COMPARATIVE STUDY OF SCALE DEVELOPMENT: CULTURE AND ENTERTIANMENT EXPERIENCE OF TOURISM

A QUANTITATIVE RESEARCH REPORT

1911286 Zhenying Yang | Applied Quantitative Business Research | 4th December 2020

Abstract

The study via comparing two articles, illustrating scale development of cultural and entertainment tourism experience, discusses research design and methodology, and critically thinks shortcoming in order to discover alternative methods or different results. With increasing focus being placed on scale of tourism experience, which could be regarded as benchmarking to discover multi-dimensional demands of tourism, to integrate exploitation evaluation of tourism resources and understand visitor experience. The author surveyed a large number of articles from different level journals, and selected these two articles about current entertainment and historical heritage. Although so many differences between these two types of tourism, theoretical achievements from quantitative research provide relatively uniform complete paradigm to deal with complicated dimensions of measured constructs and initial items. Findings indicate procedures advised by DeVellis (2003) and paradigm for measures studied by Churchill Jr (1979) are basic methods instructing determination of format and data statistic in order to obtain optimization of scale. Further, in spite of association exist between these two articles, differences and critically thinking inspire new insight for quantitative research.

Contents

Abstract 1

1. Introduction 4

2. Rationale for Choice of Articles 5

3. Discussion of Methodology and Research Design 6

    3.1 Discussion of Methodology 6

    3.2 Discussion of Research Design 8

    3.3 Data Sources and Hypothesis 9

    3.4 Identification of dimensions 10

    3.5 Sampling and questionnaire 10

4. Comparison of Data analysis 12

5. Critical Discussion and Alternative Methods 14

    5.1 Critical Discussion 14

    5.2 Discussion of Alternative Methods 15

6. Conclusion and Recommendations 17

7. Bibliography 18

8. Appendices 20

    APPENDIX 1 – The Link of Article 1 20

    APPENDIX 2 – The Link of Article 2 20

LIST OF TABLES AND FIGURES

Table 1: Comparison of methods between DeVellis (2003) and Lee and Smith (2015)

Table 2: Comparison of questionnaire between two surveys

Table 3: Development of 19 items scale (Experience of Historic sites and museum)

Table 4: Development of 26 items scale ((Experience of Entertainment tourism)

Table 5: Dimensions from These Two Articles

Figure 1: Suggested Procedure for Developing Better Measures

Figure 2: Comparison of data analysis

Figure 3: Comparison of two-order

Figure 4: A cultural tourist typology

1. Introduction

This report illustrates three targets: comparison of methodology, research design and data analysis between related two articles, critically refection on these differences and discussion of alternative methods to enhance results.

In the field of interdisciplinary, there should be plenty of dimensions to be attention to clarify development of synthetic studies. The study on comparative research of two related articles focuses on tourism experience, cultural heritage and entertainment industry base on quantitative research to evaluate scale development in different industries of tourism. Darmer and Sundbo noted that concept of experience primarily introduced by two works namely Gerhard Schulze's analysis of cultural behavior (1992) and Pine and Gilmore's book 'The Experience Economy' (1999) (Darmer and Sundbo, 2008, p. 1). Author chooses these two researches of scale in China where has a long history and huge economic entity, which grasp main feature of many historical cities and famous gambling industry in Macau to compare quantitative procedures of customers experience.

The comparative approach and its methodological application must be conducted by means of theory-driven research questions (Penning et al. 2005, p. 6). Also, this comparative study on quantitative research should follow a large number of methodological and theoretical basis to evaluate two articles. The article, 'A Visitor Experience Scale: Historic Sites and Museums', written by Lee and Smith (2015) (see appendix 1) mainly follows theory from the book, Scale Development Theory and Applications (2003) to develop scale. And another article, 'the Development of Measurement Scale for Entertainment Tourism Experience: A Case Study in Macau' (see appendix 2), introduces scale development of entertainment in Macau follows the paradigm suggested by Churchill Jr (1979) and partly qualitive research to strength establish of scale. Both of them base on a flood of literature to select propriate dimensions of scale constructs.

