# Brand personality in Cultural Tourism and Sustainable Development by using Big Data analytics

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Abstract: The development of science and technology has entered the era of big data today. The method of big data has provided a new way of thinking and methods for analyzing and solving problems in scientific projects. Many countries benefit from cultural tourism for economic development, but they are concerned about the sustainability of these cultural resources. The paper explores the opportunity of big data in cultural tourism and sustainable development as a tool that can help to understand the needs of tourists and their relationship to brand personality. Based on Rauschnabel et al.'s (2016) six university brand personality dimensions, this research aims to develop a model that could explain the brand personality that can support sustainable tourism by using questionnaires and statistical analysis. Data was collected through an online questionnaire survey with a convenience sample of 300 tourists in China. Results show that brand personality improves tourist satisfaction and tourism commitment. Meanwhile, tourist satisfaction is related to tourism commitment in terms of tourism affective commitment and tourism normative commitment. However, the constructs 'acceptable', 'productive', 'athletic' in Rauschnabel et al.'s (2016) university brand personality model are not suitable to describe tourism brand personality.

Key words: Brand personality, Big data; Cultural Tourism; Sustainable development; Tourist satisfaction

## 1. Introduction

Sustainable development is a common focus of the international community, on a global scale, sustainable tourism development has become an increasingly important strategic goal for world-class destinations (Hall, 2008; Mowforth and Munt, 2015). Global tourism industry leaders have realized that sustainable tourism development can be critical for the preservation of indigenous culture and the conservation of nature

(Hassan 2000). Major tourism players have been seeking preservation for future generations and exploring sustainable development strategies and techniques (Barré, 2002). To bring this challenge forward, the construction of big data in cultural tourism and sustainable development is a comprehensive manifestation of the continuous development of informatization. In nature, no matter the big data analysis or sustainable development, their ultimate goal is to achieve the harmonious development and sustained and stable progress of human society, including sustainable tourism.

Tourists in modern times have access to different electronic devices such as mobile phones and portable computers while visiting a place and these can be seen as tools to provide the feedback with the intention to benefit the tourist community. Brand personality can be built with this feedback collected from different sources and analyzed with big data analytics.

Based on the literature, the concept of branding personality for tourism is developed to demonstrate its link to sustainable tourism. Since the brand personality scale was first introduced into the literature by Aaker (1997), the concept of brand personality has been studied in many areas, including tourism destinations (Murphy, 2016). Rauschnabel et al. (2016) also provided an assessment tool for identifying six brand personality dimensions in the study of brand management in higher education. Although the purpose of the assessment tool is to evaluate a university's competition positioning, the concept should also be used to evaluate a tourism destination's attractiveness among visitors. Therefore, this paper aims to study whether Rauschnabel et al.'s (2016) brand personality dimensions can be applied to sustainable tourism and to develop a model that could explain the brand personality that can support sustainable tourism.

The data was collected by using questionnaires from 300 respondents who are active in sustainable tourism and analyzed by statistical analysis. Results suggest that the constructs 'acceptable', 'productive', 'athletic' in Rauschnabel et al.'s (2016) university brand personality model are not suitable to describe tourism brand personality. In addition, brand personality affects tourist satisfaction and tourism commitment positively. Meanwhile, tourist satisfaction is related to tourism commitment. Based on our analysis, this can contribute to existing tourism research because it shows how big data can be used to achieve sustainable tourism development that

can function effectively independently of locations due to different beliefs and cultures. Finally, new ideas of sustainable development research are proposed based on big data.

## 2. Big data's role in cultural tourism and sustainable development

Big Data refers to a gathering of information that can't be caught, overseen, and prepared through traditional programming database tools over a range of time, yet it requires new data models to pick up a more noteworthy capacity of decision-making, separating bits of knowledge and streamlining forms. It is the data resource with high volume, high development rate and assorted variety (Liu et al., 2014). The expression "big data" has turned into an intriguing issue because of latest trends towards the development of big data analytics, and the most punctual reference could be gone back to the Apache Nutch venture when the updates of the web-based looking through record required batch processing and analysis of big data sets ( Amorim, 2014). At the eighth IEEE meeting, NASA scientist Michael Cox called the "big data" issue for the first time, alluding to the constraint of the capacity limit of the devices in the field of visualization (Baek & Park, 2015). In this manner, Professor John Mashey of the University of California, USA, additionally published a paper on the stress of infrastructure development at a conference on software engineering (Gillingham & Graham, 2016). In 2011, McKinsey distributed a report that explained the improvement potential and technique for the big data and characterized it as a data set surpassing the abilities of average database programming, for example, securing, storage, data management, and analytics (Akter & Wamba, 2016), Massachusetts Prof. Sam Madden of the Institute of Computer Science and Artificial Intelligence of the Polytechnic Institute additionally concurred with this view and further accentuated the highlights of a huge volume of information, fast changes, and high-speed information based on the 3V definition (scaled volume, diverse variety, and high-speed velocity) (Fernández et al. 2016).

