The Impact of Financial Technology and Virtual Customer Service on Customer Satisfaction

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ABSTRACT
This study was conducted to examine the effect of Financial Technology, Virtual Customer Service on Customer Satisfaction. This study uses a quantitative approach using primary data obtained from the results of a questionnaire and measured using a Likert scale. The population in this study were BRI Unit Cilik Riwut customers who used Financial Technology and Virtual Customer Service. The sample used in this study are 177 respondents who were determined using the Nonprobability Sampling method with Purposive Sampling type. This study uses the PLS-SEM analysis method which is processed with the SmartPLS 3.2.9 program. The results of this study indicate that Financial Technology partially has a positive effect on Customer Satisfaction and Virtual Customer Service partially have a positive effect on Customer Satisfaction. It is expected to add other variables and indicators that can affect customer satisfaction in order to obtain new and accurate research results.

INTRODUCTION

Industry 5.0 is stage revolution latest in revolution technology driven industry. This refers to the era where production and manufacturing processes become smarter and more connected digitally. Industry 5.0 emphasizes collaboration between human and system intelligent automation, enabling more production flexible, responsive, and efficient (Agung et al., 2023). In the 5.0 Society era, there will be involving working community together with technology based on partner for finishing various task, different with the ongoing 4.0 revolution that is currently happening. With working together, humans and robots complement each other with using cognitive ability and proper-skilled robot technique, creating innovative work culture.(George & George, 2020).

There are lots of human life aspect that are influenced by technology, which has change everything including ways man do banking activity starting from morning until night. In order to increase service to customers, banks must do internet technology in order to serve customer for 24 hours (Sasono et al., 2021). Technology adoption has change ways to deliver banking service, making it more easily accessible and convenient for customers. Besides technology adoption, process efficiency and quality service is fundamental aspects that contribute to perception and satisfaction customers in the banking sector (Wasil et al., 2023).

Banking is one of the main sectors that gives help and finance services to other sectors. Because customers is the king of the market, then it is important for banks to creating innovative business models, as well as increasing customer satisfaction every time (Choudhary et al., 2023). The presence of rapid progress on technology surely

banking sector need to follow the development technology that becomes current trends, especially in the customer service section. This has become the main factor where it needs to be noticed from customer service quality aspect to maintain customers satisfaction and reach out potential customers.

Customer satisfaction is customer response, customer action about perceived review mismatch between hope of trust before purchasing and actual capability from goods or perceived service after using it (Kuswibowo, 2022). If service or ability is not in accordance with customers hope, then will feel disappointed, but if in accordance with service, customer will feel satisfied and happy (Putri & Briliana, 2023). Satisfying customers desire, are desire from every banking company. Customers that are satisfied to a product as well as service will tend to buy, use and re-consume the products offered.

It is no surprise that term customer is a king, which means customer must be served with the best, is the important part from bank success or company. According to Alghiffari and Matusin (2023), Banking company must also notice customer satisfaction because it has many benefits that supports company continuity as well as reputation. In the research, the author chose PT. Bank Rakyat Indonesia (Persero) Tbk as author's research location, because including banks that become number one in Indonesia in the list of "1000 Largest Banks 2020" issued by The Banker (BRI, 2020). The more customers we have, good and quality service is very necessary in order to provide higher value, as well as being a material for evaluation and consideration for companies to continue to increase customer satisfaction in order to produce the best service so that customers are satisfied or in line with their expectations.

Companies can fulfill needs and customer expectations will be considered capable in giving customers satisfaction. Customer satisfaction survey of PT. BRI (Persero) Tbk Cilik Riwut Unit tends to experience a fluctuating increase, this has attracted the attention of researchers to find out the problems that occur at the BRI Cilik Riwut Unit regarding customer satisfaction, therefore there are several reasons why there is a fluctuating increase in BRI customer satisfaction, namely dissatisfaction a bank's product or service will result in customers not using it again and always giving negative reviews which has an impact on reducing service quality and reducing the company's reputation. Apart from that, it also has an impact on decreasing customer loyalty. If they are not satisfied, customers will turn to look for other services.

Therefore, researchers found several reasons for the phenomenon of BRI Cilik Riwut Unit customer satisfaction experiencing a fluctuating increase, namely, in 2020 the existence of the Covid-19 pandemic was quite hampering the Indonesian economy, especially for banking companies operating in the service sector (Khairunnissa et al., 2023). The COVID-19 outbreak has resulted in direct service through customer service and tellers being hampered, making it difficult for customers to report their complaints. In 2022, the decline in customer satisfaction is due to a decline in bank digitalization performance which causes customers to be dissatisfied, therefore BRI launched the Complaint in Apps solution so that customers submit complaints via self-service so that customers do not need to visit work units or contact the contract center. Meanwhile, in 2019, 2021 and 2023 there will be an increase by carrying out various innovations and breakthroughs that can answer customer needs.

According to Talunohi and Sholihah (2023), very rapid technological developments can also trigger business changes as a result of technological

innovation, one example is the emergence of Fintech which has brought major changes to banking services related to customer satisfaction. Fintech (Financial Technology) is a technology service innovation based on financial systems to provide solutions that provide effective and efficient financial transaction processes, as well as security in payment systems with modern technology (Ansori, 2019; Marginingsih, 2019; Yuliyanti & Pramesti, 2021).

According to BI regulation Number 19/12/2017 Fintech is the use of technology for financial systems that can produce products, services or business models, which increase monetary stability, efficiency, smoothness, security and reliability of payment systems (Oktaviani & Sari, 2020). Fintech is the latest innovation in the financial system combined with technology. With the existence of Fintech in Indonesia, it can present various financial application innovations that provide a lot of convenience, Fintech has become one of the technologies available in financial services. Fintech provides services such as payment tools, loan tools, money storage tools and can even help in financial or investment planning (Asyarofah et al., 2023).

