User Acceptance of Virtual Hotel Operator Applications in Indonesia

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Abstract. This research is based on the main problem, namely the lack of measurement of the integration of mobile factors in the VHO application. This research is categorized as quantitative research using descriptive methods, and using the technology acceptance model / TAM. The technique used is multiple linear regression, starting with the validity and reliability tests, as well as the heteroscedasticity test. The purpose of this research is to determine how much acceptance of VHO application users based on the Technology Acceptance Model (TAM). This research approach uses a quantitative approach with survey methods. The data collection technique is using a questionnaire that distributed randomly to users of the VHO application. The data analysis method used is descriptive analysis, using multiple linear regression techniques. The results of this study indicate that the variables of mobile perceived compatibility, mobile perceived financial resources, and mobile perceived risk have a simultaneous effect on the mobile variable perceived usefulness, the mobile variable perceived ease of use and the intention to use variable.

1. Introduction

The industrial revolution 4.0 is a phase that changes the way people think and act. The main principle is the combination of machines, workflows and systems by implementing an intelligent network in the production process chain. This technological development encourages changes in human behavior and creates business opportunities and creates new jobs. With this technological innovation, competition in the business world is also inevitable, including competition in hotel services with applications, both device applications and websites. Supporting this, now there is an online room reservation service provider business, commonly known as VHO (Virtual Hotel Operator).

To get many users on a hotel booking application, the application must consider what convenience factors will be adapted in use. The application will not be used continuously if the user finds it difficult to use it or make transactions. As affordable as the price offered in the application, if users find it difficult it will be in vain. If users find a technology easy to use, then they will adapt the technology [1]. Regarding the facts of previous research, we are interested in conducting a study of the VHO application with the aim of knowing whether or not a technology is accepted based on what the user feels. The method used to measure the usefulness of these technologies uses TAM (Technology
Acceptance Model). TAM was first introduced by Fred Davis in 1986 which is a method designed to analyze what factors influence the acceptance of the use of a technology [2].

There have been many studies conducted using TAM. TAM is used to empirically test a research model that combines the antecedents of mobile shopping loyalty and the context of hotel room reservations [3]. Furthermore, TAM is used to identify external factors used in the context of e-learning adoption [4]. Furthermore, regarding TAM, there is a study that aims to analyze the factors that influence student interest in mobile banking applications [5]. Subsequent research was carried out with the object of PDAM Surya Sembada Surabaya which measures the reliability of a mobile application [6]. Two years ago, research using TAM was carried out with the Bukalapak e-marketplace object, this research focuses on measuring Bukalapak user acceptance with a quantitative descriptive method [7]. TAM is also used to build a model used to measure technology acceptance in the e-marketplace Lazada [8] and Shopee applications [9].

VHO is a startup in the technology sector, especially the hotel operator sector that collaborates with hotels (generally budget hotels, but has penetrated into villas and star hotels), property owners are offered to register their properties for accommodation [10]. One of the studies regarding VHO is research that focuses on the influence of service quality on customer satisfaction and loyalty of VHO [11]. Then there is a study that aims to analyze the effect of service quality through tangible variables, reliability, responsiveness, assurance, and empathy for consumers staying at hotels in Surabaya [12]. Furthermore, there is VHO research that analyzes the effect of digital marketing on brand advocacy with perceived quality and customer engagement as intervening variables in VHO Airy [13]. The VHO trend this year is increasingly developing in Yogyakarta in line with the tourism sector with a minimal budget [14].

Furthermore, research on risks with the object of mobile payment focuses on examining the factors that determine the acceptance of mobile payments for consumers [15]. There is also research that analyzes online purchasing behavior in the hotel industry using an integrative framework with variables that are rarely used in previous studies [16]. In the same year, a study was conducted with the aim of proposing the acceptance of AR (Augmented Reality) in the context of urban heritage tourism [17].

2. Hypothesis Development

This study uses three main variables adopted from the study [17] three external variables. The main variables used are mobile perceived usefulness, mobile perceived ease of use and consumer intention to use. Meanwhile, the three external variables are mobile perceived compatibility, mobile perceived financial resources and mobile perceived risk.

Consumer intention to use is defined as an individual's interest or desire to perform certain behaviors [18], it can also be interpreted as how long the user will use this technology [19], [20]. Mobile perceived usefulness refers to the extent to which users expect a technology to increase work effectiveness [15]. In addition, mobile perceived usefulness also leads to the perception of increased usability given to users when adopting technology [1].

H1: mobile perceived usefulness has a significant relationship to consumer intention to use

Mobile perceived ease of use refers to how easy this technology is to use, when consumers feel that a technology is easy to use and learn, they will adopt this new innovation, especially if it is supported by a friendly interface, and how to use it easily [1]. The less users do activities related to social media, the more likely they will find social media sites useful. Results of research on mobile perceived ease of use previously has shown a significant relationship between the variables of mobile perceived ease of use to the consumer wishes to use (consumer intention to use) [21].

