Buying Intention through User Interface Design

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Abstract:

Purpose: *Internet has made many things easier, cheaper and faster, especially in the retail industry. An example is customer shopping behavior, starting from advertising and ending up to the final transaction. One of the essential things in online selling is how to attract as many consumers as possible to visit the website so as to buy the products offered.*
Design/methodology/approach: *This study aims to learn about the impact of e-impulse buying, user interface design and user experience of consumer buying behaviour relating to sports fashion. By implemeting the partial least square analysis method to measure the correlation between variables, the result of the research found that e-impulse buying and user interface design have a significant influence on consumer buying interest in website.*
Findings: *Whereas, user experience has no effect at all on buying interest. On the other hand, the user interface design and user experience proved to have an impact on e-impulse buying on consumers while shopping online.*
Practical Implications: *The proposed analysis can be used in customer shopping behavior by respective entities to improve sales.*
Originality/Value: *It is a unique approach in a subject with a lot of different results and moderating variables.*

Keywords: *E-impulse buying, user interface design, user experience, buying interest.*

JEL codes:

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1. Introduction

In Indonesia, the new disruption phenomenon started between 2007-2008, where the communications industry grew more dynamic with the introduction of the smartphone which was supported by internet access as a means of communication. With 3G technology, smartphones can be used to send pictures, chat, browse the internet, and video calls. Technology makes everything easier, cheaper, and faster. By the year 2016, Indonesia has 83.6 million active internet users or around 33% of the total population. If we observe the device that is used, the majority or 70% of whose who access the internet use smartphones and the other 28% use computers or laptops.

The impact of technological development makes consumers change their behavior. Many internet visitors now access websites from a search engine instead of through a direct link from another web page. Nowadays, they are used to finding all kinds of information about things, events, people, places, and more (Shih *et al.,* 2012). Google, is the largest search engine with a sophisticated big data analysis system. Within seconds, users can find out various information from any websites based on the keywords inputted. The searching process up to the transaction process is done online with a clear customer journey. E-commerce has been mushrooming in Indonesia since 2012, and this can be seen in the rise of Lazada and Zalora, then followed by Tokopedia and Bukalapak. In its development, MAP EMALL rose to fill out the niche market by offering original branded products in fashion. One of the most interesting categories is sport fashion from global brands. Between July 2016 to January 2017, MAP EMALL was visited on average by 765,900 users. If e-commerce is able to generate traffic of hundreds of thousands of visitors on a monthly basis, then how can one encourage these visitors to purchase the products? What factors will influence the buying decision of the visitors? These questions are substantial enough to answer, in order to figure out if e-commerce is able to generate significant sales from the traffic on the website.

Personality variables influenced impulse buying through positive effects and urge to purchase (Bellini *et al.,* 2017) which is also supported by apparel product attributes factors such as variety of selection, price, and sensory attributes (Park *et al.,* 2012). Additionally, flow experience is an important factor that affects impulse buying. Trust belief is also critical to impulse buying (Wu *et al.,* 2016). But on the other side, perceived irritation has shown negative effects on various aspects of consumer shopping behavior (Hasan, 2016).

Based on the above background, the purpose of this research is to determine the correlation and influence of e-impulse buying, user interface design, and user experience toward buying interest in the website. Hopefully, this research can provide an overview of the correlation between these variables and be a real contribution to the online retailers, especially for SME in Indonesia.

2. Theoretical Background

2.1 Consumer Behaviour

Schiffman *et al.* (2014) define consumer behavior as a behavior that a consumer performs when they are searching, purchasing, using, evaluating, and disposing of products or services which they expect to meet their needs. If one associates the searching on the internet with a consumer journey, then the behavior in the search process is very significant. According to Jacobs *et al.* (2017), The Consideration Set (CS) has generally been measured by counting the number of brands that the consumer actively evaluates in their search process. In the searching process, experience can affect the buying interest. During exploration, some interactions take place between the user and the web, which might involve the user spending time reading text or looking at graphics, or it could involve the user completing a transaction. The emotions experienced by users in virtual environments are commonly conceptualized as flow (i.e. intense concentration and enjoyment) (Huang, 2012).

2.2 Theory of Planned Behavior

The Theory of Planned Behaviour posits the belief that attitude, control, and norms influence behavior and are mediated by intentions (Kautonen *et al.,* 2013). Meanwhile, Ajzen (1991) in Kautonen *et al.* (2013) also explains that intention has three elements: (1) Attitude refers to the individual's evaluation (favorable or unfavorable) of the target behavior; (2) Subjective norms capture the opinions of social reference groups (such as family and friends) regarding whether the individual should engage in the behavior; (3) Perceived behavioral control denotes the perceived ease or difficulty of performing the behavior. User behavior could be affected by intentions and early perception when surfing the internet. This is also applied for users who are searching a particular product, so it will also affect the number of visitors to the website as well. Users who have visited the website will still be influenced by various factors before finally making a purchase decision. These factors can come up from within the user or as a result of external factors during the searching process until the purchasing process takes place.