One of the most common obstacles faced by customers in providing Fintech services is finding it difficult to adapt to the Fintech features developed by the company so that customers find it difficult to use the features, and a large enough internet network is required to use them during transactions. When Fintech features are easy to use, customers will feel satisfied and trust Fintech. Customers no longer need to keep cash and cards to make transactions, customers only need Fintech applications developed by banking companies (Chusnah & Indriana, 2020).

People are turning to Fintech based on speed and ease of access to various financial system needs. Fintech adapts technological developments in the financial sector to make banking financial institutions more practical, safe and modern (Martinelli, 2021)**.** Despite the payment system, in fact there are various other Fintechs that are thriving in Indonesia. The types of Fintech according to the OJK are, Crowdfunding, Microfinancing, P2P (Peer to Peer) Lending Service, Market Comparison/Market Aggregator and Digital Payment System (BRIapi, 2023). According to Aznur (2023)**,** Fintech has the advantage of customer satisfaction without the need to come to the bank to carry out transactions, as well as saving time on an anticipated and user-friendly operating system.

According to Choudhary et al. (2023) Fintech has emerged as a force that offers innovative solutions that meet customers' changing needs and preferences. The rise of Fintech by banks has the potential to transform traditional banking operations, impacting customer experience and satisfaction. Apart from that, Fintech can be accessed by customers via smartphone or laptop technology, thereby providing convenience, speed and security. This will cause customers to feel satisfied because they do not need to come to the bank repeatedly for transaction activities and become effective and efficient with Fintech. With rapid technological advances, banks also provide Virtual Customer Service to make it easier for customers in terms of service without having to visit the bank (Narita & Fauzi, 2022).

Fintech offers many new technology-centric services to customers. therefore, most customers respond positively to this new technology because Fintech offers convenience and new capabilities (Kerényi & Müller, 2019). Fintech in terminology describes specific technology used by the financial sector. This is becoming more popular because technology facilitates more unique solutions and has a more important function in finance. In essence, what is happening is artificial intelligence

(AI) replacing highly specialized and skilled human experts. This transformation may be as fundamental to the nature of finance as the internet. AI capabilities will automatically make processes more measurable and effective in the financial sector (Zarifis & Cheng, 2022)**.**

According to Huang and Lee (2022) in their study, artificial intelligence robot services are gradually starting various technological revolutions and established industries. Even though virtual banking services use artificial intelligence to achieve commercial interests, many customers still prefer to use physical banks. More and more customers are turning to online banking services, which seem to lack the social presentation of physical interaction. Therefore, banking companies are starting to think about how to include human-like characteristics in online services, one of which is Fintech and Virtual Customer Service to simulate physical interactions.

Fintech supported by AI is a transformative phenomenon which is becoming important and influencing technology adoption. Chatbots or Virtual Customer Service which utilize AI are widely used to interact with customers in handling various complaints experienced by customers, for example if a customer is planning to invest, the customer can ask for help from the Virtual Customer Service which has been provided through Fintech to provide professional advice rather than spending a lot of time and energy to gather information. Apart from that, customers can invest directly through a call to action to invest directly through Virtual Customer Service (Zarifis et al., 2021).

The implementation of the AI Chatbot system is one implementation for Virtual Customer Service in the banking industry. AI chatbot is a computer program based on AI (Artificial Intelligence), also known as a kind of virtual robot that has the ability to imitate human conversation using voice, text or both (Gümüş & Çark, 2021; Hidayati & Nasution, 2020; Simon, 2019). In addition, this technology is called a digital assistant that can understand and operate customer requests and provide them with responses accurately and reliably. Companies can improve user experience, reduce response times and improve services with AI chatbots that can also work 24 hours a day and provide daily user support (Alghiffari & Matusin, 2023).

According to Harisi and Hiwono (2024), chatbots are also able to handle customer requests with high consistency, reducing the potential for human error in providing information or solutions. This contributes to customer satisfaction by ensuring stable and reliable service quality. Chatbots can provide personalized services by analyzing customer data and providing relevant recommendations. This can increase interactions that are more targeted and tailored to customer preferences, creating a more satisfying experience. Chatbots can also incorporate artificial intelligence technology to improve their ability to understand context and better respond to requests. With these technological advances, Chatbots are increasingly able to provide more sophisticated and relevant services to customers.

Banks and financial institutions in Indonesia have used AI chatbots to provide better, more efficient and responsive customer service (Lestari, 2022). According to Nugraha et al. (2022) customer satisfaction is very important in the customer service industry, because customer satisfaction can influence the growth of their business, one of which is by using Virtual Customer Service to increase customer satisfaction with an AI Chatbot system which will help to improve customer service in banking companies. Apart from that, Chatbots in Indonesia are not appropriate in providing solutions or information in the future, Chatbots may not be used because of this

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problem, there is still a difference between customer expectations and the quality of the Chatbots being developed (Mulyono & Sfenrianto, 2022).

Banking companies must be more creative to improve financial technology-based services that have perceived benefits and are easy to use. To solve this problem, an AI chatbot system is needed that can serve customers quickly and is available 24 hours a day. With this system, it is hoped that customer trust and satisfaction will increase (Zahwa et al., 2023). Customer satisfaction is determined by the quality of service which embodies one of the important components of a bank's success as a service company, which cannot be denied in the modern business world. Customer satisfaction will arise as a result of previous experience with the quality of services provided by the service provider (Ilahi & Arifuddin, 2022).

