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O processo de adoção de inovação no Messenger móvel Chatterbot como intermediário de atendimento ao cliente (Estudo de caso: Chatterbot Telkomsel)

The Process of Adopting Innovation on Line Chatterbot Mobile Messenger as Customer Service Intermediary (Case Study: Chatterbot Telkomsel)

El proceso de adopción de la innovación en línea Chatterbot Mobile Messenger como intermediario de servicio al cliente (Estudio de caso: Chatterbot Telkomsel)

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Resumo

Usando a teoria de Rogers (1983), esta pesquisa visa conhecer o processo de adoção da inovação ocorrido nos clientes da Telkomsel em relação ao Line Chatterbot Mobile Messenger. Outro objetivo desta pesquisa é tentar descobrir as diferenças do processo de adoção da geração X, milenar e geração Z, além de descrever cada uma das características da categoria do adotante. O método utilizado é o estudo de caso com abordagem qualitativa, utilizando a técnica de Discussão em Grupo Focal. Os resultados revelam que o processo de adoção tem pequenas diferenças com a teoria de Rogers. As diferenças são encontradas em várias etapas, incluindo etapas de conhecimento, etapas de experimento, etapas de decisão e etapas de confirmação. Além disso, esta pesquisa também encontra novos conceitos, como adotante passivo, que é definido como adotante que prefere usar a inovação como escolhas alternativas.

Palavras-chave: Categoria adotante; Chatterbot; Atendimento ao cliente; Discussão em grupo focal, Telkomsel.

Abstract

By using Rogers's theory (1983), this research aims to know the process of adopting innovation occurred in the Telkomsel customers toward Line Chatterbot Mobile Messenger. Another purpose of this research is tried to find out the differences of adoption process from generation X, millennial, and generation Z as well as describe each of the adopter category characteristics. The method used is case study with qualitative approach using Focus Group Discussion technique. The results then reveal that the adoption process has little bit differences with Rogers's theory. The differences are found in several steps including knowledge steps, experiment steps, decision steps, and confirmation steps. Furthermore, this research is also found out new concepts namely passive adopter which is defined as adopter that prefers using innovation as alternative choices.

Keywords: Adopter category; Chatterbot; Customer services; Focus group discussion, Telkomsel.

Resumen

Al usar la teoría de Rogers (1983), esta investigación tiene como objetivo conocer el proceso de adopción de la innovación que se produjo en los clientes de Telkomsel hacia Line Chatterbot Mobile Messenger. Otro propósito de esta investigación es tratar de descubrir las diferencias del proceso de adopción de la generación X, milenario y la generación Z, así como describir cada una de las características de la categoría de adoptantes. El método utilizado es el estudio de caso con enfoque cualitativo utilizando la técnica de discusión de grupo focal. Los resultados luego revelan que el proceso de adopción tiene pequeñas diferencias con la teoría de Rogers. Las diferencias se encuentran en varios pasos, incluidos los pasos de conocimiento, los pasos del experimento, los pasos de decisión y los pasos de confirmación. Además, esta investigación también descubre nuevos conceptos, a saber, el adoptante pasivo, que se define como el adoptante que prefiere utilizar la innovación como opciones alternativas.

Palabras clave: Categoría de adoptante; Chatterbot; Servicios al cliente; Discusión de grupo focal, Telkomsel.

1. Introduction

The emergence of several technologies such as big data, software solution and artificial intelligence (AI) has been influenced on the marketing development especially on the customer services. The used of social media in the customer services can be said as

trademark effort in responding the technology development. However, several previous researches reveal that 40% of customers are driven by emotional factors while interacting with the trademark through social media. Hence, the existence of Chatterbot in social media will lead into new experience to the customer (Xu et al., 2017).

In addition, the existence of Chatterbot is hoped to be able to change the role of human being while communicates with others (Hill et al., 2015). But, along with the development, provider who provides Chatterbot services stated that the existence of Chatterbot is considered to be less accepted due to the illogic customers' expectation (Heo & Lee, 2018). Otherwise, the research conducted by Van Eeuwen (2017) provide difference explanation in which most of the informant who are Dutch millennial generation are having positive impression on Chatterbot mobile messenger.

