

# Industrial Revolution 4.0: The Effect of Online Shopping Towards Impulse Buying

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**Abstract**—The research was conducted following the phenomenon a lively online shopping in the community. The purpose of this research is to know /against buying impulses in the era of the Industrial Revolution 4.0. This is the kind of research survey research, namely research who her to take samples from a population and used a questionnaire for 100 samples that was spread through google form and the questionnaire fit for a data collection main instrument. Thus, this research categorized as explanatory research. The sample collection the research uses technique purposive sampling. Collected data method using questionnaire, then the data processed through software spss, instrument analysis in this research using linear regression. Variable in this research: variety of selection, price attribute, sensory attribute, utilitarian web browsing, and the hedonic web browsing. This research result indicates that the hedonic web browsing variable affect impulse buying in online shopping. The results of this study indicate that the hedonic web browsing variable partially affects impulse buying in online shopping, where the Variety of Selection, price attribute, Sensory Attribute, Utilitarian Web Browsing variables have no effect. Online shopping simultaneously affects impulse buying. It means that the more the respondent is hedonistic, the easier it will be to do impulse buying.

**Keywords**—industrial revolution 4.0, online shopping, impulse buying

## I. INTRODUCTION

Indonesia has entered the industrial revolution 4.0 era where digitalization has become major part of people’s daily activities. Industrial revolution 4.0 is the name of the latest automation and data exchange trend in technology of factory [1]. Nowadays people use tools in all their activities. For example, the use of mobile phone with the internet which is usually called gadget. People in Indonesia use gadget a lot in their activities, this makes Indonesia in the 5th place with the most gadget use form around the world [2].

The increasing use of gadgets makes people in Indonesia often shop via online by utilizing Lazada, Shopee, Tokopedia, and etc. as stated in the data from iprice-insight as of the 4th quarter in 2019 that online shopping is widely used by the community as an alternative to online shopping.

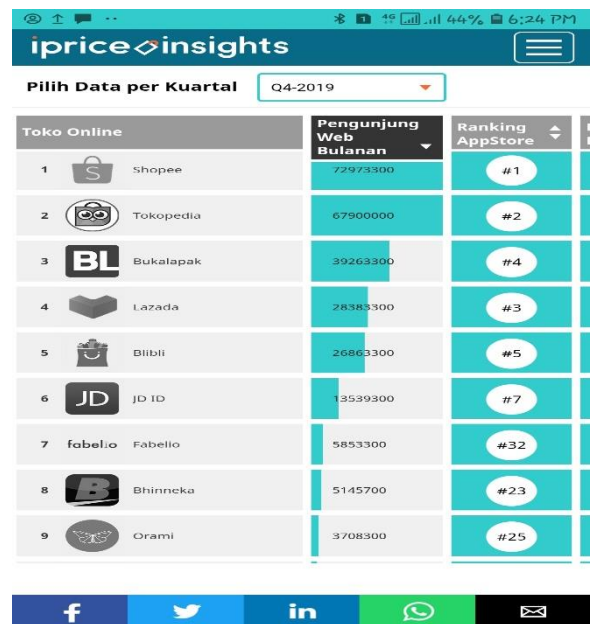


Fig. 1. The highest online shopping on 4th quartal 2019.

Figure 1 shows that online shopping in Indonesia is on the rise because it has attracted a lot of consumer interest with the cashback method and the awarding of point which consumers can use to buy products of interest. The question is whether online shopping is really shopping according to need or is it just an impulse buying where consumers are interested in spending only because of variety of selection, Price Attribute, Sensory Attribute, Utilitarian Web Browsing, and Hedonic Web Browsing Which the variable is offered by online shopping. The purpose of this study is to determine the effect of online shopping promotions on impulse buying in Industrial revolution 4.0. This research can provide empirical evidence about people’s online shopping patterns in this era which is not shopping for necessities but shopping as a satisfaction of desires based on online shopping, where online shopping has a simultaneous or partial effect on consumer impulse buying in Malang.

**A. E-commerce**

E-commerce is trading procedures or mechanism trading on the internet where buyers and sellers together in cyberspace. E-commerce can also be defined as a way to buy or trade or direct selling online using the facility where there are websites that can provide services “get and deliver”. E-commerce will change all activities marketing and also simultaneously cut operational costs for the trading. The term defined based on e-commerce 5 perspectives [3], (1) online purchasing perspective; (2) digital communications perspective; (3) service perspective; (4) business process perspective, and (5) market-one Perspective. This study prefers on purchasing online perspective, which is the system that enables the buying and selling products and information through the internet and other online services. Research gone forth from Park *et, al.*, has suggested that the concept of online shopping consist on five of factors affect, among other: Variety of selection, Price Attribute, Sensory Attribute, Utilitarian Web Browsing, Hedonic Web Browsing [4].