International Data Corporation (IDC) contended that the value to likewise is included. IBM accepted that veracity ought to be incorporated (Rehman et al. 2016). The definition of "4V + 1C" added complexity. Forrester's main scientist, Mike Gautlieri,

called attention to that the portrayal of 3V needs common sense in the IT and business enterprises. He proposed the SPA (Store, Process, Access) structure for depiction, accepting the big data as a frontier for superior performance storage, processing and utilization of all data, which could bolster the productive activity of a business, decision making, hazard avoidance and user service management. Contrasted with other concepts, Gautlieri centers on the understanding of the users' accessibility (White & Breckenridge 2014).

Cultural attractions have turned out to be especially significant in the travel industry. Cultural attractions, for example, exhibition halls and landmarks, comprise the biggest part of the attractions showcase. Moreover, they have been progressively significant for urban and rustic improvement techniques and furthermore picture enhancement programs (Richards, 2001). Practical improvement is planned to address the issues of the present without trading off the capacity of future ages to address their issues (Paten et al., 2015). As such, it alludes to the planned advancement of the economy, society, assets and ecological protection, as an indistinguishable framework, not exclusively to accomplish the reason for monetary improvement, yet additionally to secure the vital air, clean water, sea, land, woodlands and other natural resources and the earth. Along these lines, future ages could proceed with the feasible advancement and live in harmony and happiness (Cottrill & Derrible 2015). Sustainable development is the main route for the advancement of human culture, which has turned into the accord of all humankind as a significant upheaval in mankind's history (Connelly et al., 2016). In recent times, sustainable development research has advanced from the status upheld by an assortment of orders, for example, biology and financial aspects, to control with its own speculations and research techniques just as an assortment of research cases - sustainable science or sustainable advancement (Whyte, Stasis & Lindkvist, 2016). In 2001, the United Nations Commission on Sustainable Development (UNCSD) set forward a sustainable improvement pointer framework comprising of 58 markers with 15 topics and 38 sub-subjects, which has given a powerful dispatch stage to the targets of the sustainable advancement technique plan for all nations (Daneshmand et al., 2015). Consequently, big data analytics enables travelers to comprehend different societies better, since they can find out about the general population, language, conviction,

religions and things they have to know rapidly, effectively and even drearily through applications and data given by big data.

Big data analytics can be effective for the following reasons. First, the tourist agencies and local government can know the number of tourists per day per site of attractions. Second, they can inform a majority of tourists easily. This is helpful, particularly in natural disasters, to lead them to places of safety under emergency. Third, the government and tourist agencies can identify the popularity of items, tourist attractions and their feedback. Fourth, analytics can provide real-time communications between stakeholders and tourists. Fifth, tourists can use big data analytics to understand the places they visit, the items they purchase and opinions from other tourists better from the comments left by other tourists through analytics. Last, analytics can give the stakeholders a real-time update on tourism development, so that they can keep track of updates, make suitable decisions and communicate with other stakeholders or lead tourism agencies.

In summary, the big data is past the conventional methods for analysis and processing capacity, so it is hard to adjust to the current database engineering. The conventional programming tools can't catch, store, oversee and break down the information, so new handling strategies and tools ought to be considered (Gorton & Klein 2015). Simultaneously, big data can assist travelers with understanding societies, spots and convictions if their goals rapidly and near voyagers' needs. Big Data examination can enable the visitors to know any updates, appraisals and attainability of their arrangements about their destinations (Brown and Chalmers, 2003; Bornhorst et al., 2010). All these can add to the positive parts of the travel industry improvement.