In research by Aznur (2023) and Maknuun et al. (2023), it is proven that there is a positive influence between Fintech on Customer Satisfaction. The higher the level of Fintech usage, the higher the resulting customer satisfaction will be. With the emergence of financial technology in Indonesia, the banking industry must carry out digital transformation to survive in the intense competition to meet customers' digital needs. If the customer's basic perception of product and service performance is in line with expectations, then customer satisfaction will be achieved.

In contrast to research conducted by Erina (2021), her research revealed that, Fintech on Customer Satisfaction does not have a significant effect. This is proven by the fact that some customers feel doubtful about the ease of Fintech in carrying out their transactions, there are customers who experience difficulties in using Fintech services because they are not used to it. with a digital system and many customers experience network difficulties, it is possible that the area is still remote so it is not possible to carry out transactions. The results of other research, Zawiyah et al. (2019) stated that Fintech has a negative effect on Customer Satisfaction. This happens because the reliability of using Fintech has decreased in the company's ability to provide the promised services accurately and consistently. So a decrease in Fintech reliability will cause customers to feel dissatisfied with the use of Fintech.

Research conducted by Narita and Fauzi (2022) proves that Virtual Customer Service has a positive influence between Virtual Customer Service on Customer Satisfaction, meaning that you can continue to do this to maintain the quality of customer service. In the research results, Virtual Customer Service produces an influential indicator, namely trusting the information provided by customer service. The most influential customer satisfaction is an indicator of satisfaction with the performance of a Customer Service product.

According to Alghiffari and Matusin, (2023), the results of the Virtual Customer Service research show a positive influence on customer satisfaction. Customers feel satisfied and very happy with this Virtual Customer Service, as well as customer expectations for this Virtual Customer Service and customers will recommend Virtual Customer Service to friends or relatives. Therefore, it is best for social banking marketing managers so that Virtual Customer Service can be quickly recognized and customers get satisfaction from using it.

However, there is a difference with research from Nugraha et al. (2022), that Virtual Customer Service has a negative effect on Customer Satisfaction. This shows that the intrinsic value or experience of using Virtual Customer Service does not always make consumers satisfied. Currently, the use of Virtual Customer Service is widely used in companies, which does not mean that all consumers can use and be

happy with the use of Virtual Customer Service. This can happen with customers who do not master the use of Virtual Customer Service to interact.

The results of other research from Titoni et al. (2024), revealed that Virtual Customer Service on Customer Satisfaction does not have a significant influence. This happens to extrinsic value and online convenience. Regarding Extrinsic Value or user usability, customers feel dissatisfied with the response provided by Virtual Customer Service and with online convenience or comfort, customers also feel dissatisfied with the comfort provided by Virtual Customer Service. This shows that the customer experience of using Virtual Customer Service in interactions can reduce customer satisfaction.

Customer satisfaction is an indicator of a bank's success. Bank satisfaction also depends on the service features offered and the quality of the services provided. Therefore, it is very important for a bank, especially BRI (Bank Rakyat Indonesia), to know the extent of customer satisfaction with Financial Technology (Fintech) and Virtual Customer Service, especially in the Cilik Riwut environment which currently has the characteristic of wanting something fast to save time and frequently using advanced technology.

One type of behavioral information system model is the Technology Acceptance Model (TAM). This theory aims to explain technology users' desires to accept and use technology (Davis, 1989). Since the TAM theory was introduced by Fred Davis in 1989, the TAM model is one of the most frequently used models to determine technology acceptance interest behavior throughout the world. The Theory of Reasoned Action (TRA) proposed by Fishbein and Ajzen in 1975 is the basis of TAM which has two main constructs to determine a person's or organization's interest in using technology, namely, perceived usefulness and perceived ease of use (Rivaldi & Dinaroe, 2022).

In TAM theory, the construct of perceived usefulness is how much a person believes that implementing a particular system will improve their work performance. Davis (1989: 320) perceived usefulness is very important in influencing users. A high system in turn is a system that makes users believe that there is a positive relationship between usability and performance. In technology development, perceived usefulness is prioritized so that it can help users carry out tasks and provide the benefits they need (Wicaksono (2022: 43).

Perceived ease of use refers to the extent to which a person believes that using a particular system will require little effort. Just like perceived usefulness, perceived user convenience is also based on trust. If users believe that technology will make their jobs easier, they will use it. Conversely, if they do not believe that the technology will make their work easier, they will not use it (Davis, 1989: 320).

Perceived usability emphasizes user trust. If a technological system cannot improve its performance, people will not use it (Siswoyo & Irianto, 2023). Benefits can be obtained and it is hoped that customers will carry out business transactions easily and quickly (Lina, 2020). Perceived ease of use refers to how customers perceive a product or service to be easy to use and can be operated without difficulty. The relationship between perceived ease of use and usefulness on customer satisfaction can provide valuable insight for marketing practitioners and increase customer satisfaction (Saputra & Sutarso, 2024).

TAM is widely used in the study of technological innovation, due to the perceived usefulness and convenience of the technology. TAM can help to assess users' willingness to accept a new system by measuring the level of user satisfaction

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with the technology, and how easy it is to use current technology (Ramadan & Efnita, 2024). TAM is used as a basis for discussing the impact of external factors on user beliefs, attitudes and goals through perceived benefits and ease of use of technology. The relationship between TAM theory and research is that one can review the influence of customer perceptions regarding the use of Fintech and Virtual Customer Service which are influenced by cognitive processes and aim to maximize the usefulness of technology.

