is larger than the population mean regarding public museums that do not offer educational programs. It implies that people wish to pay higher price to visit public museums that hold education programs such as presentation or workshops inside museums.

More over, it is the same story to the population means of Willingness to visit public museums regarding educational programs. The population mean of Willingness to visit public museums that do not provide educational programs (2.43) is smaller than the population mean of Willingness to visit public museums that organize educational programs (3.92). Therefore, It can be concluded that people wish to visit public museums

that hold educational programs more often than public museums that do not organize educational programs such as workshops and presentations.

To formulate the null hypothesis and alternate hypothesis for the test of equal variances, the H0 and the H1 are shown in the appendix 9.1.4.

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| Willingness To Pay | Equal variances assumed | 5.863 | .016 | -9.113 | 198 | .000 | -1.45000 | .15911 | -1.76377 | -1.13623 |
| | Equal variances not | | | -9.113 | 187.047 | .000 | -1.45000 | .15911 | -1.76388 | -1.13612 |
| Willingness To Visit | Equal variances assumed | .774 | .380 | -4.661 | 198 | .000 | -1.49000 | .31970 | -2.12046 | -.85954 |
| | Equal variances not assumed | | | -4.661 | 115.538 | .000 | -1.49000 | .31970 | -2.12324 | -.85676 |

Table 37

In the light of the p-value of Levene's Test for equal variances, p-value (0.016) is smaller than alpha (0.05), which implies that we reject the H0 and accept the H1: we do not assume equal variances. Now looking the second row of the P-value. Here the p-value (0.00) should be divided by two because the H1 is directional, the result of p-value divided by two is smaller than alpha (0.05). So the H0 is rejected and we accept the H1 that states that the population mean of Willingness to pay for public museums that do not organize any types of educational programs is smaller than the population mean of Willingness to pay for public museums that organize educational programs. Therefore, it implies that people are willing to pay a higher price for visiting public museums that organize educational programs such as educational presentations or workshops than public museums that do not provide any types of educational programs.

Looking at the variable of Willingness to visit public museums regarding organizing educational programs. P-value of Levene's Test (0.38) is larger than alpha (0.05), thus the H0 cannot be rejected and equal variances should be assumed. Thus looking at the first row of the P-value for T-test. The p-value of T-test (0.00) divided by two is smaller than alpha (0.05). So the H0 should be rejected and we accept the H1 that states the population mean of Willingness to visit public museums that do not organize any types of educational programs

is smaller than the population mean of Willingness to visit public museums that organize educational programs. Hereby, based on this data, I can propose that people are willing to visit public museums that provide educational programs more frequently than public museums that do not provide any types of educational programs.

# 6.Conlusion

## 6.1 Conclusion of theories

To conclude, because of the merit good nature of museums, it is not the mission for museums to boost local economy and make interesting profits. The main function of museums is to conserve cultural heritage and exhibit them to society. Therefore, whether to charge or not to charge the entrance to museums is always a discussion. The arguments supporting not to charge the admission seem to be invalid because the demand for museums services is hardly price elastic, free admission would only slightly bring more visitors. On the other hand, the marginal cost for each museum visitor is not zero, so charging nothing is not economically efficient. In addition, apart from the free admission policy, other pricing options are adopted by some museums, such as donation boxes, family tickets, seasonal prices and so forth. These differentiated pricing methods could maximize both access and revenue.

A new method to gain revenue is called ‘Pay as you go’, which is based on charging per minute. This way of charging visitors at exit rather than at entrance would strongly encourage incidental visitors and non-museum visitors to visit museums. For the superstar museum, the way for generating more revenue sounds more diverse. They publish books, catalogues and DVD for their own museums and license the copy right of their collection to other commercial groups. The catering in museum such as souvenir shops and restaurants are also important means to gain more revenues. Holding the periodical special exhibitions can efficiently get more infrequent visitors and non-visitors and also enhance their willingness to pay for the tickets. From the supple side, holding special exhibitions can considerably save the costs.

With respect to the unearned parts of income, museums are encouraged to seek other commercial opportunities such as collaborating with local business partners and other attractions to get a win-win situation. More over, hosting special events such as corporate conferences, the auction night and the grand dinner will not only bring more income to the museums, but also arouse more attentions to and awareness of the names of the museums.

