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Journal of Environmental Management and Tourism is an interdisciplinary research journal, aimed to publish articles and original research papers that should contribute to the development of both experimental and theoretical nature in the field of Environmental Management and Tourism Sciences.

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Cashless Payment in Tourism. An Application of Technology Acceptance Model

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Abstract:

Technology has given a profound impact on how tourism industry develops in the recent decades. One of the important technology advancement area is cashless payment system. It has been suggested that cashless payment system can enhance tourism experience and provide competitive advantage to market destinations. Currently, governments are actively promoting a cashless society in tourism sector. However, the study of the acceptance of tourists on cashless payment technology in destinations is still rarely found. This study aims to investigate the acceptance of cashless payment using Technology Acceptance Model (TAM). To achieve the objective, a survey was carried out to confirm the relationship between cashless acceptance, attitude and the behavioral intention of cashless technology. In addition, Perceived Risk Reducer and Familiarity were also introduced to the model. The study found drivers of attitude regarding acceptance of cashless payment system and an understanding on how customer's response to the idea of using cashless payment in tourism setting.

Keywords: consumer behavior; destination marketing; tourism; cashless; payment system; technology acceptance model

JEL Classification: M10; M15; M31; L83.

Introduction

Information and Communication Technology (ICT) is increasingly playing a critical role for competitiveness of tourism organizations and destinations as well as for the entire industry as a whole (Buhalis and Law 2008, UNWTO 2011). Internet technology has dramatically affected the changes in behavior of tourist (Mihaljovic 2014). Users of ICT can easily book ticket online and rooms, search information and make payment using their mobile. Understanding how IT impacts the behavior of consumers is critical foundation to develop sustainable marketing communication strategies (Xiang, Magnini, and Fesenmaier 2015).

One of the areas in tourism and technology, which become the focus of interest, was in the cashless payment system. The advancement of technology such as Radio Frequency Identification (RFID) and Near Field Communication (NFC) have enable ease of payment thus it provides seamless experience for tourists. Cashless transaction has been suggested to increase efficiency thus it is faster and cheaper in handling. Despite of the full support from government all over the world on the use of cashless payment system in tourism industry, studies on how tourist accepts cashless payment system in tourism destination still needs further support. There is evidence found that cashless acceptance still questionable as ability to pay by electronic might not in line with the willingness to do so (Llyod, Antonioletti and Sloan 2016).

The aim for this study is to fill in the research gap by investigating the acceptance of this relatively new way of doing transaction in the tourism area. This study departs from a unique angle of consumers in destination who were in early stages of adopting cashless payment system. Within such destination, understanding of the acceptance of the relatively new technology is crucial to serve as base for the implementation. It is expected that

The result discussion can contribute to the factors driving the acceptance of cashless payment system in tourism context.

1. Literature Review

The acceptance of consumers on new technology was investigated highly in the literatures (Venkatesh, Morris, Davis 2003). A seminal work by Davis (1989) coined the term Technology Acceptance Model (TAM) which explain the relationship between the internal variables (belief, attitudes and behavioral intention) and actual usage. The model starts with two constructs: perceived usefulness and perceived ease of use of the technology. Perceived usefulness (PU) refers to a users' belief that the system can enhance performance. Perceived ease of use (PEOU) refers to users' belief that the use of the system will be easy to use and effortless. These constructs contribute to the attitudes toward the technology and affect behavioral intention.

In addition, Davis (1989) also found causal antecedents of perceived ease of use to perceived usefulness:

- H1: Perceived usefulness has positive and significant effect on Attitude;
- H2: Perceived Ease of Use has positive and significant effect on Attitude;
- H3: Perceived Ease of Use has positive and significant effect on Perceived of Usefulness

TAM model is an adaptation of the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975) and mainly designed to model user acceptance of information technology (Davis 1989). The development of TRA is Theory of Planned Behavior (Ajzen 2002). Which has proven successful in predicting and explaining human behavior in interacting with technology. In TPB, a person's actual behavior is determined by his intention which in turn affected by the attitude of the person toward a technology. Attitude is defined as a person's favorable or unfavorable assessment regarding the behavior, whilst Behavioral Intention is a measure of strength or one's effort while performing the behavior.

- H4: Attitude has positive and significant effect on Behavioral Intention

Perceived risk is defined as six components following Jacoby and Kaplan (1972). The six components are financial, performance, social, physical, privacy and time loss. In this research the components are selected to correspond findings from the focus group discussion in stage one of the research. Lee (2008) has provide empirical evidence that performance, time, financial and security risk has significant relationship with attitude in the context of online banking. Similarly, Yang, Liu, Li and Yu (2015) found that perceived performance risk, financial risk and privacy risk has a significant and negative effect on perceived value and acceptance intention. This current study took the position of cashless as an active risk reducer, rather than perceived risk. Thus, the relationship is predicted to be positive.

