

**Developing Conceptual Model for Online Shopping Attitude in Indonesia:
Based on the diffusion of innovations theory**

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ABSTRACT

Conducting research towards the attitude of online shopping which involves various dimensions of social and attitude theories is inevitably important. It is compulsory inasmuch as the big potential values kept by such attitude, whether monetary value arising from online transaction or the number of individuals involved in such transaction as economic actors.

The aim of this research is to analyze on the impact of various dimensions of social theories, i.e. diffusion of innovations theory, technology acceptance theory, attitude theory, and customers' trust towards the attitude of online shoppers as an innovation in marketing field. By elaborating (synthesizing) those four aspects, it is expected that notable output can be derived as the guideline for any problem solving regarding online shopping formulated by three major pillars of economic actors, i.e. producer/provider of online shopping service, customers, and government.

Survey methods used for data collection are distributed to selected respondents in the form of perceptions, attitudes, and their opinion towards online shopping and Structural Equation Model as an instrument for testing a hypothesis.

The result of the research displays that the degree of innovativeness, the degree of technology acceptance, and trust semuanya have positive impact towards online shoppers' attitude. The implication of this research, the researcher suggests for the importance of developing customers' attitude and opinion in accepting an innovation (adopter category) and customers must also consider about customers' trust aspect in analyzing customers' attitude.

Key words: diffusion of innovations, technology acceptance, consumer trust, consumer behavior

Background

The use of the internet in the early 1990s has encouraged the shifting of marketing pattern and customers shopping pattern in Indonesia, from traditional or face-to-face pattern to internet-mediated, without face-to-face, pattern which

is called as online shopping or e-commerce. Online shopping or e-commerce appears as the response of public need which has limited time to buy products or services, online shopping, therefore, is perceived as a breakthrough (innovation) in marketing field.

Technically, online transaction or e-commerce has a lot of selling points or advantages when it is compared to offline shopping. Cien et al, (2010) states that by doing online shopping customers can perform 24hours' transaction, boundless by time and place. Moreover, Miyazaki and Fernandez (2001) also states that by doing online shopping, customers can get satisfaction and save transportation cost, unlike when they are doing traditional transactions. Another benefit lies on the fact that by doing online shopping *customers can select* one out of many various products offered by products'sellers or providers in a relatively short time, boundless by time (Klein: 1998, Scansaroli: 1997). Peterson *et al* (1997:329) said that customers can also buy new, unique, and special stuffs that cannot be found or inavailable in store. Online shopping can also bring positive impact to government, i.e. the increase of tax revenue and from other resources. The number of *turn over gained from* online transaction and a lot of individuals involved in online transaction may develop job oportunity and reduce the amount of unemployment and improve the welfare of wide society because online transactions are normally conducted by groups of individuals and small and medium enterprises.

There are one hundred and ten million peoples which belong to middle and upper class who use internet as the medium to perform their daily activities. This is a big opportunity for economic actors to grab their attention by doing online business. Nevertheless, when it is perceived from its percentage point, the buying through online transaction services in this country is relatively low compared to other countries. Data mentioned in *Ritel Indonesia Magazine* No. 34 year III November 2014 depicts that the number of internet users in Indonesia is only amounted to 12 % out of the total internet users in the world and most of them (54%) use social media in conducting online business. This percentage is the lowest in South East Asia, when it is compared to Singapore 80%, Malaysia 80%, Thailand 75% and Philippines 70%.

The question lies on why the number of online shoppers in Indonesia is relatively low, while conceptually a lot of advantages can be gained from online transactions.

The aim of this research is to answer this question by expanding Technology Acceptance Model (TAM) to include a diffusion of innovations attribute and trust aspect of online shopping adoption.

There are 2 (two) main characteristics of online shopping which distinguishes it from offline shopping. *First*, customers which perform online shopping are also internet users (Koufaris,2004). *Second*, online shopping is an indirect transaction, there is no meeting between buyers and sellers, and trust is the most essential component in maintaining the relationship between both parties.

Those two characteristics bring consequences to either customers or online producers/service providers. Customers first and foremost must have good understanding on the used technology and online producers/providers must have the capability to provide technology which is user-friendly.

The consequence of second characteristic, during online transaction trust degree must be an utmost essential value because transaction mainly depends on internet facilities so in the event that any party, either seller or buyer, breach the agreement, other party will suffer loss caused by such breach. Chen and Dhillon (2003) discloses the fact that 71 percent of internet users in the United States have low level of trust to online shopping companies. Koufaris and Sousa (2004) states that the lack of trust becomes the main reason of why internet users do not buy stuffs online. Gefen (2000:) states that trust is the major issue during economic and trading interaction because it is related to the problem of uncertainty. Jarvenpaa *et al* (2000) states that trust is an essential factor to encourage buying through internet, especially during business development phase,

Online transaction (*e-commerce*) is a trading activities which is boundless by place and time. The development of online marketing pattern, therefore, need to be closely monitored in such a way that the economic actors can gain its optimum potentials. This research is focused on the factors which are assumed to be closely linked to customers' attitude, i.e. *first*, attribute factor of adopter innovation, e.g. group of factors which are related to Diffusion of *Innovations*

Theory). Some previous studies which support the adoption of this factor, among others, Coelho *et al* (2009), Seong Bae Lim (2010), Keng Ling So *et al* (2010), Tan and Teo (2013). They disclose the correlation between customers attitude when doing shopping and their level of acceptance towards innovations and technology.

