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### The Application of Technology Acceptance Model (Tam) on “Gen Y” in the Online Purchase in Aceh Province

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**Abstract:** Online purchase is not a new thing. This activity has been known since the Internet was introduced. However, the activity loaded with ease has not been optimally utilized in Aceh province. There are many factors that inhibit the online purchase activity because of lack of internet network presence. The province has the better network signal in the data, but the fact that the number of internet users that there is actually declined over the last two years. This study aims to determine the factors that influence online purchase of Gen Y in Aceh province and find an appropriate style to measure the behavior of Gen Y to purchase products online. Basic theory used is the Technology Acceptance Model (TAM). The study uses several variables to measure the factors that shape online purchase behavior such as: ease of perception, perceived benefits, perceived barriers and social aspects, attitude and interest towards online purchases.

Subject research is Gen Y which was born in Aceh between the years 1981-1999 were unaware of the online purchase. This study was conducted using 251 respondents drawn from several universities, coffee shops, café located in Banda Aceh, Bireuen, Lhokseumawe and Langsa. Data collection was conducted through a survey using questionnaires and observation. Data were analyzed by Partial Least Square (PLS). This study found that the perception of the benefits and the social aspect are variables forming attitudes to online purchase, even the social aspect is the dominant variable.

**Keywords:** Online Purchases, Gen Y, Digital Social Networking, Technology Acceptance Model.

#### 1. INTRODUCTION

Internet is a world phenomenon that has managed to change so many things, ranging from how to communicate, how to learn, how to *get along*, how to spend their time and how to make money (Bolton *et al.*, 2012). The Internet *also* creates new markets for producers, because the Internet has facilitated so many

people to socialize virtually through social media to bridge the trade development of new models, known as Social Media Marketing (Burston- Marsteller, 2010). In addition to creating new forms of Internet commerce model, it also provides an alternative way of doing business more easily and effectively through an intense approach to customers (Rooney, 2011). In some countries, the use of the internet has managed to change many things in the world through the application of internet-based systems such as e-learning and e-commerce (Shroff *et al*, 2011; A Waishi & Snasel, 2013).

Internet has also been used in Indonesia. However, based on data obtained from Indonesian Internet Service Provider Association (APJII), there is a decrease in the number of Internet users in Aceh and Sumatra. The number of users in the survey in 2014 was as much as 18.6 percent, while the number of users on a survey of 2016 was as much as 15.7 percent. The number of Internet users who should have increased every year for the development of technology has decreased in Sumatra which covers an area of Aceh and Sumatra. The study focused only in the province of Aceh since Aceh has a network of relatively better than other regions in Indonesia. The existence of a better network than other parts of Indonesia should increase the number of Internet users rather than decrease the number of internet users in the province of Aceh. Aceh province is the province of a relatively good development of technology, the internet is supposed to be enjoyed in all areas of Aceh. But in reality, the internet signal cannot be enjoyed in all places. Internet signal is still focused on urban infrastructure to support the development of the region.

One function of the Internet's most widely adopted by users is buying products through the Internet, known as online shopping (Ariff *et al*. 2014). According to a survey of Indonesian Internet Service Provider Association (APJII) in 2016, as many as 62 percent of Internet users, or about 82.2 million people access the Internet to make online purchases. Research on online purchases made by the people of Aceh can also be used as a measure of Internet usage on the Acehnese people. Internet and online shopping have a mutually beneficial relationship in which the growth of the Internet *also* increases the chances of consumers to shop online.

The existence of third parties such as service providers and freight forwarders greatly influences shopper's decision whether they make online purchase. Signal provided by the mobile operator services and reliable delivery will contribute positively to the decision of shopper to make an online purchase (Naboth, 2014).

Online shopping is defined as a form of electronic commerce that allows shoppers to buy products directly from sellers via the Internet (Young *et al*, 2015). Online shopping refers to a purchase on a website or online store with the intention of making a purchase (Monsuwe *et al*, 2004). Automatically, the shopper must understand and have sufficient knowledge if you want to purchase products online. The information search products ranked top for the intended use of the internet.