The information obtaining of the big data has transformed from the conventional examining to all information, with the prerequisite additionally moving from precision to mixture, while the examination and handling have moved from the quest for causality to the investigation of correlation and the forecast for the advancement of big data and the travel industry work (Seele 2016). This is an especially significant component of the big data in the investigations of culture in the travel industry and sustainable development, since every one of the concerns, updates, issues and conceivable solution can be checked a dissected quicker and superior to non-big data period. For instance, if

there is an unexpected increment in a place of interest, the government can know this through big data tourism applications and redirect traffic to another street. They can likewise have superior traffic control and better interchanges with sightseers to enable them to have a wonderful travel experience with local people. To get individuals inspired by the travel industry, personality branding for sustainable tourism can be a proposal to bring individuals, interests and the sustainable travel industry together.

## 3. Branding and personality factors for tourism

All three points above are essential for sustainable tourism development. However, in order to meet demands in these three areas, the work has to be distinguished on its own. Having one integrated sustainable tourism will require a unique approach, such as branding for tourism development. There are different opinions on favorite places, food, accommodation, recommendations and special events. To make these comments and feedback with impacts, personalizing all the tourists' feedback can be useful. This can be achieved with big data technologies to collect all tourists' feedback.

However, before introducing this new concept to the concept, it is also essential to develop a more mature and established approach, which includes "branding personality for tourists" to be analyzed by big data approaches. Additionally, there are competitive markets for tourism everywhere. With the intense competition, it has become more challenging for sustainable tourism and thus, it is helpful to adopt a branding approach (Joseph, Mullen, & Spake, 2012). Therefore, commercial marketing knowledge can be applied to tourism branding management (Chapleo, 2011; Hemsley-Brown & Oplatka, 2006).

## 4. Branding personality for sustainable tourism

The brand personality concept was developed along with brand management. A wildly accepted brand personality scale was first given by Aaker (1997); after that, many kinds of research have attempted to define a personality scale in different cultural settings.

Rauschnabel et al. (2016) identified six university brand personality dimensions, respectively are prestige, sincerity, appeal, lively, conscientiousness and cosmopolitan. The concept can be transferrable to tourism since students and academic staff travel extensively in school holidays and research work. A strong brand personality can have a positive effect on customer's attachment to a brand (Aaker, 1996). Fournier (1998) reported a concept of how consumers tend to develop an interpersonal-like relationship with brands. Aaker et al. (2004) used consumer's satisfaction with the brand as one of the indicators to describe brand relationships. Customer satisfaction are influenced by factors, such as quality, after service support and so on (Gruber et al., 2010). Then, the first hypothesis is proposed:

H1. Perceived brand personality is positively associated with tourist satisfaction

Sustainable tourist commitment is one key to tourism success because it influences tourist retention, attitude and behaviors (Beil, Reisen, Zea, & Caplan, 1999). Many researchers have been done regards their commitment to the organization. For example, Allen and Meyer (1990) conceptualized the organizational commitment into three aspects, respectively affective commitment, which reflects the most popular definition of commitment, emotional attachment to one's organization. This definition describes a person who is highly committed to his or her organization and enjoys membership in his or her organization. The second part of the 'three-component organizational commitment model' defined by Allen and Meyer's (1990) is continuance commitment. The third one is a normative commitment, which refers to an employee's perception that he or she ought to stay with the organization; this component reflects one's sense of responsibility to an organization. Based on the above literature, two more hypotheses are proposed as below:

H2. Perceived brand personality has a positive impact on tourism commitment.

H3. Tourist satisfaction and tourism commitment are highly related to each other.

Fig. 1 presents the conceptual model by combining all hypotheses together. The tourism brand personality is the independent variable, tourist satisfaction and tourism

commitment are dependent variables. The conceptual model is established based on Rauschnabel et al.'s six dimensions to measure university brand personality. The six dimensions are prestige (accepted, leading, reputable, successful), sincerity (helpful, friendly, trustworthy, fair), appeal (attractive, productive, special), lively (athletic, dynamic, creative), conscientiousness (organized, competent, structured), and cosmopolitan (networked, international, cosmopolitan). Meanwhile, the tourism commission will be analyzed in terms of affective commitment, continuance commitment and normative commitment.

