Utilization of Chatbot in Transaction Business Process

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Abstract. The purpose of this study is to find out how the use of chatbots is a factor in product sales growth. For example, the use of chatbots as a substitute for customer service. This research method was collecting data based on several survey results from various reliable sources. The results of this study are expected to provide enlightenment for business people about the importance of making innovations and utilizing this chatbot in selling their products. By using this chatbot system, business owners no longer need to use the services of third parties or recruit new employees, so as not to incur new expenses. The use of this system may only be complementary, but the impact can be very large because with chatbot customer service does not need to be on standby for 24 hours, with chatbot customers can be served anytime and anywhere.

1. Introduction

Today, companies use their websites to promote their businesses and sell their products directly. This method is not only used by companies but also by individual sellers. Marketing products through the website are considered more efficient because of e-commerce websites' growth such as eBay. Companies would not want to lose their grip on the online market because of its practicability and potential. Therefore, marketing through a website worth more than try to compete. Marketing becomes the leading force in a competitive business environment because it requires points that are responsive to the needs of customers. As a result, customers opposing a certain level of interaction on the company's website are released from the nature of the company and its services [1]. To offset this economic growth, more workers are needed to serve all consumers. Thus, it takes a high cost to pay workers' wages. Thus, the act of technology as an alternative to reduce costs is deemed necessary. Technopreneurship (Technological Entrepreneurship), is a part of entrepreneurship that emphasizes technological factors namely technical capabilities and knowledge in business processes [2]. Fortunately, we are currently able to enjoy and take advantage of various technological advances available, one of which is Chatbot. A chatbot is one of the latest technologies that can change the way we conduct traditional conversations. A chatbot is a service that is supported by rules and policies that are supported by us. Services can consist of everything from functional to fun and can live on any original chat product [3]. Besides, Kowalski wrote that "Chatbots can play a useful role for educational purposes because they are an interactive mechanism as compared to traditional e-learning systems. Students can continually interact with the bot by asking questions related to a specific field" [4]. Thus, the presence of chat allows us to have customer service for our company with minimum supply.

Some research on chatbot has been done, one of which is the research conducted by Ayu Amalia and Mohammad Sani Suprayogi on "Social Media Chatbots for Collaborated Engagement Marketing". The conducted research explained how to implement chatbot in the customer engagement process as part of collaborated engagement marketing, the study was a collaboration between Danone AQUA by utilizing Facebook and Twitter social media platforms. The ultimate goal is to create and maintain loyal customers to increase their sales, the strategy is that AQUA consumers who use Go-Jek application users have a chance to get additional free Go-Pay balances, this was also done collaboratively by appointing self-service franchises namely Alfamart and Indomaret to become sales agents [5]. Also, there is also research conducted by Salto Martínez Rodrigo and Jacques García Fausto Abraham about "Development and Implementation of a Chatbot in a Social Network". In their study, they explained how to implement chatbots on the Twitter social media platform for entertainment and viral advertising using a simple database and algorithm. According to them, to succeed in achieving a chatbot, many factors must be considered [6]. It is crucial to continuously monitor the operations that are running from the beginning and improve it if deemed necessary. Besides, the database must also be updated continually to add new terms, keywords, and/or more accurate answers to people who interact with bots. This is done so that we can create a time limit for interacting with bots [7].

Besides, this study aims to find out how to use a chatbot can be a factor driving sales growth on a product. The difference between the two previous studies in this study further explains what companies are using chatbot technology, the advantages and disadvantages of using a chatbot, and how to start using a chatbot. This research method was collecting data based on several survey results from various reliable sources.

2. Method

This research uses the qualitative descriptive method, namely by observation through various websites and applications to find what companies have used this technology. This research also providing and describing the overview of the use of chatbots as a factor that drives productivity growth.