2.3 E-Commerce

In addition to providing information to customers, e-commerce systems are expected to serve transactional purposes, including transaction processing and the provision of online pre- and post-sales service (Wang *et al.,* 2016). In this decade, with the developments of internet payment, web 2.0 and distribution service, consumers have tremendous opportunities to engage in e-commerce with each other (Tian *et al.,* 2015). Therefore, it can be concluded, that e-commerce is an online buying and selling platform that connects the sellers and the buyers through website 2.0 as the provider of product information, electronic payment systems, and distribution facilities on pre-sales and post sales service. Through e-commerce, the sellers can achieve bigger profits and the consumers can find products with cheaper prices.

2.4 User Interface Design

Website design is the navigational scheme and hierarchy used on a website together with its visual design, such as its visual appeal, innovativeness, aesthetics and use of colors and shapes (Dedeke, 2016). Website design plays even a greater role in online purchasing than the service provided to customers in traditional stores (Hasan, 2016). If we see from the consumer's perspective, then the aspects of website design elements include user interface such as: (1) Visual design of a website referring to the consistency, aesthetic, and the attractiveness of the website's appearance including images, colors, fonts, shapes, animations, and layout; (2) The navigation design of a website, referring to the organization and structural layout of the site's pages and content; (3) Website's information design refers to the site's ability to deliver relevant, current, and easy-to-understand information to its users. (Hasan, 2016)

Park *et al.* (2012) also state that the consumers often want to acquire full information before purchasing specific products (e.g., clothing, jewelry, or accessories) with sensory attributes, such as color, design, fabric, and fit. A well-developed website providing aesthetic product attributes (e.g., color, design, style) affects whether consumers just browse or search for information. Dedeke (2016) explains further that website design has been found to positively impact perceived access to information, navigation experience and general perception of a website.

2.5 Online Impulse Buying/E-Impulse Buying

Online impulse buying is defined as a sudden and immediate online purchase with no preshopping intentions (Chan *et al.,* 2016). When buying on impulse, individuals make an unintended, unreflective, and immediate purchase, and often feel a calling to buy the product (Park *et al.,* 2012). Shopper with higher level of impulse buying tendency is likely to experience more urges to buy impulsively and will tend to act more frequently on those urges (Bellini *et al.,* 2017).

2.6 User Experience

The dimensions of website characteristics will collaborate into a flow of user experience when it is viewed from a consumer perspective. Attractive and interesting effects in e-commerce websites motivate consumers to engage in online shopping activities (Hasanov & Khalid, 2015). Wang & Emurian (2005) in Seckler *et al.* (2015), divide the four dimensions of website characteristics as factors that may affect the user experience. These are: (1) The graphic design refers to the websites' graphical elements that trigger the users' first impressions; (2) The structure design refers to accessibility by users to the information displayed on the website and how the website is generally organized; (3) The content design includes informational elements that are placed on the website, either textual or graphical; and (4) Social-cue design refers to social cues that are integrated into the website such as photographs and names of customer service agents, chat and call-back opportunities, and photographs of the company.

In other research, flow is also defined from the user's perspective when interacting with the website online. Flow is a cognitive state characterized as an intrinsically enjoyable optimal experience associated with intense engagement, loss of self-consciousness, distorted sense of time, and heightened motivation. In flow, people are fully absorbed in what they are doing and intrinsically motivated to repeat an activity continuously (Ettis, 2017).

2.7 Consumer Behaviour

According to Ajzen (1991) in Lu *et al.* (2016), behavioral intention is the most influential predictor of behavior. In accordance with that statement, other research also explains that purchase intention, a predictor of effective online buying behavior, refers to the desire of consumers to make a purchase through the website (Ettis, 2017). Whereas, Lim *et al.* (2016) revealed that purchase intention has a significant positive influence on online shopping behavior.

