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## IMPACT OF VISUAL APPEAL AND PORTABILITY TOWARDS ONLINE PURCHASE INTENTION OF ONLINE MOBILE GAME CONTENT IN INDONESIA



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### Abstract

The attractiveness of online games of various types makes smartphone gaming more desirable and creates a prestige value for users towards good perceptions of gaming. Online purchase intention as a consumer's desire to make transactions for a product or service that is sold online can be influenced by various things such as visual appeal, portability, purchase intention, hedonic browsing, utilitarian browsing, and perceived risk. The purpose of this paper is to further the research in knowing consumer behavior and what factors influence buying decisions on online purchase intentions for online mobile game content in Indonesia. This study uses an explanatory research design. A conceptual model is developed and tested. An online survey was conducted from a sample of consumers of online mobile game content. The responses were analyzed using Structural Equation Modeling (SEM) with a minimum sample size of 100 people. The result of this study is that the visual appeal variable had a significant effect on hedonic browsing, the portability variable had no significant effect on perceived risk and has a significant effect on utilitarian browsing, and the hedonic browsing variable has a significant effect on online purchase intentions.

**Keywords:** Visual Appeal, Purchase Intention, Hedonic Browsing, Utilitarian Browsing, Perceived Risk

## INTRODUCTION

Recently, the game is an activity or entertainment by playing that can be done with certain rules so that there are winners and losers, usually in a non-serious context or with the aim of refreshing. In a game, there are several forms or types of games, namely mobile games, video games, arcade games, PC games, etc. Video games are leisure activities with more than two billion users worldwide (Choi et al., 2020). As humans, we are always developing ways to entertain ourselves and entertain others. One way to entertain yourself is to play video games. Indonesia is one of the largest gaming industry markets in the world, Indonesia's gaming market is ranked 17th in the world, and first in Southeast Asia, with an estimated USD 1.1 billion in sales in January 2019. According to the Indonesian Gaming Association (AGI), the local gaming sector is growing at 37% annually, more significant than other Southeast Asian nations. Mobile games are a rapidly growing line of business and are predicted to generate more than US\$100 billion in revenue by 2021 (Setyaningsih et al., 2021). Mobile games represent 51% of global digital games in market share and are predicted to have a CAGR (Compound Annual Growth Rate) of 6.1% year over year (Setyaningsih et al., 2021). The largest contributor to mobile gaming revenue in the global market is China with US\$21,444 million in revenue in 2019 (Allcorrectgroup, 2022).

Especially mobile games or video games played via cell phones, tablet computers, or consoles. However, along with the development of technology, mobile games tend to be more popular because they can be played anywhere and anytime. According to the journal belonging to Siste et al (2021), mobile games are a form of electronic game that is connected to the internet network and is played through computer devices, smart phones, game consoles, laptops, and other gaming devices and is multiplayer or can be played by many users on the internet at the same time.

In addition, mobile games is a big contributor revenue of mobile game companies because many consumers make purchases through the applications they use in App Purchase. Consumer purchasing decisions become an important factor in determining the existence of a company. A company can continue to exist if the stimulus of consumers in deciding to purchase products from a market gets a positive response from the market itself.

In-app Purchases are a type of purchase made within the application and are usually virtual in nature and even the transaction uses real money. In the in-app purchase model, the app is free and additional content can be purchased within the app. In the advertising model the application is free but contains ads to generate revenue (SeTin et al., 2019). All major mobile platforms (iOS, Android and Windows Phone) currently offer this functionality for developers to implement in their applications.

Purchases are influenced by several factors, things that influence someone to make a purchase such as advertising and the brand image of the product itself. For application developers, in-app purchases offer great profit potential because from one application and one user, application developers can earn multiple times (Alexandri et al., 2021). Payment types in in-app purchases are divided into 2 main types, namely: Standard (onetime payment) and Subscription (subscription / recursive within a certain time span).

Based on the data of the device used in playing online games, of course, it varies. In January 2020, Wearesocial.com from hybrid.co.id conducted a research that “about 80 percent of internet users in the 16-64 year age range play games every month. So, the number of gamers in the world reaches 3.5 billion people. Most (69 percent) of internet users admit that they play games on mobile. While 41 percent play games on laptops or desktops and 25 percent play games on consoles. Considering the price of mobile devices which are relatively more affordable than PC gaming or consoles, it is not surprising that the number of mobile game players is higher than PC and console players.” Based on the data, there is a shift of conventional gaming towards mobile gaming.