Findings from this study highlight content of four parts. Firstly, the part of introduction states targets, background and basic content of this report. Second part is Rationale for

Choice of Articles, which presents three reasons for author to choose these two articles. In the discussion section, author evaluates methodology, research design and alternative methods critically. Final part is conclusion and recommendation aiming at summarization and reflection on this study briefly.

2. Rationale for Choice of Articles

The culture industry is to be understood from the perspective of its potentialities for promoting or blocking 'integral freedom' (Adorno, T. W. and Bernstein, J. M, 2002, p. 2). Actually, tourism improves cultural transmission and help the pursuit of 'integral freedom'. Further, Cultural and entertainment tourism as two type of culture industry, is related to author's academic background. In spite of the considerable number of research field in culture and entertainment tourism, quantitative research on customers experience rather limited, especially for scale with specific aims. Base on previous academic achievement, to satisfy spiritual demand of current society and huge market demand, a clear literature study according to comparison is significant. The study base on these two articles which focus on culture and entertainment tourism in China, where is familiar places for author, aims to improve understanding differences of scale development in two types of tourism and stimulate new insight on scale development in these industries.

From perspective of research design, these two articles are common concerned about scale development of tourism experience, using quantitative research to optimize and verify scale. It is feasible to compare research design because of similar field and paradigm used. On the other hand, the study on different directions of tourism industry inspire thoughts about details of scale research, exploring methods that quantitative research applied to different field of tourism experience to develop a practicable scale for marketing strategy.

In the perspective of methodology, to a certain extent, these two articles follow quantitative research roundly. Due to similar procedures of data collection and analysis, it is clear to compare differences of data and methods, so that author can critically conclude whether these researches should have alternative methods to improve the

outcomes.

3. Discussion of Methodology and Research Design

3.1 Discussion of Methodology

These two researches are firmly based on the empirical philosophical underpinning, mainly using quantitative method and partly combining other research methods. In the empirical approach, scientific decisions are made based on the data derived from direct observation and experimentation (Marczyk, DeMatteo, and Festinger, 2005, p. 6). Although quantitative research is used in these two articles, differences on methodology should be discussed.

The beginning of a scale must be adequate literature review. Survey for historic sites concludes four types studies of experience in leisure, marketing, tourism and visiting historic sites from experience itself in areas in order to discuss facts that experience economy which is a relatively new field need to develop scale to measure data. According to steps suggested by DeVellis (2003), Lee and Smith (2015) established a pool of 60 items with intention of identifying thesis, key words and development to select 19 items by enhancing contend validity and optimization of scale length (Lee and Smith, 2015, p. 261).

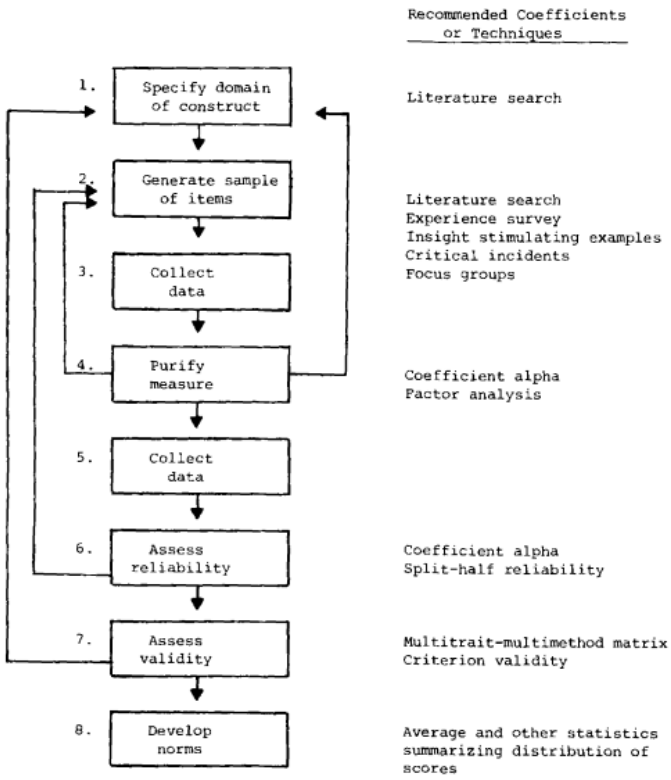
The methodology of study on scale development of entertainment experience is suggested by DeVellis (2003), which provided guidelines with 5 steps. Also, Lee and Smith (2015) partly mixed other methods under framework of quantitative research to purify results of data measure. So, steps in this study cover nine stages. According to comparison results (see table 1), it is clear that Lee and Smith (2015) combined more methods to strengthen reliability and validity of scale, which also mixed paradigm suggested by Churchill Jr (1979). Furthermore, the factor analysis on EFA and CFA helps to identify clusters of variables (Field, 2013, p. 1177). This part in article aims to explore and verify modal construction, thereby establishing model framework and finishing validity analysis.