3. Results and Discussion

There are several points to be discussed:
- Examples of products/companies that have used chatbot technology.
- The advantages and disadvantages of using a chatbot.
- Utilization of chatbots in a product as a medium for providing information.
a. Examples of user products/companies

The author has conducted research to find several products in which there is chatbot technology, here are the selected products.
- AirAsia Official Site

According to Figure 1, there is a screenshot in the form of a recorded conversation between a customer and a chatbot belonging to the AirAsia flight service company named AVA. In the recording, a chatbot is useful as a customer service that is used to serve customers who are buying tickets. There are various kinds of services provided by this chatbot, starting from offering different types of promotions, ordering airplane tickets, changing flight schedule services, purchasing food, refunding, checking flight status, etc.
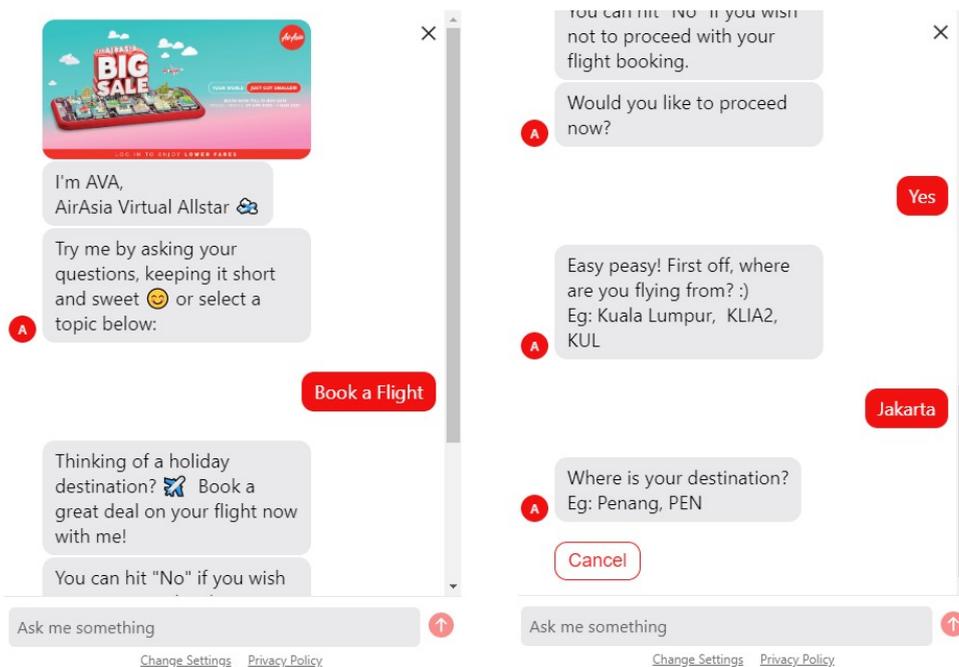
Figure 1. Records of AVA chatbot conversations with customers

- Niagahoster.id Official Site

Figure 2 below contains a screenshot of a recorded conversation between a customer and a customer service hosting Service Company named Niagahoster.com. In this recording, the use of chatbot has a slight difference with the product in Figure 1, because this chatbot will only appear when customer service is not available/offline. Therefore, the use of chatbot on this product tends to be a temporary replacement for customer service.
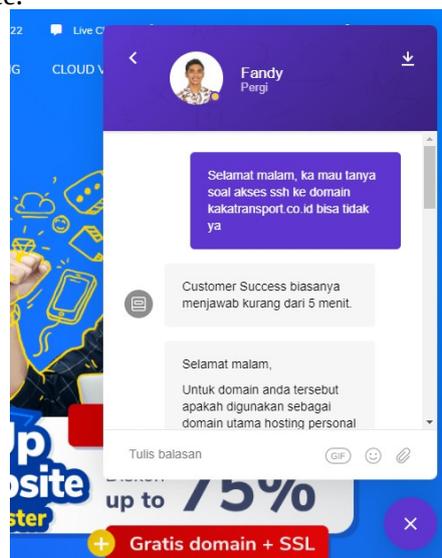