Customer satisfaction is customer responses, customer actions regarding reviews that feel there is a discrepancy between expectations of trust before purchasing and the actual capabilities of the goods that they feel after using them (Kuswibowo, 2022). If the service or capabilities do not match the customer's expectations, they will feel disappointed, but if the service matches the customer will feel satisfied and happy (Putri & Briliana, 2023). Customer satisfaction was previously influenced by the quality of service provided by the service provider. Once someone experiences good service, customer satisfaction will increase.

Customer satisfaction is usually defined as the level of customer feelings after comparing what he received with what he expected. Customers will feel satisfied if what they receive matches or exceeds their expectations. Companies must always meet customer needs and increase customer expectations and become loyal customers. It is of course important for companies to meet customer satisfaction if they want to survive. Satisfied customers are able to increase their competitive advantage because they will become loyal buyers of products and services. This is why companies must consider satisfaction as a very important element (Charviandi et al., 2023: 84).

According to BI regulation Number 19/12/2017 Fintech is the use of financial system technology that can produce technological service products or business models, thereby impacting monetary stability, better efficiency, smoothness, security and reliability of the payment system (Oktaviani & Sari, 2020). According to Riansyah et al (2019:20), Fintech provides convenience with new innovations and attractive advantages. But these innovations and advantages are of course achieved because of the technology applied to the financial system, technology being the main key in the development of fintech in the future.

Fintech (Financial Technology) brings the latest innovations from the financial system combined with technology. With the existence of Fintech in Indonesia, it can present various financial application innovations that provide a lot of convenience, Fintech has become one of the technologies available in financial services. Fintech provides services such as payment tools, loan tools, money storage tools and can even help in financial planning (investment). With the existence of Fintech in Indonesia, it can present various financial application innovations that provide a lot of convenience, Fintech has become one of the technologies available in financial services. Fintech provides services such as payment tools, loan tools, money storage tools and can even help in financial or investment planning (Asyarofah et al., 2023).

Virtual Customer Service in the banking industry is implementing an AI Chatbot system, which is an AI artificial intelligence-based computer program or virtual robot that has the ability to speak like a human. This technology is also known as a digital assistant, because it can understand and handle user requests and provide precise and fast answers. AI chatbots can improve customer experience, reduce response

times and improve service. They can also work 24 hours a day, and support users every day (Alghiffari & Matusin, 2023).

AI (Artificial Intelligence) is currently opening new avenues not only in the business area but in the government area. This AI is generally associated with tools for finding problems and solving problems related to various problems between people and people in business and people in solving problems. One of the innovations in Bank Rakyat Indonesia's public services is Chatbot SABRINA (Smart BRI New Assistant) which can be accessed via digital media. This innovation changes public services that are usually carried out offline to online, meaning that customers do not need to come to the bank to meet with customer service (Lestari et al., 2022). BRI customers have shifted from a conventional complaint process to a more modern one with SABRINA which is considered faster, more effective and efficient. Therefore, SABRINA is the right choice for BRI to adopt a new way of developing public services.

SABRINA is a Chatbot platform provided by BRI to serve customers via text to inform them about the location of ATMs (Automated Teller Machines), branch offices, BRI products and services, BRI activities and other assistance services (BRI, 2020). According to Trilaksono et al. (2023:09), in cases where SABRINA does not understand the user's intentions, it can be redirected to a live agent, SABRINA's main goal is to provide as many relevant responses and answers as possible to the user thereby reducing user interaction with customer service officers (Live Agent). SABRINA can connect users with a live agent if the question cannot be understood by SABRINA. In this condition, SABRINA does not understand the user's intentions and replaces the conversation with a live agent, known as fallback. A reliable chatbot will ensure it has a small fallback rate.

METHOD

The research will use a quantitative type of research. Sugiyono (2022: 16) states, quantitative methods are also called conventional methods, because they have been used for a long time and form a commonly used analytical method. Quantitative methods use scientific principles in the form of empirical, objective, evaluable, rational and coherent. Quantitative methods are considered scientific methods, because research data and analysis are in the form of numbers and use data. The quantitative approach in the author's research is to determine the influence of Fintech and Virtual Customer Service on Customer Satisfaction.

In this research, the sample collection technique is non-probability sampling, meaning that all components or populations do not have the same chance or expectation of being taken as samples (Sugiyono, 2022: 131). The researcher chose to carry out a non-probability sampling technique and purposive sampling is a method of collecting samples that follows specific reasons (Sugiyono, 2022: 133). The following are the sample criteria used in this research:

1. Customers who have used Fintech (Financial Technology) at Bank BRI Cilik Riwut Unit in 2023.
2. Customers who know and use Virtual Customer Service via SABRINA (Smart BRI New Assistant) at Bank BRI Cilik Riwut Unit.
3. Bank BRI Cilik Riwut Unit customers aged 18-35 years.
4. Bank BRI Cilik Riwut Unit customers who have the status of students, private employees, civil servants and entrepreneurs.

In research, data collection techniques are added up using a questionnaire or questionnaire method. According to Sugiyono (2022: 131), the questionnaire is a data collection method that lists respondents with a number of written statements or questions to be answered. This method is effective if the researcher understands well the variables to be measured and the responses that respondents give, this method will be successful. This research proposes an open statement for PT customers. Bank Rakyat Indonesia (Persero) Tbk Cilik Riwut Unit to be able to answer or provide responses and information that researchers really need.

Researchers will use Likert 1-5 scale measurements. Sugiyono (2022: 131) states that the Likert scale is used to estimate individual and combined opinions, actions and perceptions regarding social phenomena. If a Likert scale is used, the specified variables will be displayed as indicator variables. Will be used as a basis for creating instrument items consisting of statements or questions.