On the other hand, the article about entertainment in Macau (Luo, J. M. et al, 2018) clarifies a clear historic review and conceptual framework to obtain seven dimensions

of scale according to operationalization of tourism experiences. 29 items were selected from 33 items by means of in-depth interview whose interviewees were found based on the purposive and convenience sampling (Luo, J. M. et al, 2018, p. 857). Differences between these two methods on sample size, definition of scale construction, procedures of data analysis deserve to be discussed critically.

The scale developed in Macau about entertainment experience mainly followed the methodology suggested by Churchill Jr (1979). The clear process is summarized according to the figure source from his study (see Figure 1). Although literature after this paradigm provides other alternative methods for scale development, this paradigm is still a typical approach for related surveys. It is very clear to recommend eight steps (Churchill, Jr, G. A, 1970, P. 66) to develop a normal scale from specific constructs to establishing of the norm. It is worth to notice that mixed methods are used in this survey to generate sample items. In the perspective of survey results, it is can not be judge whether in-depth interview help a lot in the stage of generating sample items in this research, but generally speaking, multiple methods are useful to inspire mind of development.

Figure 1: Suggested Procedure for Developing Better Measures



Source: Churchill Jr (1979)

Table 1: Comparison of methods between DeVellis (2003) and Lee and Smith (2015)

<table>
<tr><th colspan="2">DeVellis (2003)</th><th colspan="3">Lee and Smith (2015)</th></tr>
<tr><td>Step 1</td><td>Determine Clearly What It Is You Want to Measure</td><td colspan="2">Step 1</td><td>Identification of the dimensions of measured constructs.</td></tr>
<tr><td>Step 2</td><td>Generate an Item Pool</td><td colspan="2">Step 2</td><td>Development of an initial item pool.</td></tr>
<tr><td>Step 3</td><td>Determine the Format for Measurement</td><td colspan="2">Step 4</td><td>Determination of the format for measurement.</td></tr>
<tr><td>Step 4</td><td>Have the Initial Item Pool Reviewed by Experts</td><td colspan="2">Step 3</td><td>Review of the initial item pool by experts.</td></tr>
<tr><td rowspan="3">Step 5</td><td rowspan="3">Consider Inclusion of Validation Items</td><td>Data collection</td><td>Step 5</td><td>Administration of questionnaire to develop sample.</td></tr>
<tr><td rowspan="2">Reliability Churchill Jr (1979)</td><td>Step 6</td><td>Evaluation of the items.</td></tr>
<tr><td>Step 7</td><td>Optimization of scale length.</td></tr>
<tr><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2">Factor analysis</td><td>Step 8</td><td>Exploratory factor analysis.</td></tr>
<tr><td>Step 9</td><td>Scale verification by confirmatory factor analysis.</td></tr>
</table>

Source: Author summarized from these two articles

3.2 Discussion of Research Design

Research designs of quantitative approach have been elaborated into more complex relationships among variables found in techniques of structural equation modeling, hierarchical linear modeling, and logistic regression (Creswell, J. W. 2013, p. 12). These two researches present the whole process of scale development according to studies of Churchill Jr (1979) and DeVellis (2003). In the feasibility of scale development, plenty of literature about entertainment, cultural tourism and experience can be used to judge whether those researches may be measured by scale. Further, thinking about theoretical framework of measurement scale and selecting benchmark of scale constructs for

establishing item pool. The procedure of optimization or a pilot test is necessary to develop initial scale.

