MEASURING SERVICE QUALITY AND CUSTOMER SATISFACTION AT BANK SYARIAH SURABAYA WITH BIG DATA ANALYSIS

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Info Artikel (11 pt)	Abstract (11 pt)
	Banking institutions that provide sharia-based services in Indonesia still have a smaller number of customers compared to conventional banks, even though Indonesia is a country with the largest Muslim population in the world. Therefore, this study aims to observe customer satisfaction with Islamic banking services and help managers evaluate their performance. This research was conducted using big data analysis from reviews given by the public regarding 3 Islamic banks in Surabaya through the Google Maps website, including: Bank Syariah Indonesia Surabaya Jemur Handayani, Bank Syariah Surabaya Branch Office Dharmawangsa, and Bank Syariah Surabaya Branch Office Darmo. By using the textual review method, it is hoped that this research can provide an overview of social perspectives regarding service quality and customer satisfaction with Islamic banks and provide input for managers so that they can advance the Islamic economy, especially in Indonesia.

INTRODUCTION

There is a belief that Islam has a great power that is still hidden, and if it rises, it will create extraordinary power (Andrew Shandy Utama, 2018). Islam is a comprehensive life guide for every Muslim. Islam teaches that humans live in the world to be able to benefit other people, the state and the nation. In economic terms, Islam encourages humans to spread across the earth in order to seek the blessings of Allah SWT. There are several economic concepts from Islamic principles, one of which is regarding transactions that must be specific and transparent. Because in the Islamic economy, gharar or maysir transactions are not

permitted. Therefore, the trust of the Islamic community is in financial institutions, especially banking (Rivai et al., n.d.).

The presence and function of banking in a country like Indonesia, both for the community and the MSME business, has a very large role and influence (Marimin & Romdhoni, 2017). Banking is all activities related to business activities, and processes in these activities. In short, banking is defined as a financial institution that obtains funding from a community, distributes it back to the community, and provides other services (D. Kasmir & Persada, 2012).

Based on the type, there are 2 types of banks, including conventional banks and Islamic banks. Based on law number 21 of 2008 which states that Islamic banking is a business activity based on sharia principles as implemented in the fatwa issued by the Central Indonesian Ulema Council (Wardhany & Arshad, 2012). Conventional banks are commercial banks that carry out conventional activities, by applying interest and not referring to Islamic laws (Prihatin, 2019). Meanwhile, Islamic banks are commercial banks that carry out business activities based on sharia principles (www.bi.go.id).

Service businesses such as banking should be able to maximize their services effectively and efficiently. So it is necessary to pay attention to the economies of scale and economies of scope of Islamic banking. There are several fundamental differences in the business activities between Islamic banks and conventional banks, such as the return or distribution of profits that customers provide to banks and vice versa. Banking that functions as a financial intermediary must be able to maintain public trust in order to gain sympathy from its prospective customers (S. E. Kasmir, 2018).

According to (Ascarya, 2012), Islamic bank funding products aim to mobilize and invest savings for economic development in a fair way, so that fair benefits can be guaranteed for all parties. Fund mobilization is an important goal because Islam strictly condemns the hoarding of savings and requires the productive use of financial resources to achieve Islamic social and economic goals. In this case, Islamic banks do not use the principle of interest, but principles such as wadi'ah (deposit), qardh (loan), mudharabah (profit sharing), and ijarah (lease). It can be concluded that Islamic bank funding products have four different types, including:

1. Current accounts, based on the principle of wadi'ah or qardh

2. Savings, based on wadi'ah, qardh, or mudharabah principles

3. Deposits/investments, based on the mudharabah principle; And

4. Bonds/sukuk, based on the principles of mudharabah, ijarah, and others

Islamic banking products and services are arguably fairer than conventional banks, but it is still a mystery about how few people are interested in using Islamic banking services. So this research serves to see whether the current Islamic customer service is good or not and whether this correlates with the small number of Islamic bank customers compared to conventional banks.