- H5: Perceived of Risk Reducer has positive and significant effect on Attitude

Familiarity is defined as past experience of using a system or similar system. Study in hospitality industry revealed participants who had prior experience in using RFID were more likely to use the same technology compare to those who had not had experience (Ozturk and Hancer 2014). Familiarity with the website and the vendor is claimed to reduce misunderstanding and reduces the feeling of unfairly taken advantage of which happens in online purchasing activities (Gefen, Kaharanna and Straub 2003). Evidence found that system experience was significantly related to perceived ease of use (Hackbarth, Grover and Yi 2001).

- H6: Familiarity has positive and significant effect on Perceived Eased of Use

2. Methodology

The research was conducted by a questionnaire survey to respondents with the criteria of having recent holiday experience in the last 6 months. Measurement of technology acceptance in this study is adopted from previous studies (Davis 1989, Venkatesh *et al.* 2003) which consist of 22 questions in total. The sample design is cross-sectional and sampling method is convenience sampling. The survey succeeded to gather 101 respondents. The analysis was conducted using PLS-SEM.

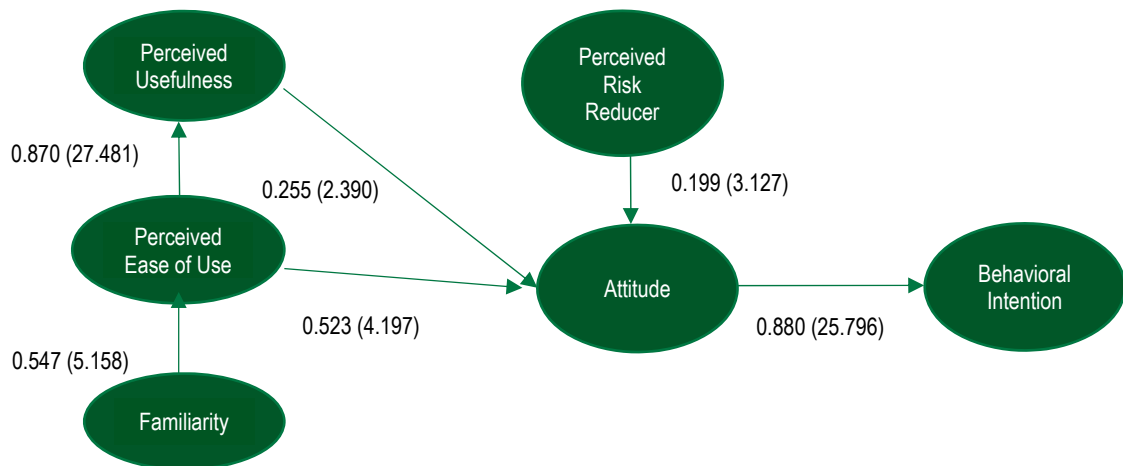
3. Result

The findings show all of model's measurements have met the criteria of validity and reliability (Composite Reliability (CR) ≥ 0.7 , Average Variance Extracted (AVE) ≥ 0.5 and Loading criteria ≥ 0.6). Range of item's loading fall between 0.649 to 0.971. AVE from 0.596 to 0.30 and CR from 0.889 to 0.962.

The path analysis results significant (T-value > 1.96) and positive relationships for all hypotheses tested (Figure 1). The research result indicated that the intention of using cashless payment transaction is contributed highly by attitude a person has toward the system. Attitude explains 88% of behavioral intention variance, while 18% is explained by other factors. The creation of positive attitude towards the system is mainly driven by the perception that the system is easy to use (52%), followed by the perception of usefulness (25.5%) and Perceived Risk (19.9%). Nevertheless, all three constructs, perceived ease of use, perceived usefulness and perceived risk have significant and positive contribution to attitude of using a cashless payment system in a destination. Altogether

the three drivers contribute to 97.7% to attitude, which will lead to intention to use the cashless payment system. Another important finding is the role of Familiarity. Familiarity is proved to explain 54.7% the variance of perceived ease of use while the rest is explained by other factors. Perceived Ease of Use also contributed to the perceived usefulness significantly and positively.

Figure 1. Structural Model - Factor Loadings (T-Value)



Source: Processed

Conclusion

The study adds to the literature by providing confirmation of the TAM model specifically in payment system area within context of holiday destination. It has confirmed the drivers of attitude towards cashless implementation, which will strongly lead to behavioral intention of adopting the system. Two of them are perceived of usefulness and perceived ease of use which had been suggested by previous literature (Davis 1989, Venkatesh *et al.* 2003). Most importantly, the study contributes by validating the construct of Perceived Risk as the third drivers of attitude in the model. This findings in line with studies where perceived risk were found to be associated with technology adoption and acceptance (Kleijnen *et al.* 2004, Luarn and Lin 2005, Lee 2008, Yang *et al.* 2015, Ozturk 2016).