Customers trust with the following indicators: *believes*, *Secure*, and *ensure* are closely linked with customers' attitude and they are belong to indicators which are used in the researches (Lovelock *et al*: 2005, Gefen: 2000, Jarvenpaa *et al*: 2000, Koufaris: 2002, Chen and Dhillon: 2003, Cheung *et al*:2005, Kim Dan *et al* :2012).

Analysis of Diffusion of Innovations Theory

Diffusion of innovations theory has been developed by Everet M. Rogers since 1962 and affected by the findings formulated by Ryan and Gross in 1943 which was adopted to hybrid plants (Richardson, 2009: 158). In such theory Rogers (1995:5-6) defines "*diffusion is the process by which an innovation is communicated through certain channels over time among members of a social system*". Diffusion is a form of communication process which has something to do with message transfer about new idea to other community group. Innovation itself, according to Rogers (1995:11) can be in form of idea, practical activity, object which is perceived as something new by individual or unit which will accept it.

The delivery of something new (*diffusion of innovations*) will face people's attitude which will give response towards such new thing, people response is a natural action which may implicate to two things, i.e. accepting or rejecting such innovation. According to Rogers (1995:206) accepting attitude towards an innovation is affected by 1) *perceived of innovations*, 2) *type of innovation decision*, 3) *communication channels*, 4) *nature of social system*, 5) *Extent of change agents' promotion efforts*. Those five elements, according to Roger, will be deemed as independent factors which may affect the level of innovation acceptance, as *dependent variables*.

According to Roger (1995:36) *time* is an essential value in diffusion process, where there are 3 phases or time that take place, i.e. 1) *the innovation-decision process*; or a mental process which an innovation firstly introduced, until it is

accepted or rejected. 2) *innovativeness*: is the position of an individual or group of society in term of its *relative speed* in accepting an innovation, compared to other member of society (*social system*). 3) *an innovation's rate of adoption*; levels of adopter innovation. There are five levels of society group regarding their relative speed in accepting an innovation, i.e. the fastest to the slowest ones: 1. *Innovator*, 2. *Early Adopter*, 3. *Early Majority*, 4. *Late Majority*, 5. *Laggard*

Society or individual group assesses an innovation based on 5 (five) indicators, namely: (1) *Relative advantages* is a state where an innovation is perceived as giving benefit if it is implemented. Such benefit is measured *in economic terms, social prestige, convenience, and satisfaction*. In other words, the bigger benefit gained from an innovation by public, the faster its level of acceptance will be, and vice versa. 2) *Compatibility*: Attribute of innovation which is linked to the environment. *Compatibility* is certain level where an innovation *is consistent with the existing values, past experiences, and needs*. An idea which is in line or goes with the values and norms adopted by society will be easier to be accepted and on the contrary an idea or product which is deemed less appropriate with its environment will be slower to be accepted by society. The 3) attribute is *Complexity* or people's perception towards difficulty in using certain innovation. This description can be interpreted as the level of difficulty of an innovation which is perceived as the receptor of innovation, the easier an innovation, the faster it can be accepted by society and on the contrary if an innovation is perceived as difficult to be implemented, more time will be needed by people to accept the same. In other words, new idea which is easy to comprehend will be easier to accept than an innovation which requires new skill or knowledge to understand, this perspective was explained in Davis' *Acceptance Model Theory*.

According to Davis (1989) *Perceived Ease of Use (PEoU)* refers to the amount of effort towards the level of ease in using technology or in other words *the degree to which a person believe that using a particular system would be free of effort*. Whereas *Perceived of Usefulness (PoU)* is the amount of usefulness that may be gained by using technology or how great such technology can help in solving their task. (4) *Trialability* is the degree where an innovation may experience limited amount of trial and error. New ideas which have experienced

trial and error can be accepted faster by people than the one that does not experience trial and error. If a new idea cannot be tested such idea will be slower to be accepted. (5) *Observability* is a *degree* where the result of an innovation can be perceived, the easiest an individual to see the result the faster such innovation to be accepted.