By its development, nowadays, Chatterbot in Indonesia can be found out in difference form on mobile messenger application. The creator of application reveals that the used of mobile messenger occupy the highest rank with the total is 89,35% and beat other activities such as accessing media social and search engine (Tim APJII, 2018).

Line is described as mobile messenger application which provided Chatterbot service while interacting with other users. Starting from 2006, there are already two thousands and more Chatterbot that applied in this application.

Based on the explanation above, the researcher assumes that the process of adopting process toward Chatterbot is considered to be quite interesting to be discussed. Beside the Chatterbot's complexity and the reluctance of the user to use Chatterbot, the researcher would like to know how the user decide to use or not use Chatterbot as customer services solution. The result will be needed in case the development of artificial intelligence product can be developed continuously by Indonesia government.

Chatterbot itself can be defined as innovation in the digital communication and customer services field. In the banking services, innovation is the first driven variable that makes the millennial in Indonesia aware to the existence of Chatterbot (Scheid at al., 2015).

Innovation adoption is process in which the users' innovation adopts the innovation itself (Rogers, 2003). The decision model of innovation adoption by Rogers (2003) is described in 5 steps, namely knowledge, persuasion, decision, implementation and confirmation. The further explanation can be seen bellows:

1. Knowledge occurred while the individual receive information dealing with innovation existence and the benefit of receiving the innovation.
2. Persuasion occurred while the individual reacts to the information (good or bad).

3. Decision occurred while the individual have domination attitude to decline or accept the innovation.
4. Implementation occurred while the individual accept and adopt the innovation.
5. Confirmation occurred while the individual are looking for the information while they decide to adopt the innovation.

Afterwards, this research is aimed to obtain and describe the differences of adapting innovation process between some generation such as generation X, millennial, and generation Z.

Manhein mentions that generation has role as social construction consist of several groups with similarity of birth year in range of 20 years and exist in the same social and historical dimension. In the book Statistik Gender Tematik: Profil Generasi Millenial Indonesia (Thematic Gender Statistic: Indonesian Millennial Generation Profile) is described the generation grouping as follows (Statistik, 2018):

Table 1. the grouping of generation according to Benesik, Csikos and Juhes

Birth Year	Generation name
1925-1946	Veteran generation
1946-1960	Babyboom generation
1960-1980	Generation X
1980-1995	Millennial generation
1995-2010	Generation Z
2010+	Generation Alfa

Generation X which were born in the range of 1960-1980 have tendency to take risk and mature decision from the parenting result of previous generation that is Baby Boom (Statistik, 2018). Generation X is also independent and sceptical on authority characteristic (Amin & Rahmiati, 2018). Millennial generation or also known as generation Y is the generation which were born in 1980-1999. This generation considered as technological literacy compared to the previous generation. The several characteristics of millennial generation are leadership oriented, creative, dare to the new change, need life balance, and dare to take risk (Amin & Rahmiati, 2018). Nowadays, the millennial generation is the biggest composition in Indonesia compared to other generations (Statistik, 2018).

Moreover, this research will analyse the adopter categories and the characteristic from each of adopter based on variable stated by Rogers (2003) including socioeconomic variables, personality variables, and communication behaviour on the informants.

One of Indonesian companies that using Chatterbot in Line application is Telkomsel. As telecommunication operator which has the biggest market share in Indonesian telecommunication industry. Chatterbot owned by Telkomsel has five million followers in the Line Mobile Messenger. This new service is completing the previous Telkomsel's customer services such as website, mytelkomsel application, social media, call centre, and Grapari. By the easiness offered such as purchasing credit, checking the balance, exchanging the point Telkomsel, finding the nearest Grapari location and other information dealing with Telkomsel services, the virtual assistant or known as Veronika is hoped to give significant impact on Telkomsel customer services.

Regarding to the explanation above, the objectives of the study is tried to find out the differences of adoption process from generation X, millennial, and generation Z as well as describe each of the adopter category characteristics.

