

Development of Information Management Platform to Improve the Effectiveness and Efficiency of Agents Performance: A Case Study Approach

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Abstract. The purpose of this research is to develop the features in the information management platform (Sociomile) and how to make it easier for users to respond of tickets (complaints and feedback) from consumers. The data collection for this research used direct interviews with users and modeling used the several diagrams to visualize the features on the Sociomile platform. The results of this research are to add and develop features in the Sociomile platform such as Channel, Chatbot, Broadcast, and Export Key Performance Indicator and Reporting. This new platform will create users easier and efficient using the features on Sociomile platform and it will give the impact on the speed and information accuracy for providing responses to consumers.

Keywords: Information Management, System, Customer Knowledge, Social Media

1 Introduction

The organization need to adaptive for the complexity change of business environment, so the organization need to focus on data, information and knowledge management to support their business decision making (Arefin et al., 2018; Farzaneh et al., 2018; Abualloush et al., 2017; Chien et al., 2015). Now The organization need to focus also on intangible resources in their organization, example related with the technology development especially in data collection and analysis (Obeidat et al., 2017). They have to use this data, information, and knowledge to improve their performance (Abualloush et al., 2018). The information and knowledge can help the organization to create the idea and creativity to improve their services also (Chien et al., 2015, Masa'deh, 2016). Information and Knowledge management can help the employee in the organization to improve their capabilities by doing knowledge man-

agement cycle activities (Al-Shanti, 2017). The organization need to focus also on information and knowledge conversion process to increase the explicit knowledge (Ranjbarfard et al., 2014; Baldé et al., 2018). The other things are the information and knowledge sharing, that will increase the capabilities of organization to generate the new knowledge.

In this research project we focus on the case on XYZ Company. XYZ is a company engaged for providing services to help the Customer Service or commonly called Agents. Now XYZ has an omnichannel customer care tool platform or called Sociomile to record the knowledge from customer side. This platform has been operating since July 2017, the functions are to respond the questions, complaints, and also feedback submitted by consumers through social media. When everything is digital, all of these activities can be done by consumers directly via accessing the social media. Therefore, XYZ introduces this platform as a place for complaints and customer service carried out on that social media. The Sociomile platform will help Agents for responding to consumer questions.

So far, Sociomile already has several clients from various companies in Indonesia. Sociomile offers several features, firstly Multi Channel for managing all social media channels in one platform, secondly Multi Agent as one dashboard that can be accessed and managed by various Agents, third Ticketing System, so each customer feedback can be managed better and structured, the fourth is Key Performance Indicator (KPI) & Reporting, it will help to generate report in real time. These features are able to streamline the performance of Agents of every company that has many consumer services channels or what is commonly called Channel on social media such as Facebook, email, Twitter, VoIP, and so on. So later it can be accessed in one dashboard without open the Channel one by one. This feature makes it the Agents easy to serve every consumer through the multi-channel live chat feature in fast and instant way. So, every consumer can get immediate answers real time. Agents itself is divided into two categories namely, Agents from the client which will be given access or privilege and training to use of the Sociomile and Agents (Outsourcing) platforms provided by XYZ. In this case the authors give a proposal for developing features on the subject which are fifteen Agents Outsourcing working for two companies namely A and B, where they are internal users for the pilot projects of the proposed development on this Sociomile platform.

There are obstacles experienced by Agents who use the Sociomile platform, especially on the Multi Channel and Ticketing System features, when the Agents receive complaints or feedback submitted by consumers have the similar statement, so Agents must provide repeated responses and make less efficient in time and performance of the Agents themselves. Based on this indication problems that we get from initial interview, then we came with the idea to develop this existing platform in accordance with Agents' requirement. The goal of this research project is to proposed development of sociomile platform to provide convenience and efficiency performance of Agents for handling every complaint and consumer feedback through this Sociomile platform. The following is the scope of project development:

1. Evaluating the Sociomile platform including features on the Sociomile platform such as Multi Channel, Ticketing System and KPI & Reporting.
2. Collecting data from fifteen Agents Outsourcing and one Supervisor under the auspices of XYZ which manages customer service at two companies.

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3. Propose development of features on the Sociomile platform.
4. Conducting development proposals with simulations in the form of user interfaces on features proposed for development.

2 Methodology

This type of research consists of two methodologies namely data collection and development methods as follows:

1. Data Collection Methods

- Observation: The author makes observations directly to the object of research to take a close look at the activities carried out at XYZ.
- Interview: The author collects data with unilateral questions and answers conducted systematically and based on the research objectives.
- Literature Study: The author collects data sourced from various books and journals.

2. Development Method

Agile method: The role of humans or teams in an agile development that will affect the development of software. And in from this case we can engage to all the team member (users) in XYZ to contribute the project development, start from identification of problems until give the solution. With this method, we hope that developed features is useful for them.