H2: mobile perceived ease of use has a significant positive relationship to consumer intention to use
Mobile perceived usefulness is defined as the extent to which a person can believe that using a system will improve his job performance. Mobile perceived ease of use has become an important concept in many technology acceptance models. This variable is defined as the extent to which a person can believe that using a system will be free of effort [18]. In addition, consumers may not have a strong motivation to adopt mobile technology unless the service creates new innovations where mobility is very important and manages to positively affect people's lives [22].

**H3**: mobile perceived usefulness and mobile perceived ease of use have a simultaneous relationship to consumer intention to use

Mobile perceived compatibility refers to the extent to which mobile phone innovation can be adapted to potential needs and user behavior patterns [1]. In his research, it was stated that consumers have adopted smartphones to buy products and services, access television, banking, exchange information simply by bringing their cellphones closer together, and playing online games together. Thus, past experience using smart phones can be considered an indicator of compatibility. Perceived compatibility has a positive effect on perceived usefulness [23]. Based on the research above, the hypothesis was found:

**H4**: mobile perceived compatibility has a significant relationship to mobile perceived usefulness

Mobile perceived compatibility leads to the extent to which innovation is considered consistent with existing values, previous experiences, and the needs of potential users. In his research, it was stated that to increase the use of mobile technology, the system must create the impression that the technology is easy to use and compatible with the user's lifestyle [3]. Consumers are more accepting if they have previous experience using technology, consumers may think that new technology will have difficulty using it [1]. Based on the research above, the hypothesis was found:

**H5**: mobile perceived compatibility has a significant relationship with mobile perceived ease of use.

Mobile perceived financial resources refer to financial resources which usually hinder the application of new innovations to consumers. Devices that adapt to these new innovations are usually more expensive, this is due to high production costs as they require redesign of existing ones. Given financial considerations, these innovations may be out of reach of consumers due to limited financial resources [1]. Mobile perceived financial resources are used to measure perceived financial resources and assess the level of financial difficulties felt by technology developers [24]. Based on the research above, the hypothesis was found:

**H6**: mobile perceived financial resources have a significant relationship with mobile perceived ease of use

**H7**: mobile perceived financial has a significant relationship to mobile perceived usefulness

Mobile perceived compatibility refers to the extent to which mobile phone innovation can be adapted to potential needs and user behavior patterns [1]. Mobile perceived financial resources are used to measure perceived financial resources and assess the level of financial difficulties felt by technology developers [24]. This mobile variable perceived risk refers to most applications on smartphones endangering the privacy and security of their users [17].

**H8**: mobile perceived compatibility, mobile perceived financial resources, and mobile perceived risk have a simultaneous relationship to mobile perceived usefulness.
This mobile variable perceived risk refers to most applications on smartphones endangering the privacy and security of their users [17]. If an application asks for too many personal details, most users are afraid that the data will be shared with other parties. The public is concerned about the risk of who will have access to their data information, because nowadays anyone can access any information on the internet [25].

H9: mobile perceived risk has a significant relationship to mobile perceived usefulness
H10: mobile perceived risk has a significant relationship to mobile perceived ease of use

Mobile perceived compatibility leads to the extent to which innovation is considered consistent with existing values, previous experiences, and the needs of potential users [3]. Mobile perceived financial resources refer to financial resources which usually hinder the application of new innovations to consumers. Given financial considerations, these innovations may be out of reach of consumers due to limited financial resources [1]. Mobile perceived risk refers to when new technology is adapted, in addition to the technology being easy to use as well as user data requests which are often unsettling for the public, they are worried about who will access their data on these technologies [25].

H11: mobile perceived compatibility, mobile perceived financial resources, and mobile perceived risk have a simultaneous relationship to mobile perceived ease of use.

Based on the above hypothesis, a research paradigm has been built as shown in Figure 1.

![Figure 1. Research Paradigm](image)

The Figure 1 contains 3 external variables; mobile perceived compatibility, mobile perceived financial resources, mobile perceived risk. The main variables are mobile perceived usefulness, mobile perceived ease of use and consumer intention to use. The following indicators can be formulated in Table 1.

**Table 1. Operational Research Variables**

| Constructs                              | Number Of Items | Sources |
|-----------------------------------------|-----------------|---------|
| Mobile Perceived Compatibility          | 4               | [15], [26], [1], [3], |
| Mobile Perceived Financial              | 3               | [9], [27], [3], [8], |
| Resources                               | 4               | [16], [19], [28], (7), |
| Mobile Perceived Risk                   | 5               | [20], [18], [17], [29], |
| Mobile Perceived Usefulness             | 4               | [25], [23], [21], [24], |
| Mobile Perceived Ease Of Use            | 5               | [28], [1], [8] |
| Consumer Intention To Use               | 3               | [9], [1] |
Each variable has at least 3 indicators that become the reference for making questionnaire questions. The written indicators refer to previous research journals.