**B. Impuls Buying**

Abdolvand et al. [5] stated that impulse buying an important aspect in behavior consumers and the concept was vital to retailers, according to Hatane [6] it is estimated that 65 percent decision purchases in supermarkets is done in a shop with more than 50 percent is the purchase of previous is unplanned, it is that you see it cannot be denied the purchase is unplanned conducted by customers to contribute to a business turnover of the sale of the stores were obtained [5]. Khandai *et al* stated that purchases impulses pertaining to ease in the buying a product and according to Ahmad reported that buying on impulse occurring generally because it comes strong motivation that turn certain desire to purchase a commodity [7,8]. The research before buying impulses revealed that it is possible that while shopping due to the ease in expenditure, in this research easy process were applied in online shopping.

**II. HYPOTHESIS**

In this research, there two hypotheses:

H1: Online shopping in influence impulse buying partially

H1a: Variety of selection influences impulse buying

H1b: Price Attribute influences impulse buying

H1c: Sensory Attribute influences impulse buying

H1d: Utilitarian Web Browsing influences impulse buying

H1e: Hedonic Web Browsing influences impulse buying

H2: Online shopping influences impulse buying simultaneously

**III. RESEARCH METHODS**

This research in an explanatory research design which is planned to be completed within 1 year and is carried out based on primary and secondary data. Primary data collected from

questionnaire and secondary data obtained from data collection form journals or previous research. Data were collected by distributing questionnaires to 100 respondents in Malang to answer the variabel statements of using online shopping to impulse buying.

This study uses a quantitative approach with numbers, analyzed using statistics to test hypotheses or answer specific research question and predict the effect of predictor variabel [9] Statistical program SPSS (Statistical Product and Service Solutions) as a program used in analyzing data.

This research is also supportes by a qualitatibe approach to find an explanation of the relationship between variables from the analysis of the quantaitave approach. Based on the problems in this study, the variables in this study are causality, whether or not the online shopping influences the impulse buying of consumers in Malang.

**IV. RESULTS**

In this study, researchers collected data of responden characteristic including:

- Respondents have certainly made purchases online
- Respondents occupation
- Respondents income (within 1 month)
- Average online shopping transactions made (within 1 month)
- Budget online shopping (within 1 month)

**A. Respondent Characteristic**

*1) Online shopping*



Fig. 2. Online shopping.

Based on figure 2, 100% of all respondents have made purchases online.

2) Occupation

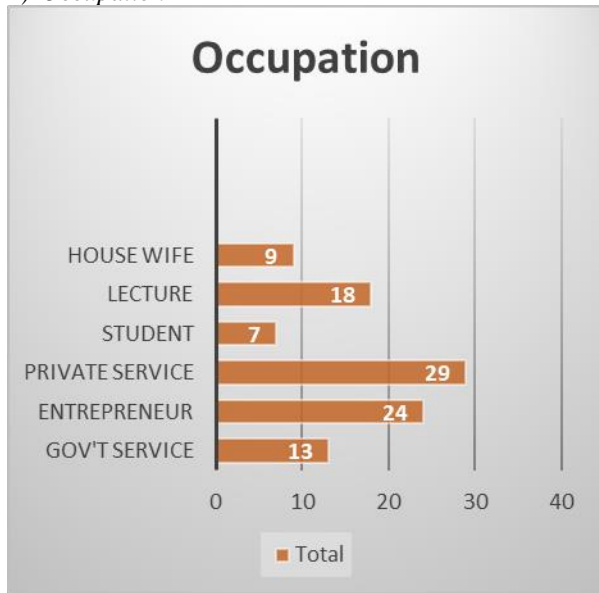


Fig. 3. Occupation.

Respondents who do online shopping have a variety of jobs. This (figure 3) shows that online shopping is indeed widely used, especially by employees.

3) Income

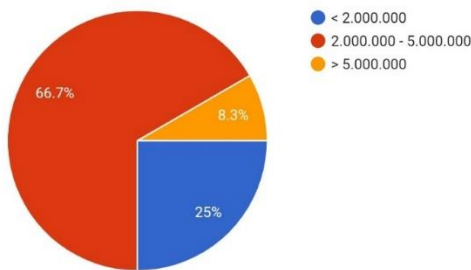


Fig. 4. Income.

Based on figure 4, 66,7 % respondents have an average income above the regional minimum wage in Malang city.