3 Results and Discussions

The Previous System

The company's business processes on the Sociomile platform that can be accessed with two actors namely, the Head of Omnichannel Call Center (Supervisor) and Agent (Customer Service). The following are features that can be accessed by both actors.

Table 1. Privilege on Sociomile Platform.

No.	Features	Supervisor	Agent
1.	Multi Agent	√	-
2.	Multi Channel	√	-
3.	Ticketing System	√	√

4.	KPI & Reporting	√	√
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In table 1, is an overview of access rights on the Sociomile platform. The supervisors can access all available features such as Ticketing System, Multichannel, Multi Agent and KPI & Reporting Features. And the Agent, can only access Ticketing System and KPI & Reporting features.

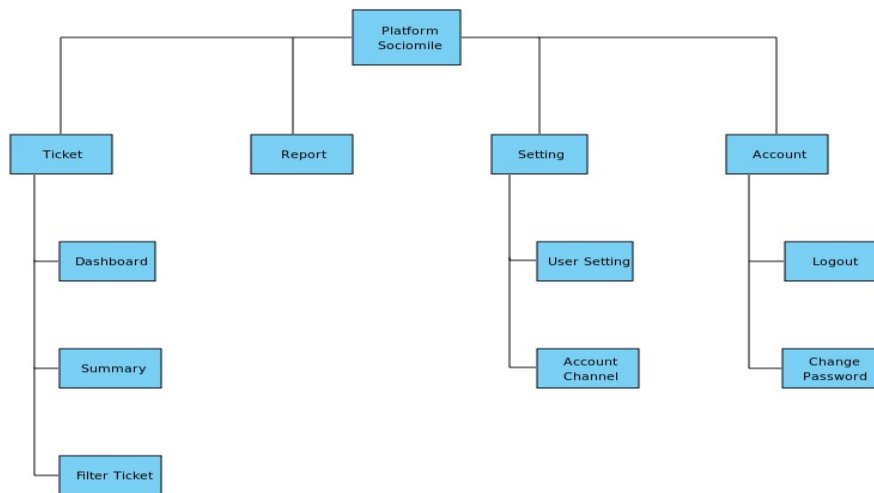


Figure 1. Sitemap from Supervisor View.

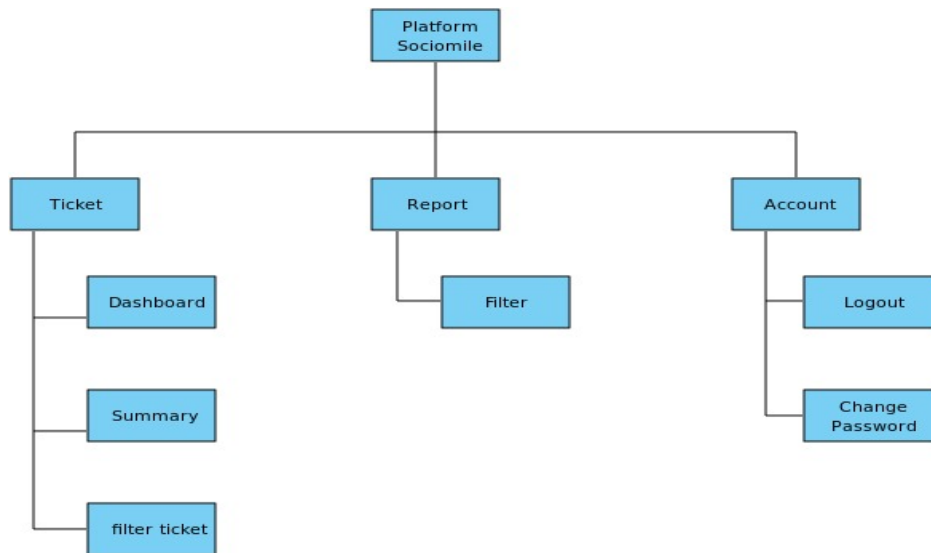


Figure 2. Sitemap from Agents View.

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Figures 1 and 2 are the sitemap of the Supervisor and Agents view, it shows the mapping of features in the Sociomile platform. The figure above becomes a reference as an illustration of the proposed feature development. The table below is the summary of interview results from 16 agents (included the head) as respondents for this research project.

Table 2. The Summarize of Interview from Supervisor and Agents.

