Measurement model for Pahang Portal Mart acceptance scale instrument

Nur Aulia Fahada binti Misaridin¹, Wan Hashridz Rizal bin Wan Abu Bakar ² and Mohammad Zulfakhairi bin Mokhtar ³

¹Faculty of Management, Sultan Ahmad Shah Pahang Islamic University College (KUIPSAS)
²Faculty of Islamic Studies, Sultan Ahmad Shah Pahang Islamic University College (KUIPSAS)

Email: fahada@kuipsas.edu.my

Abstract. The use of Pahang Mart portal among the people of Pahang during the covid19 season is very encouraging. However, if the use of this portal is not complete, then the development of this portal will be a futile and detrimental project. A study on the acceptance of this portal is necessary and to ensure that this study has validity and reliability, the instrument needs to be proven in advance about its validity and reliability. Therefore, this study aims to determine the validity and reliability of the instrument that used to measure PahangMart portal acceptance. This study is a quantitative study using questionnaire instruments taken from previous researchers. The findings of the study prove that the questionnaire has a good level of validity and reliability.

1. Introduction
The government's call to limit the movement of the people when the whole world is hit by the covid-19 pandemic, has made the use of online platforms increasingly gaining consumer attention. the government is also not left behind to serve its people by helping to develop an online application known as Pahang Mart Portal. This portal is expected to help consumers in the business of buying and selling groceries and daily household needs in the state of Pahang. However, every technology offered may be well received or even rejected. The rejection of technology is something that needs to be taken seriously because, if a technology is not well received by society then the government will face losses. this is due to the expense of providing the infrastructure to develop the online application It is not cheap. Therefore, the government and information technology service providers need to identify the causes of the acceptance of an information technology system. therefore, this study aims to identify the level of validity and reliability of the research instrument used to measure the acceptance factors of PahangMart Portal. This paper will be divided into several parts, namely the literature review section will discuss previous studies in the field of information technology acceptance. the methodology section will discuss the methodology used for data collection and how the data is analyzed. the analysis data section will discuss data analysis based on the objectives of the study. the discussion section will discuss the findings of the study as well as descriptions related to the findings.
2. Literature review

2.1. Technology acceptance and scale validation

The use of technology is an inevitable thing in modern life. In almost every day activity, humans use technology. Technology can be seen and used in various fields of human life as well as context such as in the fields of health, agriculture, motoring, business, administration and many more. The use of this technology, however, may not be well received by consumers for a number of reasons. There are several possibilities which lead to technology rejection. These possibilities can be identified based on previous researchers who studied about why consumers accept or reject a technology[1] [2] [3] [4] [5]. Information regarding the acceptance and rejection of this technology is very important to information technology providers to ensure that the technology they create remains relevant to users. Information technology vendors do not want customers to reject their invented technology, as investment in the development of technology is large. Therefore, studies related to technological acceptance factors are very relevant in order to ensure the survival and sustainability of a technology. However, a successful research must always have a valid and reliable instrument. Failure to demonstrate high validity and reliability would distort interpretation, and the findings of the study may be questioned. Fortunately, the modern world today offers a range of computer applications capable of assisting researchers in the development of validation and reliability tests. The results of studies related to validity and reliability will be available faster and more accurate.

3. Methodology

The objective of this study is to identify the level of validity and reliability of the Pahang Mart Portal acceptance study instrument. The design of this study is quantitative, that is, the data will be analyzed statistically to obtain the value of validity and reliability. The instruments used in this study are those borrowed from previous researchers while ensuring the validity of the content. The scale used in this study is a Likert scale ranging from 1 strongly disagree to 5 Strongly agree. Data were collected using non-probability sampling techniques. This technique is used due to the absence of a sampling frame. A total of 127 respondents were successful obtained. Data was then analyzed using the SmartPLS program.

4. Data analysis

4.1. Construct validity

Several tests were used to assess the construct validity of the variable in the model. Factor loadings greater than the 0.70 threshold indicates good convergent validity. In addition, reliability of the instrument was evaluated using Cronbach’s alpha (α), with a suggested threshold of 0.70 [6]. Moreover, to establish discriminant validity [7] criterion were used. Composite reliability (CR) was also calculated. Table 2 shows that all the square root of AVE is significantly greater than the construct correlations. On the other hand, the CR values ranged from 0.95 to 0.97, with all the variable loadings being significant at p<0.05. This means the all of the constructs in the scale have followed the criteria of convergent and discriminant validity; hence, the reliability and validity of the constructs have been successfully examined.

|                  | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
|------------------|------------------|-------|-----------------------|----------------------------------|
| attitude         | 0.96             | 0.96  | 0.97                  | 0.92                             |
| ease of use      | 0.96             | 0.96  | 0.97                  | 0.88                             |
| intention to use | 0.92             | 0.92  | 0.95                  | 0.86                             |
| usefulness       | 0.94             | 0.94  | 0.96                  | 0.84                             |
Table 2: Discriminant validity

|                  | attitude | ease of use | intention to use | usefulness |
|------------------|----------|-------------|------------------|------------|
| attitude         | 0.96     |             |                  |            |
| ease of use      | 0.73     | 0.94        |                  |            |
| intention to use | 0.81     | 0.72        | 0.93             |            |
| usefulness       | 0.84     | 0.82        | 0.85             | 0.92       |

Note: Bolded diagonal represents square root of AVE

5. Discussion

Previous studies have proven that the factors that contribute to the acceptance of information technology among consumers are varied. There are several theories in the field of information technology acceptance studies. These theories include TAM, UTAUT, TPB, TRA and many more. All of these theories have valid measurement models and have high reliability values. Validity and reliability are very critical since it is a requirement before the hypothesis is tested. The findings of this study have proven that the measurement model has a high value of reliability and validity. These findings are in line with previous studies that use the same theory as TAM [8], UTAUT[9], TPB[10], TRA[11] and others. We are of the view that, the findings of this study can once again confirm the validity and reliability of instruments from established theories such as TAM. We believe that this instrument can be used for the purpose of hypothesis testing for future studies. However, since we use the variance based SEM approach to test the validity and reliability of the instrument, there are also several others robust approach in measuring the validity and reliability, namely covariance based SEM approach. Therefore, future studies should use SEM-based covariance approach.

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