Customer satisfaction is a feeling that arises from the quality of the services provided and is related to customer perceptions (Nasution & Syahputra, 2022).

Another definition according to (Peeters et al., 2014) is a comparison between the services provided and customer feelings. Customers are satisfied if the service results they receive exceed their initial expectations (Lukman et al., 2021). Satisfaction can occur if the quality of the product or service offered has value for customers in the long term (Nasution & Syahputra, 2022). According to (Fornell, 1992) there are three important things in customer satisfaction; confirmation of expectations, overall satisfaction, and comparison of the ideal. So it can be concluded that customer perceptions regarding the quality of available products or services are one of the factors that determine service quality (Nasution & Syahputra, 2022).

Customer online reviews include strong data and can reflect product and service evaluations from customers (Xiang, Z). Reviews from consumers will have an impact on products and services because they are an important part of the decision-making process (Mudambi). In fact, according to (Bickart) the information generated by the customer is usually more relevant than the information generated by the seller. Online reviews from customers can be categorized as free 'sales assistants' to assist consumers in identifying the most suitable products for them (Xiang Z)

Text mining or commonly referred to as text mining is a process of extracting/mining various useful information from text using mining techniques and natural language processing (NLP) (Park, Ahn) and data mining technology. Current data mining techniques can identify relevant science and technology (Kostoff) because data mining can represent a flexible approach to ideal information management, research, and analysis (Talib et al., 2016). In addition, data mining techniques can also be used to analyze competitors, customer opinions, and monitor potential new customers (Dang & Ahmad, 2014).

Meanwhile, Semantic Network Analysis (SNA) is the use of network analysis techniques in paired associations based on shared meaning (He & Xu, 2016). Currently Semantic Network Analysis (SNA) is used as a useful methodology for understanding the flow of web content (Kim, 2017). SNA as a method of quantitative text analysis, provides a strong theoretical and methodological basis with which to explain the semantic nature of the Islamic banking domain (Han et al., 2017).

RESEARCH METHODS

This study uses a research method by collecting various reviews from Google Maps by entering the keywords "Bank Syariah Indonesia Surabaya Jemur Handayani" "Bank Syariah Surabaya Branch Office Dharmawangsa" and "Bank Syariah Surabaya Darmo Branch Office". Based on the current condition of Islamic banking in Surabaya, this study aims to see the level of customer satisfaction and the quality of its services based on reviews on Google Maps.

Of the total, there are more than 1000+ reviews that contain comments/sentences and do not contain comments or only give ratings. This research performs text mining and retrieves around 100 reviews that correlate with the customer satisfaction that has been described previously. The data taken

is then processed using the KH Coder application in order to obtain the required information.

Big data analysis for the three Islamic banks in Surabaya uses Semantic network analysis (SNA) and text mining. The reviews and customer satisfaction ratings the authors use to analyze the frequency of each word listed. In addition, SNA can also be used to quantitatively analyze the characteristics of social networks (Wasserman & Faust, 1994). Text mining in this study is used to extract large amounts of text to see patterns or relationships, find new values and perspectives, or interpret them for company evaluation. According to (Yun-tao et al., 2005), text mining is used to analyze the frequency of Term Frequency-Inverse Document Frequency (TF-IDF). In this analysis, Convergence of Iterated Correlation (CONCOR) is also used to find patterns of word relationships.