Innovation acceptance as expressed above displays that individual attitude towards the establishment of new innovation or technology. The acceptance of innovation as mentioned above displays the fact that individual attitude towards the establishment of new innovation or technology shall be used as the measurement of the sustainability of such technology, which means that if people tend to accept so the innovation will continue and if people reject such innovation so such innovation will be terminated.

Innovation acceptance process is relatively long process due to the fact that an innovation may bring certain risks, to the group of society that adopts it. Shanker (2011:30) states that basically the adjustment in marketing pattern arises as the reaction towards customers' need, intention, and expectation adjustment pattern which becomes more dynamic.

Consequence of the acceptance of an innovation will create adjustment in people attitude towards certain thing. For example, the acceptance of internet technology will create an adjustment to people attitude in communicating, including among others performing business communication and marketing. For company, by developing acceptance of an innovation, their activity will be more effective and efficient in developing a new product. For customers, the adjustment of marketing pattern will be a solution towards the problem they face, i.e. time effectivity and efficiency.

Thus, we may say that diffusion of innovations theory is a theory which relates to how to measure the level of individual or group acceptance towards something new under the sun. The acceptance of new thing (innovation) is related to the result of individual's evaluation towards the benefit or risk that may arise from such innovation, the more benefit an individual may get and the less risk an individual affords the faster such innovation can be accepted by society, and vice versa.

Besides the result of evaluation, the level of individual or group acceptance towards innovation is also related with the trait and characteristics of such

group or individual. Most members of a group can easily adapt and accept an innovation but the rest of whom may need longer time to adopt such innovation.

Time difference in accepting such innovation classifies adopter innovations in the society, which is according to Rogers they must be classified into 5 (five) different groups as mentioned previously.

Categories of adopter innovations are groups of people who accept something new (innovation) which is preferred to them based on their relative speed in accepting such innovation in their lives. It is normal when certain group of society reacts differently during the acceptance of certain innovation. There are two things that may trigger such difference, first is because any new thing contains *uncertainty* because of people's *unfamiliarity* towards such thing, second, such uncertainty may bring certain risks which may be resulted from such new thing. Individual nature when facing something new is the establishment of prejudice, such prejudice may last for a long time or only for a while, depends on the individual characteristics of the each acceptor.

Based on such attitude Rogers (1995:262) divides *adopter innovation* into 5 (five) categories as follows: (1) *Innovators* (2.5%), (2) *Early adopters* (13.5%), (3) *Early majority* (34%), (4) *Late majority* (34%), and (5) *Laggards* (16%).

Percentage of category distribution is based on two factors; people condition and characteristics of the object introduced to people. This distribution is not final in nature because it is closely related to people condition where such innovation is introduced and factors which affect it. Nonetheless, generally there is certain group of society that may accept such innovation fast and there is also group of society which delays until certain time until they can take a decision whether to accept such innovation or not. The difference in people condition may vary pattern of acceptance towards an innovation, people which belongs to open-minded society will fastly react to anything introduced to them but on the other hand there is also a group of society who is close-minded and do not react fastly towards something which is deemed able to adjust the pattern of attitude perilaku yang which has been existed from generation to generation.

Anurag Pant *et al* (2011: 443) divides *adopter category* with different term into 5 (five) categories as follows: (1) *Technology enthusiasts*: are individuals who firstly try new product and innovation), (2) *Visionaries*; visionaries are the part of the market and interested in using new products) (3) *Pragmatists*: Pragmatists

are customers who belong to *early majority* category. (4) *Conservatives*: are customers who avoid risk and do not know technology very well), (5) *Skeptics*: are the last segment from the circle of technology acceptors and the part of *laggards* who only wants to defend their status quo and avoid any change.

Distribution of adopter innovators as depicted by Rogers(1995) in a normal distribution condition, as a matter of fact the distribution of adopter innovators is not always normally distributed because it depends on the characteristics of adopter innovations and the type of innovations introduced to people and the way to communicate it.

Result of Richardson's research (2009:161) in Cambodia shows percentage of different category and it differs from Rogers' finding. Similarly, Mahajan *et al* (1990:682-683) tests on Bass' theory and finds out a graphic which has different *skewness* and percentage per adopter category which differs from Rogers' finding (1995).

The amount of percentage for each category depends on the response from people towards innovation which is communicated to them and some other related factors. Bass (1969) classifies adapter innovation into 4 (four) different categories which differs from Rogers (1975) eventhough basically Bass' finding is similar with Rogers'(1975).

Online shopping within the Review of Diffussion of Innovations and Attitude Theories

Online shopping is another breakthrough in the way of shopping, which involves technology in bridging the interaction between sellers and buyers. This shopping pattern develops in line with the booming trend of using internet in the society.

Online shopping can be categorized as innovation because *something has never been done before* or *that it has not been done before by the industry* (Rogers:1995). Newness can be in form of things, ideas or thoughts or certain activity which wants to be implemented by certain group of society. Something new usually requires more time to be accepted by society. Thus, acceptance and rejection of certain innovation is an essential thing which becomes the focus of the analysis of diffussion theory, because acceptance and rejection of

an innovation will lead us to the characteristic and chronology of the process of developing an innovation.