Interview Results		
Indicators	Problems	Solutions
Usability	<ul style="list-style-type: none"> • The number of tickets that enter from consumers, which has an impact on the performance of the Agents for providing responses (time consuming) • The incoming ticket from the consumer contains statement of complaint and feedback. 	The new chatbot feature, so the Agents no longer need to reply to tickets from consumers who have the basic or similar questions.
Quality of Information	-	-
Quality of Interaction	Agents have difficulty when they want to spread information, e.g. the promotional program to consumers through the ticketing feature.	The addition of broadcast features in the ticketing system. This broadcast feature can post to all channels and consumers
	Supervisors problems related the limitation to access the KPI or performance from agents	The addition of Export to the KPI & Reporting feature, so the Supervisor can export Agent performance results in the pdf files format.

Based on the results of interviews from indications of problems that occur on the Sociomile platform, the authors propose the problem solving, following the proposed problem solving that the authors will do:

1. Propose improvements to the Multi Agent system.
2. Proposed development of the Multichannel feature, such as WhatsApp, Snapchat, Wechat, and others.
3. The Sociomile Platform requires development specifically in the Ticketing System features, which are:
 - A. Chatbot feature, because when Agents receive complaints or feedback

submitted by consumers has the similar statement, so Agents have to provide responses repeatedly and make less efficient.

- B. Broadcast feature, which is useful as ticket distribution to all channels on the Sociomile platform.
- 4. The need for additional export reporting features performed by the Supervisor, so that KPI & Reporting data can be exported by Sociomile management and client management.

The New System (Developed)

Following are the results of the Use Case Diagram (Figure 3) as proposed development on the Sociomile platform related to the problem.

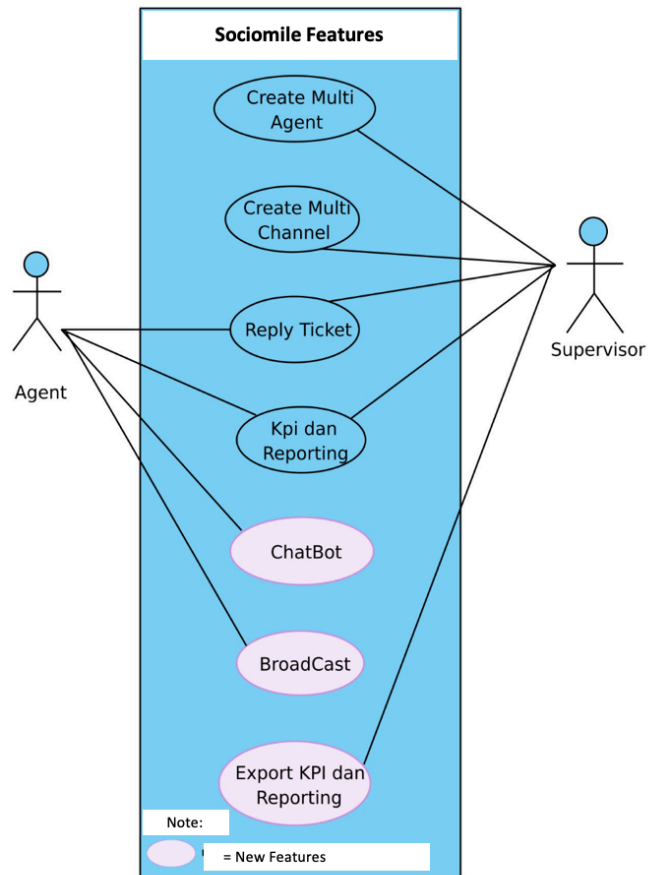


Figure 3. Use Case Diagram for the New Sociomile Platform.

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From that use case diagram we can see the several things that were improved for the development of this system are:

- Designing the addition of the chatbot feature, because when Agents receive complaints or feedback submitted by consumers has the similar statement, so Agents must provide repeated responses.
- Added broadcast feature, which is useful as ticket distribution to all channels on the Sociomile platform.
- The need for additional export reporting features performed by the Supervisor, so that KPI & Reporting data can be exported and received by Sociomile management and client management.

The proposed addition of chatbot refers to the problem that has been proposed for its development. The chatbot on the ticketing system feature has a role to assist the Agent for handling the incoming tickets related complaints or feedback submitted by consumers having the similar problems or questions, so the Agents have to provide repeated responses and consume a lot of time, so it will give the impact to the performance of the Agents (less efficient). With the proposed chatbot, the agents can connect the chatbots to the channels that are in accordance with Agents' needs for handling the incoming tickets. If the channel has been connected to chatbot then every statement or feedback that is categorized in the same way will be automatically responded by chatbot with related answers to the statement or feedback, so the Agents only need to see or monitor without having to reply the ticket. Each statement that enters to the ticketing system feature was identified by the chatbot which can be responded by adjusting or matching each keyword or words from the statement with the chatbot database.