2. Research's method

Since the aims of the research are to obtain and describe the process of adopting innovation, hence the approach used is qualitative approach with case study method. The case study method is conducted by doing exploration deeply on the programs, event, process, and activity on individuals. Afterwards, the researcher conducts data collection in detail with several procedures in continuously (Creswell, 2007).

In finding the key informant, the researcher used purposive technique by directly choosing the relevant subject who is the Telkomsel customers. The characteristics used to determine the key informant is the Telkomsel customers in range 17-54 years old and using Chatterbot Veronika for long or short term.

Table 2. Informant Profile

Informant Code	Name	Sex	Age	Education
B1	Anita Amelia	Female	52 years old	Bachelor Degree
B2	Mutia Hadianti	Female	36 years old	Bachelor Degree
B3	Cindy Octoria	Female	37 years old	Senior High School
B4	Dwi Lestari	Female	35 years old	Bachelor Degree

M1	Christian Theoriska	Female	25 years old	Senior High School
M2	Rifa Amaliyah	Female	29 years old	Bachelor Degree
M3	Fajar Kurniawan	Male	31 years old	Bachelor Degree
M4	Iskandar Manabu	Male	33 years old	Bachelor Degree
Z1	Tri Agung Laksono	Male	19 years old	Senior High School
Z2	Ramdan Alfaridji	Male	19 years old	Senior High School
Z3	Muhammad Hendri Al fatah	Male	19 years old	Senior High School
Z4	Muhammad Adil	Male	17 years old	Senior High School

The information collection is performed using Focus Group Discussion technique toward 12 informants which fulfills the criteria above. In this case, the researcher divides the age range of informant based on generation grouping that are Generation Z, Millennial Generation, and Generation X with the amount of each informant are 4 people in each of the groups. The grouping is conducted in purpose to know the process of adopting innovation happened between each generation which has different age, characteristic, life experience, and its history.

Beside the Focus Group Discussion technique, this research is also used documentation in a form of journal articles, books, news from digital media as like social media and website.

Furthermore, the analysis data techniques used are segmentation, sorting data as well as rearranging the data. In this case, data is made into code, then collected into the same codes and being analyzed (Creswell, 2007).

3. Results and Discussion

3.1. Social System Characteristic

In analyzing the adopter character or informant, the researcher used three parameters, namely social economic status, personal value, and communication behavior. Talking about the social economic status, then it will have relation to the communication channel. The data resulted from FGD shows that most of the informants having accessibility toward communication channel in form of high mass media. The informants access the information dealing with the product and Telkomsel service through mytelkomsel application, social

media and Grapari. While talking about the economic motivation as the reason to use Telkomsel, all of the informants states that the price as problem since the price has been in accordance with the quality given by Telkomsel. Beside the access to the social media, either formal or informal education also becomes material analysis in assessing economic status of a person. 59% of informants are including as senior high school graduated, 41% are bachelor graduated. Therefore, it can be said that informants in this research are having middle up education level. In addition, sensitive pricing does not occurred in the informants indicates that the informants are in the middle up economic status and having wide mass media.

The personal values of the informants such as emphatic value, courage to take risk, and futuristic is also being analyzed. The data obtained from FGD reveals that all of the informants assess the Telkomsel customer services are considered to be good enough. The informants are also having courage in taking various risks. Some of the informants state that they tend to wait and see other people using the innovation. Meanwhile, other informants are easy to decide to use the innovation, but it is possible to them to discontinue when the innovation does not have benefit.

The last parameter in deciding the economic status of individual is futuristic value. Futuristic value here is defined as the way the informants believe in Chatterbot as application that can change the role of human in the future. Most of the informants do not believe in the value, since the Chatterbot does not successfully to solve the complaints. The response obtained is irrelevant and there is no emotional value as human being does.

The communication intention and informants participation are the two things that explaining communication behavior. Most of the informants acknowledge that they are rarely communicated with customer service or Telkomsel call center directly through phones or come to the Grapari. Even if the informants encounter problems, their first attempt is to find information through the mytelkomsel application, Telkomsel social media and browse through the internet. It can be implemented that the informants are merely calling Telkomsel when they encounter complex problems which need special handling. Meanwhile, in searching product information and services, the informants usually search through digital customer services.