Comparing the three drivers, the result confirmed that perceived ease of use had the greatest contribution to attitude. This is in line with Lee (2008) empirical evidence, however it differs from the previous studies by Kleijnen *et al.* (2004) and Leung and Wei (2000) which found Perceived Usefulness to be the strongest factor predicting intention to adopt a technology. In addition, the study also proved that familiarity is important in creating perceived ease of use. This is in line with previous studies by Hackbarth, *et al.* (2001) and implies the more experience a tourist had gained in using cashless in various setting, the more he would feel effortless in using the payment system.

Implication of the result in marketing practice is in the area promotion strategy. For example, the communication regarding the campaign of using cashless can be developed around the idea of ease of use of the user experience with the system. Communication should also be stressed on using cash as a “risk reducer”, along with its benefit of cashless during vacation. It is also suggested increase the acceptance of cashless in tourism setting is to induce trial of using the system.

The limitation of the study exists in the ignorance of each destination might have different cashless infrastructure that might affect experience. As the current research only account experience as a holiday destination, future research should examine the cashless acceptance in more specific context of each tourism experiences and whether system integration between providers in a destination could improve the total experience of payment system.

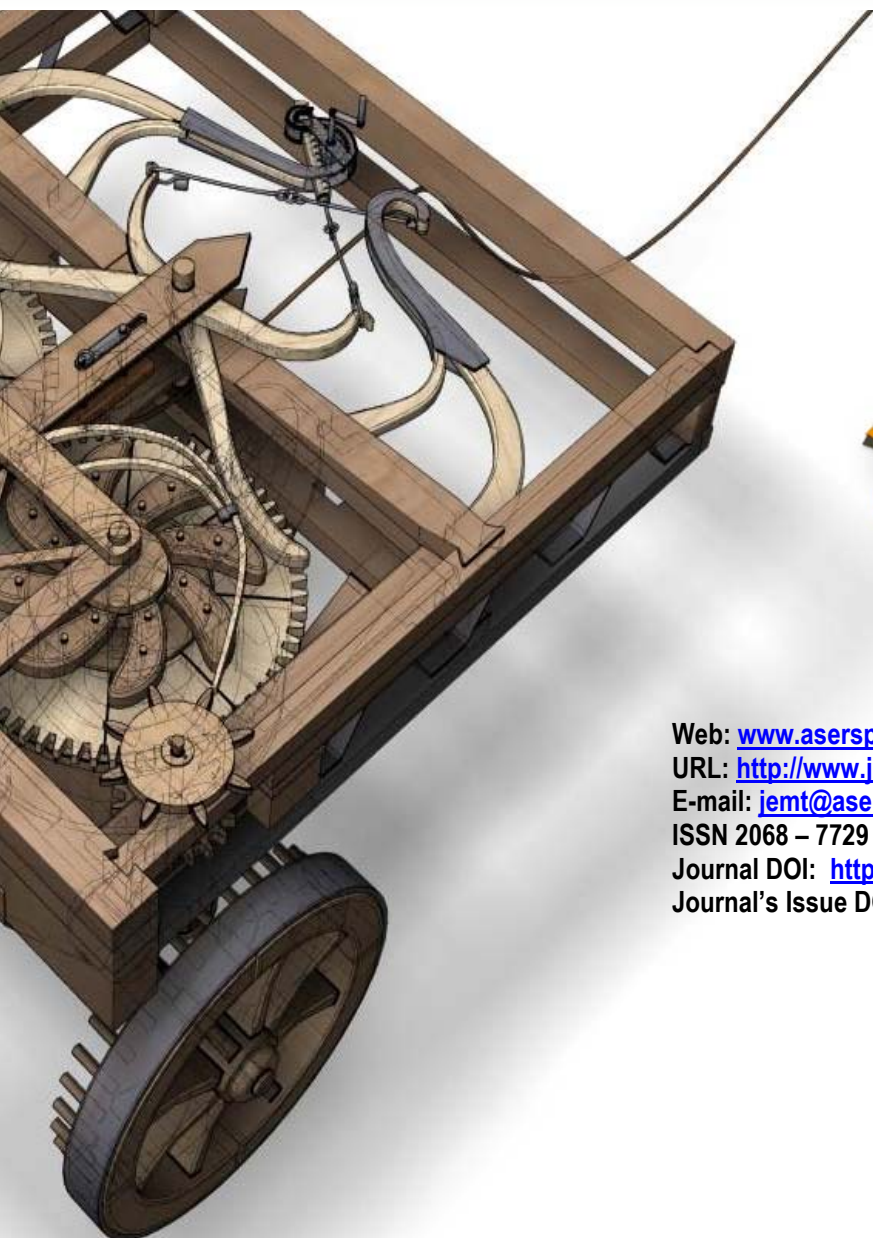
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