Figure 2. Records of Customer Conversations with Niagahoster Customer Service

- GRAB Mobile Application

Before we continue, GRAB is a startup company that innovates in transportation such as UBER. In Indonesia itself, GRAB has opened various services such as GRAB Car (online taxi service), GRAB Bike (online motorcycle taxi service), GRAB Food (online food ordering service), etc. Figure 3 displayed a screenshot in the form of recorded customer conversations with bots as well as GRAB

drivers. Records of these conversations occur when customers use online food ordering services (GRAB Food). Unlike Figure 1 and Figure 2, in this recording chatbot does not act as customer service, but instead acts as a provider of order status information.

Figure 3. Record customer conversations with a GRAB chatbot

The point is that all activities carried out by the driver during the food ordering process will be automatically informed by the bot to the customer through the conversation menu. Thus, customers can find out whether the order has been followed up or not. Apart from that, the chatbot also becomes an automatic translator. When the application is used by customers from other countries, the customer will still understand in continuing the process.

Judging from the examples above, it can be said that chatbot itself has various types, depending on the needs of the company. At least an application can be said to be chatbot if there are processes as listed in the following Figure 4 diagram.
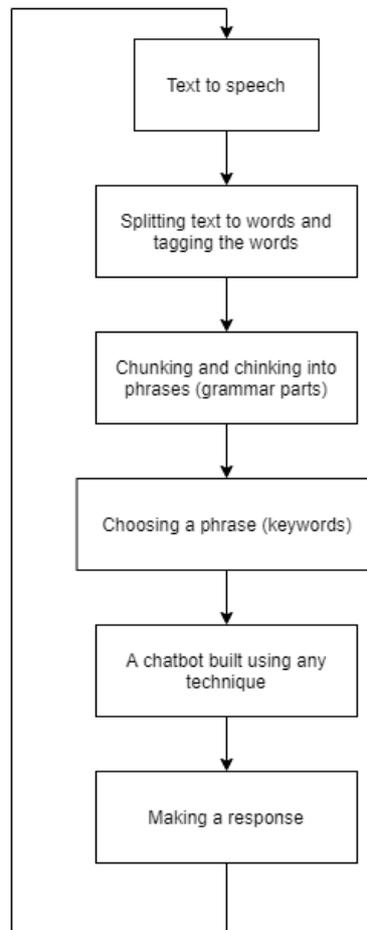
Figure 4. A diagram of the stages of the chatbot process in giving user feedback [7].

b. Advantages and Disadvantages

Each technology certainly has advantages and disadvantages, both tend to be better or worse. As for the chatbot technology, according to the three previous products that have been studied, several points regarding the advantages and disadvantages of using a chatbot can be compiled. Here are the advantages and disadvantages.

• Advantages
  - Cost-effective. The use of chatbots as customer service can reduce the cost of customer service wages in general. Because the cost of making a chatbot is only paid once, the rest is just maintenance costs that are needed to be continued.
  - Answers that are consistent with all the interlocutors. With the chatbot, we can make all the rules to answer, for example, if the other person is talking to the word "Hello" and we set the chatbot to answer with "Hello, can I help you?", the chatbot will always be consistent with this rule unless we do changes to the rules.
  - Minimize customer waiting time. Customers can interact with chatbots wherever and whenever.
  - Always on standby. This is because the program is embedded in a server, this program can be accessed for 24 hours and does not depend on the presence or absence of guards like customer service in general.
  - Fast response. With chatbot, customers do not need to wait to ask questions, chatbot can interact with many customers at the same time and respond directly.