It is also happened on the informants' communication participation toward event that held by Telkomsel. The data obtained from FGD shows the less participation of the informants. All of the informants acknowledge that they never following the event held by Telkomsel either offline or online since they never know about the information. However, the informants are willing to participate if they are being invited.

3.2. Innovation Characteristic

Innovation has five characteristics such as relative excellency, conformity, complexity, experiment and observation easiness (Rogers, 2003). The relative advantage relate with the satisfaction and beneficial of the innovation. As stated by the informants, Veronika has provided easiness, yet it still do not provide good performance compared with mytelkomsel as information provider and product purchasing transaction. Moreover, Veronika is also considered not better than Grapari as problem solver of complex problems.

The relative advantage is also measured from economic value. From FGD's result shows that most of the informants acknowledge Veronika has better economic value since it is provided freely and high accessibility. The data implies that informants have good assessment toward Veronika on economic aspect, while in the satisfaction and beneficial aspect, informants agree if the performance and benefit are not good enough compared to the other Telkomsel's customer services.

Another characteristic is conformity related to the innovation conformity toward norms and values in the social system. Informants state that Veronika establish in the right momentum when the government planning the 4.0 industrial revolution. Conformity can be assessed from necessary fulfillment, the result of FGD state that Veronika has not been able to meet customer service need. It is merely half of the needs that can be fulfilled by the Veronika such as informing promos and products, and acting as a virtual assistant. Based on the data, it is obtained that Veronika is having conformity characteristic with the value and norm that exist in Indonesia in which will enter the 4.0 era. But, the informants still do not believing on Veronika's performance and quality as problem solver.

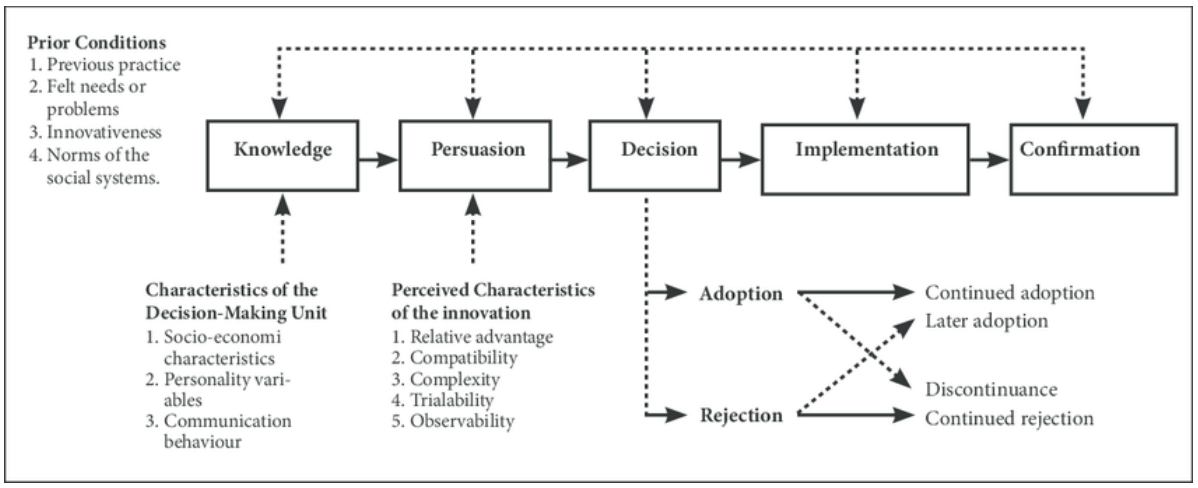
Experimental easiness is also considered as innovation character that will determine how fast the innovation to be accepted. The result of FGD shows that the older informants and having low knowledge toward communication channel are having difficulty in using Veronika. It is due to unfamiliarity of the informants on the Line application or even Chatterbot. Based on the data, it can be described that age factor and limit accessibility on communication channel become the reason behind the difficulty of informants while doing experimental innovation.

The easiness in observation is included as the last characteristic that will influence innovation to be accepted or not in social system. The result of FGD shows that most of the informants Veronika is easy to understand. The informants also do not have difficulty to re-inform about Veronika to other people.