Fig. 1: conceptual structured model
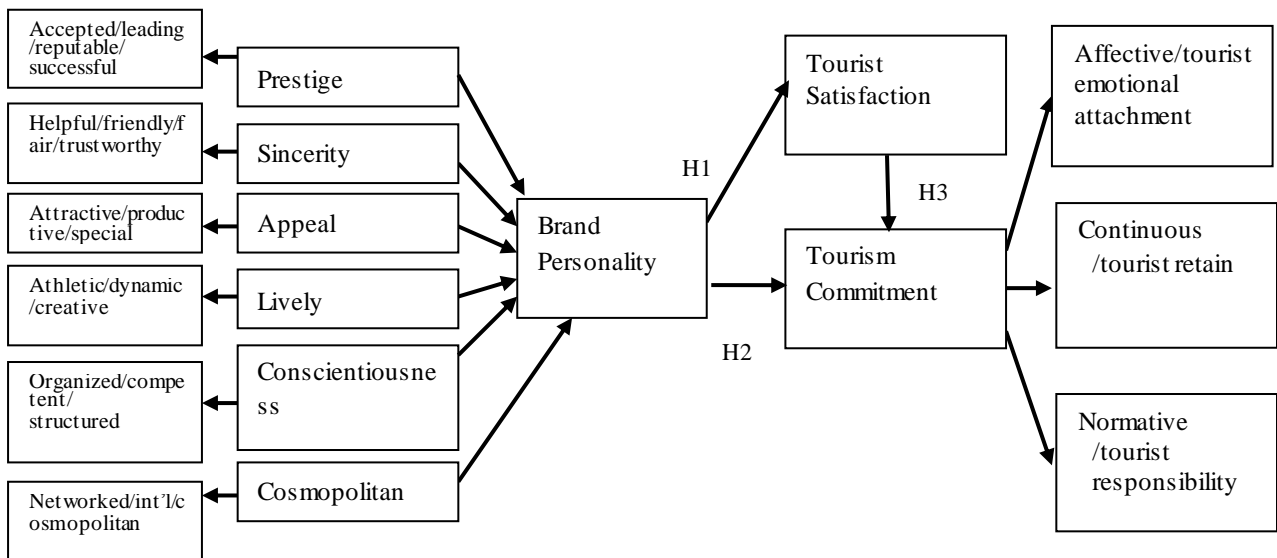
# 5. Methodology and Result

The research adopts a mix-method approach because the use of two or more methods within a single study increases confidences in the finding (O'Reilly and Kiyimba, 2015) and its ability to compensate for any weaknesses in a single research design (Bryman, 2008).

## 5.1 Study 1 Expert validation

This is a qualitative part of the mixed-method research, where a focus group has been set up to validate the proposed model. The focus group can help authors to see how people respond to each other's views and save time in the long-term (Bryman, 2008). In our research, one focus group includes five experienced tourism recruiters (tour guides, people who do extensive travel for leisure or work) with average six years relative working experience was arranged for this validation process, a structured interview was conducted within the samples. The main task is to search for their professional opinion and check if the proposed model is logically set up. The concept of sustainable tourism brand personality was explained to interviewees so they can all understand well of the research questions. Questions discussed within the group mainly focus on how do they think brand personality could influence a tourists' perception of sustainable tourism. They answered: "We think if tourism promotes 'successful' as one of their branding image and the tourists would feel honored by studying there. Both items productive and athletic were removed from the model, since the interviewees did not include these reasons for sustainable tourism. After interpreting all the results by interviews, the proposed model is rightly sound and is relevant to be developed for a conceptual structure model shown in Figure 1.

## 5.2 Study 2: Model confirmations

To future validate the proposed model and confirm the hypothesis, a quantitative study of the mixed method was conducted to find out the relations between these variables.

### 5.2.1 Research procedures

Data was collected through an online questionnaire survey to a convenience sample of 300 tourists in China; the survey was distributed by both online and offline dissemination. Respondents were asked to what extent they think the 'words extracted from the brand personality scale' would describe the sustainable tourism, how they are satisfied with the sustainable tourism, answers were based on a 5-point Likert scale (Bryman, 2008). Totally 300 people responded. A rule of thumb for minimum acceptable sample size was suggested by Green (1991), he recommended a minimum sample size should be 50 by 8k, where k represents the number of predictors if the purpose is to test the model overall. Thus, in this research sample size is appropriate. To reduce measurement error, reverse questions were set up in the design of the questionnaires. The survey result was coded and translated by our statistical package. To analyzing the data, both descriptive and analytical tools were used.