In the perspective of data collection, for particular field of experience scale, sampling and in-depth interview in specific places are propriate ways, although these two researches had not conducted questionnaires on-post. At the stage of data analysis, by means of exploration factor analysis, the study presents results of optimization by using the varimax rotation method and so on. In the part of confirmatory factor analysis, two order test and AVE value are conducted. Finally, evaluation of validity and reliability shows internal consistency.

3.3 Data Sources and Hypothesis

Data in these two articles was collected by means of purposive and convenience sampling. The survey about historic sites conducted at Confucius Temple in Nanjing city where has long history and culture. Due to the purpose of research on cultural tourism, Confucius Temple actually is a typical place for culture heritage in China, however, the element of museum in article is not concerned in procedures of data collection. However, today's museums are taking on a commercial function – that of a cultural supermarket, with at the very least a museum store selling all kinds of designer products, cafés and other restaurant facilities (Van, A. I. and Boogaarts, I. 2002, p. 197). It is a valuable point for scale development of tourism experience.

Data in another survey of scale on entertainment experience has more representative for entertainment industry in Macau, because the places where they conducted questionnaires were the essential way for tourism which must be passed, and intension of this scale is to explore entertainment experience in Macau. On the contrast, the bigger range of title studied by Lee and Smith (2015) tried to develop a scale which could measure historic sites and museum, but it is apparent this scale developed by this research just can covered the data from Nanjing in China, rather than all over the world. It is worth to mention that these two surveys base on scale development, the core of research procedures is hypothesis test in order to evaluate and optimize construction of scale. Therefore, stages of definition dimension, conclusions about hypothesis test and

examination variables are complex.

3.4 Identification of dimensions

Lee and Smith (2015) basically followed the theory from DeVellis (2003). they did not clarify clearly the establishing procedures of sixty items and representing dimensions, but selected items from three times initial item pool (DeVellis, B. F. 2003, p. 66). Then, reviewers from different organizations helped to check content validity of this scale, and generated the questionnaire with 30 items.

In contrast, clear seven dimensions of scale according to literature of entertainment tourism were listed by Luo, Lam and Fan (2018). mixing the qualitative research and expert review, items included in every dimension had final result from 33 initial items.

There are several differences among these processes. Firstly, in the perspective of literature used to operationalize dimensions, article written by Luo, Lam and Fan illustrates adequate viewpoints. Secondly, compared with methodology, Lee and Smith (2015) basically used quantitative research, but another research mixes qualitive approach to explore content validity. Thirdly, for expert review, on account of different methods, survey of historic sites invites more judges to check content of scale.

3.5 Sampling and questionnaire

The convenient sample is used in both two articles to random sample in specific places of Nanjing and Macau. Before final data analysis, these two researches have different procedures of scale optimization. In the perspective of questionnaire adaptation, 6-point and 5-point Likert scale are used separately in these two articles.

In Confucius Temple of Nanjing, they got 500 valid respondents from 570 questionnaires on-site. This is the only source of data on site to random sample visitors there. Another survey collected data in two stages at Border Gates, Macau International Airport and Harbour Ferry Terminal. Numbers of sample size and response rates are summarized below table 2.

Table 2: Comparison of questionnaire between two surveys

scale		Total number of questionnaires	Number of Valid questionnaires	Response rate
Entertainment tourism measurement scale	**Pilot Testing**	200	150	75%
	Main survey	1000	886	88.6%
Experience tourism in historic sites		570	500	88%

Source: summarized by author from these two articles

In the optimization part of another research, author just examined item-scale correlations and Cronbach's alpha of 30 items (Lee and Smith, 2015, p. 264). And in order to obtain better Cronbach's alpha, 11items were deleted from item list according to the score of item-total correlation. Further, the remaining 19 items were used to exploratory factor analysis. Table 3 below concludes this procedure (Lee and Smith, 2015).

For the article about entertainment industry, author carried out a pilot study to optimize scale constructs that includes two sections in the questionnaire. By means of examining correlation matrix and factor reliability, three items with high cross loading were eliminated, and 26 items were used to conduct confirmatory factor analysis (CFA) (Luo, J. M. et al, 2018, p. 857). Some more details are summarized in below table 4 (Luo, J. M. et al, 2018).