Based on the We Are Social report from databoks.katadata.id, “Indonesia is the country with the third largest number of video game players in the world. The report noted that there were 94.5% of internet users aged 16-64 years in Indonesia who played video games as of January 2022. We are Social noted that the majority or 83.6% of internet users aged 16-64 years in the world played video games using any device. Looking at the data from databoks.katadata.co.id, Indonesia ranks third most of course this has an influence on the income level of online game companies in Indonesia. This is because there is data from the amount of spending game users make in making purchases. Consumer spending on

mobile games is projected to reach US\$ 120 billion in 2021. Based on data report from appannie.com, this number has increased by 19.05% from US\$ 100.8 billion in 2020.

According to (Griffths 2015), the reason why some people buy products virtual because virtual products are attractive to social status even though they do not have the potential to strengthen the characters in the game. However, it is different from the reality on the ground where buying virtual products in these online games can improve skills character. There are several virtual products that can increase skills during games such as increases damage and is able to speed up the level up of each character. Unique reason Another aspect of buying virtual products is exclusivity, namely buying exclusive goods (goods) limited. It has also been confirmed that portability and interface design (visual appeal) are two key features that consumers most appreciate in their journey to buy mobile online game content.

The attractiveness of online games various types makes smartphone gaming more desirable and creates a prestige value for users towards good perceptions of gaming images on smartphones. (Rahayu et al., 2023) state online purchase intention as a consumer's desire to make transactions for a product or service that is sold online. One of the factors that influence consumer purchase intentions in online shopping is perceived risk. Then consumer attitudes influence consumer purchase intentions in shopping online. Shopping environmental factors can also lead to other consumer behavior, namely hedonic traits. Hedonic exploring can also influence a person to make an impulse purchase. Widagdo & Roz (2021) states that hedonic shopping motives are the need of each individual for an atmosphere in which a person feels happy, happy. The need for pleasure creates arousal, referring to the degree to which a person feels alert, excited, or active. Many studies have categorized consumers' shopping styles or motives to understand their shopping tendencies. The classification of dimensions forming hedonic motives developed by Dey & Srivastava (2017) includes adventure, gratification, role, value, social, ideas. Utilitarian exploration is one of the influences on the purchase intention of online mobile game content according to (Budolfson et al., 2021) The view of utilitarianism is basically an ethical-ethical understanding that places actions are those that are useful, provide benefits (benefits), and profitable. The aim of this of this current study is to determine whether perceived risk,

hedonic browsing, and utilitarian browsing affect online purchase intention of mobile online game content in Indonesia.

## REVIEW OF LITERATURE

The term “visual appeal” refers to the appearance of a product’s packaging. This includes the colors, shapes, brands, illustrations, fonts, and layout, all of which work together to give a complete impression and provide the best possible visual appeal. According to Amanah & Harahap (2020), the information conveyed is more easily understood and read if a package has a well-organized hierarchy of visual elements and a simpler appearance. This makes it easier to distinguish between products that are similar to one another. Therefore, it is reasonable to assert that a product's visual appeal plays a significant role. Meanwhile, according to Amanah & Harahap, (2020a), the two main aspects that consumers value most from a sale are portability and visual comparison. In Zheng and co, According to the research, which was conducted in 2019, portability, in particular, has been considered as a way for customers to select products when shopping (Shahpasandi et al., 2020) stated that hedonic browsing is significantly influenced by portability and aesthetic appeal. The following is the hypothesis of this study, as described below:

**H1:** Visual appeal has a significant effect on hedonic browsing in online mobile game content in Indonesia.

**H2:** Portability has a significant effect on hedonic browsing of online mobile game content in Indonesia.

Visual appeal is also important for an approved sale. Therefore, portability and visual appeal are the two main reasons for consumers choosing to buy products offered through applications. This is specifically making purchases in mobile game applications. Unlike previous purchasing activities, where purchases were made more traditionally by shopping online using only 1 particular platform. Purchasing for a mobile game using a purchase system can provide services that tend to be easier and more accurate. This relates to the level of security in making purchases. Research by (Shahpasandi et al., 2020) states that

visual appeal and portability have a significant effect on perceived risk. Based on the description above, the hypothesis in the researcher these are:

**H3:** Visual appeal has a significant effect on perceived risk in online mobile game content in Indonesia.

**H4:** Portability has a significant effect on perceived risk in online mobile game content in Indonesia.

Purchases made using in-app purchases will use user approval such as user location, content adjustment, and delivery of notifications before, during and after purchase (Zheng et al., 2019), this is also due to the support of the portability characteristics themselves namely have a mobile device. Research results by (Shahpasandi et al., 2020) stated that visual appeal and portability have a significant effect on utilitarian browsing. Based on the description above, the hypothesis in this study is:

**H5:** Visual appeal has a significant effect on utilitarian browsing of online mobile game content in Indonesia.

**H6:** Portability has a significant effect on utilitarian browsing of online mobile game content in Indonesia.

Hedonic browsing refers to the activity of shoppers browsing websites not because they want to buy a particular product, but to enjoy browsing for the item itself (Zheng et al., 2019). Hedonic browsing focuses on pleasurable and entertaining experiences through browsing websites (Kimiagari & Asadi Malafe, 2021). Hedonic browsing is a consumer behavior that focuses more on fulfilling hedonic motivation which refers to fulfilling consumption behavior in search of happiness, awakening, sensuality, and fantasy (Ningsih & Andjarwati, 2021) has conducted research and shown that hedonic browsing has a positive and significant effect on e-impulse buying. Humans generally make purchases based on their daily needs. If consumers buy products based on their functional or usability benefits, then these consumers consider their utilitarian benefits. Utilitarianism is about objectivity and the tangible form of a product. Consumers will be satisfied if they get products according to their needs in an efficient way. Utilitarian is a form of consumer attitude where they shop by making purchases or not making purchases that they have determined according to their needs. This statement shows that utilitarian is a form of

attitude from consumers where they shop by purchasing or not purchasing goods or services that they have determined according to their needs or rationally.

Perceived risk means an individual's subjective belief about the potential negative consequences of decisions taken by consumers (Gunden et al., 2020) defines perceived risk as a condition of uncertainty faced by consumers when consumers cannot foresee or predict the consequences of a decision to buy an item. The concept of perceived risk is defined as the risk that arises from consumer perceptions of uncertainty and the consequences of losses that will be suffered from purchasing a product (Gunden et al., 2020). When a user buys a particular product or service, there is a risk associated with the action taken in the sense that every consumer action will result in a consequence which will be viewed with a certain degree of uncertainty (Ningsih & Andjarwati, 2021) stated that hedonic browsing, perceived risk, utilitarian browsing has a significant effect on online purchase intentions. Based on the description above, the hypothesis in this study is:

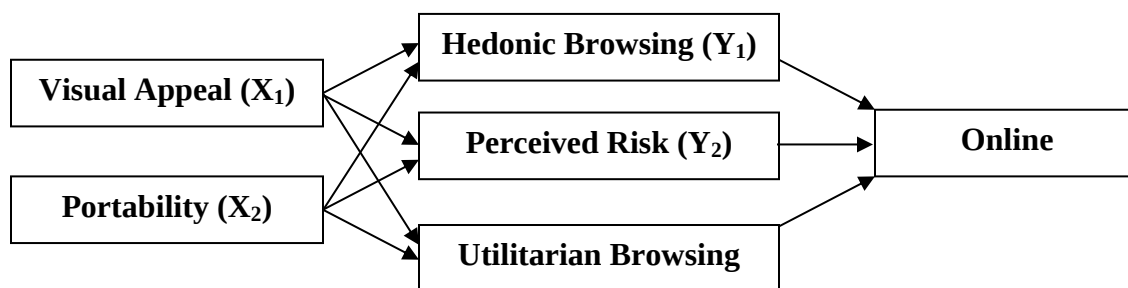
**H7:** Hedonic browsing has an effect on online purchase intentions on online mobile game content in Indonesia.

**H8:** Perceived risk affects online purchase intentions for online mobile game content in Indonesia.

**H9:** Utilitarian browsing has an effect on online purchase intentions for online mobile game content in Indonesia.

### **Conceptual model**

This study uses a research basis (Sharifi Asadi Malafe et al., 2022) and then developed with modifications according to previous journals that can be linked as well. The model used as a reference has the title Understanding Impulse Buying in Mobile Commerce: An Investigation Into Hedonic and Utilitarian Browsing. This research was conducted by applying an explanatory research design with a quantitative approach. because it will collect initial information that will help define the problem and suggest hypotheses. This quantitative approach is carried out by using a questionnaire or survey instrument to collect sample data once on the elements of the online game consumer population who are consumers who make impulse purchases of the content offered in online games.