## 6.2 Conclusion of main findings

In order to increase the earned income, enhancing people's 'Willingness to pay' and 'Willingness to visit' public museums is the fundamental solution. To increase people's 'Willingness to pay' and 'Willingness to visit', improving the quality and the content of the exhibitions, expanding the related services, organizing educational programs and arranging diverse social activities is vastly significant. To test whether practicing those new policies could effectively enhance people's 'Willingness to pay' and 'Willingness to visit', the demographic data was analyzed and the Cramer's V as well as Two-sample T test was conducted.

According to the results of the survey, people's demographic background influences their tastes for visiting museums substantially. For instance, people with the higher educational background are likely to pay a higher price for visiting museums and visiting museums more frequently than people with relatively the lower educational level. People who receive the higher monthly income are inclined to pay a higher price for tickets and visit museums more often than people who receive relatively the lower monthly salary. In addition, people with the higher educational background are more inclined to have interests in visiting museums than people with the relatively lower educational background. People who receive relatively the higher monthly income are more likely to have fondness for visiting museums than people who receive relatively the lower salary per month. More over, based on the relation between demographic background and people's tastes for museums, it is plausible to assume that people who have tastes for visiting museums would wish to pay more for visiting museums than people who do not have interests in visiting museums. People who are fond of visiting museums are likely to visit more frequently than people who are not fond of visiting museums.

Based on the question concerning people's attitudes toward the free entrance policy, most people do not think that free entrance would necessarily attract more visitors, because the behavior of visiting museums is based on personal fondness. According to the results of Cramer's V test, there is a strong relation between people's 'Willingness to pay', 'Willingness to visit' and the 'public museums concerning providing diverse forms of exhibitions'. There is a strong relationship between people's 'Willingness to pay', 'Willingness to visit' and the 'public museums concerning offering free related services'. There is a strong relationship between people's 'Willingness to pay', 'Willingness to visit' and the 'public museums concerning arranging various forms of social activities'. And there is a strong relation between people's 'Willingness to pay', 'Willingness to visit' and the 'public museums with organizing educational programs such as workshops and presentations'.

According to result of Two Sample T-test, it can be concluded that the population mean of people's 'Willingness to pay' and 'Willingness to visit' with respect to public museums that do not offer periodical special exhibitions is smaller than the population mean of people's 'Willingness to pay' and 'Willingness to visit' regarding public museums that offer periodical special exhibitions, keeping other changing variables remained. The population mean of people's 'Willingness to pay' and 'Willingness to visit' regarding public museums that do not offer free related services is smaller than the population mean of the people's 'Willingness to pay' and 'Willingness to visit' regarding public museums that offer free related services, keeping other changing variables constant. The population mean of people's 'Willingness to pay' and 'Willingness to visit' regarding public museums that do not offer diverse forms of social events and activities is smaller than people's 'Willingness to pay' and 'Willingness to visit' concerning public museums that organize diverse forms of social events and activities, keeping other changing variables constant. The population mean of people's 'Willingness to pay' and 'Willingness to visit' regarding public museums that provide educational programs is smaller than the people's 'Willingness to pay' and 'Willingness to visit' regarding public museums that do not provide educational programs such as educational workshops and presentations.

## 6.3 Suggestions

Accordingly, to generate more earned income for public museums, lowering the ticket prices or even offering free entrances are not efficient solutions because the demand for visiting museums is hardly price-sensitive and the behavior of visiting museums is taste-based, museums-visiting involves people's tastes development and people's previous experiences. Lowering the ticket prices or even offering free entrance would not necessarily bring more visitors. However, improving the quality of exhibitions and related services and other various ways of new policies would efficiently attract more visitors and bring more income. In this research, various new policies include organizing more special exhibitions, providing more free related services, arranging educational programs and holding more diverse social events. Among these new policies, people's Willingness to pay for and Willingness to visit public museums that hold more diverse social events get increased most dramatically compared to others. Therefore, public museums could consider organizing various forms of social activities such as casino night, cocktail evening, etc., to attract more infrequent visitors and even new visitors. The second most significant choice to enhance people's 'Willingness to pay' and 'Willingness to visit' is to arrange more educational programs such as educational presentations and workshops.