The research result shows that three of five Veronika character namely complexity, easiness in used and observation is positively value by the informants. Meanwhile, the other two characters that are relative advantage and conformity still cause problem in FGD. In the relative advantage, the satisfaction aspect considered to be not able to meet the need of the informants and merely as virtual assistant, thus not able to solve complex problems.

3.3. The Adoption Process of Line Chatterbot Mobile Messenger Innovation as Customer Service

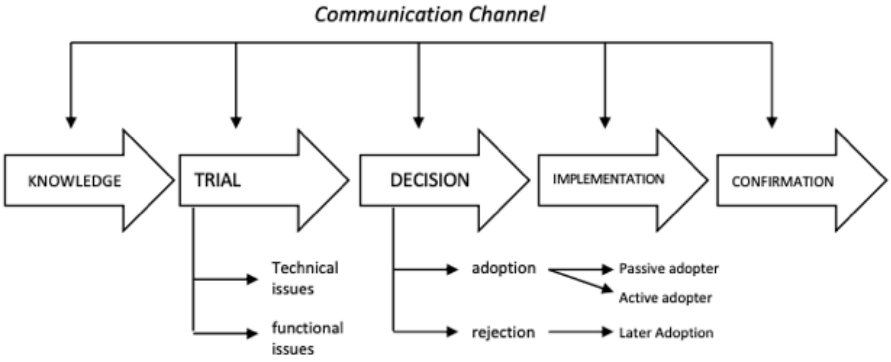
The adopter must go through a process until they can decide whether to adapt or not to adapt the innovation. There are five stages of decision innovation process that needed to pass before making a decision, namely; knowledge, persuasion, decision, implementation and confirmation (Rogers, 2003). This study analyze on how the adoption process passed by the informant as Telkomsel customer against Veronika.



Source: Roger, 2003

Figure 1. Decision Innovation Process

The result showed that there is discrepancy on the decision of adoption innovation stage which different with Rogers'. The discrepancy is seen in the process after the informant getting the early information. Some informant tend to do the trials without considering whether it is beneficial or not. They do not measuring or looking for other information from other sources. Moreover, the facility and free access when doing the trials, make them did not worry on the economic loss as if they found that Veronika give no benefit and satisfaction.



Source : Own Study

Figure 2. Decision Innovation Process based on the analysis result

The informant found either technical or functional problem during the trials which then create the perception toward the innovation. The technical problem that occurred including the use of features, the use of line application and the performance of Veronika which unable to response the whole vocabulary. While the functional problem is consisted of the role of Veronika which only functioned as the virtual assistant and the amount of Telkomsel customer service applications which need additional space in phone memory and internet data. However, this may lead to the economic problem.

Meanwhile, Rogers' defined the adopter perception on innovation is based on the characteristic of the innovation itself, such as relative advantage, compatibility, complexity, trial ability and observability. The data showed that the characteristic of relative advantage give benefit and satisfaction to the informant. While the characteristic of compatibility showed on how the innovation suit the value and norms of social system and the adopter's necessity, that is; the two characters on Veronika which still trouble the informant.

The other discrepancy is seen in the decision process as the analysis result found that when it comes to the decision to adopt, some informant are choosing to become passive adopter. They will keep using mytelkomsel as their main customer service application and using Veronika as the alternative solution. They will keep installing Veronika and make it silent, and use it while it is necessary. Because for them, mytelkomsel application had already have good performance.

Moreover this study did not show any discontinuance since the informant keep continue the adoption though they find obstacle in trials stage. Different with Rogers (2003) who claimed that there was discontinuance or stop adopting after deciding to make adoption before. The decision of adoption innovation or the speed of innovation is adopted by the

member of social system or known as rate of adoption. Rate of adoption is influenced by some factors, including innovation characteristic, decision innovation type, communication channel, nature of social system and the attempt which done by the change agent (Rogers, 2003). This study mentioned some factors that influence the informant to adopt Veronika, such as performance or innovation characteristic – a relative advantage in which Chatterbot rated as virtual assistant. Zarouali et al. (2018) found in her study who claimed that the main motivation that push user to use Chatterbot is the productivity factor, in which Chatterbot has role to help in accessing information. While the factor which influence the rejection on Veronika is the economic factor, that is the informant think that there are too many application used will need addition cost.