## 5.2.2 Result Analysis

### 5.2.2.1 Sample profile

Based on the demographic data, the subjects' ages are ranging from 18 to 35, mean age 22. In terms of Gender, 37 percent of respondents were male and 63 percent were female. Regarding the educational background of the tourists, 36% are master's students and graduates, 60% are current Bachelor students and graduates and the remaining 4% are Ph.D. students and graduates.

### 5.2.2.2 Reliability check

It is fundamental that the measures are consistent. In this research, Cronbach's alpha was employed to check the internal reliability. One item 'accepted' was removed from the prestige description, and the reliability of the rest of the constructs used to describe sustainable tourism brand personality in this study was strong and above the cut point of 8.0 (Bryman, 2008) to indicate internal consistency. 'Continuous commitment' was removed after the reliability check because the test result showed low reliability of .573,

then left two constructs to measure tourism commitment, and the test showed the two constructs were above 8.0, which refer to a 'good level'.

*Table 1 Reliability check*

| Construct | Measures | Source | Cronbach's alpha |
|---|---|---|---|
| Brand Personality | Prestige(leading /reputable/ Successful) | Rauschnabel et al. (2016) | .810 |
| | Sincerity (Helpful/friendly/fair/trustworthy) | | .891 |
| | Appeal(Attractive, special) | | .829 |
| | Lively (dynamic, creative) | | .916 |
| | Conscientiousness (Organized/competent/ structured) | | .857 |
| | Cosmopolitan (Networked/int'l/cosmopolitan) | | .841 |
| Tourist Satisfaction | Overall satisfaction(service quality, facility, support) | Gruber et al. (2010) | .838 |
| Tourist Commitment | Affective commitment (emotional tourism attachment) | Allen and Meyer (1990) | .838 |
| | Continuous commitment | | .573 |
| | Normative commitment (tourism reasonability) | | .821 |

### 5.2.2.3 Factor analysis

Factor analysis with correlation matrix was KMO and Bartlett's test was (Bryman, 2008). In this research, it was used to identify a priori dimensionality of the brand personality and tourism commitment. KMO and Bartlett's test was done to analyze the data. The KMO value for brand personality was .881 and Bartlett's test was significant at the .000 level. Regards to tourism commitment, the KMO value is .500 and Barlett's test was significant at the .000 level. The KMO index ranges from 0 to 1, with .60 considered suitable for factor analysis (Williams et al., 2010). Then, based on the result, the brand personality will be considered as one variable, while tourism commitment will be measured by the two variables separately, namely affective commitment and normative commitment.

## 5.2.2.4 Result of the model

Table 2 below provides a model summary, which explains the relationships

between brand personality and tourist satisfaction.

**Table 2 - Model Summary$^b$**

| Model | R | R Square | t | F | Sig. |
|---|---|---|---|---|---|
| 1 | .789$^a$ | 0.622 | 12.708 | 97.501 | .000$^b$ |

a. Predictors: (Constant), Brand Personality
b. Dependent Variable: Satisfaction

From the data, we can see R has a value of .789, which represents the simple

relationship between brand personality and satisfaction. The value of R2 is .622, which

means that the brand personality can account for 62.2% of the tourist satisfaction; there

might be other factors that can explain the tourist satisfaction. In the proposed model,

which includes an only brand personality that can explain approximately 62.2% of the

tourist satisfaction or 37.8% of it cannot be explained by the brand personality. Hence,

there must be some other variables that have an influence on tourist satisfaction, which

can be further investigated.

F-statistic is the ratio of the model to its error (Field, 2012). For these data, the F test

value is 97.5, which could be concluded that the regression model overall predicts tourist

satisfaction significantly well. If this observed significance is less than .05, then scientists

agree that the result reflects a genuine effect (P259, Field, 2012). Hence, we can conclude

that brand personality makes a significant contribution (P<.005) to tourist satisfaction. The

T value is 12.708 that is not high because the samples are from tourists of different Higher

Education institutes. They have a different attitude toward Higher Education.