• Disadvantages

- Turning off the role of customer service. With the chatbot, customer service work will be reduced because the work, or part of the work, can be done by the chatbot.
- It cannot answer all customer complaints. All answers given by chatbot are rules that have been previously set. Therefore, if customers ask about complaints that the rules have never been set, the chatbot would not have answers to these questions. Thus, it is necessary to update the data on the chatbot to be able to answer as many types of questions as possible.
- Limited by server capabilities. The ability of the server greatly affects the chatbot, because when many customers access the same chatbot at the same time server overload errors will occur if the server has a small capacity. That is a condition where the server cannot follow up on requests from customers because the process is running beyond the capabilities of the server.
- Sometimes the response given is not as desired. The example is in Figure 5 below, chatbot sometimes cannot translate traditional language properly. Thus, the given answer cannot be understood.
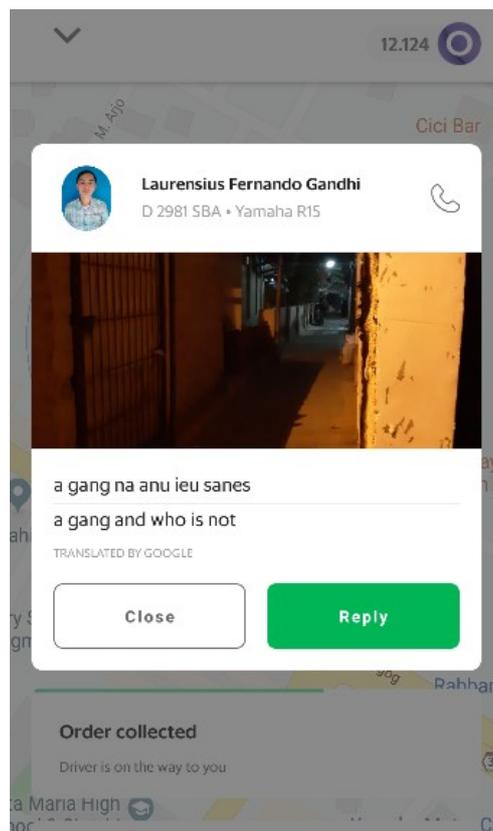

Figure 5. Record conversations with incorrect translations supported by chatbots

c. Utilization of Chatbot

In this section, the author will explain how to get started using a chatbot. To beginning utilize a chatbot, several categories need to be known according to "Programming challenges of Chatbot: Current and Future Perspective" research [8]:

- Non-programming chatbot
  It is a necessary type of chatbot. This type can be easily developed without having any strong programming skills. Many platforms provide this chatbot service, such as Chatfuel, ManyChat, and Motion.ai.
- Conversational-oriented-chatbots

This category allows users to communicate with bots more proactively. This platform uses specification languages such as AIML (Artificial Intelligence Markup Language) which are used to model user interactions.

- The Big Company Chatbot
Several large companies provide services to users to create chatbots easily. These large companies include Google which develops Api.ai, Facebook which develops Wit.ai, and Microsoft which develops LUIS, Amazon which develops Lex, and IBM which develops Watson.

After knowing which category to choose, consider the following points to build a chatbot according to "A Procedure for Studying Online Conversational Processing using a Chatbot" [9] below.

- Speech-to-Text Conversion.
- Natural Language Processing.
- Response Generation.
- Knowledge Base Creation.
- Dialogue Management.
- Text to Speech

Finally, remember that integrated systems play an essential role in various fields of customer service. It is complicated for customers to understand the system easily without any guidelines. The chatbot provides services as a guideline [10]. The point is don't make our chatbot a complicated chatbot, make it as simple as possible so that customers can easily understand it.

4. Conclusion

The research concluded that the use of chatbots today may be needed to encourage productivity growth. Because the majority of online shoppers today prefer a product that is sold in a place that has a reputation for rapid response. Of course, ordinary people cannot respond to all customers quickly for 24 hours, it takes a technology that can handle it, and that technology is Chatbot. With the previous discussion, it is hoped that readers will not only get information about how useful chatbots are but also find tips for starting to use chatbots.

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