There are several differences from these questionnaires. On the one hand, Luo, Lam and Fan (2018) collected data in two stages that was a pilot study and main survey, but another just has one procedure to collect data. On the other hand, Bartlett's test and KMO test are used in that study of Macau rather than Nanjing in the stage of optimization part.

Table 3: Development of 19 items scale (Experience of Historic sites and museum)

Stage	Number of Item	Method	Result
Refinement of instrument	60	6 judges enhance the content validity of the scale.	A pool of 30 items
Evaluation and Optimization	30	To examine item-scale correlations and Cronbach's alpha.	A pool of 19 items

Table 4: Development of 26 items scale ((Experience of Entertainment tourism)

Stage	Number of Item	Method	Result
Construction of item pool	33	In-depth interview 3 experts' review	A pool of 29 items
A pilot testing	29	Two sections questionnaire EFA and CFA	A pool of 26 items

4. Comparison of Data analysis

Totally speaking, results of data analysis in Cronbach's alpha, correlations, several data on CFA and so on are in line with the established criteria. Although results of data analysis from these two surveys are similar, it is clear that results from entertainment tourism scale are totally better than another measurement scale. It is well- founded that larger sample size of survey in Macau may make sense of these differences. Several results of data analysis are summarized in figure 1 below.

Firstly, results of Cronbach's alpha and correlations are satisfying. After eliminating those weak correlation items, the number of Cronbach's alpha respectively reach 0.908 and 0.88 which is higher than 0.7. The scale of entertainment experience has better result in this item (see figure 2).

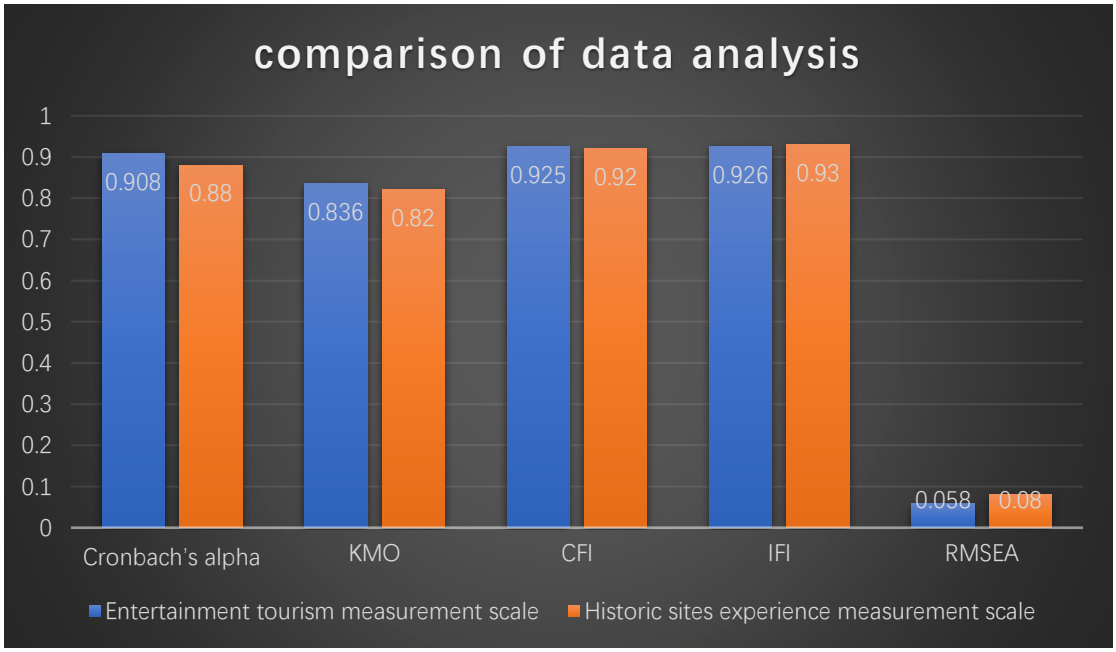
Secondly, the exploratory factor analysis using the varimax rotation method to identify

the dimensions shows appropriate those sample. Bartlett's test and KMO test show good results. Bartlett's test from both two articles are greater than 0.3, showing measures of sampling adequacy are accessible to represent suitability of scale structure. Also, the KMO values indicate it is suitable to analyze factors (see figure 2).