Based on the user's age, the majority of internet users in Indonesia are 18-25 years old. That is to say that the segment of Internet users in Indonesia is that they are included in the category of digital natives. Digital Natives are the generation born after 1980 when the digital social networking technologies such as user net and bulletin board system was born (Palvrey and Gayser: 2013). This age group has a very active character using digital technology networks and has the skills to operate the Internet-based technologies.

According to some previous studies Gen Y is a generation who have a need to stay connected and have a network (Kaylene & Page: 2010; Kotler & Armstrong: 2010), even Gen Y is a generation that is bound or cannot live without the Internet. Gen Y in this study is defined as individuals born between the years 1981- 1999 (Bolton *et al*, 2012) focused domiciled in Aceh province. Gen Y also has become an adult generation that has a smartphone and uses the internet more (Lay Lee: 2013).

This study was conducted to determine the factors that affect the interests of Gen Y in using the internet for online shopping. In addition this study will also provide information to marketers regarding interest of Gen Y that is the generation group that proved most related to technology.

The model was developed to measure the behavior of the use of technology is the Technology Acceptance Model (TAM). TAM is a model used to measure the acceptance of the technology. Internet is a real form of technology According to Davis (1986) who is the originator of the theory of TAM. It is about dominant variable affecting the interest to use the technology that will be perceived as an ease and perceptions of benefits. Moreover, interest in adopting a technology is capable of measuring the behavior of actual use of the technology by the user.

As with other TAM studies also experienced so many additions and subtractions of variables on the model adapted to the changing times. Attitude to buying online is also one of the endogenous variables to be measured. Variable Attitudes toward certain information technology conceptualized as an assessment of the potential users of the desire to use these technologies (David *etal.*:1989). The attitude of a user to a technology also affects their interest to adopt the technology. TAM states that the attitude towards the use of technology can even predict individual use.

In addition, the ease and benefit perception of TAM also provides space on the researcher to include other variables besides the two basic variables that have been repeatedly tested. To use the internet a user needs a tool (device/handset) and network to enable this activity running properly. If there are factors that hinder the use of the internet then it is considered as an obstacle. The barriers mentioned in this study were divided into cost, signal / presence of providers and freight forwarding companies. Cost is the sacrifice of material needed to be able to buy a data plan to connect to the Internet. Signal is an indicator of the presence of mobile operator service that enables Internet service. Delivery service of company is a third party that ensures that goods purchased online can be received as expected by the shopper.

TAM never includes social aspects variables as exogenous to gauge user interest towards the use of the internet. Therefore, in this study the original model of TAM is expanded by adopting a model Extended TAM by Malhotra and Galletta (1999) by adding constructs social aspects as well as measuring the impact on the attitudes and behaviors construct to use technology to do online shopping.

## **2. STUDY LIBRARY**

### **Online Shopping**

Shopping online is a form of electronic commerce that allows consumers to purchase products directly from sellers via the Internet. Consumers must have access and knowledge you need if you want to shop online (Muda: 2016). Shopping online is a new way to purchase when more people are taking the decision to buy but do not want to go places. The change began in 1990 when e-commerce emerging and changing

retail environment (Chen and Chang: 2003). Online shopping can also be defined as the use of online stores by shoppers gradually ending in the stages of purchase and delivery of goods (Monuwe *et al.* 2004). The significant difference between the purchase conventionally and purchasing products online is the place, the process of purchasing and transaction stage that must be passed. Factors that influence the decision process of conventional purchase can be grouped into four aspects: culture, social, and psychology of individual (Kotler: 2011).

### Generation Y

Generation Y is a group of people born after Generation X. Gen Y (Millennials / Echo Boomers / Generation Rev / Net Generation / Gen Wired / We Generation / Dotnet / Ne (x) t Generation / Nexters / First Globals / ipod generation and generation Y) is a generation was born in 1977-1994 (William & Page: 2010). According to Kotler & Armstrong (2010) Gen Y is the generation born between the years 1978-1994. Generation Y are expected to be born in early 1980 to early 2000 (Martin & Tulgan: 2006) and generally grows at a difficult time and experienced many disasters like Katrina and the tsunami (2004). Generation Y was born in the era of technology, electronic and wireless community with a transparent global limitation. (William & Page: 2010).