Relationships between brand personality and tourism commitment can be found in

Table 3. From the data, we can see R has a value of .648 for affective tourism commitment;

this represents the correlation between brand personality and affective tourism

commitment. The value of R2 is .418 for affective tourism commitment. That means the

brand personality can explain 41.8% of the affective tourism commitment. The same

principle applies to normative tourism commitment. The R-value is .682 for normative

commitment. The value of R2 is .465. The result can conclude the brand personality is respectively having a 46.5% influence on normative tourism commitment. F statistics of 70.424 means that the regression model for affective tourism commitment is moderate, while 85.322 explains the regression model for normative tourism commitment is strong and highly relevant. Consequently, the brand personality made a significant contribution ($P<.005$) to tourism affective and normative commitment. T values are 8.4 and 9.2, respectively, again, which is because the samples are widely spread in China from a different university background. Thus a few individuals could have different attitudes towards their university.

**Table 3- Model Summary**

| Model | R | R Square | t | F | Sig. |
|---|---|---|---|---|---|
| 1 | .647[a] | 0.418 | 8.392 | 70.424 | .000[b] |
| 2 | .682[a] | 0.465 | 9.237 | 85.322 | .000[c] |

a. Predictors: (Constant), Brand Personality
b. Dependent Variable:1 Affective Commitment
c. Dependent Variable:2 Normative Commitment

The relationships between tourist satisfaction, tourism affective commitment and tourism normative commitment were undertaken and validated by correlation tests. From table 3, we can see the correlation figures are all between .60-.74 (Bryman, 2006) and the significance value are all less than 0.01, which means there are strong relationships between these variables.

**Table 4 – Correlations**

| | | Satisfaction | Affective Commitment | Normative Commitment |
|---|---|---|---|---|
| Satisfaction | Pearson Correlation | 1 | .634[**] | .645[**] |
| | Sig. (2-tailed) | | .000 | .000 |
| Affective Commitment | Pearson Correlation | .634[**] | 1 | .736[**] |
| | Sig. (2-tailed) | .000 | | .000 |
| Normative Commitment | Pearson Correlation | .645[**] | .736[**] | 1 |
| | Sig. (2-tailed) | .000 | .000 | |

**. Correlation is significant at the 0.01 level (2-tailed).

### *5.3. Evaluation and discussion*

The purpose of this research is to develop a model that could explain the brand personality that can support sustainable tourism and big data for tourism. The test results could support the hypothesis and examined the relationship between brand personality, tourist satisfaction and tourism commitment. Details for our analysis are explained as follows:

a) Brand personality has a very positive influence on tourist satisfaction. The six-dimension prestige, sincere, appeal, lively, conscientiousness and cosmopolitan all contributed to the tourist satisfaction. Interestingly, item 'accepted' is not a valid measure to describe prestige and has a negative relationship with tourist satisfaction. Customer satisfaction is not only influenced by quality perception but also influenced by personal and situational factors (Gruber et al., 2010). As discussed, the independent variable brand personality in the regression model explains approximately 62% of the tourist satisfaction. Further research should address any missing impact factors.

b) Tourism commitment was initially defined as normative, affective and continuous commitment, considering the continuous commitment has no valid data, in the research analysis we only focus on affective commitment and normative commitment. Result revealed that brand personality has an influence on tourism commitment. Tourism commitment can be explained in different ways, (Strauss et al., 2004) defined it as the tourists' overall impression, belonging, and perception of quality and attraction to a particular university. For the purposes of this study, tourism commitment is defined as the tourist's emotional attachment and their sense of belongings to their destination and sustainable tourism. Results show that brand personality has an influence on tourism commitment as well and contributes to nearly 50% influence; however, other factors are also available.

Academic integration and social integration also contribute strongly and significantly to tourism commitment. Additionally, several of the indirect effects also significantly influence tourism commitment (Strauss et al., 2004). Next, our research could add in these factors too, and consider how these factors are influencing on which outcomes under what kind of conditions. Other characteristics like age and marital status are all significant predictors of commitment (Strauss et al., 2004). These control variables should also be added for the next research. Therefore, the revised model is shown in Fig. 2 below.