4) Online shopping transaction within 1 month

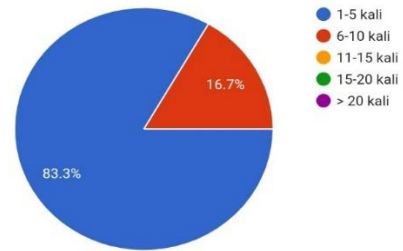


Fig. 5. Online shopping transaction within 1 month.

Online shopping transactons are carried out at most 1 to 5 transactions, and some have answered up to 10 transactions, but none of the exceed 10 times. This indicates that respondents likes to shop online.

5) Online shopping budget within 1 month

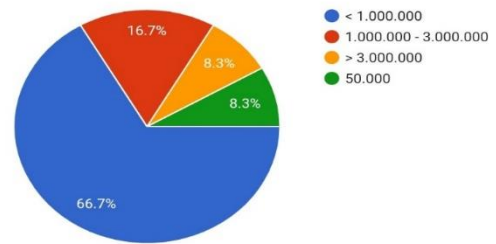


Fig. 6. Online shopping budget within 1 mont.

More than 50% respodents answered that average budget spent on online shopping is less than IDR 1.000.000 per month. Eventhough they often do impulse buying consumers in Malang are still reational in shopping online. There is also respondents answers that the funds for online shopping reach more than IDR 3.000.000, this could be due to a lack of time to shop offline.

6) Variable measurement method: This study uses a questionnaire arranged in a statement sentence. Respondents are asked to answer the question by selecting one answer option on the score provided. Respondent's answers were measures by using a likert scale which is a scale related to a person's statement of attitudes towards something. The scores used in this study are : strongly agree (5), agree (4), agree slightly (3), disagree (2), strongly disagree (1). The likert scale is used because of the following reason :

- It has many conveniences, such as the ease of composing statements, scoring and having a higher level of ease compared to a lower score.
- Has high reliability in ordering based on the intensity of certain attitudes
- More flexible

**TABLE I. DATA ANALYSIS**

	<b>Coefficients</b>	<b>Standard Error</b>	<b>t Stat</b>	<b>P-value</b>	<b>Lower 95%</b>
Intercept	11,45654	6,068579	1,887846	0,062164	-0,59445
x1	0,347457	0,539217	0,644373	0,52092	-0,72332
x2	-0,92279	0,605623	-1,5237	0,130977	-2,12543
x3	0,130935	0,647819	0,202116	0,840267	-1,15551
x4	-1,16838	0,476826	-2,45033	0,016143	-2,11526
x5	1,318673	0,200712	6,569964	2,87E-09	0,920098

\*Source: Process Data, 2020

As shown in Table 1, Three of the Five proposed hypotheses were found statistically insignificant (P values smaller than 0.05 and T statistic values greater than 1.96) while two hypotheses were statistically significant as its P value was greater than 0.05 and its T statistic value smaller than 1.96. Based on the results of research, it can be explained as follows:

- Variety of selection has no significant effect on impulse buying (T= 0,64, P>0.05). **Hypotheses H1a is rejected**
- price attribute has no significant effect on impulse buying (T= -1,52 P>0.05). **Hypotheses H1b is rejected**
- Sensory Attribute has no significant effect on Impulse Buying (T= 0,202, P>0.05). **Hypotheses H1c is rejected**
- Utilitarian web browsing variables have a significant negative effect on impulse buying (T=-2,45, P<0.05). **Hypotheses H1d is accepted**
- Hedonic Web browsing has a significant positive effect on impulse buying (T= 6,56, P<0.05). **Hypotheses H1e is accepted.**

## V. DISCUSSION

This study aims to determine the effect of online shopping which include Variety of Selection, Price attribute, Sensory Attribute, Utilitarian web browsing, and Hedonism on the dependent variable of Impulse Buying in purchasing products online and to determine which independent variables have the dominant influence in online product purchases. The result of this study are expected to be an input for online buying and selling stalls in maintaining and improving marketing strategies. Based on the results of research, it can be explained as follows:

- **Variety of selection** has no significant effect on impulse buying This means that the variety of products offered does not trigger impulse buying but only satisfies curiosity. Variety of selection is part of product attributes. Research by Park [4] emphasizes product attributes on variety of selection, price attributes, and sensory attributes as drivers of impulsive buying via the internet, so the results are different from this study. The tendency of consumers to be variety seekers is in accordance with the opinion of Simamora [10] which states that diversity consumers are not looking for

satisfaction. So to overcome consumer behavior, marketers can carry out strategies, including maintaining stock availability or promoting products. When marketers run out of stock, consumers will move to other products. Compared to traditional retailers, online retailers can offer a wider and more varied selection of goods or products with a wider and more varied product category [11]. A wider selection will increase online shopping traffic [12], and consumers tend to shop online when expectations regarding a product are met or exceeded