In research on the Influence of Fintech (Financial Technology) and Virtual Customer Service on Customer Satisfaction, Bank BRI Cilik Riwut Unit customers are located at Cilik Riwut Street, Pahandut, Sebangau, Palangka Raya City, Central Kalimantan 73111.

Data analysis is carried out after analyzing the data from all respondents or other sources accumulated in quantitative research. The analysis will combine data based on respondents' variables and demographics, a list of data from each respondent's variables, test the proposed hypothesis and carry out arithmetic estimates to test the hypothesis. Research that does not formulate a hypothesis has not yet reached the final stage (Sugiyono, 2022: 131). The technique that will be carried out in the research is based on Partial Least Square (PLS) and SmartPLS 3.2.9 Software. because there is no need to collect data on a certain scale or a small sample size, Partial Least Square (PLS) is an effective indetermination factor in the analysis method. PLS is used to support this theory (Ghozali, 2021:22).

The Outer Model can be considered as a measurement model, which is a model that contains each block of indicators of the relationship between latent variables (Ghozali, 2021:27). Outer model refers to testing both in terms of reliability and validity. For reliability testing, you can use internal consistency reliability, while for validity testing you can use convergent validity and discriminant validity.

The inner model is said to be (Inner Relations, Structural Model and Substantive Theory) which shows how latent variables relate to each other based on substantive theory (Ghozali, 2021:26). To measure the model with PLS, the R-square of each dependent latent variable is used to determine if the independent latent variable has a substantive influence on the dependent latent variable.

Hypothesis testing will compare t-statistics with t-table to determine whether there is an influence between variables. (Ghozali, 2021:92) Hypothesis testing will be carried out via the t test. Hypothesis testing is carried out to show the number of path coefficients for testing the inner model. The significance value of the p-value is 0.05, so the t-statistic value > t-table value 1.64 for the one tailed hypothesis, while the t-statistic value > t-table value 1.96 for the two tailed hypothesis. In this study, researchers used a one-tailed hypothesis. The t-statistic value was obtained from bootstrapping results using the SmartPLS program.

RESULTS AND DISCUSSION

In this research, respondents were given a questionnaire to collect data offline from BRI Cilik Riwut Unit respondents. Previous research has tested the validity and reliability of the questionnaire used in this research. The data collection process for research took approximately one month, to be precise in June 2024. Hypotheses were tested by processing data obtained from subsequent research. In the direct data collection process, 177 respondents were obtained, and the research data will then be processed using SEM-PLS with the SmartPLS 3.2.9 program application for instrument testing and research hypothesis testing.

Respondent characteristics, namely, attributes or characteristics of research subjects, such as age, gender, employment status and so on. This influences the way respondents understand, respond and form their opinions about the statement or topic asked about. Respondent characteristics are very important to consider when creating research or surveys because they can help find patterns or differences. In this research, a questionnaire was created manually using paper to fill in the statements given, then distributed to 177 respondents offline, coming directly to the BRI Cilik Riwut Unit.

1. Characteristics of Respondents Based on Gender

According to the results of the research data, it shows that the characteristics of respondents based on gender in the table are as follows:

Table 1 Characteristics of Respondents Based on Gender

Gender	Respondents Amount	Percentage
Man	91	51.41%
Woman	86	48.59%
Total	**177**	**100.00%**

Source: Questionnaire Result Data (2024)

According to table 1 Characteristics by Gender with a total of 91 respondents, men dominate more than women with a percentage of 51.41%, then women 86 with a percentage of 48.59%. So it can be concluded that the majority of respondents in this questionnaire were 91 men, while only 86 were women.

2. Characteristics of Respondents Based on Age

According to results from the research data, it shows that characteristics Respondent based on age on the table is as following:

Table 2 Characteristics Respondents Based on Age

Age Range	Amount Respondents	Percentage
18-20 Years	23	12.99%
21-25 Years	43	24.29%
26-35 Years	57	32.20%
> 35 Years	54	30.51%
Total	**177**	**100.00%**

Source: Questionnaire Result Data (2024)

According to table 2 Characteristics of Respondents Based on Age, it shows that out of 177 people, there were 23 respondents aged 18-20 years, 43 respondents aged 21-25 years, 57 respondents aged 26-35 years and 54 respondents aged > 35 years. This can be decided for respondents aged 26-35 years who filled out the most questionnaires in the study.

3. Characteristics Respondents Based on Employment Status

Research data cause results that show that characteristics Respondent based on age on the table is as following:

Table 3 *Characteristics Respondents Based on Employment Status*

| Employment Status	Amount	Percentage
Student	38	21.47%
Private Employee	66	37.29%
Government employees	34	19.21%
Businessman	39	22.03%
Total	**177**	**100.00%**

Source: Questionnaire Result Data (2024)

According to table 3 Characteristics of Respondents Based on Employment Status, it shows that out of 177 people, there were 38 respondents with Student status, 66 respondents with Private Employee employment status, 34 respondents with Civil Servant employment status and 39 respondents with Entrepreneur status.