Thirdly, numbers of confirmatory factor analysis by sub-sample indicate that measurement scale fits demand. CFI (Bentler, 1989) results for these two surveys higher than .09, and numbers of IFI are up to the standard. Score of RMSEA for entertainment tourism scale is much lower than o.8, another is approximate 0.8 (see figure 2).

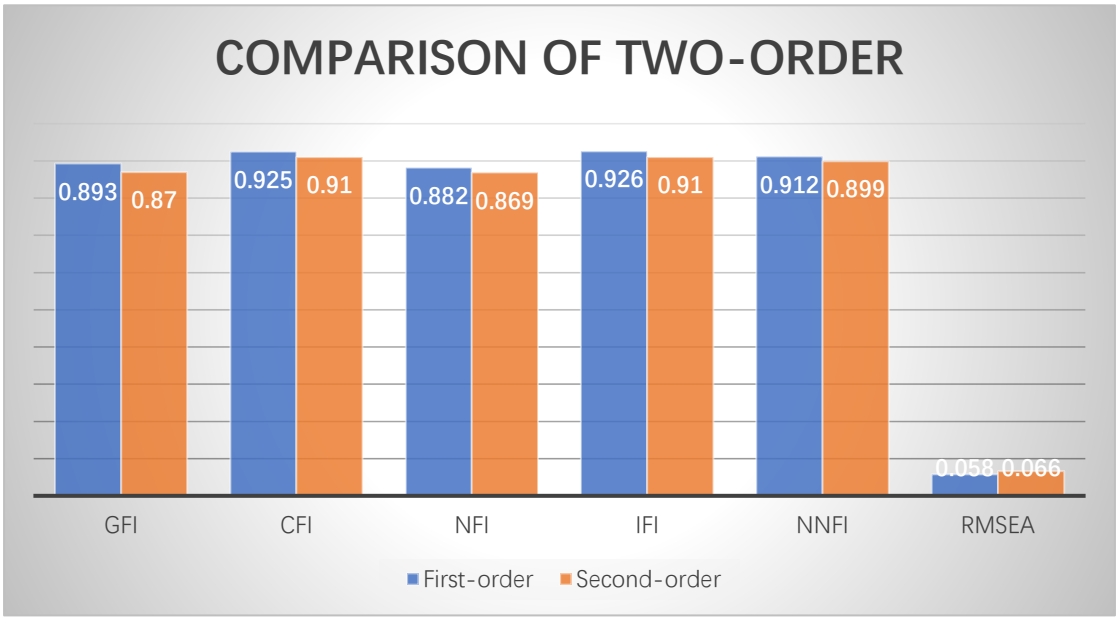
Finally, according to Fornell and Larcker (1981), the AVE values are all between 0.5 and 0.99. According to data presentation, all latent variables from these two scales show good validity and reliability. It is worth noting that two orders for CFA on entertainment tourism scale, which suggested by Anderson and Gerbing (1988), show satisfied results separately in dimensions and items. And the number for items totally better than dimensions. Several results of data analysis are summarized in figure 3.

Figure 2: Comparison of Data Analysis



Source: summarized by author from two articles

Figure 3: Comparison of Two-order



Source: summarized by author from two articles

5. Critical Discussion and Alternative Methods

5.1 Critical Discussion

These two studies have several limitations. To sum up, these two researches base on previous paradigm to develop scale scrupulously. However, it is no very clear for differences on two experience scales to illustrate tourism between historic heritage and entertainment. They covered plenty of similar dimensions to define constructs of scale (see table 5), however the purpose of these two scales are totally different. Thus, it is apparent that strategy according to results from measurement of scale is hard to present peculiarity of tourism projects.

Table 5: Dimensions from These Two Articles

Lee and Smith (2015)	***Luo, Lam and Fan (2018)***
Escapism	Escape
Entertainment	Enjoyment
Education	Learning
Cultureidentity	Local culture
Relationdevelop (people)	Involvement (activities)
Exploration	Refreshment and Novelty

Source: summarized by author from these two articles

Firstly, these two researches can combine more methods and techniques to enhance scale development. Mixed methods can inspire new insight in process of quantitative research.