3.4. The Differentiation on Adoption Innovation Process by Generation Z, Millennial and Generation X.

In knowing the differentiation on adoption innovation process of Line Chatterbot Mobile Messenger as customer service which done by generation Z, millennial and generation X, the researchers did an analysis on some theme. The theme are consisted of passive or active information seeker, channel communication used, trust on received information, perception on innovation character, time dimension while deciding whether to adopt or reject the innovation, the usage problem, reinforcement and dissonance.

The result showed that millennial had skeptical attitude or tend to not believe on the information they got. Besides, they also had deficient abstraction value due to the fear in taking the risk to use the innovation, which for them, it had less advantages and satisfaction. This was in contrast with the characteristic of millennial stated by Amin & Rahmiati (2018) that should be desired to be leader, creative, dare to new change, life stability and dare to take risk. The skeptical attitude made the millennial become picker on innovation, especially the innovation on communication technology aspect such as android application and IOS. The critical attitude which stick on millennial also made them do crossing check to rate the quality of an innovation before deciding to adopt it.

Time dimension is the important element in adoption innovation process. The analysis on time dimension can be done in three situations; (1) the decision innovation process which passed by adopter since the first phase of knowledge until the decision toward the innovation, (2) the adopter innovation, and (3) the level of adoption innovation within the system, which refer to the total members in a social system who adopt the innovation in a certain time

(Rogers, 2003). Meanwhile, the result on focus group discussion showed that generation X tends to do the trials without confirming first on the information given by the change agent. The generation X also decided to adopt Veronika after the trials. This was also happen to generation Z in which the whole informant choose to adopt Veronika after getting information and doing the trials. Whereas the millennial showed different adoption process. They decided to use Veronika after making re-confirmation on early information they had received. Moreover, millennial also had two different adoption decision – two informant claimed they adopt Veronika, and the other two informant reject to adopt Veronika. Based on the data, if it is connected with the situation of decision innovation process and the level of adoption innovation, then generation X and Z were included in the early adopter category, while millennial included on later adopter category.

However, this result is in contrast with Richard's statement that said "innovation is the main stimulant variable which makes Indonesian's millennial accept Chatterbot as banking service" (Scheid et al., 2015). This meant that millennial tend to adopt the innovation of internet banking. Therefore, the critical and picker attitude owned by millennial are the reason why they become later adopter. They dare to take the risk by doing the trials without re-confirmation first on the early information, but when they found any disadvantages, they will do rejection.

Talking about the usage problem, generation X tend to have technical problem, while millennial and generation Z saw functional and economic as the obstacle. The problem felt by the informant did not prove that there is dissonance because of their decision in keep adopting Veronika.

3.5. Adopter Category

Every adopter in social system has different tendency in adopting against an innovation. Change agent has role to enhance adopter's innovation. Rogers (2003) stated that there are five categories based on the level of adaptor's innovation, namely; innovator, early adopter, early majority, late majority and laggards.

Table 3. The Category of Adopter Informant

INFORMANT CODE	GENDER	AGE	LAST EDUCATION	ADOPTER CATEGORY
B1	Woman	52 yr.	Bachelor	*early adopter*
B2	Woman	36 yr.	Bachelor	*early majority*

B3	Woman	37 yr.	High school	*early adopter*
B4	Woman	35 yr.	Bachelor	*early majority*
M1	Woman	25 yr.	High school	*early adopter*
M2	Woman	29 yr.	Bachelor	*Late majority*
M3	Man	31 yr.	Bachelor	*Late majority*
M4	Man	33 yr.	Bachelor	*innovator*
Z1	Man	19 yr.	High school	*early majority*
Z2	Man	19 yr.	High school	*early majority*
Z3	Man	19 yr.	High school	*early majority*
Z4	Man	17 yr.	High school	*early majority*