3. Research Hypotheses

Referring to the above background and previous research, the researchers proposed the following hypotheses:

H_1: *User interface design has a positive and significant impact to the buying interest.*
H_2: *The user interface design has a positive and significant effect to the e-impulse buying.*
H_3: *E-impulse buying has a positive and significant effect to the buying interest.*
H_4: *User experience has a positive and significant effect to the buying interest.*
H_5: *User experience has a positive and significant effect to the e-impulse buying.*

Figure 1. *Framework of Research*
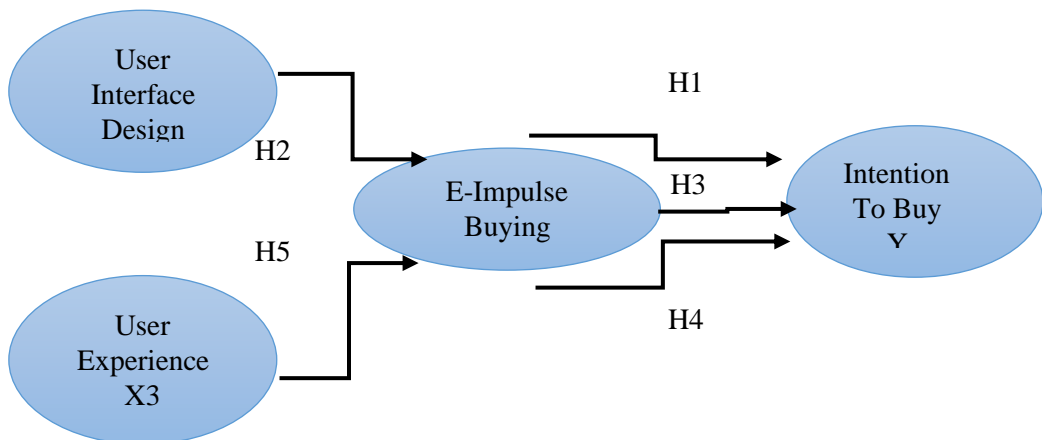
4. Methodology

To find out the correlation between user interface design, e-impulse buying, and user experience toward the buying interest, collecting data from determined samples was carried out from the research population. The populations which is taken into consideration includes people who are familiar and have made purchases through the MAP EMALL website. Whereas, the sampling method used is purposive sampling. Hair *et al.* (2010) recommend that the minimum number of samples is 5 times that of the number of indicator items included in the questionnaires, so that the sample consisted of 145 respondents, given that the questionnaire had 29 indicators. In examining the hypothesis, the data measurement method used was Partial Least Square (PLS), which is one of the alternative methods of Structural Equational Model (SEM) – that is based on variants which are designed to solve multiple regression when there is a specific problem of the data. The data measurement process with PLS passed through two stages: (1) Measurement of Outer Model by testing the validity of the construct and reliability of the instrument; and (2) Evaluation of Inner Model Structural by observing the value of R Square as the coefficient of determination on the endogenous construct and measuring the *path coefficient* to observe the coefficient value of the path or the magnitude of the correlation/influence of latent construct.

5. Result and Discussion

5.1 The Preliminary Research
Given that the research population includes only people who are familiar or have made transactions on the MAP EMALL website, there had to be a preliminary question to filter correspondents in order to meet the criteria for this research. Out of a total of 551 questionnaires, only 68.4% had shopped online within the past one year. In the next question about online shopping sites, there are 47.5% of respondents who continued to the next question. At the question of the price range of the purchased product, the majority of respondents (55.9%) chose the price range of < IDR250,000. Descriptive analysis is shown in Table 1.

Table 1. Descriptive Analysis

Variable	N	Mean	Min	Max	*Std. Deviation*
User Interface Design	145	4.16	1	5	0.879
E-Impulse Buying	145	4.07	1	5	0.887
User Experience	145	4.23	2	5	0.755
Intention to Buy	145	3.92	1	5	0.854

The mean values range from 3.50 to 4.50 and from Table 1 above, one can clearly see that all variables range along the"Agree" answers. The lowest mean value is in the Intention to Buy variable, which is 3.92, which means the respondent is near to "Agree" on the measurement scale, while the highest mean value is in the User

Experience variable, which is 4.23, that states the respondents also "Agree" on the measurement. The analysis of reliability is shown in Table 2.

Table 2. *Analysis of Reliability with AVE Value*

Variable	*Average Variance Extracted (AVE)*
User Interface Design	0.507
E-Impulse Buying	0.530
User Experience	0.526
Intention to Buy	0.654

Table 2 indicates that the AVE value of all variables has met the standard value of > 0.50, so it can be stated that it is valid. Table 3 shows that Cronbach Alpha's values in all variables have met the standard value of > 0.70, so that all constructs have good reliability and the research questionnaire is declared as reliable or consistent.