- Based on the research results, it can be seen that the **price attribute** variable has no significant effect on impulse buying. Price is a marketing component. Price is the amount of money charged for a product and service. Price is the sum of all the value that consumers exchange for the benefits of owning or using the product or service. Prices always relate to sellers and buyers of both products and services. Through price and payment, the seller can cover his production costs and determine the viability of the business or company. Buyers will also consider price because it relates to the amount of money that must be sacrificed to obtain or enjoy a product or service. In this study, the various prices offered in a product or various products starting at affordable prices or abundant discounted prices discourage consumers from impulse buying on online product purchases.
- The **Sensory Attribute** variable has no significant effect on Impulse Buying. Sensory comes from the word sensory which means the sense organs. Sensory attribute is a term used to indicate the assessment/evaluation of a product using the sense organs. In this study, various product colors and attractive packaging designs did not affect impulse buying online.
- **Utilitarian web browsing** variables have a significant negative effect on impulse buying. This results support the research result of Park *et al.*, [4] which states that utilitarian browsing has a negative effect on impulse buying. Utilitarian Browsing is "goal directed" or directed at a specific goal. According to the utilitarian view, consumers are concerned with purchasing products efficiently in the right time to achieve their goals with a minimum amount of irritation, Nurmikko

[13]. Utilitarian browsing according to Wulandari *et al.*, [14] is the attitude of consumers to try to get products through the use of a heuristic, goal-oriented, risk reduction strategy, and the results achieved in seeking information objectives. In this study, the activity of visiting online stalls to get better products, being able to compare products, being able to find more value in a product, does not encourage consumers to make impulse buying.

- **Hedonic Web browsing** has a significant positive effect on impulse. According to Nurmikko [13] hedonic browsing is consumer behavior that is more focused on fulfilling hedonic motivation to fulfill consumption behavior in order to seek happiness, awakening, sensuality, and fantasy. So that it is not uncommon for consumers who are browsing on online shopping sites to suddenly become interested in an item and want to buy it because of pleasure and fantasy [14]. Nurmikko [13] argue that hedonic seekers can browse without looking for a specific product category. The results of this study support Park *et al.*, [4] who explained that hedonic browsing aims to "experiential mood" or based on mood experiences. Mood that determines whether consumers will make a purchase of an item or not. It could be because of pleasure, to seek public sensation, to be bored with old branded goods, and so on [14]. In this study, impulse buying occurs because consumers feel happy and entertained when visiting online stalls, enjoying visiting online stalls, so the purchase occurs without the need to think or consider first. Hedonic.
- Simultaneously the Online shopping variables (Variety of selection, Price Attribute, Sensory Attribute, Utilitarian Web Browsing, Hedonic Web Browsing) has an effect on impulse buying.

The variation of variable Y is influenced 35% by online shopping variables which include Variety of Selection, Price attribute, Sensory Attribute, Utilitarian web browsing, and Hedonism, while 65% is influenced by variables other than online shopping variables.

#### VI. CONCLUSION

- Online shopping variables have a simultaneous effect on impulse buying in Malang, which means that with Online Shopping, consumer purchases by impulse buying also increase
- The online shopping variable which consists of 5 indicators has different results:
  - Variety of Selection does not have a significant effect on impulse buying it means that more varied a product in online shopping, does not make people do impulse buying
  - Price attribute does not have a significant effect on impulse buying, thus the price variable is not the focus

of consumers when making impulse purchases because consumers can choose more products at the desired price.

- The Sensory Attribute does not have a significant effect on impulse buying, so by varying colors and sizes, consumers need more time to choose a product that their needs
- Utilitarian web browsing has a negative effect on impulse buying. This shows that the more information consumers get about a product, the less impulse buying decisions will be.
- Hedonism has a positive effect on impulse buying, which means that the higher the need for hedonism for a consumer means increasing the decision to make an impulse purchase.

#### VII. FUTURE RESEARCH

While this study provides a deeper and new insight about online shopping, impulse buying, this study has a couple of short comings that can be explored in the future. Using a more diverse sample could give new insights. Furthermore, this study suggests the use of more variables in any future research and it may be necessary to undertake a mix of qualitative and quantitative research, to obtain more comprehensive findings.

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