Measurement Model (Outer Model)

The purpose of evaluating the measurement model (Outer Model) is to determine the validity and reliability of research variable indicators. Validity testing can refer to Discriminant Validity and Convergent Validity, as well as for reliability testing using Composite Reliability. The following is a picture of the measurement model, namely:

Figure 1 *Measurement Model (Outer Model)*
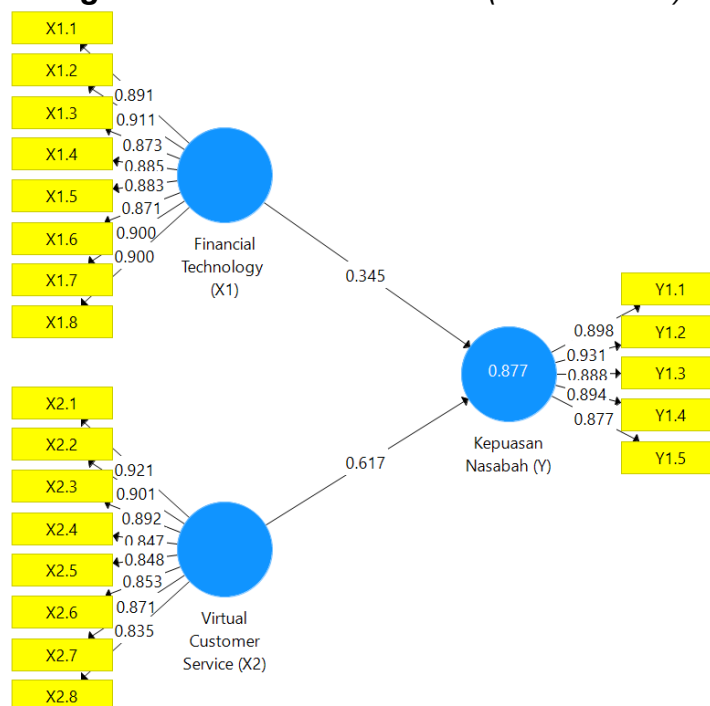
Source: SmartPLS 2024 Data Analysis Results

1. **Validity Test Results**
   a. **Convergent Validity**

Convergent Validity with the aim of ensuring its validity with respect to indicators and constructs to the underlying variables. Convergent validity is measured using the outer loading value. In the initial research, the measurement comparison development stage had a loading value of 0.50 to 0.60 which was considered sufficient, but the individual reflexive measure was considered large if the correlation of a construct was estimated to be > 0.70.

The results of the outer loading value show that each indicator has met the criteria, namely the outer loading value > 0.70. It can be concluded that the outer loading value has met convergent or valid validity. To test the convergent results, the next step is to look at the showing value (AVE) with the value having to be > 0.50. The Average Variance Extracted (AVE) Test Results show that the AVE value of the Financial Technology variable is 0.70 or 0.791, while the AVE value of the Virtual Customer Service variable is > 0.70 or 0.760 and the AVE value of the Customer Satisfaction variable is > 0.70 or 0.760. >0.70 or 0.806. It can be concluded that each variable has good convergent validity.

b. Discriminant Validity

Discriminant Validity Measurement uses Cross Loading values. This test is said to be valid if the value of the cross-loading indicator for each variable is the largest value compared to other variables.

After testing all the indicators in the research consisting of the variables Financial Technology, Virtual Customer Service and Customer Satisfaction, they have met the Discriminant Validity requirements. This is because each indicator has a higher cross loading value compared to the other indicators, namely > 0.70, so it can be said that all discriminant validity testing indicators are said to be valid.

2. Reliability Test Results

The measurement uses a reliability test by looking at the Composite Reliability value and Cronbach's alpha value.

a. Cronbach's Alpha

Reliability testing will be carried out with Cronbach's Alpha measuring the reliability of the construct if the value of Cronbach's alpha is said to be good if the value is > 0.70. The Financial Technology variable has a Cronbach's alpha value of 0.962 and the Virtual Customer Service variable has a value of 0.955 and the Customer Satisfaction variable has a value of 0.940. It can be concluded that each variable has met the criteria with a value > 0.70 and is said to have good reliability.

b. Composite Reliability

Reliability testing with composite reliability is part of testing the reliability values of variable indicators. If it is said to be reliable if the composite reliability value is > 0.70. The composite reliability value for the Financial Technology variable is 0.968, while the Virtual Customer Service variable has a composite reliability value of 0.962 and the Customer Satisfaction variable has a value of 0.954. It can be concluded that the composite reliability value for this variable is said to be reliable.

Structural Model Evaluation (Inner Model)

The aim of the inner model is to test the relationship between the variables contained in the inner model which consists of testing stages, namely, R square, Effect Size, FIT Model and hypothesis testing. The following is a picture of the inner model:

Figure 1 *Structural Model (Inner Model)*
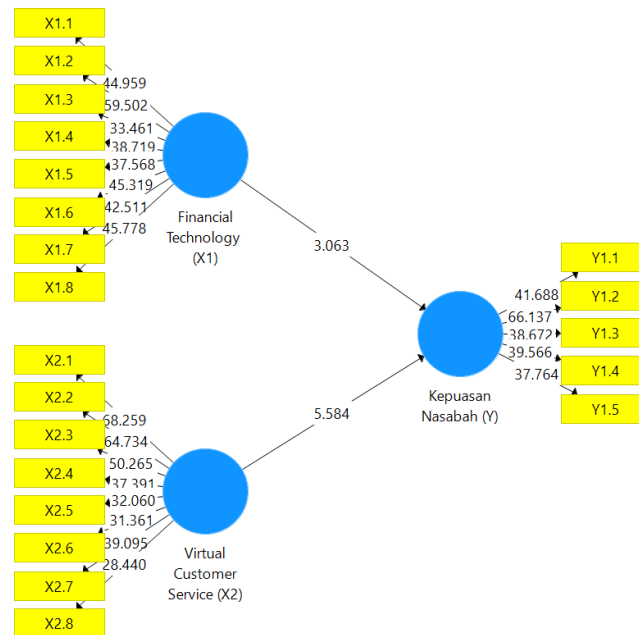
Source: SmartPLS Data Analysis Results (2024)

1. R- *square* (R ²)

The R-square test is used to find out if the independent latent variable has an influence on the dependent latent variable. The R2 results have criteria of 0.67 which is said to be good, 0.33 moderate and 0.19 weak. The R-square value of 0.877 can be said to be good, the Customer Satisfaction variable will be explained by the Financial Technology and Virtual Customer Service variables amounting to 0.877 or 87.7% while the remaining 0.123 or 12.3% is explained by the variable additions that have not been discussed in this research, as well as the Adjusted R-Square value of 0.876 or 87.6% so that the R-Square value for the Customer Satisfaction variable is good.