Table 3. *Analysis of Reliability with Cronbach Alpha's Value*

Variable	*Cronbach Alpha's*	Keterangan
User Interface Design	0.807	Reliable
E-Impulse Buying	0.704	Reliable
User Experience	0.886	Reliable
Buying Interest	0.738	Reliable

According to Table 4, the effect of the latent independent variables on Buying Interest provides an R-square value of 0.216. It is interpreted that the variability of Buying Interest construct is explained by the variability of E-Impulse Buying construct, User Interface Design, and User Experience at 21.6%, while the other 78.4% is explained by other variables outside of the research. The effect of independent latent variables on E-Impulse Buying provides an R-square value of 0.186. It is interpreted that the variability of E-Impulse Buying construct is explained by the variability of User Interface Design construct and User Experience at 18.6%, while the other 81.4% is explained by other variables outside of the research.

Table 4. *R Square Value*

Variable	R-Square
Buying Intention	0.216
E-Impulse Buying	0.186

Based on Table 5, there is a correlation between independent constructs on their dependent constructs. According to Ghozali (2014), the value of path coefficient is significant if the value of T Statistic is more than 1.96. The testing result of H1 between User Interface Design toward Buying Interest is supported (O = 0.271) (T> 1.96). The testing result of H2 between User Interface Design toward E-Impulse Buying is supported (O = 0.269) (T > 1.96). The testing result of H3 between E-

Impulse Buying toward Buying Interest is supported (O = 0.310) (T > 1.96). However, the testing result of H4 between User Experience on Buying Interest is not supported (O = -0.039) (T < 1.96). Moreover on the testing result of H5 between User Experience toward E-Impulse Buying is supported (O = 0.210) (T > 1.96).

Table 5. Hypothesis Testing

Hypothesis	Relationship	Original Sample (O)	T Statistics	Result
H_1	UI → IB	0.271	2.414	Supportive
H_2	UI → EIB	0.269	2.819	Supportive
H_3	EIB → IB	0.310	3.164	Supportive
H_4	UE → IB	-0.039	0.331	Not supportive
H_5	UE → EIB	0.210	2.086	Supportive

5.2 Discussion

Based on the results, there are four hypotheses accepted. The correlation between E-Impulse Buying and Buying Interest has the highest value (O = 0.310) (T = 3.164). The research of Dedeke (2016) indicates that website design affects the perception of product quality and consumer buying interest which is supported by the results of this study. The testing result of Park *et al.* (2012) indicated that variation of choice positively influences the web searching process based on benefits, where price has a positive effect on the hedonic web searching. This is supported based on the results of this research. Bellini *et al.* (2017) prove that personal variables influenced impulse buying and this is in accordance with the results of this research. Based on the research by Huang (2015) relating to User Experience correlation with E-Impulse Buying, the results of this research can support the results of the previous research.

From Hasanov & Khalid's (2015) research, using the WebQual model (usability, quality of information, and quality of interaction services) they argue that informative websites make consumers make comparisons and evaluations of alternative products, which can increase the customer satisfaction that can contribute to online buying interest. The results of this research does not support the results of Hasanov & Khalid.

6. Conclusion and Reccomendation

6.1 Conclusion

Based on the research formulation, the hypothesis and the results of the entire research , the following can be concluded. The results of this research proved that User Interface Design variables have a positive and significant effect toward Buying Interest variables, so that it is relevant with the proposed hypothesis, H_1: User Interface Design has a positive and significant effect toward the Buying Interest. The results of this research proved that User Interface Design variables have a positive and significant effect on E-Impulse Buying, so that it is relevant with the proposed

hypothesis, H$_2$: Interface Design has a positive and significant impact toward the E-Impulse Buying. The result of this research on E-Impulse Buying variable proved that this has a positive and significant effect toward Buying Interest variable, so that it is relevant with the proposed hypothesis, H$_3$: E-Impulse Buying has a positive and significant effect toward Buying Interest. The result of this research on User Experience variable proved that this has a positive and significant effect toward E-Impulse Buying variable, so that it is relevant with the proposed hypothesis, H$_5$: User Experience has a positive and significant impact toward E-Impulse Buying.

On the other hand the results proved that User Experience variable has a negative effect on the Buying Interest variable, so that it is not relevant with the proposed hypothesis, H$_4$: User Experience has a positive and significant impact on Buying Interest. Of the five proposed hypotheses, there are four results that are relevant with the initial hypothesis and the other one result is not relevant with the proposed hypothesis.

6.2 Recommendation

Referring to testing results of R-Square value, Buying Interest variable has a value of 0.216 (21.6%) and E-Impulse Buying variable has a value of 0.186 (18.6%). This indicates that there are 78.4% of other factors that may affect Buying Interest and there are 81.4% of other factors that may affect E-Impulse Buying. Hence, one needs to conduct further research on other factors that may affect Buying Interest and E-Impulse Buying, outside of the researched variables.

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