This study uses degree centrality and CONCOR to analyze SNA. The data that has been collected through a review of Google maps is then processed using an application called KH Coder so that the results are in the form of meaningful text mining or SNA.
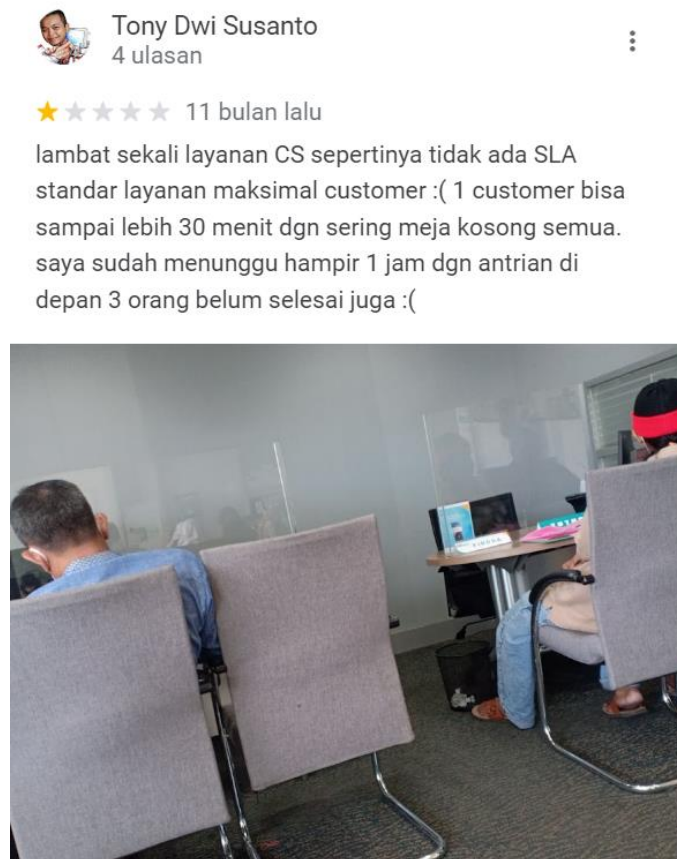

Image 1. Review comments for Bank Syariah Surabaya Dharmawangsa Branch Office

Source: Google Maps Review

RESULTS AND DISCUSSION

1. Word Frequency

Word frequency is one of the strongest predictors of process effectiveness. High-frequency words are recognized by many people and are processed faster than low-frequency words. This is very useful in embedding words of lexical or semantic decisions.

In table 1, there are about 94 words that appear most frequently in reviews on Google Maps for Bank Syariah Indonesia Surabaya Jemur Handayani" "Bank Syariah Surabaya Branch Office Dharmawangsa" and "Bank Syariah Syariah Branch Office Surabaya Darmo. There are five top words that often appear, including 'service', 'friendly', 'CS', 'old', 'teller'. This shows the response that the customer is satisfied because the service at the Surabaya Islamic bank is friendly, but it is likely that there are some consumers who are still not satisfied with the service which is still long.

In addition, there are several other words that represent customer satisfaction with the services provided, such as 'helpful', 'satisfying', 'effective', 'efficient', to 'smile'. This shows that the services of Islamic banks, especially in the city of Surabaya, can be considered satisfactory.

Table 1. Words with the highest frequency

Words	TF	Words	TF	Words	TF
pelayanan	26	antrian	6	nomor	4
ramah	23	banget	6	Pelayanannya	4
CS	18	bank	6	petugas	4
lama	18	nunggu	6	security	4
teller	18	Pelayanan	6	Tempatnya	4
sangat	17	saya	6	Tidak	4
yang	16	Semoga	6	waktu	4
cepat	15	Tempat	6	aman	3
nyaman	15	Alhamdulillah	5	atm	3
SYARIAH	11	bersih	5	cepet	3
sekali	10	buku	5	efektif	3
ada	9	MERR	5	efisien	3
bagus	9	padahal	5	Fasilitas	3
bisa	9	Ramah	5	Gubeng	3
BRI	9	service	5	lengkap	3
lebih	9	sudah	5	menunggu	3
sampai	9	Teller	5	motor	3
satpam	9	tempat	5	mudah	3

untuk	9	tidak	5	panggil	3
antrian	8	antri	4	saat	3
baik	7	BANK	4	senyum	3
banyak	7	buka	4	sudah	3
BSI	7	bulan	4	tanggap	3
customer	7	cabang	4	Terbaik	3
lama	7	good	4	antre	2
membantu	7	Haji	4	Antri	2
memuaskan	7	jika	4	area	2
nasabah	7	kami	4		
parkir	7	masih	4		
pelayanan	7	mobil	4		
untuk	7	mohon	4		