**Figure 1**  
**Conceptual Model**  
Source: (Cuandra, 2022)

## RESEARCH METHOD

### Construct and Measurement Items

According to Cuandra (2022) the operational definition of a variable is the drawing of boundaries that better explain the specific, more substantive characteristics of a concept. The goal is that the researchers can obtain a measurement tool that is in accordance with the nature of the variable that has been defined by the concept, the researchers must include the process or operation of the measuring instrument that will be used to quantify the symptoms or variables he is studying. In this study, the operational definition of the variable is as follows. The independent (free) variables in this study are Visual Appeal (X1) and Portability (X2). The dependent variable in this study is Hedonic Browsing behavior (Y1), Perceived Risk (Y2), Utilitarian Browsing (Y3), and Online Purchase Intentions (Y4).

### Survey Designs and Sampling Process

The sample in this research is some consumers of online mobile games in Indonesia. The sampling technique used is purposive sampling. The characteristics of the selected sample are consumers of online mobile games in Indonesia aged 18-35 years and over who live in the Greater Jakarta area. Distribution of questionnaires will be carried out for 1 (one) week. The number of samples in this study is a minimum of 100 respondents. According to Fraenkel et al., (2012), taking a minimum sample of 100 respondents for descriptive research already represents the population. In addition, a minimum sample size of 100 people for explanatory or causal research is also representative of the population,

where a good sample is a sample that is not too large and not too small, but provides an optimal reflection of the population (representative) (Gay & Diehl in Sugiyono, 2017). Based on this statement, in the end the sample that will be used in this study is 213 respondents.

### **Demographic Characteristics**

Based on the results of research that has been conducted on 213 respondents, it can be concluded that the respondents in this study were mostly male as many as 143 (67.1%) respondents and women as many as 70 (32.9%) respondents. This shows that the gender of some online mobile game consumers in Indonesia is mostly male who do more gaming activities on a daily basis. It can be concluded that the respondents in this study were mostly aged 18-25 years as many as 135 (63.4%) respondents and a small portion aged > 35 years as many as 2 (0.9%) respondents. This shows that the ages of some online mobile game consumers in Indonesia who participated in this study were mostly in their mid-teens to early adulthood. It can be concluded that the respondents in this study spent the most on online mobile games Rp. 101,000-Rp. 200,000 as many as 88 (41.3%) respondents and a small proportion with spending on online mobile games < Rp. 100,000 were 42 (19.7%) respondents. This shows that in terms of spending, consumers of online mobile games in Indonesia mostly average around Rp. 100,000. It can be concluded that the respondents in this study were mostly online mobile game titles played by PUBG Mobile as many as 117 (54.9%) respondents and a small portion of online mobile game titles played by Ragnarok X were 12 (5.6%) respondents. This shows that in terms of online mobile game titles that are played by most online mobile game consumers in Indonesia, it is PUBG Mobile.

### **Tools and Techniques**

The analysis used is the Partial Least Square Structural Equation Model (PLS-SEM) with the aim of knowing the effect of visual appeal and portability on online purchase intention of online mobile game content in Indonesia. Because the data is a latent variable and the sample size is relatively small and to find out things related to the direct and indirect effects of the intervening variables, the Partial Least Square Structural Equation Model (PLS-SEM) analysis is used.

| Construct                 | ID   | Items                                                                                                                 | Source                                                       |
|---------------------------|------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Visual Appeal (X1)        | X1.1 | The appearance of the online game application is visually pleasing                                                    | Twedt et al., 2019; Zheng et al., 2019                       |
|                           | X1.2 | The design of the online game application is attractive and interactive                                               |                                                              |
|                           | X1.3 | Overall the appearance of the online game is interesting                                                              |                                                              |
|                           | X1.4 | Other additional features (pop up notifications, etc) that are in online games do not interfere with playing the game |                                                              |
| Portability (X2)          | X2.1 | I can access this online game application anywhere, anytime, and on any device (HP or Tab/iPad)                       | Yang et al., 2021                                            |
|                           | X2.2 | I feel that I have no problem using this online game application on any device, even though I'm on the move           |                                                              |
|                           | X2.3 | I feel comfortable using this online game application on any device, because it doesn't cause addiction               |                                                              |
| Utilitarian Browsing (Y3) | Y3.1 | I'm looking for other options about online gaming products at a lower price                                           | Koo, Chung, and Nam 2015; Lin and Lu 2011; Zheng et al. 2019 |
|                           | Y3.2 | I search the internet to gather information about the product I want to buy                                           |                                                              |
|                           | Y3.3 | I buy online game products with better quality                                                                        |                                                              |
| Hedonistic Browsing (Y1)  | Y1.1 | When viewing online game items I feel more relaxed/relaxed                                                            | Zheng et al., 2019                                           |
|                           | Y1.2 | When looking at online game items I feel like I can vent my problem                                                   |                                                              |
|                           | Y1.3 | When viewing online game content, I look for videos/snippets related to the online game content                       |                                                              |
|                           | Y1.4 | When I see videos/snippets of online games, I feel like I'm playing the online game                                   |                                                              |