## 6.4 Limitations

There are also some limitations on the suggested charging polices and we need further researches on this filed of study. For instance, the costs for offering extra services and benefits to visitors who donate to the museums are possibly paid off by the money donated, in this way the donation is meaningless. Moreover, with respect to the pricing policy 'Pay as you go', the practice of this strategy needs more sophisticated and detailed pricing regulations. For instance, within one hour the price of ticket would increase in proportion with the time being inside of the museum, 10 minutes for 2 euros, 30 minutes for 8 euros, 60 minutes 12 euros. But after one hour the price should remain fixed. Otherwise the ticket price would be very high and it will discourage potential visitors, especially noticing the fact that the regular ticket prices for visiting other museums also promise the whole day visiting.

With regard to the limitation of my research, first of all, the contingent valuation method measured the hypothetical economic values of visiting museums, what respondents filled are their potential valuations for 'willingness to pay' and 'willingness to visit', as opposed to revealed preferences. So in real life, people's 'willingness to pay' and 'willingness to visit' might be not consistent their potential valuations. Moreover, because the survey respondents I received are restricted to people who use the accounts in the Internet virtual communities (Facebook and Renren), thus the population who do not have PC or do not use those Internet virtual communities would be missed. In this condition, the population sampling is limited and the sampled population might not be sufficiently representative to Chinese people. More over, because this research is only involved with the respondents in Mainland China, the result of the research would be quite limited, and would not be valid for people from other countries, thus I suggest that there would be further research studying in this sphere. In order to make the research more socially relevant in the Netherlands, I suggest to further conduct comparative studies between Chinese and Dutch to analyze if there are differences between their Willingness to pay for and Willingness to visit public museums in general and their responses when public museums in their countries practice those new policies.

## 7.Bibliography list

Bailey, S.J., falconer, P, Foley, M, McPherson, G, Graham, M. (1998). "*To Charge or Not to Change: Full Report"*. Glasgow Caledonian University, Glasgow.

Bailey, S.J. and Falconer, P. (1998). *"Charging for admission to museums and galleries"*. *Journal of Cultural Economics*. 22 (203), 167-177.

Frey, B.S. and Meier, S. (2006). *"The economics of museums",* In Ginsburgh and Throsby, Chapter 29

Frey, B.S. and Steiner, L. (2010). *"Pay as you go: a new proposal for museum pricing",* University of Zurich, Working Paper Series, ISSN 1424-0459

Goudriaan, R., Van't Eind, G.J. (1985). *" To fee or not to fee: Some effects of introducing admission four museums in Rotterdam"*. In: Owen, V.L. Hendon, W.S. (Eds.), *Managerial Economics for the Arts*, Association for Cultural Economics, Akron, OH, pp. 103-109.

Gu,S(2011). *"How to conquer the cost disease in the live museum performing arts nowadays?"*, Erasmus University Rotterdam.

Gu,S(2011). *"A Study On Admission Charges Of Museums"*. Erasmus University Rotterdam.

Gu,S(2012). *"The Innovative Approach To Finance Public Museums"*. Erasmus University Rotterdam.

Hall, D. and Hall, M. (2007). *"Best Practices Module--Revenue Generation"*, British Columbia Museums Association, 2007.

Houthakker, H.S. and Lester D.Taylor. (1970), "*Consumer Demand in the United States: Analysis and Projections"*. (Cambridge: Harvard University Press, 1970), 2nd ed.

Louis Levy-Garboua. Claude Montmarquette (2002). "*The Demand for the Arts"*, Team-Cners, Universite de Paris1 (Pantheon-Sorbonne) and CIRANO, CIRANO and Department of Economics, University of Montreal

Johnson, P. and Thomas, B. (1998). *"The Economics of Museums: A Research Perspective",* Journal of Cultural Economics, Volume 22, Numbers 2-3, 75-85, DOI: 10.1023/A: 1007537500352

Khakee, Abdul and Goran Nilsson. (1980). *"Is the Supply of Cultural Events an Indicator of Their Demand? Music and Theater in Sweden,"* in *Economic Policy For The Arts*. William S.Hendon, James L. Shanahan and Alice J. MacDonald (eds.), (Cambridge: Abt books, 1980), pp.272-282.

Mark D. Lange and William A.Luksetich (1984), *Demand Elasticity for Symphony Orchestras*. *Journal of Cultural Economics.* Volume8, Number 1, 29-47, DOI: 10.1007/BF01574441

McFelter, G. (2007). *"The costs of free admission fees at the American art museums"*. Museum News, January-February, 2007.