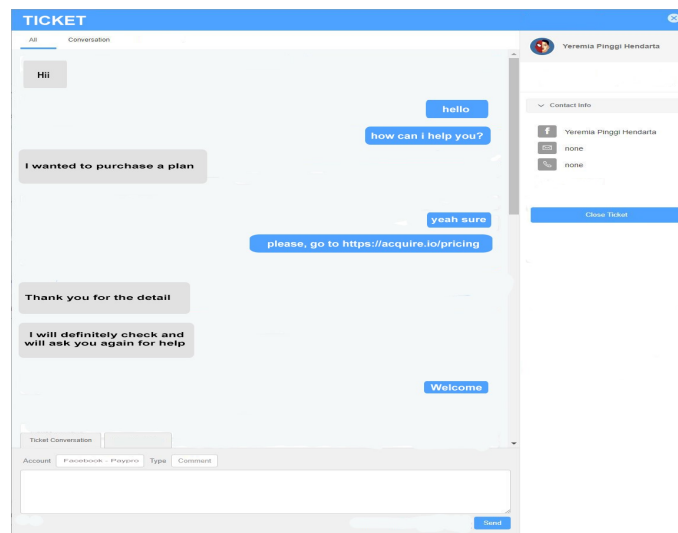


Figure 4. Chatbot User Interface.

The Figure above is a display of the new chatbot feature, there is a communication that has been initiated by the consumer by giving a statement (complaints and feedback from consumers), When every conversation that started with the similar question can be answered by a bot without need the manual response given by the Agent.

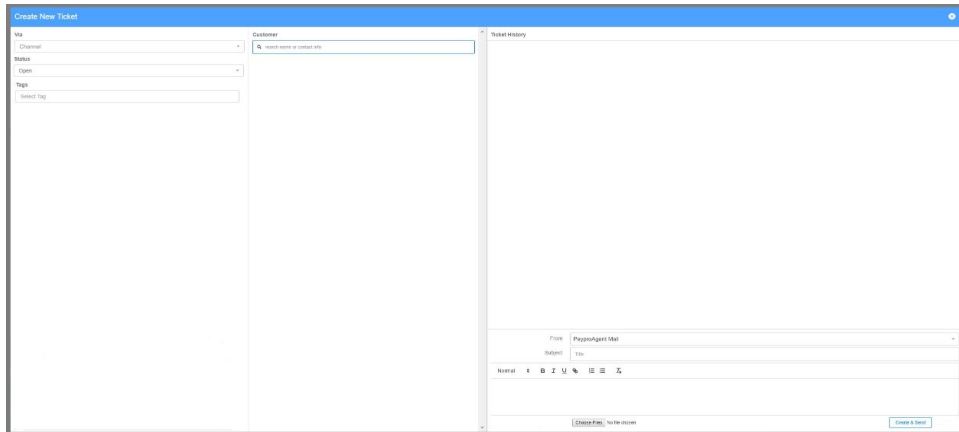


Figure 5. Broadcast User Interface.

From this broadcast feature above, each user will have an access rights as an additional menu to send broadcast messages to all consumers on connected channels, it will make the agent easy to provide information without having to send information or messages to consumers one by one. This proposed addition of broadcasts refers to the ticketing system features that have been proposed.

Date	Agent	Total Tickets	Total Closed Tickets
2019-01-25	Admin	0	0
2019-01-25	Agent 60	0	0
2019-01-25	Agent 71	0	0
2019-01-25	Agent Dua	0	0
2019-01-25	Supervisor 2	0	0
2019-01-25	Supervisor 5	0	0
2019-01-25	Supervisor Disputasi	0	0
2019-01-24	Admin	0	0

Figure 6. The Export Reporting User Interface.

When the KPI & Reporting data has been processed by the system, the supervisor can fill in the comments on this report via this system. Then the Supervisor can download and print from the export function to the PDF file format.

4 Conclusion

Based on the results of the proposed development obtained from observational data and interviews with the Sociomile user platform, the authors can conclude as follows:

1. With the proposed addition of chatbot on the Sociomile platform, it can facilitate the Agent's performance on the ticketing system feature for the efficiency of handling tickets or complaints from consumers, when every statement of complaints and feedback that is similar and repeated can be responded to directly by chatbot automatically.
2. With the proposed addition of Broadcast feature, the Agent can send a message or post of information to consumers via many channels at the same time which can contain promotional media or information.
3. With the proposed addition of Export feature, it makes easier for the management involved to obtaining KPI results and Reporting related Agents performance based on data and Agents performance results within a certain time that have been automatically processed and evaluated by Supervisors.

The next steps, we will focus to evaluate this new feature for capturing more the knowledge from all agents in the company. The lesson learned from this case, we have to focus on automation or digitalize all the process that possible for several business processes in the company, we start to identify possibility of human error and inconsistency services or knowledge for each agent in the company. And don't forget we have to involve all employee in the development phase of this system, it's very important to increase the level of user acceptance related the changes. So next our system will make a real and optimal contribution in the company.

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