2. *Effect Size* (F²)

The effect size is used to see that the F2 value of the predictor value of the latent variable has a weak value of 0.02, then the value of 0.15 is medium and 0.35 is said to be large at the structural level. The F2 value for each variable has a different criterion value. The Financial Technology variable (X1) on Customer Satisfaction (Y) is 0.250, meaning the latent variable has a medium influence. And the Virtual Customer Service variable (X2) on Customer Satisfaction (Y) is 0.652, which means the latent variable has a big influence.

3. FIT Model

Model Fit is seen from a good SRMR (Standardized Root Mean Square Residual) value which must be below 0.08 and an SRMR value of 0.105 is considered marginal, likewise a good NFI (Normal Fit Index) value must be above 0.90 so that an NFI value of 0.743 is considered marginal. The FIT model has an SRMR value of 0.046, which means the SRMR value is said to be good and the NFI value is 0.817, which means the NFI value is said to be marginal.

Testing Hypothesis (Bootstrapping)

The results of data processing can be used to answer research hypotheses. To test the hypothesis, we will compare t-statistics with t-table to determine whether there is an influence between variables. The significance value of the p-value is <0.05, so

the t-statistics value is > t-table value 1.64 using one tailed. The t-statistic value was obtained from bootstrapping results using the SmartPLS program.

The results of hypothesis testing via the path coefficient which can be explained as follows:

a. The first hypothesis tests the Financial Technology variable (X1) which influences the Customer Satisfaction variable (Y). The results of this test state that the p-value of 0.001 is smaller than 0.05. And it has a t-statistics value of 3.232 > t-table value of 1.64. It can be said that the Financial Technology variable partially has a positive effect on Customer Satisfaction.

b. The second hypothesis tests the Virtual Customer Service variable (X2) which influences the Customer Satisfaction variable (Y). The results of this test state that the p-value of 0.000 is smaller than 0.05. And has a t-statistics value of 6.015> t-table value of 1.64. It can be said that the Virtual Customer Service variable partially has a positive effect on Customer Satisfaction.

Discussion

The data obtained from collecting questionnaires are presented in the results of this research. From the results of data processing, it can be seen that the two hypotheses proposed are acceptable. There is an influence between the independent variable and the dependent variable. The following is a discussion of the influence between variables according to the hypothesis that has been proposed.

The Influence of Financial Technology on Customer Satisfaction

The results of testing the first hypothesis show that Financial Technology partially has a positive effect on Customer Satisfaction. The results of data analysis show that the first hypothesis is supported and indicates that the higher the use of Financial Technology, the greater the customer satisfaction. This can happen because of the ease of Financial Technology transactions which are faster and more efficient so that customers can make transactions more easily and quickly which can increase Customer Satisfaction, besides that Financial Technology can increase access to financial inclusion which causes customers to have many choices in accessing financial products and services , thus increasing Customer Satisfaction.

The TAM (Technology Acceptance Model) theory is supported by the findings of this research to help assess users' willingness to accept a new system by measuring the level of user satisfaction with the technology, and how easy the technology is to use at this time. According to Siswoyo and Irianto, (2023), this theory of perceived usefulness emphasizes user trust that if a technological system can improve user performance, they will use it, if it does not improve user performance, then this system will not be trusted and not used. The user's perceived ease of use (Perceived Ease of Use) depends on the trustworthiness of the technology they use. If users do not believe that technology will make their activities easier, in the future this technology cannot be utilized.

The results of this research are supported by previous research conducted by Uddin (2019), stating that Financial Technology partially has a positive effect on Customer Satisfaction. This can be interpreted as that Financial Technology has reliability and comfort, which is a service quality that shows how the bank provides safe services to its customers, and prioritizes confidentiality. Therefore, Financial Technology involves services as promised, dependability in dealing with customers to provide services in a timely and fast manner, banks always maintain an error-free

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record which helps to retain their customers, therefore Financial Technology remains a top priority in the banking sector to increase customer satisfaction.

The results of the research are further supported by previous research conducted by Chusnah and Indriana, (2020), proving that Financial Technology partially has a positive effect on Customer Satisfaction. This is demonstrated by the fact that previous research findings are in line with the findings of this study. Customers can feel satisfied because Financial Technology is easy to use, so customers can adapt to Financial Technology easily and without requiring much effort. Apart from ease of use, Financial Technology is also safe so that customers can carry out transactions comfortably and don't need to worry about customer user data. Therefore, to ensure the security of user data, banking must be able to provide strong data protection.

This research agrees with previous research conducted by Aznur (2023) stating that Financial Technology partially has a positive effect on Customer Satisfaction. This explains that Financial Technology is included in the factors that can influence customer satisfaction, because there is no need to carry a certain amount of cash to carry out repeated transactions, with Financial Technology it is possible to make payments quickly and with time efficiency. Financial Technology also helps people who live far from bank locations, making it easier for people to carry out financial transactions with Financial Technology, and customers will feel satisfied with the use of this technology, apart from being satisfied, they also find it easy to use Financial Technology without any difficulties.

Previous research conducted by Maknuun et al. (2023) supports this research stating that Financial Technology partially has a positive effect on Customer Satisfaction, because it states that Financial Technology is easier to use compared to conventional services. Apart from that, there are other things that influence customer satisfaction, namely making transactions using Financial Technology faster, sharing service processes in Financial Technology features that are easy to use and the features are easy to understand when used.