There are about 80 million people gen Y in Indonesia in 2010 and will increase to 90 million in 2030 (Maretha: 2014). It is clear that Indonesia is the third community of Gen Y. They usually have been working side by side with other generations as Gen X and Baby Boomers.

### 3. METHODOLOGY

The paradigm underlying research paradigm shaped track, with a statistical analysis technique called Partial Least Square (PLS). Collecting data in this study come from two sources namely 1) Primary Data and 2) Secondary data. The data of primary data was derived from answers of questionnaires distributed to consumers who make purchases online, domiciled in Aceh province and were born between the years 1981-1999 (Bolton *et al.*: 2012).

The population in this study is a Gen Y which is a generation born in 1981- 1999 (Bolton *et al.*: 2012). Respondents selected as samples were the people born in the year 1981- 1999 (Bolton *et al.*: 2012) who live and stay in Aceh surrounding the deployment of questionnaire. Respondents were shoppers who at least know about the purchase of products through the Internet. Number of respondents obtained was 251 respondents.

### 4. RESULTS AND DISCUSSION

Table Test Results Significance PLS

Hypothesis	Influence between the latent variable	Coefficient path analysis	t measure Value	Conclusion of significance test
1	The effect of ease perception (X1) on the attitude to buy online (Y1)	0.077	1.038	hypothesis rejected
2	The effect of benefit perception (X2) on the attitude to buy online (Y1)	0.195	2.847	hypothesis received

*cond. table*

Hypothesis	Influence between the latent variable	Coefficient path analysis	t measure Value	Conclusion of significance test
3	The effect of barrier perception (X3) on the attitude to buy online (Y1)	0102	1404	hypothesis rejected
4	The effect of the social aspect (X4) on the attitude to buying online (Y1)	0461	6784	hypothesis received
5	The effect of ease perception (X1) to an interest in buying online (Y2)	-0027	0513	hypothesis rejected
6	The effect of benefit perception (X2) on the interest in buying online (Y2)	0220	4043	Hypothesis received
7	The effect of attitude to buy online (Y1) on the interest to purchase online (Y2)	0488	7508	hypothesis received

Source: PLS data though 2017

**Table  
74 Structural Model Testing Results**

Latent Variables Dependent	R-Square
Interests	0523
Attitude	0414

Source: PLS Processing Data 2017

R-Square is measured by indicators sequentially; 0.67, 0.33, and 0.19 as good, moderate and weak (Chin: 1998). According to the table, it can be interpreted that the structural model study that formed well enough to predict the dependent latent variables, latent variable interest which have an R-Square of 0.523. Latent variable has an attitude R-Square of 0.414 interpreted as affecting the ability of latent variable models is quite good attitude.

## DISCUSSION

### The effect of ease perception on the attitude to buy online

Several previous studies have different results of research with this study. Past research has proved that the ease perception affects attitudes to buy online (Guritno & Siringo-Ringo, 2013; Yulihhasri *et al.*, 2011; Rizwan *et al.* 2014; Jahangir & Nurjahan, 2008). However, this study found no significant relationship between ease perception and attitude to buy online. The results are consistent with previous research that has been studied by Palvia & Mao (2006). This situation can be explained by the fact that the participants are Gen Y were born in the digital era and a generation that understands the Internet.

### The effect of benefit perception on the attitude to buy online

One reason for the use of technology is because of the benefits. Several studies have confirmed that the benefit perception has a positive and significant influence on attitudes to make purchases online (Guritno & Siringo-Ringo, 2013; Yulihhasri *et al.*, 2011; Rizwan *et al.*, 2014; Jahangir & Nurjahan, 2008). Even

Guritno&Siringo-Ringo (2013) stated in their research that the benefit perception is a determinant variable shaping attitudes to make purchases online. This has also been triggered Davis (1988) at the time of measuring the ease perception both internal variables and benefit perception.