2. CONCOR *(Convergence of Iterated Correlations) Analysis*

This study used CONCOR analysis to see how words relate and group them into parts (figure 2).
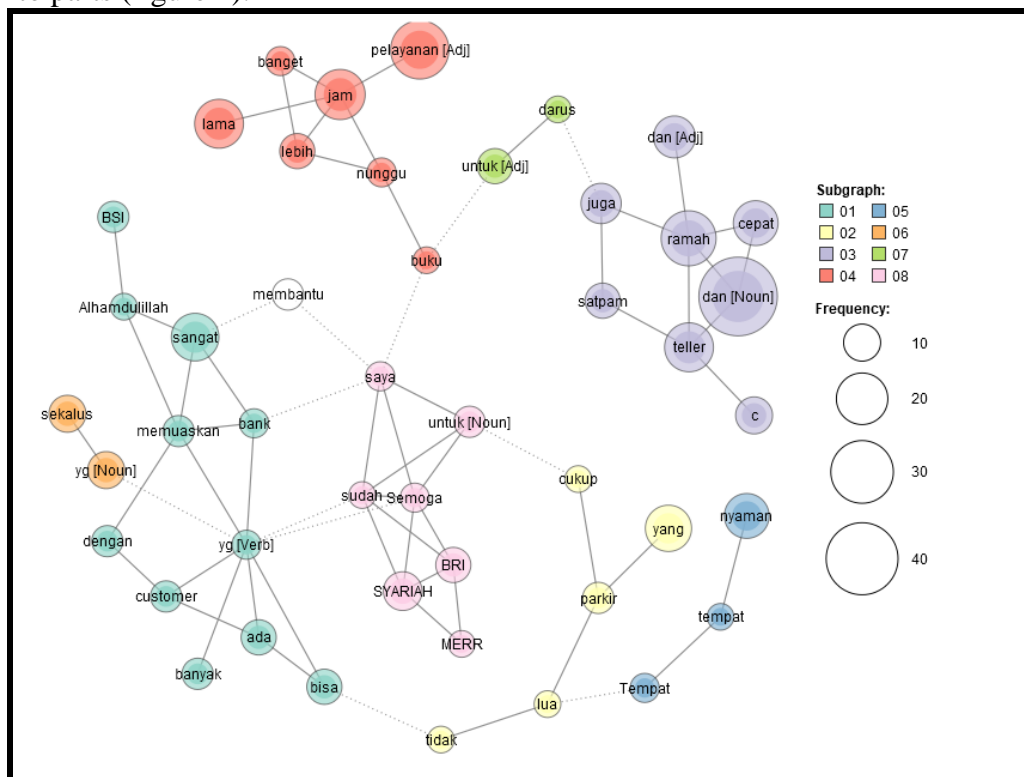

Image 2. CONCOR Analysis of Indonesian Sharia Bank Surabaya Jemur Handayani, Sharia Bank Surabaya Dharmawangsa Branch Office, and Sharia Bank Surabaya Darmo Branch Office

From the picture above it can be seen that there are several colors which are

the markers of each related group. Then each of these words is connected by a line, where the thicker the line indicates that the relationship between words will also be greater with one another.

The customer's perspective on Islamic banking services can be seen through the green color group with several words, including 'very', 'satisfying', and 'Alhamdulillah'. Customers are satisfied with the services of Islamic banks in Surabaya as expressed by one of the following reviews: "The facilities are very complete and comfortable. The service is friendly, easy and very fast. I've never been disappointed if I want to make transactions at BSI, starting with CS security marketing tellers and all the officers are quick to respond. So good. Always keep it up 👍 👍 👍 " or "Alhamdulillah. At that time I went to the ATM outside working hours. The duty officer is very friendly and willing to provide the information we need. Hopefully this good can be maintained. At other times during working hours the front officer is also very friendly explaining bank entry procedures and is willing to help if we don't know something. Hopefully it will be maintained which is already very good. Inside officers are the same. Very satisfactory. The teller staff is also very satisfying and asks us not to stand in front of the teller for too long. Ok. Very satisfactory. In general. What is satisfying is that I hope it can be maintained. Good luck to all of us."