Based on the results of hypotheses and theories as well as previous research, it can be concluded that Financial Technology partially has a positive effect on Customer Satisfaction. This research shows that the use of Financial Technology can improve bank performance by making transactions faster and more efficient. Apart from that, it can increase operational efficiency and expand financial access for a wider range of customers. TAM theory is used to guide the adoption of new systems and improve the efficiency of technology use. This research also highlights the importance of Financial Technology in providing good services, and emphasizes the need for data protection to prevent misuse of data by banks, as well as helping to carry out transactions quickly without problems so that customers are satisfied using Financial Technology.

The Influence of Virtual Customer Service on Customer Satisfaction

The results of testing the second hypothesis show that Virtual Customer Service partially has a positive effect on Customer Satisfaction. The results of data analysis show that the second hypothesis is supported and indicates that the higher the use of Virtual Customer Service, the greater the customer satisfaction. This happens because of the ease of online and real-time interaction, so that customers can carry out transactions and ask for help more easily and quickly, and Virtual

Customer Service can improve the quality of banking services for customers to access services online and ask for help in real-time, so that increase customer satisfaction.

The TAM (Technology Acceptance Model) theory is supported by the findings of this research to help assess users' willingness to accept a new system by measuring the level of user satisfaction with the technology, and how easy the technology is to use at this time. According to Saputra and Sutarso, (2024), this theory states that the relationship between perceived convenience and user ease in using technology has a very important influence on customer satisfaction. If the customer experience becomes easy and enjoyable when interacting and can help resolve all complaints from customers, then customer satisfaction will increase.

This research is supported by previous research conducted by Narita and Fauzi (2022), stating that Virtual Customer Service partially has a positive effect on Customer Satisfaction. This means you can continue to use Virtual Customer Service to maintain the quality of customer service. Trust is one of the main keys that makes customers feel satisfied after using Virtual Customer Service as well as providing good communication skills, understanding context and being able to handle complex questions. Therefore, the quality of service in the Virtual Customer Service system needs to be maintained so that it meets customer expectations. Virtual Customer Service systems can use machine learning to adapt to new information or customer requests. This can improve the service quality of the Virtual Customer Service system to make it more advanced.

The results of this research are supported by previous research conducted by Mulyono and Sfenrianto (2022), stating that Virtual Customer Service partially has a positive effect on Customer Satisfaction. Because Virtual Customer Service has a quality system that can increase customer satisfaction. This shows that the quality of the Virtual Customer Service system can provide answers and information quickly and accurately compared to during (Offline) and customers do not experience problems in accessing Virtual Customer Service using the customer's mobile device. Apart from that, customers are satisfied with the quality of information provided by Virtual Customer Service, the information provided is accurate, precise and easy to understand. This helps customers solve problems that customers experience.

This research is in line with Nugraha et al. (2022) which states that Virtual Customer Service partially has a positive effect on Customer Satisfaction. This happens because the responsiveness of banking with the help of Virtual Customer Service makes it easier for customers to ask for help and makes customers feel comfortable. Apart from that, banking companies are easier for customers to contact, which will increase the customer experience which will motivate them to always use Virtual Customer Service. The customer experience of using Virtual Customer Service can make customers feel satisfied because the services provided by the bank provide comfort and are a unique experience for customers. The experience is as expected for customers with the hope of feeling fulfilled in interacting with Virtual Customer Service.

This research is relevant to previous research conducted by Harisi and Hiwono, 2024), stating that Virtual Customer Service partially has a positive effect on Customer Satisfaction. This provides a basis for banking companies to consider optimizing or increasing the use of Virtual Customer Service as a strategy to increase interest and use of the products or services offered. Apart from that, it also indicates that customer interaction can stimulate customer satisfaction. The presence of efficient and

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responsive Virtual Customer Service can create a better user experience, build trust and increase the perception of product or service value.

Based on the results of hypotheses and theories as well as previous research, it can be concluded that Virtual Customer Service partially has a positive effect on Customer Satisfaction. This research shows that the use of Virtual Customer Service can improve bank performance by facilitating online and real time interactions, which results in faster transactions and more efficient service delivery without having to queue and increases customer satisfaction. Virtual Customer Service must understand complex questions asked by customers, and provide fast, accurate information to encourage customers to always use it. Virtual Customer Service includes bank strategies to increase customer satisfaction from using products and services. This will result in a better customer experience and improve service quality.

CONCLUSION

Based on how the problem is formulated, the hypothesis and objectives of the research, a conclusion can be made that, partially, it has a positive effect on the research entitled The Effect of Financial Technology and Virtual Customer Service on Customer Satisfaction, Case Study of BRI Cilik Riwut Unit. Based on the research, after being discussed in the previous chapters, the following conclusions can be drawn:

a. Financial Technology partially has a positive effect on Customer Satisfaction. This research shows that the higher the use of Financial Technology, the greater the customer satisfaction.
b. Virtual Customer Service partially has a positive effect on Customer Satisfaction. This research shows that the higher the use of Financial Technology, the greater the customer satisfaction.

The researcher then makes recommendations or suggestions based on the research findings and conclusions. These suggestions will benefit all parties involved with these findings. Suggestions that can be concluded are as follows:

a. Future researchers can add related variables that have a technological relationship and influence on customer satisfaction that have been developed by banking companies so that they can influence many things in this research.
b. Future researchers who are interested in researching customer satisfaction should carry out deeper research by adding other indicators that can influence customer satisfaction so they can develop research objects with new data sources to obtain new and accurate research results.

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