**Figure 2**  
**Variabel Operational Definitions**

| Variables           | Levels                | No. of Respondents | %     |
|---------------------|-----------------------|--------------------|-------|
| Gender              | Male                  | 143                | 67,1% |
|                     | Female                | 70                 | 32,9% |
| Age                 | 18-25                 | 135                | 63,4% |
|                     | 26-30                 | 56                 | 26,3% |
|                     | 31-36                 | 20                 | 9,4%  |
|                     | > 35                  | 2                  | 0,9%  |
| Expenses for gaming | < Rp.100.000          | 42                 | 19,7% |
|                     | Rp.101.000-Rp.200.000 | 88                 | 41,3% |
|                     | > Rp.200.000          | 83                 | 39%   |
| Mobile game title   | PUBG Mobile           | 117                | 54,9% |
|                     | Ragnarok X            | 12                 | 5,6%  |
|                     | Free Fire             | 16                 | 7,5%  |
|                     | Genshin Impact        | 34                 | 16%   |
|                     | Other                 | 34                 | 16%   |

**Figure 3**  
**Demographic Details**

## RESULTS AND DISCUSSION

To evaluate the results of the measurement model, this study tested Cronbach's Alpha, factor loading and Average Variance Extracted (AVE) for all measurement variables. The results obtained are that all outer loadings in the study are in the range of 0.8.

Outer loading on the measurement scale must have a minimum number of 0.708. Then the value of each variable in this study shows high reliability as shown in Table 3, higher than the threshold value of 0.7. Then all AVE values as shown in Table 3 are higher than the threshold which is 0.5. Therefore, the variables for each measurement in this study are valid and reliable.

Then, this study uses the Fornel-Larcker Criterion to assess discriminant validity. The process of calculating this method is to compare the AVE roots of each variable against the correlation between one other variable in the research hypothesis. If the AVE root value of each variable is greater than the correlation value between one variable and the other variables, discriminant validity is considered good.

| <b>Variables</b>                  | <b><i>Cronbach Alpha</i></b> | <b>AVE</b> |
|-----------------------------------|------------------------------|------------|
| <i>Visual Appeal</i>              | 0,772                        | 0,597      |
| <i>Portability</i>                | 0,722                        | 0,642      |
| <i>Hedonic Browsing</i>           | 0,794                        | 0,618      |
| <i>Perceived Risk</i>             | 0,854                        | 0,577      |
| <i>Utilitarian Browsing</i>       | 0,753                        | 0,669      |
| <i>Online Purchase Intentions</i> | 0,752                        | 0,574      |

**Figure 4**  
**Result of Measurement Model**  
Source: (Sharifi Asadi Malafe et al., 2022)

From Figure 4 it is known that the Cronbach's Alpha coefficient is  $> 0.7$ , so that all question items on the Visual Appeal, Portability, Hedonic Browsing, Perceived Risk, Utilitarian Browsing, and Online Purchase Intentions variables are reliable. From Figure 4 above, it can be seen that the AVE value is  $> 0.5$ , so that all question items on the Visual Appeal, Portability, Hedonic Browsing, Perceived Risk, Utilitarian Browsing, and Online Purchase Intentions variables are valid.