Acceptance or rejection towards something that is deemed new (innovation) which is offered to the society is a common thing, generally society do not directly accept something which has never happened before or something which is new or innovations. This is because such acceptance or rejection will bring consequences to group of people who introduced it. As cited by Rogers (1995) if an innovation is introduced, a change will take place as a result.

New discovery (newness) introduced to people which has commercial consequence will be perceived as an innovation, where innovation is closely linked to technology.

Something which is deemed new which is introduced to group of people will normally face various kinds of responses, there are people who immediately accept, but there are also people who wait for others who are deemed as reference and follow them, and there are also some people who reject it in a priori manner.

Customers in facing online shopping as new finding in marketing field perform an activity which involves cognitive dimension, i.e dimension which involves the assessment process towards profit and loss that may be caused by the implementation of such transaction. In purchase decision concept there is an initial process called cognition problem. This process involve the assessment towards predictable risk. The measurement of such risk is gained by comparing between gained *Benefit* and *Cost* that will be spent. Elements of cost that used to be calculated are *utility*, *psychology*, and *reputation* which will be gained during the usage of the goods. Whereas the elements of cost are usually linked to *monetary value* and *time* spent to get goods or service.

The acceptance of an innovation is an essential thing to be observed, either from the perspective of producer or customer. It is important to understand the category of adapter innovation because: 1) category of adapter will become the material to set the target market for certain product 2) the setting of percentage for each category 3) as a way to determine each category (Mahajan *et al*: 1990). To this end, diffusion of innovations research is a way to predict the form or category of adapter innovation and whether such adapter belong to the ones who accept or reject the innovation.

Research towards Customer Trust Theory

Customer trust is an important factor to determine the success of online business provider (Torkzadeh and Dhillon: 2002), the main reason of which is because the interaction between buyer and seller during online shopping only takes place via online media, there is no physical contact so every service provider must be able to ascertain their customers through *web site* or other media he or she develops.

Regarding *online transaction (online shopping/ e-commerce)* Chen and Dhillon (2003:303) proposes three things that must be developed by company in creating customers' trust, among others: *Competence, Integrity and Benevolence*. First, *Competence* deals with company's capability to keep their promise to their customers. Second, *Integrity* means company acts consistently and honest to customers. Third, *Benevolence*, means company's capability to protect customers' intention and appreciate such intention for customers' behalf.

The lost of trust to *online* company is the main reason why most internet users (*web-users*) hold themselves from buying goods and service online and trust is usually perceived as a critical element because it can maintain the relationship in the long term, in this regards the relationship between customers and service provider. Koufaris and Sosa (2004) states that generally *trust* can be defined as an individual's belief in form of liking (*favorable*) and *expectations* based on his or her previous experience. (Gefen: 2000) From this definition it is revealed that trust is belief towards something expected by an individual or something which is based on previous understanding about someone or something. It means that an individual can either believe or does not believe in something if such individual has made an interaction before.

Regarding the attitude of customers towards *online* shopping, customers trust rely on the risk that may be borne by customers due to the absence of face to face meeting between buyer and seller to see the purchased product directly.

There are many factors which influence customers' trust, among other: *risk perception* (Gupta *et al.* 2004). Similarly, Koufaris and Sosa (2004: 378) explains that trust is an individual's will to trust other party after she or he makes an interaction with such party. It means that customers' trust is the follow up

from a customer towards certain impression she or he gets after doing interaction with the company or see the purchased goods or service.

The problem lies on the fact that when doing *online* shopping the interaction between seller and buyer is very limited so customers and producer will greatly depend on the media used during transaction, in this regards internet or website used for transaction. Thus, trust depends on integrity and honesty between both parties, buyer and seller. Trust is a *critical factor* in stimulating buying through internet (Jarvenpaa 2000). Trust will be created when an individual or company can show other individual of his or her capability and integrity (*trust*) as the exchange of *reliability and integrity* shall be based on an impression felt by certain individual towards a company. Or in other word trust will grow if a company or institution can show its integrity and reliability to its customer which in the end will bring positive impact towards the company or institution itself.

Chaudari and Holbrook (2001) correlated between *trust* and merk, they say that trust depends on whether a company's performance is in accordance with how it should be or in accordance with what it promises of. Similarly, *trust* can also be defined as *goodwill and willingness* from customers to take risk, where *goodwill* is established from someone's previous experience, and *Trust* is the expectation of positive result (Afzal, *et.al*: 2011), and *willingness* is the intention of customers to face risk they may get related to the *brand* they consume.