Secondly, it is also mentioned in articles that majority of these two surveys sample is visitors from historic sites and entertainment industries in China. According to these two researches, representativeness of sample covered limited range of region and population. It is not clear whether these studies can measure data in other cultural background.

Thirdly, literature review is not clear enough in the scale development of historic sites experience. Literature of this research focus on multi-dimension development of tourism experience, but the relationship between those and tourism experience in historic site and museum is not clear. And another survey can list literature of entertainment experience more accurately, although it may think to enough literature basic relatively.

Finally, from the perspective of cultural tourism experience, these two articles lack of adequate attention on literature of cultural tourism. It is obviously that tourism at historic site and museum is a type of cultural tourism, in spite of six dimensions of that scale have included culture, it is still essential to stand out the literature of culture.

5.2 Discussion of Alternative Methods

There are some alternative methods to enhance results in several parts of these research. Firstly, a pilot testing may be essential for higher internal consistency. It means that in the procedures of development experience scale on historic site, two stages to collect data may obtain higher validity and reliability according to the above results of comparison. Although two tasks in process of evaluation and optimization take place of a pilot testing, differences in sample size and times paly a positive role for more satisfied results of data analysis.

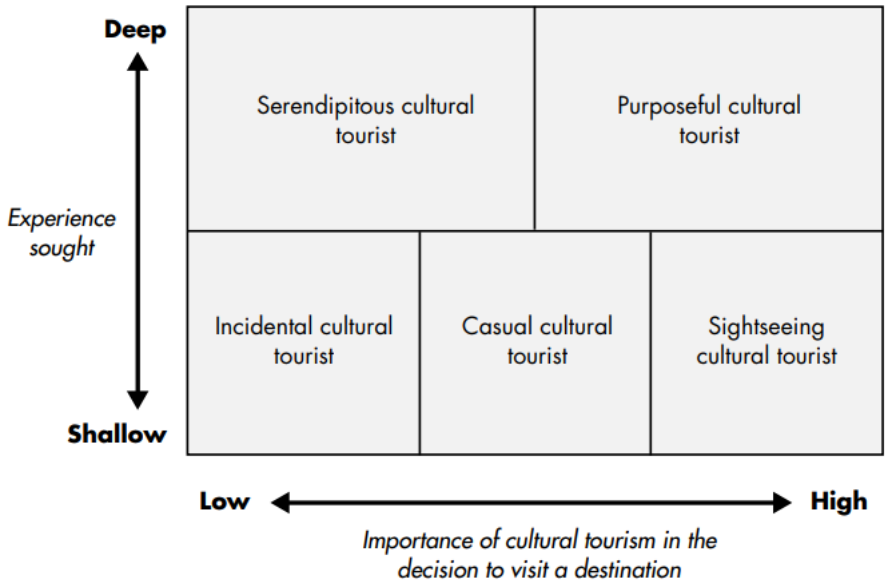
Secondly, specific targets or larger usable range can be pursued. As a typical cultural tourism, in the perspective of scale intentionality, there are two choices to change in order to improve correlation of culture tourism and deal with limitation of applied range.

On the one hand, standing out cultural element in the procedures of tourism experience at historic sites and museum. The scale covers 6 dimensions on experience of historic sites which cannot judge distinct differences from entertainment experience in Macau, although the experience of culture and entertainment tourism should have differences. Thus, it is a reasonable suggestion that scale development on experience of historic site and museum pays more attention to culture tourism.

On the other hand, if they do not have much clear difference, it is impossible for organization or company to grasp the characteristic of different kind of tourism. however, the fact is opposite. Increasing number of tourism companies exploit historic heritage as tourism projects. The cultural tourism market consists of five segments based on the role that culture plays as a trip motivator and the depth of experience (Cros and McKercher, 2015, pp. 122-123). This framework illustrates differences of cultural significance in tourism strategy (see figure 4). Development of scale can think about this dimension to improve measurement of scale about cultural elements.

Finally, mixed methods are useful to enhance the outcomes. Depend on humanity factors of culture and entertainment, qualitive research can stimulate mind in some steps.