In analyzing the adopter category, the researcher needed to analyze on the characteristic of the adopter including the social economy status, personal character and communication behavior (Rogers, 2003). The analysis of adopter category was done to every informant not to the generation. Based on the previous explanation, it was known that millennial was included on the later adopter category since they have longer and huge amount of later adopter rather than two other generations. However, one of the millennial indicated in M4 code had characteristic that lead to the innovator characteristic as opinion leader within the social system. He also able to understand and accept the obstacle or uncertainty of the innovation which then recommend it to other people, he dares to take the risk by learning by doing on new things. The characteristic of M4 is similar to Rogers' statement in his book that, "the ability to understand and apply complex technical knowledge is also needed". Different with the other millennial, M4 likes to search for deep information related to the innovation and has high empathy. He likes to learn on new things and become the first to know, hence it makes him become the opinion leader within the social system. The deep understanding on innovation makes him know the strength and weakness from every innovation.

Speaking of formal education, Rogers (2003) stated that, "earlier adopter have more years of formal education than do later adopters". But table 3 above showed M1 and B3 that not yet finished their bachelor degree, were included on early adopter category. Therefore, it can be concluded that age or formal education cannot be the factor that push the informant to adopt or reject the innovation. This happen due to the easy access on information that open the opportunity for everyone who wanted to get information as many as they want, including the technology development. This also give people who were in formal education level to do

trials and use the innovation in communication as long as they have the tools – android smartphone or IOS.

Six other informants were included in the early majority category, including B2 and B1 (generation X), Z1, Z2, Z3 and Z4 (generation Z), who claimed that they already knew the existence of Veronika for a long time ago but they have been using it in the last few months. It happens since they tend to not use a new thing before someone else uses it first. As Rogers (2003) said that, "be not the first by which the new is tried, nor the last to lay the old aside". Generation Z who grew up while the technology is in its rapid development were not making them do the trials on Veronika since its first existence. They were also not trying to find a solution or sending a complaint while having a problem with connection lost. Furthermore, the age of generation Z who were still teenagers making them not put on priority to things related to telecommunication provider services.

Similar to the early majority, late majority tend to accept the innovation after some people adopted the innovation first. In this study, M2 and M3 are the millennial generation who were included in late majority category. These two informants had skeptical behavior against the existence of Veronika. They claimed that they will use Veronika after improvisation done toward the application. As what Rogers said, "Their relatively scarce resources mean that most of the uncertainty about new idea must be removed before the late majority feel that it is safe to adopt." (Rogers, 2003). However, some results are not suitable with late majority category concept by Rogers. Rogers stated that the formal education of late majority is lower than the earlier adopter. But the informants in this study are coming from bachelor degree and they decided to not adopt Veronika until the application improved. Another thing which not suitable with Rogers' concept is the tendency to accept new things around. The informant (M2) claimed that he do the trials on Veronika without considering and verification or looking for its complete information first. But he found some obstacle while trying the application, and decided not to adopt the application. It showed that M2 had characteristic as people who dare to take risk on an innovation, but when some obstacles appeared, he did not want to continue the adoption until it is refined.

Rogers (2003) stated that there is an opportunity in the appearance of discontinuance after decided to adopt, but this study did not showed any discontinuance. The informant keep continuing the adoption even they found some obstacles in trials phase.

Moreover, this study found new concept called passive adopter. It is showed that some informants choose to keep using mytelkomsel application as their main customer service application and use Veronika as the alternative. The informant rate mytelkomsel application

has better performance than Veronika. Another new concept is alternative solution in which appeared when the adopter decided to adopt innovation even if they rate the innovation as not giving satisfaction like the other innovations. They keep adopting it as alternative solution and use it when the other application had disruption.

4. Conclusion

The research has aim to find out the process of adopting innovation on Line Chatterbot Telkomsel as customer services. It is conducted start from the informant obtains information dealing with Line Chatterbot existence. Afterwards, doing assessment and find out the obstacles. After the technical and functional obstacles have been obtained, the customer will decide whether or not they adopt the innovation or not.

Further, if the customer decides to adopt, then the customer will implement Line Chatterbot. In implementation step, informant does not find the obstacles but they tend to need change agent support in providing further information on the used, development, and improvisation. The customers who choose to adopt, mostly do not decide to discontinue or reject the innovation.