Related to *online* shopping, customers' trust to *web site* or used media will greatly affect customers' trust to *on line* service provider, or the higher customers' trust to *web site* or media used by the company the higher customers' trust to the company which uses such *website*, and vice versa.

Customer's Trust is very relevant to uncertainty where more notable merk has more selling point than other merks of the similar products. *Customer's trust* can only grow as a belief towards honesty and integrity of the seller, which is reflected from the attitude of its selling force.

Consumer's trust will grow due to the initiative of such customer to believe in what is offered by a merk (*brand*), besides that, *trust* will reduce uncertainty because customer does not only know that a product or *brand* is believable (Hsin Hsin Chang: 2008) *Consumer's Trust* can be both created and developed if customer has consumer experience in doing such consumption, begin from the *introduction* phase of that brand. Moreover, it has been expressed on how

important *trust* as the major component of maintaining *relationship* between buyer and seller Jarvenpaa *et al* (2000). *Customer's Trust* may be viewed as a cognitive component, because it manifests as an emotional encouragement, such encouragement may grow after being satisfied with previous purchasing process, according to Afzal (2010). Whereas Kofaris (2004) describes that trust is something that an individual must hold tight with high integrity because it has something to do with quality.

Battacharjee (2002:215) defines trust as *cognitive component* which includes emotional response and has something to do with experience towards merk or product that belief can be formed by direct experience from the customers.

Thus, we may say that *trust* has something to do with somebody belief towards *reliability* and *integrity* which is shown by an individual or a product or company.

Chauduri and Holbrook (2001:82) define *trust* as average intention of customer to *rely on* the capability shown by a merk or company.

The result of research conducted by Afzal (2010: 44) finds that customer's trust is a variable which can grow customer's trust. Jarvenpaa *et al* (2000:) describes that customer's attitude in *online* shopping is affected y various factor, especially trust factor. This *e-commerce* has three categories, namely B2C (*Business to Customer*) or *on line* transaction which directly relates between business actor and individual customers. Then, B2B (*business to business*), or *on line* transaction between one or ore companies with other business, and B2E (*Business to Employee*), or information and service which are prepared for the employees.

From above definition it is known that the benefit of the growing trust of the customers is to reduce uncertainty so customers can reduce time of shopping and their level of *uncertainty*, or in other words if someone can get certainty, he or she can develop trust too. The next impact of *trust* is satisfaction, which means that if someone believes to certain product the feeling of satisfaction will arise because he or she losses his or her uncertainty of bearing loss and risk from such purchase. Customers who represent a *website* with good reputation tend to appreciate and use such website. From this fact we may conclude that there is positive impact, where customers believe in good reputation from *internet* service provider, and they will develop more trust to the site which offers good by using that merk. (Cassalo, *et.al*: 2011).

Decision making process to buy is affected by varied stimulants which come from the buyer itself like psychological affect, personality, preference or attitude, or from outside the buyer like the factors coming from the purchased goods which lure buyer's attention, economic affect, culture, and technology, the result of such cognitive evaluation will affect customers' attitude.

Kim's finding (2008:505) to *e-commerce* practice in South Korea reveals that *Customer Perceived Value* has positive effect towards customer's commitment to *online shop* and to the brand sold in such *online shop*. Close relationship and binding between customer and *on line shopping* is determined by the establishment of good reputation, from such *online* store, and from the goods being sold and purchased in such *online* store. Thus, customers' trust should be measured from emotional binding which represents through the intention to bind a relationship with such merk, it can also be measured from the reputation of the merk which is assessed from the perspective of such customer. The result of the reseach on the correlation between trust and purchase attitude ha become the focus of the study in marketing field (Kumar: 1995, Shankar: 1998, Gounros: 2005, and Hasyim: 2013) have proved the establishment of strong concept between customers' trust and customers' loyalty to various sectors of goods and services. Their trust significantly affects customers' commitment. (Li and Pin: 2002, Casalo, *et.al*: 2011, Venkatash and Agarwal: 2006)

Customers trust is inevitably important to be implemented in recent marketing condition where *service dominant logic* (SDL) concept becomes new perspective in merketing study (Vargo and Lusch: 2004). SDL has differ perspective from *goods dominant logic* (GDL), where SDL principle is fundamental basis of an exchange (Vargo, 2009) its output is *intangible*, and relational exchange process becomes its central point. Whereas GDL perspective perceived that customer as the object (*operand resource*), where distriutor perform customers' segmentation, distriute product to customers, distributing ads to customers, and try to satisfy them. (Gruen and Hofstetter: 2010).

Online transasction is a trading activity which is focused to service. Thus, trust is the most important component, perceived both from the angle of customer and *provider*. Being able to keep its customers's trust towards its service, the

provider will be able to get more customers with its ultimate goal to do recurrent selling (Morgan and Hunt:1994).