Noonan, D.S. (2003). *"Contingent Valuation and Cultural Resources: A Meta-Analytic Review of the Literature"*. Journal of Cultural Economics 27:159-176.

Sanz, J.A., Herrero, L.C.&Bedate, A.M., (2003). *"Contingent Valuation and Semiparametric Methods: A Case study of the National Museum of Sculpture in Valladolid, Spain"*. Journal of Cultural Economics 27:pp.241-257.

Rosen, S. (1981). *"The economics of superstars"*. American Economic Review 71, 845-858.

Towse, R. (2002). *"The Cultural Economy of Heritage"*. In: I. Rizzo & R. Towse (eds.), *The Economics of Heritage. A Study in the Political Economy of Culture in Sicily*. Chieltenhan: Edward Elgar, pp. 3-19.

Throsby, C.D. (1977). *"Production and Cost Relationships in the Supply of Performing Arts Services,"* in K.A.Tucker, eds., Economics of the Australian Service Sector. (London: Croom-Welm,1977).

Throsby, D. (2003). *"Determining the Value of Cultural Goods: How Much (or How Little) Does Contingent Valuation Tell Us?",* Journal of Cultural Economics 27:275-285.

Wingfield, C.(2008). *" Museum Service and Income Generation".* Museum Management Working Group, 2008.

## 8.Other sources

Figure 1.source: The Nielsen company. http://www.techinasia.com/china-internet-growth-and-online-behavior/

Figure 2.source: http://www.nationmaster.com/country/ch/Age_distribution

# 9. Appendix

## 9.1 The hypotheses equations

### *9.1.1*

H0 (null hypothesis):

$\sigma^2$ **willingness to pay for public museums without arranging touring exhibition or periodical special exhibitions (group1)** $=$ $\sigma^2$ **willingness to pay for public museums without arranging touring exhibition or periodical special exhibitions (group2)**

H1 (alternative hypothesis):

$\sigma^2$ **willingness to pay for public museums without arranging touring exhibition or periodical special exhibitions (group1)** $\neq$ $\sigma^2$ **willingness to pay for public museums without arranging touring exhibition or periodical special exhibitions (group2)**

H0 (null hypothesis):

$\sigma^2$ **Willingness to visit public museums without arranging touring exhibition or periodical special exhibitions (group1)** $=$ $\sigma^2$ **willingness to visit public museums arranging touring exhibition or periodical special exhibitions (group2)**

H1 (alternative hypothesis):

$\sigma^2$ **Willingness to visit public museums without arranging touring exhibition or periodical special exhibitions (group1)** $\neq$ $\sigma^2$ **willingness to visit public museums arranging touring exhibition or periodical special exhibitions (group2)**

The hypotheses for the T test are to be set, the H0 and the H1 for this test are:

H 0 :

$\mu$ **willingness to pay for public museums without arranging touring exhibition or periodical special exhibitions (group1)** $=$ $\mu$ **willingness to pay for public museums with arranging touring exhibitions or temporary special exhibitions (group2)**

H 1 :

$\mu$ **willingness to pay for public museums without arranging touring exhibition or periodical special exhibitions (group1)** $<$ $\mu$ **willingness to pay for public museums with arranging touring exhibitions or temporary special exhibitions (group2)**

H 0 :

$\mu$ **willingness to visit public museums without arranging touring exhibition or periodical special exhibitions (group1)** $=$ $\mu$ **willingness to visit public museums with arranging touring exhibitions or temporary special exhibitions (group2)**

H1:

**$\mu$willingness to visit public museums without arranging touring exhibition or periodical special exhibitions (group1) $<$ $\mu$willingness to visit public museums with arranging touring exhibitions or temporary special exhibitions (group2)**

### *9.1.2*

H0:

**$\sigma^2$willingness to pay for public museums that do not offer free related services (group1) $=$ $\sigma^2$willingness to pay for public museums that offer free related services (group2)**

H1:

**$\sigma^2$willingness to pay for public museums that do not offer free related services (group1) $\neq$ $\sigma^2$willingness to pay for public museums that offer free related services (group2)**

H0:

**$\sigma^2$ willingness to visit public museums that do not offer free related services (group1)$=$ $\sigma^2$ willingness to visit public museums that offer free related services (group2)**

H1:

**$\sigma^2$ willingness to visit public museums that do not offer free related services (group1) $\neq$**

**$\sigma^2$ willingness to visit public museums that offer free related services (group2)**

The H0 and the H1 for T-test are:

H0:

**$\mu$willingness to pay for public museums that do not offer free related services (group1)$=$ $\mu$willingness to pay for public museums that offer free related services (group2)**

H1:

**$\mu$willingness to pay for public museums that do not offer free related services (group1)$<$ $\mu$willingness to pay for public museums that offer free related services (group2)**

H0:

**$\mu_{\text{willingness to visit public museums that do not offer free related services (group1)}} = \mu_{\text{willingness to visit public museums that offer free related services (group2)}}$**

H1:

**$\mu_{\text{willingness to visit public museums that do not offer free related services (group1)}} < \mu_{\text{willingness to visit public museums that offer free related services (group2)}}$**

### *9.1.3*

H0:

**$\sigma^2_{\text{willingness to pay for public museums that do not organize diverse social activities (group1)}} = \sigma^2_{\text{willingness to pay for public museums that organize diverse social activities (group2)}}$**

H1:

**$\sigma^2_{\text{willingness to pay for public museums that do not organize diverse social activities (group1)}} \neq \sigma^2_{\text{willingness to pay for public museums that organize diverse social activities (group2)}}$**

H0:

**$\sigma^2_{\text{willingness to visit public museums that do not organize diverse social activities (group1)}} = \sigma^2_{\text{willingness to visit public museums that organize diverse social activities (group2)}}$**

H1:

**$\sigma^2_{\text{willingness to visit public museums that do not organize diverse social activities (group1)}} \neq \sigma^2_{\text{willingness to visit public museums that organize diverse social activities (group2)}}$**

The H0 and the H1 for T test are:

H0:

**$\mu_{\text{willingness to pay for public museums that do not organize diverse social activities (group1)}} = \mu_{\text{willingness to pay for public museums that organize diverse social activities (group2)}}$**

H1:

**$\mu$willingness to pay for public museums that do not organize diverse social activities (group1)** $<$

**$\mu$willingness to pay for public museums that organize diverse social activities (group2)**

H0:

**$\mu$willingness to visit public museums that do not organize diverse social activities (group1)** $=$ **$\mu$willingness to visit public museums that organize diverse social activities (group2)**

H1:

**$\mu$willingness to visit public museums that do not organize diverse social activities (group1)** $<$

**$\mu$willingness to visit public museums that organize diverse social activities (group2)**

### *9.1.4*

H0:

**$\sigma^2$willingness to pay for public museums that do not provide educational programs (group1)** $=$ **$\sigma^2$willingness to pay for public museums that provide educational programs (group2)**

H1:

**$\sigma^2$willingness to pay for public museums that do not provide educational programs (group1)** $\neq$ **$\sigma^2$willingness to pay for public museums that provide educational programs (group2)**

H0:

**$\sigma^2$willingness to visit public museums that do not provide educational prorams (group1)** $=$ **$\sigma^2$willingness to visit public museums that provide educational programs (group2)**

H1:

**$\sigma^2$willingness to visit public museums that do not provide educational programs (group1)** $\neq$ **$\sigma^2$willingness to visit public museums that provide educational programs (group2)**

The H0 and the H1 for T test are:

H0:

**$\mu_{\text{willingness to pay for public museums that do not provide educational programs (group1)}} = \mu_{\text{willingness to pay for public museums that provide educational programs (group2)}}$**

H1:

**$\mu_{\text{willingness to pay for public museums that do not provide educational programs (group1)}} < \mu_{\text{willingness to pay for public museums that provide educational programs (group2)}}$**

H0:

**$\mu_{\text{willingness to visit public museums that do not provide educational programs (group1)}} = \mu_{\text{willingness to visit public museums that provide educational programs (group2)}}$**

H1:

**$\mu_{\text{willingness to visit public museums that do not provide educational progarms (group1)}} < \mu_{\text{willingness to vist public museums that provide educational programs (group2)}}$**

## 9.2 Survey Questions

**1. Please indicate your gender**

- ○ Male
- ○ Female

**2. Please select the range of age that you belong to**

- ○ Under 18
- ○ 18-24
- ○ 25-34
- ○ 35-44
- ○ 45+

**3. Please indicate your educational background**

- ○ Below university
- ○ Associate degree
- ○ Bachelor's degree
- ○ Post-graduate degree
- ○ PHD