### **The effect of barrier perception on the attitude to buy online**

Barrier perception in this study is added two variables to support this research. Partial cost, signal and shipping are some of the real problems. This is supported by studies stating that the cost of the Internet affects the attitude to use the internet (Porter & Donthu, 2007), a signal affects the attitudes to use the internet (Rao *et al*, 2007) and shipping is one variable that affects the attitude to buy online (Naboth *et al*, 2014, Delafrooz *et al*, 2009). But these results conflict with the above results. These results indicate that the perception of barriers simultaneously does not have significant influence on the attitude to buy online. Partially, cost validity even below the requirement value, so it is tested again with variable signal and shipping. Even internet cost variable in this study is invalid. Even though the expensive cost of internet has always been a phenomenon, it does not deter the shopper to shop online.

### **The effect of the social aspects on the attitude to buy online**

The results of this study indicate that the social aspect is the dominant constructs in influencing attitudes to buying online. This study is consistent with research Malhotra & Galletta (1999) which state that the social aspect is one of the variables that affects attitudes to use technology.

### **The effect of ease perception on the interest to buy online**

Based on the results, there is no significance effect of the ease perception in forming an interest in buying online. It has also been found in Juniwati (2014). Her research does not find a significant relationship between ease perception and willingness to make purchases online.

### **The effect of benefit perception on the interest to buy online**

The perception of benefit has a positive and significant effect on the interest to make online purchases. It has same results according to some research. According to Cho (2015), perception of the benefit has a positive and significant effect on the interest to buy online. The research results also explain that influence the perception of the benefit of the interest in buying online is greater than the effect of the construct of ease perception. Suki & Suki (2011) found a significant relationship between the perception of benefit and interest to buy online. In addition, at the same time, they stated that the perception of the benefits is a variable to form an interest in buying online.

### **The effect of attitudes on the interest to buy online**

The results show that the attitude to buy online establish an interest in buying online. Some studies have also found that attitudes affect the interest to purchase online (Ariff *et al*, 2014; Juniwati, 2014). Empowerment/utilization of technology is a requirement that is owned and must be met by all companies, both large and small companies to have competitive competitiveness (Yahya *et al*, 2017). Small companies require IT management solutions with the following requirements (Lubis *et al*, 2016) : (1) having the ability

to manage applications, systems, networks and the internet without interrupting the company's smooth running; (2) There is trust (accountability) to all parties involved; (3) There is toughness in the face of rapid change.

To support the success in the management of information technology must be supported by the management system provides a solution for the company to facilitate the organization of all scattered IT resources to be managed centrally (Muda and Dharsuky, 2015). Storage management is a solution that enables customers to enhance, access, share, and protect their information assets (Muda *et al.*, 2016). Storage management is important because success in the global marketplace is not just about product quality, but also how quickly customers and suppliers can get information. Storage management enables companies to be prepared to implement, manage, and protect the information infrastructure to enter the global marketplace (Dalimunthe *et al.*, 2016). With the web revolution and the dynamic development of e-business today, the availability of information becomes a mission critical for a business to continue to compete and can quickly address market needs. Security system is a security solution that can solve the security problems arising from e-business, by providing centralized security management solutions. The challenge for today's Chief Information Officer is to build an existing system to facilitate the management of both traditional and non-traditional devices. Pervasive management is a solution that can build, deliver, and manage quickly and precisely the needs of mobile device services with all its developments (Muda *et al.*, 2017). The increasingly convergent development of Information Technology and Telecommunications today, has resulted in a growing variety of various telecommunication facilities' services, and increasingly sophisticated information technology products capable of integrating all information media.

## CONCLUSIONS AND RECOMMENDATIONS

The results showed no significant effect between ease perception and attitude to buy online, Benefit perception affects the attitude to buy online. Perception of barrier does not affect the attitude to buy online, and social aspect affects the attitudes to buy online. Furthermore, attitude to buy online affects the interest to buy online. The attitude is even a dominant variable in influencing attitude compared to the perception of benefit. For the next study, researchers recommend the sampling techniques should be better with a more equitable distribution of the questionnaire which is carried out in a more controlled and directed so that respondents do filling out the questionnaire seriously.

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