Research Model

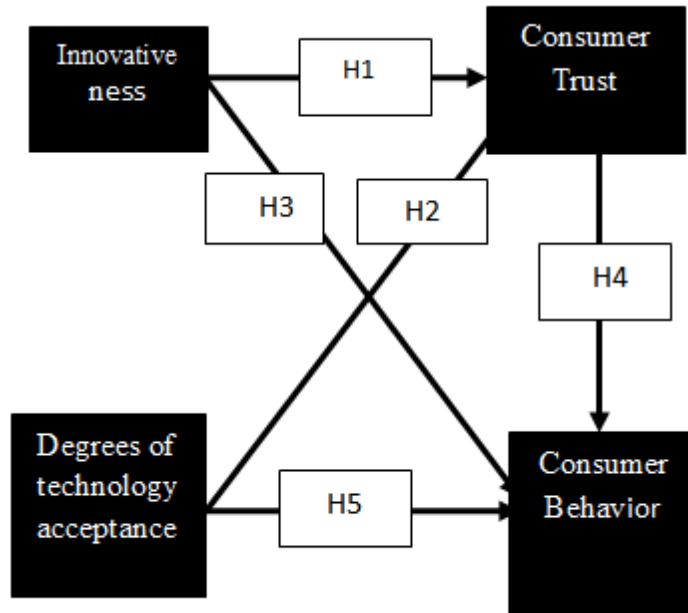


Figure 1. Research Model

Research Methods

Sample and Data Collection

This research applies survey method towards dimensions of diffusion of innovations theory, TAM, customer trust, and attitude theory are used to prepare indicators and it uses questionnaires as the instrument of this research.

The type of data used is quantitative data in form of attitude, perception, and opinion measurement to the respondents of which answers are given value by using Likert scale (*Likert-style*), ranges from 1="strongly disagree". through 3="neutral" to 5= "strongly agree". Population is based on the data reported by AC Nielsen (2014), which shows that the number of internet users in Indonesia is amounted to 82 million people, it is predicted that 10% to 15% or approximately 10 million to 11 million people have experienced *online* shopping. Most of them resides in Jakarta and other big cities and some other reside in small cities which are exposed to internet. Their age ranges from 18 – 65 year

old, coming from various profession. Regarding the big number of population and the fact that it will be difficult to reach them, the researcher only takes samples from such population.

Samples are taken from two separated groups of residential areas (geographical areas) where the respondents live, i.e. respondents who live in big cities and respondents who live in small cities. The amount of respondents included in this research is amounted to 211 respondents who submit the answer back out of 270 distributed sets of questionnaires. *Primary data* is collected through survey and used as the core data for the research which is derived by directly distributing questionnaires to reachable respondents and such questionnaires are distributed based on the dimensions and variable indicators by relying on the theory dopted to respondents who live outside Jakarta, by using *google.docs.com*.

There are 211 respondents of the research, listed based on gender, age group, type of occupation, residential area, frequency of internet usage, location of internet usage, frequency of shopping in the last 3 months, and the type of most bought product.

Result of Fitness Measurement Model

Before hypothesis testing is conducted, researcher matches data fitness with research model to perceive its *Goodness of Fit* (GOF). This test is conducted basically to evaluate whether resulted model is fit or not, by comparing between the value of data processing with the fitness value of each assessed component. The result of such test is as follows:

Chi-square = 29.225 ($p = 0.173$) displays good fit, because *Chi-square* is low, shown by figure $p > 0.05$.

Value of comparison between *Chi-square* and *degrees of freedom* is 1.271, ≤ 3.00 (good fit). $NCP = 6.225$ shows discrepancy between \sum and $\sum (\Theta)$ is small, so this category can be included to good fit.

Confidence Interval NCP: 0.0 to 24.257 shows narrow interval, so it is good fit.

RMSEA value 0.0359 (< 0.05) which shows *close fit* level of matching. A model is *close fit* is its RMSEA value ≤ 0.05 , and RMSEA value ≤ 0.08 is *good fit*, RMSEA between 0.08 and 0.10 is *marginal fit* and RMSEA > 0.10 is

poor fit. Confidence interval is used to assess the achievement of RMSEA estimates. The output displays 90% of confidence interval lies around RSMEA value (between 0.0 and 0.0709).

P-value for test of close fit (RMSEA \geq 0.05) = 0.708 (*P-value* > 0.05) so the fitness is good. ECVI model (0.444) is compared to ECVI *saturated model* (0.524) and ECVI *independence model* (13.066). ECVI model is smaller than ECVI *saturated model* and far smaller than ECVI *independence model*, or we may say that ECVI model is close to its *saturated model*. Besides that, 90% of *confidence interval* is 0.414 to 0,530 and the model has good fitness. AIC value for the model is 93.225, *AIC for saturated model* 110.000, *AIC for independence model* 2787.434. We can observe that AIC model has closer value to *AIC for saturated model* than with *AIC for independence model*. It means that model has good level of fitness (*good fit*). CAIC model value is 232.485, *CAIC for saturated model* 349.352, *CAIC for independence model* 2787.434. We may observe that CAIC model value is closer to *CAIC for saturated model* than *CAIC for independence model*. It means that the level of model matching is good (*good fit*). *Normed Fit Index* (NFI) value = 0.989. NFI value which ranges from 0-1 with higher value will be better. NFI \geq 0.90 is *good fit*, whereas $0.80 \leq$ NFI < 0.90 is *marginal fit*. So the level of matching for the model under observation is *good fit*.