**4. Please select the range of salary you received monthly**

- ○ No income
- ○ Below 4,000 RMB (Approx. 480 euros)
- ○ From 4,000 RMB/480 euros to 8,000 RMB/960 euros
- ○ From 8,000 RMB/960 euros to 12,000 RMB/1,440 euros
- ○ From 12,000 RMB/1,440 euros to 20,000 RMB/2,400 euros
- ○ Above 20,000 RMB/2,400 euros

**5. Please indicate your attitude towards the behaviour of visiting public museums.**

- ○ Interested
- ○ Neutral feeling

- Not interested

**6. How many times do you visit public museums generally within three months?**

- Never
- 1-3 times
- 4-7 times
- 8-12 times
- More than 12 times

**7. How much would you like to pay for the entrance to public museums generally?**

- None
- 1-5 euros
- 6-10 euros
- 10-15 euros
- 16-20 euros
- Above 20 euros

**8. When you plan to visit a museum, please rank the order of importance of the factors that influence you for decision making. (From 1 most important to 4 least important)**

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Ticket Prices | | | | |
| Exhibition Content | | | | |
| Quality of Exhibition | | | | |
| Extended Services | | | | |

**9. Please indicate your attitude to the following statement: The policy of charging entry ticket to visit museums discourages you to visit public museums, and the free entrance policy would increase the chances that you will visit public museums.**

Strongly Agree
Slightly Agree
Neutral Attitude
Slightly Disagree

Strongly Disagree

**10. IF public museums arrange periodical special exhibitions, for instance, collection borrowed from foreign countries for a limit-time exposition, how much would you like to pay for the admission ticket?**

- None
- 1-4 euros
- 5-10 euros
- 11-20 euros
- 21-35 euros
- Above 35 euros

**11. IF public museums arrange periodical special exhibitions, for instance, collection borrowed from foreign countries for a limit-time exposition, how many times would you expect to visit museums within three months?**

- Wont attend
- From 1 to 3 times
- From 4 to 7 times
- From 8 to 12 times
- Above 12 times

**12. When the public museum offers the educational-purposed presentations, how much would you like to pay for the admission ticket?**

- None
- 1-4 euros
- 5-10 euros
- 11-20 euros
- 21-35 euros
- Above 35 euros

**13. When the public museum offers the educational-purposed presentations, how many times would you expect to visit museums within three months?**

- ○ Wont attend
- ○ From 1 to 3 times
- ○ From 4 to 7 times
- ○ From 8 to 12 times
- ○ Above 12 times

**14. IF the public museum organizes diverse forms of social events and social activities, such as theme festivals, casino nights, charity auctions, gaming activities, etc., how much are you likely to pay for the admission ticket?**

- ○ None
- ○ From 1 to 4 euros
- ○ From 5 to 10 euros
- ○ From 11 to 20 euros
- ○ From 20 to 35 euros
- ○ Above 35 euros

**15. IF the public museum organizes diverse forms of social events and social activities, such as theme festivals, casino nights, charity auctions, gaming activities, etc., how many times would you expect to visit this museum within three months?**

- ○ Wont attend
- ○ From 1 to 3 times
- ○ From 4 to 7 times
- ○ From 8 to 12 times
- ○ Above 12 times

**16. IF the public museum provides free parking place, free drinks, etc., how much would you like to pay for the entrance fee?**

- ○ Don’t wish to pay
- ○ 1-4euros
- ○ 5-10euros
- ○ 11-20euros
- ○ 21-35euros
- ○ Above 35euos

**17. IF the public museum provides free parking place, free drinks, etc., how many times would you expect to attend this museum?**

- ○ Never
- ○ From 1 to 3 times
- ○ From 4 to 7 times
- ○ From 8 to 12 times
- ○ Above 12 times

**18. ‘Pay as you go’ Policy is an innovative charging solution for museums' entrance. Visitors are charged at the exit rather than at the entrance. The fee would depend on the time that visitors spend inside of museums. This pricing manner would save visitors' time and money, minimize the risks of opportunity cost and unsatisfied exhibition collection. Please show your opinion regarding the following statement:**
***If public museums practice the 'Pay as you go' ticket policy, you are greatly encouraged to visit museums***

- ○ Strongly agree
- ○ Agree
- ○ Neutral Attitude
- ○ Disagree
- ○ Strongly disagree

Thanks for your survey, please leave your email if you'd like to be contacted further research.