Fig 2: The revised model to brand personality in sustainable tourism with big data approach in China
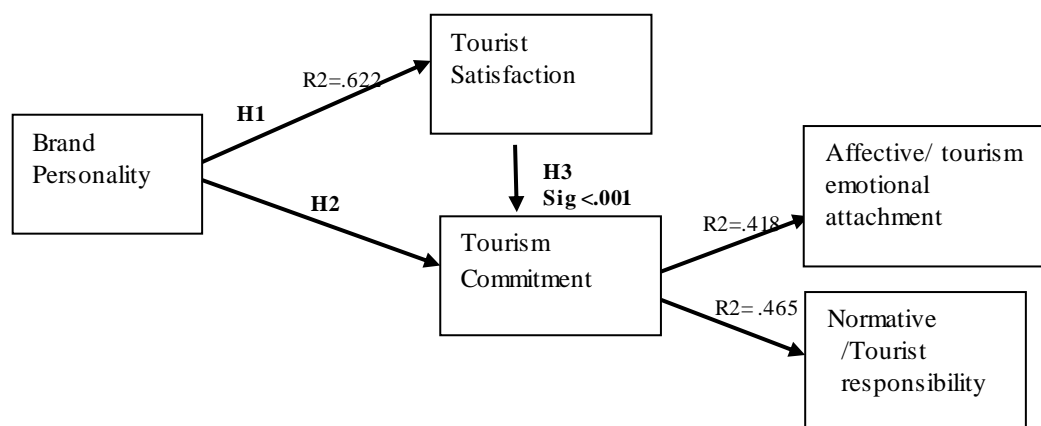


# 6. Recommendations - Linking sustainable tourism and big data analysis

In our survey, statistical analysis based on 300 respondents was presented. Results show that brand personality was important for tourist satisfaction and tourism commitment. To achieve both goals, big data analysis can identify factors to improve tourist satisfaction and tourism commitment and inform us useful information for decision-making, actions to take on and predict the likely outcomes. A good big data analysis can allow us to know when to do it, how to do it, what actions are required, who are the people to be involved, what steps to do to reduce risk and increase higher satisfaction. Big data analysis can extract information from thousands of tourist feedback and understand their detailed response instead of going through one by one.

This can allow us to know deeper about how to achieve sustainable tourism, including the expenses, strategies, decisions, actions, reviews and evaluation from tourists, stakeholders and tourism board at all times. Big data analysis can improve the services by identifying where problems are, and extracting information from customers on how to improve, and tracking the extents of improvement after implementing new services. Costs can be saved without further spending on less important items. Efficiency can be improved by reducing errors, optimizing the work performance and reaching goals by deadlines. Feedback can be obtained quickly and broadcast to all the tourism service providers for immediate actions. Tourists can be informed about events, services and offers, and allowed to participant in tourism services. When they begin to feel like part of the community, tourism commitment can be developed and derived with a higher sense of belongings.

## 7. Conclusion

The study of cultural tourism and sustainable development in the environment of the big data has further enriched and expanded the development of information science and provided important technical support for research in brand personality on sustainable tourism. Big data analytics can provide distinctive advantages. Our methodology is based on questionnaires and statistical analysis from tourists. Results supported our hypothesis that brand personality improves tourist satisfaction and tourism commitment. Meanwhile, tourist satisfaction is related to tourism commitment in terms of tourism affective commitment and tourism normative commitment.

This research makes two main contributions. From the theoretical aspect, this paper established a model that could explain the brand personality that can support sustainable tourism based on Rauschnabel et al.(2016), Gruber et al. (2010), and Allen and Meyer (1990)'s theory. Different from them, this research identified that the constructs 'acceptable', 'productive', 'athletic' in Rauschnabel et al.'s university brand personality model is not suitable to describe tourism brand personality. From the practical aspect, this paper provides enterprises or government in the tourism industry a model to evaluate their tourism brand personality as well as the ideal one or their competitors, so that they are able to make strategies accordingly. In addition, with the help of big data analytics, they can confirm factors to improve tourist

satisfaction and tourism commitment and they are able to know when to do it, how to do it, what actions are required, and who should be involved.

Meanwhile, the challenges of big sustainable data were identified. First, while considering tourism has a life-long influence on each individual, satisfaction and commitment could change from time to time. Second, our research has only collected samples from 300 participating respondents, while future research could also focus on a longitudinal design when tourists' feeling towards their destinations and sustainable tourism can be recorded from time to time to identify how their perception of brand personality changes and how that finally influence their feeling towards their choices, satisfaction and commitment.

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