Non-Normed Fit Index (NNFI) value = 0.995. NNFI value which ranges from 0-1 with higher value will be better. NNFI \geq 0.90 is *good fit*, whereas $0.80 \leq$ NNFI < 0.90 is *marginal fit*. So the level of matching for the model under observation is *good fit*.

Comparative Fit Index (CFI) value = 0.997. CFI value which ranges from 0-1 with higher value will be better. CFI \geq 0.90 is *good fit*, whereas $0.80 \leq$ CFI < 0.90 is *marginal fit*. So the level of matching for the model under observation is *good fit*.

Incremental Fit Index (IFI) value = 0.997. IFI value which ranges from 0-1 with higher value will be better. IFI \geq 0.90 is *good fit*, whereas $0.80 \leq$ IFI < 0.90 is *marginal fit*. So the level of matching for the model under observation is *good fit*.

Relative Fit Index (RFI) value = 0.978. value which ranges from 0-1 with higher value will be better. RFI \geq 0.90 is *good fit*, whereas $0.80 \leq$ RFI < 0.90

is *marginal fit*. So the level of matching for the model under observation is *good fit*.

Parsimonious Normed it Index (PNFI) value = 0.505. PNFI value ranges from 0.60 to 0,90. So the level of matching for the model under observation is *marginal fit*. Critical N (CN) = 292.550 > 20, shows the number of sample is adequate to be used to estimate the model. Root Mean Square (RMR) shows average residual between variance-covariance matrix and the result of estimation. From the calculation it is derived that standardized RMR value is = 0.0296, where RMR value ≤ 0.05 shows good level of matching. So the level of matching for the model under observation is *good fit*. *Goodness Fit Index* (GFI) value = 0.973. GFI value value which ranges from 0-1 with higher value will be better. GFI ≥ 0.90 is *good fit*, whereas 0.80 ≤ GFI < 0.90 is *marginal fit*. So the level of matching for the model under observation is *good fit*.

Overall the *Confirmatory Factor Anayisis* (CFA) results suggested that the models of Innovativeness, technology acceptance, consumer trust and consumer behavior provided a good fit for the data.

Table I Standardized Path Estimates

Hypothesis	Construct relationship	Coefficient	t- value	Result
H1	Level of Innovation Positively Correlates with the Level of Trust of <i>Online</i> Customers	0.680	8.548	Support
H2	Level of Technology Acceptance Positively Correlates with the Level of Trust of <i>Online</i> Customers	0.210	3.902	Support
H3	Level of Customers' Trust Positively Correlates with the Attitude and Behaviour of	0.330	3.325	Support
H4	Innovation Level Positively Correlates with the Attitude and Behaviour of <i>Online</i> Shoppers	0.264	2.692	Support
H5	Level of Technology Acceptance Positively Correlates with the Attitude and	0.267	4.085	Support

Source: Researcher Data Processing

Discussion and Findings

In this research there are 5 hypotheses, analysis for hypotheses testing is conducted with 5% level of significance and displays t critical value of ± 1.96 . Hypothesis is accepted when t-value scores ≥ 1.96 , and is not accepted when t-value is ≤ 1.96 .

Based on data *output*, the influence between the Level of Innovation towards the Level of Online shoppers' trust displays t-value of $8.548 > 1.96$. This figure shows significant result, where alternative hypothesis states that level of innovation and level of trust are acceptable.

This hypothesis proves that someone who belongs to the group of *innovator* or *early adopter* tends to ignore the risk which may prevail from certain *innovation*, they tend to directly try an innovation (Rogers:1995), that an innovator is obsessed with innovation. Thus, they tend to adopt certain innovation without weighing on the risks that may prevail from such adoption. The group of society which is fast in receiving an innovation is called as *technology enthusiasts*: or the individuals who always try new product and innovation in the first place. Thus, the more innovator a customer, the higher potential that he or she will ignore the risk and accept the innovation, and the higher his or her trust towards online shopping. On the contrary, customers who tend to be *late adopter* or *laggard* will display low level of trust. Anurag Pant *et al* (2011)

The impact of technology acceptance level towards the level of trust shows the t-value of $3.902 > 1.96$. This figure shows significant result, or there are certain impact of technology acceptance towards customers' trust. In other words, the higher customers perceive the benefit they may get from *online* shopping, the easier they perceive an online transaction activity is, and the more they trust *online* shopping, more frequent they use online shopping transaction. Liang and Huang(1998) find out what is experienced by customers will be absorbed as their *experience* and encourage their acceptance towards *internet shopping*. Moreover, *economic perspective model* states that in doing purchasing, customers tend to take decision based on their rational thought and awareness, customers tend to base their decision on rational thought and awareness in performing economic calculation. Thus,

customers always do calculation towards *maximum utility* and satisfaction in accordance with what they expect and the amount they spent.