The research also finds out that millennial generation tend to reject the innovation rather than to be the passive adopter. According to the millennial informant, the innovation does not provide benefits and good performance compared to the previous innovation. The decision is different from the two generations choses such as generation X and generation Z. Another difference occurred in the adopting innovation Line Chatterbot is the obstacle's used. The generation X mentions that the technical aspect is an obstacle while millennial and generation Z reveal that the functional and economical function are the obstacles.

The adopter categories which are suitable with the characters and process of adopting innovation are innovator, early adopter, early majority and late majority. One of the informants namely M4 who is millennial generation included into innovator category. The informant having opinion leader characteristic in social system, understandable, accepting the obstacle, recommend it to the others, and dare to take risk with learning by doing toward new things. Three informants who are B1, B3, and M1 include into early adopter category due to the well-accessibility toward mass communication channel, having well understanding about Veronika as well as Telkomsel's products or services, having role as opinion leader. Other

six informants namely B2, B4, Z1, Z2, Z3 and Z4 include into early majority category. They are having characteristic which is reluctant to apply new things before knowing the benefits. Meanwhile, two informants namely M2 and M3 who are millennial generation are including into late majority category. Both of them are having skeptical assessment toward Veronika.

5. Suggestion

The focus of this research is the process of adopting innovation related to the diffusion innovation theory and innovation decision concept by Rogers. In this case, the researcher is presented with the existing theory and concept using case study method. Therefore, for the further researcher who is willing to the process of adopting innovation is hoped to be able to use another method as like grounded theory. The collecting data technique used in this research is Focus Group Discussion (FGD), it is hoped that another research will use another collection data technique using observation.

The focus of the research are the process of adopting innovation, the difference of adopting innovation process between generation X, millennial and generation Z, as well as each adopter category's characteristics. Even the result of research has been revealed that other elements such as innovation characteristic, time and communication channel, it is hoped that further research will make these three elements as their research's focus.

References

Amin, G., & Rahmiati, F. (2018). Organizational Commitment Generasi X dan Y di Industri Manufaktur. *J-IKA, 5*(2).

Creswell, J. W. (2007). Qualitative Inquiry & Research Design. In *Sage Publications, Inc.* https://doi.org/10.1111/1467-9299.00177

Heo, M., & Lee, K. J. (2018). Chatbot as a New Business Communication Tool: The Case of Naver TalkTalk. *Business Communication Research and Practice*. https://doi.org/10.22682/bcrp.2018.1.1.41

Hill, J., Randolph Ford, W., & Farreras, I. G. (2015). Real conversations with artificial intelligence: A comparison between human-human online conversations and human-

chatbot conversations. *Computers in Human Behavior*. https://doi.org/10.1016/j.chb.2015.02.026

Rogers, E. M. (2003). Diffusion of Innovations, Fifth Edition. In *Social Networks*.

Scheid, R. F., Visintin, L., Oliveira, A. C. A. de, & Gomes, M. S. (2015). Proposta de um chatterbot para o auxílio a informações sobre distúrbios do sono. *Revista E-Tech: Tecnologias Para Competitividade Industrial - ISSN - 1983-1838*. https://doi.org/10.18624/e-tech.v8i1.471

Statistik, B. P. (2018). Statistik Gender Tematik: Profil Generasi Milenial Indonesia. *Kementerian Pemberdayaan Perempuan Dan Perlindungan Anak*.

Tim APJII. (2018). BULETINAPJIIEDISI22Maret2018.pdf. *APJII*.

Van Eeuwen, M. (2017). Mobile conversational commerce: messenger chatbots as the next interface between businesses and consumers. *University of Twente*.

Xu, A., Liu, Z., Guo, Y., Sinha, V., & Akkiraju, R. (2017). A new chatbot for customer service on social media. *Conference on Human Factors in Computing Systems - Proceedings*. https://doi.org/10.1145/3025453.3025496

Zarouali, B., Van Den Broeck, E., Walrave, M., & Poels, K. (2018). Predicting Consumer Responses to a Chatbot on Facebook. *Cyberpsychology, Behavior, and Social Networking*. https://doi.org/10.1089/cyber.2017.0518

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