Figure 4: A cultural tourist typology



Source: Cros and McKercher (2015)

6. Conclusion and Recommendations

This report compares two articles in the field of scale development of tourism. By means of comparison, procedures of scale development become clear, however reflection on these two researches focusing on differences and similarities trigger thoughts about quantitative research. Firstly, definition of dimensions bases on literature review which reflects hypothesis test and optimization. Secondly, empirical methodology makes data to present facts, thus methods suggested by Churchill Jr (1979) and DeVellis (2003) used to develop scale mixing other approaches. Thirdly, with development of quantitative research, steps of scale development have new methods to optimize scale with higher reliability and validity. Finally, lack of differences on tourism exploitation also impact scale development.

In the perspective of recommendations, several issues need to be focused. In the methodology, scale development should pay attention to more methods to explore shortcomings of pure data analysis. From the intentionality of scale, more specific targets or wider range is ideal pursuits to help effective strategies for managers. In the point of culture and entertainment tourism, “sweet spot” (Pine and Gilmore,1999) for experience should be pursued. Thus, extracting significant elements of specific culture and entertainment will improve coming of “sweet spot” (Pine and Gilmore,1999). This is an important direction for scale development of tourism in current society.

7. Bibliography

Adorno, T. W. and Bernstein, J. M. (2002). *The Culture Industry: Selected Essays on Mass Culture*. London and New York: Routledge.

Anderson, J. C., and Gerbing, D. W. (1988). 'Structural equation modeling in practice: A review and recommended two-step approach'. *Psychological Bulletin*, 103(3), pp. 411–423.

Churchill, G. A. (1979). 'A paradigm for developing better measures of marketing constructs', *Journal of Marketing Research*, 16(1), pp. 64–73. DOI:10.2307/3150876.

Creswell, J. W. (2013). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. 4th Ed. Los Angeles: SAGE Publications.

Cros, H. D. and McKercher, B. (2015). *Cultural Tourism*. 2nd Ed. London and New York: Routledge.

DeVellis, R. F. (2003). *Scale development theory and applications*. 2nd Ed. Thousand Oaks, CA: Sage Publications.

Field, A. (2013) *Discovering Statistics Using SPSS for Windows*, 4th Ed. London: Sage.

Fornell, C. and Larcker, D. F. (1981). 'Evaluating structural equation models with unobservable variables and measurement error'. *Journal of Marketing Research*, 18(1), pp. 39–50. DOI:10.2307/3151312.

Luo, J. M. et al. (2018) 'The development of measurement scale for entertainment tourism experience: a case study in Macau', *Current Issues in Tourism.* 23 (7), pp. 852-866. DOI: 10.1080/13683500.2018.1556251.

Lee, H. M. and Smith, S. L. J. (2015) 'A Visitor Experience Scale: Historic Sites and Museums', *Journal of China Tourism Research.* 11 (3), pp. 255–277. DOI: 10.1080/19388160.2015.1083499.

Marczyk, R. G, DeMatteo, D. and Festinger, D. (2005) *Essentials of Research Design and Methodology.* Hoboken: John Wiley & Sons, Inc.

Pennings, P. et al. (2005) *Doing Research in Political Science: An Introduction to Comparative Methods and Statistics*. London: SAGE Publications.

Pine, J. B. and Gilmore, J. H. (1999). *The experience economy*. Boston, MA: Harvard

Business School Press.

Sundbo, J. and Darmer, P. (2008) *Creating Experiences in The Experience Economy*. Cheltenham: Edward Elgar.

Van Aalst, I.and Boogaarts, I. (2002). 'From museum to mass entertainment: The evolution of the role of museums in cities'. *European Urban and Regional Studies*, 9(3), 195–209. DOI:10.1177/096977640200900301.

8. Appendices

APPENDIX 1 – The Link of Article 1, The development of measurement scale for entertainment tourism experience: a case study in Macau

https://www-tandfonline-com.ezproxy.uwtsd.ac.uk/doi/full/10.1080/13683500.2018.1556251?scroll=top&needAccess=true

APPENDIX 2 – The Link of Article 2, The development of measurement scale for entertainment tourism experience: a case study in Macau

https://www-tandfonline-com.ezproxy.uwtsd.ac.uk/doi/pdf/10.1080/13683500.2018.1556251?needAccess=true