

CHAPTER 1

INTRODUCTION

1.1. Background

The revenue in the Indonesian e-commerce market is projected to reach US\$30,260 million at the end of 2020, with total users of 138.1 million ("eCommerce - Indonesia | Statista Market Forecast", 2020). This figure will continuously grow more significantly until the latest predicted year in 2024. Indonesia's e-commerce retail sales in 2024 are predicted by Statista to reach US\$53,658 billion, with e-commerce buyers reaching up to 208.5 million people. As the growth of e-commerce is flourishing, it encourages the emergence of courier services that leads them to a fierce competition between the parties involved. Competitors start to offer better marketing strategies that tantalize customers. The emerging competitors start to provide better services to compete against and win over the pioneers ranging from the focus strategy in courier time, package safety, and features to cost leadership strategy.

To maintain the position and win the competition, it is important for the courier service's company to provide service quality as relevant as possible with the customers' needs, wants, and expectations. The service operation, process, and outcome of the business should satisfy the customers' needs, wants, and expectations. Company's ability to connect the business with the customers becomes a vital parameter for the courier service industry's success in maintaining or climbing their position as the leader of the courier service market share. But, in reality, company seems to having a hard time understanding the customer, this statement is proved by the existence of customer problem and/or complaints that are available on the customer service platforms.

Since the symptom for process improvement exists, business process improvement is the method needed to be implemented. Implementing business process improvement enables the coverage of constant customer opinion monitoring until improvement and control processes that support the whole processes needed for service quality improvement to increase customer satisfaction. The first step of the business process improvement method is problem formulation as project input. It covers the process of understanding the customers' needs, wants, and expectations from the service and the problem existing in the system seeing from the customer perspective. This step becomes the critical factor

since it will determine the effectiveness of the improvement to satisfy the customer's needs or solve the existing problem.

Voice of Customer (VOC) in the form of customer feedback is the data that can be used to determine the improvement type of the business. In collecting this data, both primary and secondary data collection are appropriate. Primary data collection from customer interview, survey, to focus group are more commonly used as the VOC data collection method since it can give more accurate data and the data gathered is more controllable. But as the growth of big data, secondary data collection such as social media monitoring and social listening also can provide insightful data and even perform better than primary data collection.

Secondary data collection will be resulting less time and cost consumption than primary data collection while still enable continuous data collection which important since customers' needs, wants, and expectations are constantly changing. With continuous secondary data collection, business can keep up with the latest customers' needs, wants, and expectations while reducing intricate processes, time, and cost. Secondary data collection which enabling vast data to be collected also gives more benefit. The open feedback enables the discovery of hidden insight since there is no boundary in the question asked which can be impactful to the business improvement made.

The secondary feedback data can be drawn from comments after service is given or when the customer faces a problem when the service is being delivered (in the form of complaint, criticism, suggestions, and appreciation) available on the used platforms. The usage of social media data is preferred rather than on customer service platform as shown in the research done by Jay (2020) who stated that "1 in 3 individuals prefers using social media for customer care than phone calls or emails." Twitter data is the most preferred data used for customer feedback analysis in social media since the customer's engagement with the brand through the brand's customer service account is increasing 250% for the past two years (Valdina, 2017). Twitter social media data allow customer feedback analysis to study a bigger quantity of data compared to hotline, email or the company customer care platforms, allowing the business to gather various insights related to customers' needs, wants, and expectations.

Since every tweet or any social media data is in the form of text, the content inside consists of meaningful data but not yet organized in a pre-defined manner. With

this characteristic, this data fall into the unstructured data category. However, as stated by Kulkarni (2019), 95% of businesses still need to manage unstructured data. Most businesses that already adopt big data analytics still have a problem managing unstructured data types. A business that adopts big data analytics mostly implements it on the business operations or processes since the data is generated mostly in a structured method that has defined data model, format, structure; displayed in row and column format. The example of big data analytics in most courier businesses is only to support the logistic and other operational system. The example of the implementation can be seen from JNE that adopts Oracle's autonomous data warehouse system to cut their courier time and Pos Indonesia that develops big data analytics to create credit scoring to boost financial inclusion for rural area.

Business like courier companies that frequently use social media platforms (especially Twitter) to connect with the customer only employ the platform to support the service provided while delivering the outcome. The company handles incoming complaint/comment data using only customer care standard operating procedure (SOP) or short-term problem-solving. Further tweet data observation and analysis, which can be valuable to understand customer opinion related to the service given, is not yet implemented. This lack of twitter data utilization prevents the business from understanding the gap between customer satisfaction and service. The inability to understand the gap restricts the business from doing continuous improvement (long-term problem-solving), letting the same problem get into the system repeatedly, causing the business to run inefficiently, allowing customer loyalty reduction.

In order to overcome this problem lying in the business, an immediate implementation of managing and analyzing unstructured data from Twitter is necessary since the unstructured data from customer comments in social media platforms actually can be insightful to the business. Therefore, this research will focus on implementing text mining method on unstructured Twitter data for business improvement in the courier service industry. With text mining, critical information related to the business operations, processes, and outcome based on the customer perspective can be drawn as business, market, and competitive insights.

The objective of the proposed text mining implementation is to become the supporting tool that helps the creation of problem formulation more effectively and efficiently by semi-automatic VOC clarification. With text mining methodology and data that exist in the industry that supports the method implementation, text mining can extract information from the customer side. This method can effectively help define the genuine problems that reflect customers' needs, wants, and expectations more effectively than other traditional methods. With the specification results of VOC, which are broad and complex, the CTQ tree is also proposed to aid the creation of insight in a more comprehensive version that the reader can easily understand. CTQ tree can transform the VOC into a more detailed requirement that easily to be measured/quantitative.

By applying this method, the business and its top-rank management can develop and implement appropriate and effective strategic management and/or process improvement in an efficient way that will support the continuous business process or operational improvement. In addition, business process improvement allows the company to implement long-term problem-solving. Long-term problem-solving reduces the same customer complaint category entering the system, creates an efficient increase in the business and reduces the gap of customer satisfaction level towards service provided, which enables their business to fully connect with the customer value.

1.2. Problem Formulation

According to the explanation of the background above, the problem that can be formulated for this research is that the company wants to create improvement to compete against today's competition. However, they do not know which aspect needs to be improved as the initial of the business improvement.

1.3. Research Objective

The objective of this research is to provide insights in the form of service quality aspects that need to be improved by utilizing technological developments and data developments. The study discusses how customer feedback can be obtained through social media to create insight using text mining to scrap and process unstructured secondary data and CTQ as the analysis tool. This method is used as another way of gain customer feedback for the input of business improvement that is more efficient and effective than traditional methods.

1.4. Scope of Problem

The limitations of this research are:

- a. data scraped is limited to request usage per month (250 times/month), tweets usage per month (25,000 tweets/month), and only returns data from the past 6-9 days since the Twitter API account subscription type is free (Sandbox);
- b. data used for text mining in the range of two-month tweets from December 2020 to February 2021;
- c. the NLP data used is secondary Indonesian sentiment database form Tweets related to 'Pilkada DKI' as training data;