Not only that, positive reviews also came from the purple color group, with the words 'teller' and 'security guard' followed by the word 'friendly'. Or reviews like, "Starting from entering, you can feel a friendly and comfortable atmosphere, from security, tellers, CS serving in a friendly and informative manner about the products offered, and are adept when there are problems related to transactions, star ⭐ ⭐ ⭐ ⭐ ⭐ ". "Masha Allah, I'm really happy here... the service is really friendly, starting from the security guard, teller and all the cs 😍 the service is also processed quickly... thank you very much ❤️ ❤️ ❤️ "

However, it is different with the red color group. In red there are several words that indicate customer disappointment with the services provided, including 'service', 'long', 'waiting'. Customers tend to feel dissatisfied with services that still seem long and take up a lot of time. Here are some reviews written by customers, including "Assalamualaikum, sorry I gave 1 star to the BSI service at this branch. Just a little story. In April, my mother died taking care of paperwork for loan repayment purposes, almost 3 weeks due to the procedure for moving the barcode system, etc., and after I enter complete data for management at BSI on the 7th of June 2022 and until I review it today on the 11th of July there is no certainty and it has been resolved here I really regret why the procedure is taking so long and remember this bank is sharia-based lo legal if it's gone matters of accounts payable immediately resolved why is it taking so long. Astagfirullah, how come the service is like that, I ask the leadership to immediately finish it and help it, thank you waalaikumsalam."

There is also a customer perspective on Islamic bank facilities in the yellow color group, including "Strategic location. Separate parking space for cars and motorcycles, but not wide. Prokes by washing hands and providing liquid soap plus tissues. Security is friendly and can help with banking matters. CS looks

friendly. Tellers are also friendly and willing to help with our banking affairs. Need to go to the bathroom, there. Don't know can ask. Clean bathroom. Generally good."

The bigger the circle in the picture, it shows the more frequency of the word about it. For example, the red circle indicates that the word 'service' has a larger circle than the circle around it. This shows that out of a total of 94 reviews processed, the word 'service' is the word most often found in customer reviews on Google Maps.

CONCLUSIONS AND RECOMMENDATIONS

Bagian ini melibatkan ringkasan temuan tanpa menambahkan informasi baru dari apa yang telah dinyatakan pada bagian sebelumnya. Namun, itu seharusnya bukan pengulangan kata demi kata dan apa yang telah dibahas di bagian hasil dan pembahasan.

Big data analysis has not been widely used effectively and efficiently for business progress, even though the benefits are enormous. This research can be used to apply text analysis to classify large amounts of online information, assess the quality of that data, and identify relevant relationships between words by analyzing big data. The uniqueness of this research is in the use of big data and analysis of Islamic banking to provide guidance regarding the marketing of the Islamic banking industry.

The lack of analysis from customer reviews regarding the quality of Islamic banking services is quite an important thing to discuss because it can affect business performance and people's views on it. This study extracts review data from the three Islamic banks in Surabaya, including the Indonesian Sharia Bank Surabaya Jemur Handayani, the Sharia Bank Surabaya Dharmawangsa Branch Office, and the Sharia Bank Surabaya Darmo Branch Office which are found on Google Maps which then processes them using KH Coder to find out the relationship between the extracted words.

The results of this study can assist Islamic banking management in evaluating performance in order to be closer to customers and provide memorable services for them. Customer reviews can be considered as their output/feelings when enjoying Islamic banking services. If managers can understand and provide services according to customer wishes, it is not impossible that sharia economic growth in Indonesia can be more advanced and reduce negative ratings from customers which can influence their decisions in using banking services.

This research is still limited in one source, namely Google Maps, future research is expected to be able to use other sources that are more extensive and other variables with more data so that the information obtained is also better and credible to compare various customer reviews, whether in the form of text or ratings.

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