| Hypothesis                                                  | Regression Coefficient | t-value | t-table | P Value | Decision |
|-------------------------------------------------------------|------------------------|---------|---------|---------|----------|
| Visual Appeal (X1) - Hedonic Browsing (Y1)                  | 0,482                  | 5,265   | 1,96    | 0.000   | Accepted |
| Visual Appeal (X1) - Perceived Risk (Y2)                    | 0,391                  | 3,108   | 1,96    | 0.000   | Accepted |
| Visual Appeal (X1) - Utilitarian Browsing (Y3)              | 0,388                  | 3,222   | 1,96    | 0.000   | Accepted |
| Portability (X2) - Hedonic Browsing (Y1)                    | 0,281                  | 2,982   | 1,96    | 0.001   | Accepted |
| Portability (X2) - Perceived Risk (Y2)                      | 0,259                  | 1,924   | 1,96    | 0.101   | Denied   |
| Portability (X2) - Utilitarian Browsing (Y3)                | 0,369                  | 2,598   | 1,96    | 0.001   | Accepted |
| Hedonic Browsing (Y1) - Online Purchase Intentions (Y4)     | 0,261                  | 2,34    | 1,96    | 0.000   | Accepted |
| Perceived Risk (Y2)- Online Purchase Intentions (Y4)        | 0,206                  | 1,522   | 1,96    | 0.128   | Denied   |
| Utilitarian Browsing (Y3) - Online Purchase Intentions (Y4) | 0,424                  | 4,535   | 1,96    | 0.000   | Accepted |

**Figure 5**  
**Results of Structural Model Analysis**

In the Figure 5, it can be seen the influence of Visual Appeal, Portability, Hedonic Browsing, Perceived Risk, and Utilitarian Browsing on Online Purchase Intentions. From the 9 hypothesis, 7 can be declared accepted and 2 are rejected. Based on the results of the analysis showing that the Hedonic Browsing, Perceived Risk, and Utilitarian Browsing variables have a significant effect on Online Purchase Intentions. This can be interpreted, if Hedonic Browsing, Perceived Risk, and Utilitarian Browsing increase, then Online Purchase Intentions will experience a significant increase. Hedonic browsing refers to the activity of shoppers browsing websites not because they want to buy a particular product, but to enjoy browsing for the item itself (Wandira et al., 2019). Hedonic browsing focuses on pleasurable and entertaining experiences through browsing websites. Hedonic browsing is a consumer behavior that focuses more on fulfilling hedonic motivation which refers to fulfilling consumption behavior in search of happiness, awakening, sensuality, and fantasy (Wandira et al., 2019) has conducted research and shown that hedonic browsing has a positive and significant effect on e-impulse buying. Humans generally make purchases based on their daily needs. Solomon (2019) says that if consumers buy products based on their functional or usability benefits, then these consumers consider their utilitarian benefits. Utilitarianism is about objectivity and the tangible form of a product. Consumers will feel satisfied if they get products according to their needs in an efficient way. Utilitarian is a form of consumer attitude where they shop by making purchases or not making purchases that they have determined according to their needs. This statement shows that utilitarian is a form of attitude from consumers where they shop by purchasing or not purchasing goods or services that they have determined according to their needs or

rationally. Perceived risk means an individual's subjective belief about the potential negative consequences of decisions taken by consumers (Samadi & Nejadi, 2009).

## CONCLUSION

The results showed that the Visual Appeal variable had a significant effect on Hedonic Browsing. If Visual Appeal increases, then Hedonic Browsing will experience a significant increase. The Visual Appeal variable had a significant effect on Perceived Risk. If the Visual Appeal increases, then the Perceived Risk will experience a significant increase. The Visual Appeal variable had a significant effect on Utilitarian Browsing. Then, if Visual Appeal increases, then Utilitarian Browsing will experience a significant increase.

The results also show that the Portability variable has a significant effect on Hedonic Browsing. If Portability increases, then Hedonic Browsing will experience a significant increase. The Portability variable had no significant effect on Perceived Risk. If portability increases, then the Perceived Risk will experience an insignificant increase. The Portability variable has a significant effect on utilitarian Browsing. If portability increases, then utilitarian Browsing will experience a significant increase.

In addition, the Hedonic Browsing variable has a significant effect on Online Purchase Intentions. If Hedonic Browsing increases, then Online Purchase Intentions will experience a significant increase. The variable Perceived Risk has no significant effect on Online Purchase Intentions. If Perceived Risk increases, then Online Purchase Intentions will experience an insignificant increase. The Utilitarian Browsing variable has a significant effect on Online Purchase Intentions. If Utilitarian Browsing increases, then Online Purchase Intentions will experience a significant increase.

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