3. Methodology

3.1. Participants and instruments

The object of this research is the users of the VHO application that are widespread in Indonesia. Researchers want to find out how compatible the VHO application has been downloaded and used, how much risk occurs when transacting on the VHO application, how easy the VHO application is to use, and also the researcher wants to find out whether the VHO application can ease the user's work or not. Based on previous research data, the researchers are interested in conducting research "Integration of Mobile Perceived Compatibility, Mobile Perceived Financial Resources, and Mobile Perceived Risk with TAM in Virtual Hotel Operator Applications in Indonesia". This study aims to develop and expand TAM with external compatibility, financial resources, and risk variables which will be tested to determine how much influence the user's intention to use hotel room reservations online.

This study uses a survey method, while the survey method itself is a method that studies data based on a sample to measure the relationship between variables in a population [30]. This study took a number of samples from the population through questionnaires to collect basic data included in the survey research category. If described, this study adapts a framework that has been modified by [1], [9], [17] by using 3 main variables and 3 external variables. The main variables used are; mobile perceived usefulness, mobile perceived ease of use, and consumer intention to use. The external variables are; mobile perceived compatibility, mobile perceived financial resources, and mobile perceived risk.

3.2. Data Analysis

The statistical software SPSS 25 was used to calculate these collected data. For the research questions, validity and reliability test, correlation analyses and multiple regressions were used to answer the research question.

4. Results and Discussions

The data obtained has shown a validity level that is valid and consistent reliability, where the resulting r value has met the requirements so that it is significant and reliable as shown in Table 2. Hypotheses testing is done through F test for simultaneous and the T test for partial.

Based on the results of partial testing in Table 2, it is shown that all hypotheses are shown a significant value, and also they are proven valid. This means there are no unrelated partial relationships.

Based on the results of partial testing in Table 3, it is shown that all simultaneous hypotheses have been proven, where each hypothesis has shown a calculated F value that is greater than the F table, and a significant number less than 0.05. The coefficient of determination in this study for the effect of mobile perceived usefulness and mobile perceived ease of use on consumer intention to use is 0.636 or 63.6%. For the effect of mobile perceived compatibility, mobile perceived financial resources and mobile perceived risk to mobile perceived usefulness of 0.502 or 50.2%. Meanwhile, the effect of mobile perceived compatibility, mobile perceived financial resources and mobile perceived risk on mobile perceived ease of use is 0.610 or 61%. Thus, based on the results of research to increase consumer intention to use, it is necessary to pay attention to the factors built in this study.
Table 2. T Test result

| Independent Variable                  | Dependant Variable             | T Value | T Table | Significant Value |
|---------------------------------------|--------------------------------|---------|---------|-------------------|
| Mobile Perceived Usefulness           | Consumer Intention To Use      | 18,351  | 0.726   | .000              |
| Mobile Perceived Ease Of Use          | Consumer Intention To Use      | 23,183  | 0.726   | .000              |
| Mobile Perceived Compatibility        | Mobile Perceived Usefulness    | 17,199  | 0.726   | .000              |
| Mobile Perceived Financial Resources  | Mobile Perceived Ease Of Use   | 16,406  | 0.726   | .000              |
| Mobile Perceived Compatibility        | Mobile Perceived Ease Of Use   | 21,107  | 0.726   | .000              |
| Mobile Perceived Financial Resources  | Mobile Perceived Usefulness    | 14,645  | 0.726   | .000              |
| Mobile Perceived Risk                 | Mobile Perceived Usefulness    | 11,762  | 0.726   | .000              |
| Mobile Perceived Risk                 | Mobile Perceived Ease Of Use   | 14,437  | 0.726   | .000              |

Table 3. F Test Result

| Independent Variable                          | Dependent Variable             | F Value | F Table | Significant Value |
|-----------------------------------------------|--------------------------------|---------|---------|-------------------|
| Mobile Perceived Usefulness, Mobile Perceived Ease Of Use | Consumer Intention To Use      | 324,453 | 2,238   | .000b             |
| Mobile Perceived Compatibility, Mobile Perceived Financial Resources, Mobile Perceived Risk | Mobile Perceived Usefulness    | 125,369 | 2,238   | .000b             |
| Mobile Perceived Compatibility, Mobile Perceived Financial Resources, Mobile Perceived Risk | Mobile Perceived Ease Of Use   | 194,184 | 2,238   | .000b             |

5. Conclusions

Based on the research results, it shows that the developed model has been able to answer the problem regarding the absence of a model that can be used specifically to measure user acceptance of the Virtual Hotel Operator Application in Indonesia. In addition to supporting the model produced in Davis 1989 research, this study also provides updates by adding several variables through research support [1] and [17]. The practical benefit obtained from this research is the need to pay attention to risk factors of a VHO application. With good system security, users will feel safe when making hotel booking transactions in the VHO application.
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