The influence of the level of customers trust towards online shoppers attitude gained t-value which is amounted to $3.325 > 1.96$. **This figure shows that the result is significant**, where proposed null hypothesis can be rejected. It means that Customers Trust consists of the following indicators: *Benevolence*, *Honesty* and *Competence* and may change customers behaviour and attitude towards *online* shopping. This is in line with Battacharjee (2002: 215) who defines trust as *cognitive component* which includes emotional response, and experience towards merk or product, and it means that trust can be buit through customers' direct experience. Thus, we may say that *trust* is related to an individual's belief towards *reliability* and *integrity* shown y an individual, a product, or a company, the more positive attitude of an individual during *online* shopping the more positive consumers attitude which is marked by the willingness to do recurrent purchasing via *online* shopping.

The influence of the level of innovation towards *online* shoppers attitude gained t-value which is amounted to $2.692 > 1.96$ This figure shows that the result is significant, where proposed null hypothesis can be rejected. The explanation from the abve-menntioned findings is the higher the eagerness to accept *online* shopping risk the higher customers trust towards online shopping, or the high innovation acceptance can serve as an indicator where customers assume that online shopping is a trustable medium of transaction. This finding shows that risk factor is an acceptable factor for each activity. Also, customers who avoid the risk tend to have lack of trust towards *online* shopping. It menas that the adjustment of customers' attitude and behaviour towards *online* shopping depend on the level of risk acceptance and the level of acceptance of an innovation. The braver a customer to take risk when doing *online* transaction and the more innovative a customer the more positive the attitude of such customer or the higher his or her intention to buy or the more frequent he or she does *online* shopping.

The influence of technology acceptance level that make online shopping easier towards Customers' Attitude and Behaviour to do *online* shopping. Data processing displays t-value of $4.085 > 1.96$ This figure shows that the result is significant, where proposed null hypothesis is not acceptable and alternative

hypothesis may be accepted. It means that the adjustment of customers' attitude and behaviour towards *online* shopping depends on their perception towards the benefit and practicality in doing *online* transaction. According to Shim *et al* (1998), in the context of *e-commerce*, customers' attitude reflect their perception towards the satisfaction of shopping experience, that can be measured from their eagerness to accept internet as the medium of shopping, or the higher perception of utility they may gain or the easier they can do *online* shopping the more positive such customers attitude or the higher their intention to buy or the more frequent they do *online* shopping.

Implications: Theoretical and Practical

The application of *theory of diffusion innovation* and *the technology acceptance model* in this research has been proven to be able to serve as the foundation to analyze and predict people behaviour which deals with *marketing* study, although basically those two theories are rooted from the theories which analyze and predict social life (*social science*).

The findings in this research proved that management study (*marketing*) can be perceived from various dimensions and perspectives by *elaborating* theories from various but inter-related branches of science which in the end will grow our understanding and develop *marketing* science to be more dynamic. This finding assume that it is important to do the follow-up research with wider scope to another branches of science like financial management, human resources management, etc with differ research objects.

By relating the dimensions linked to innovation level and dimensions linked to technological acceptance, by placing customer trust variable as mediating factor researcher finds out that there is significant influence towards customers' attitude. This finding has implication to three pillars of economic actors, i.e. producer, consumer, and government as regulator.

First, for producers the finding of this research may be used as the material to prepare the strategy for online service provider which is acceptable to customers. Producers may use dimensions of innovation level variables like *risk* reduction and *benefit* increase gained from the usage of *online* media. The recovery performed to technology acceptance level variables like providing

technology that can give *advantage* to customers, can be tested (*trialability*), and provide technology that is easy to operate for customers when they are doing online shopping (*user-friendly*), and variables of customers trust by developing and increasing types of services. *Online* service providers must have the ability to act honestly (*honesty*), consistent (*benevolence*) and the ability to meet the agreement they have made with their customers (*competence*).

Implication of this research to government is this research can serve as the guideline to prepare policy and regulation in the field of technology and *online* shopping marketing, like providing good and cost-efficient facilities that can be used by both producers and consumers for their transaction. The development of such facilities will bring positive impact to business world, assure the satisfaction and security of transaction for customers, increase the amount of government revenue from trading sector and increase the welfare of wide public

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