Examining the Relevance of T-CRM and H-CRM for the Bank-Customer Partnership Quality and Willingness to Invest More

Ana Rimbasari¹* and Nikodemus Hans Setiadi Wijaya¹

Abstract: The current study examines the use of technology and human in Customer Relationship Management (CRM), especially in the banking industry. We analysed whether human still plays a role in the relationship in this industry. The purpose of this work is to determine the role of technology (T-CRM) and human (H-CRM) in enhancing partnership quality and customer behaviour (i.e., willingness to invest more). We collected data by distributing online questionnaires. The respondents were the customers of Bank Mandiri, Bank Central Asia (BCA), and Bank Rakyat Indonesia (BRI), who have experienced in using both technology-based and human-based banking services. A total of 161 responses were used in our data analysis. The results demonstrated that T-CRM and H-CRM had positive effects on partnership quality. It was found that partnership quality has a positive effect on willingness to invest more. This research advises that T-CRM is needed in the banking industry, but technology cannot replace the benefits of humans. Technology and people-based relationship are both still needed to improve the relational quality between the service providers (banks) and their customers.

Keywords: Customer Relationship Management (CRM); Technology-based CRM; Human-based CRM; Partnership Quality; Willingness to Invest More

Introduction

The 4th industrial revolution, a term proposed by Professor Klaus Schwab in 2011 in his book The Fourth Industrial Revolution, has been changing how business practitioners manage their organizations. Nowadays, technology in many forms is used in the process of business. Recently, businesses have employed technology in their business process, e.g., Shopee, Gojek, Grab, Maxim, and Dana. The employment of technology is believed to increase the competitive posture of a company compared to its competitors, which still use conventional methods. The technology-based business can reach more opportunities from their market, such as accessing a broader market, serving customers better, etc. In other words, the businesses that use relevant technologies in their process are more likely to have higher competitiveness rather than the ones that are not.
Building close relationships with customers is significant for organizational effectiveness. Marketing management has emphasized the importance of Customer Relationship Management (hereafter abbreviated as CRM). CRM can be defined as a strategic approach intended to create a high level of competitiveness for a firm through maintaining and developing a quality relationship with customers (Sin, Tse, & Yim, 2005). Following technological development, business organizations are now trying to adopt relevant technologies supporting their competitiveness. In better coping with the fast-changing environment and maintaining competitiveness, high quality of CRM is necessary. CRM will not only maintain the existing customers and attract new customers but also it will correspond to the organizational performance (Santouridis & Veraki, 2017).

CRM may provide good aspects for organizations, including its performance. It is because CRM can create a high relationship quality with their customers (Chen & Ching, 2007). If a high quality of the organization-customer relationship exists, the customers may perceive that they have good reciprocal interactions with their organizations; they are more unwilling to leave the organizations. Moreover, loyal customers tend to deepen relationships through buying or telling good things to others. Alamgir and Uddin (2018) found that CRM employed in the banks in Bangladesh increased relationship maintenance with their customers. CRM can also encourage the consumers’ willingness to revisit and make a regular transaction with the product providers (Udunuwara, Sanders, & Wilkins, 2018). Therefore, high-quality CRM may promote customer retention (Alamgir & Uddin, 2018). The facts advise that well-managed CRM can offer a variety of benefits to organizations.

Concerning RI 4.0, as previously mentioned, CRM can be developed with the use of technology. The person-to-person relationship is changing to the technology-to-person relationship. For instance, CRM is now done automatically. Customers get used to serving with answering machines, transaction machines, etc. This phenomenon results from the information communication system (ICT) development (Husain, Altameem, & Gautam, 2013).

The use of ICT in CRM is suggested to promote the level of customer satisfaction. From the perspective of organizations, the implementation of CRM makes the interaction more efficient; thus, it can decrease cost (Chen & Ching, 2007). Furthermore, technology-based CRM (T-CRM) may widen the coverage range in serving customers. Organizations can reach more customers, collect data, manage the data, and spread the relevant data to customers (Pan & Lee, 2003). Eventually, T-CRM increases organizational performance (Rajput, Zahid, & Najaf, 2018), more specifically, profit (Pan & Lee, 2003).

Even though T-CRM offers many benefits for both customers and organizations, research in consumer behavior needs to analyze it more deeply. It is suggested in the study that T-CRM is less than enough to accomplish the goal of CRM itself. Human-based CRM (H-CRM) is still needed. Notably, some elements cannot be replaced by technology, namely intuition, empathy, touch, which can only be provided by a human. People can also observe the service environment faster, such as to feel the various reactions of customers.
Moreover, experienced employees might catch consumers’ hidden (unstated) needs. In handling customers’ claims, employees are more likely to provide more personalized solutions. It means, in some occasions, customers seem likely to be served by people rather than technology. A work found that virtually transmitted interaction was negatively related to customer satisfaction (Ba & Johansson, 2008). It is because the customers feel a lack of interpersonal relationships during the service encounters. H-CRM may be significant (Baksi & Parida, 2012) to complement T-CRM to retain the customers with the organizations. It has been said that technology is one aspect of the relationship, along with the human aspect (Salomann, Dous, Kolbe, & Brenner, 2007). Finally, it has been suggested that organizations need to balance T-CRM and H-CRM (Ba, Stallaert, & Zhang, 2008).

Previous research suggests that T-CRM can support organizational effectiveness, such as getting more customers, collecting data, managing the data, and spreading the relevant data to customers (Pan & Lee, 2003). Eventually, T-CRM can help organizations reach higher performance (Rajput et al., 2018), more specifically, profit (Pan & Lee, 2003). Other work suggests that T-CRM is efficient but cannot cover all elements of CRM. The touch of human is suggested expensive, but it is believed can increase the effectiveness of the organizational-customer relationship (Husain et al., 2013). In the context of the banking industry, H-CRM can explore more deeply in recognizing the voices of customers. For example, an answering machine is not able to cope with all customers’ problems related to their bank accounts, service failures, and others. It is suggested that customer service staff or tellers will not only deal with money deposit administration or opening new accounts. A survey in London found that with a face-to-face communication manner rather than with other communication (e.g., telephone talk), a customer could easily share his/her problems with staff (Husain et al., 2013). The authors argued that this evidence, again, implies that the role of the human is still needed. However, extant literature has been not apparent whether H-CRM with T-CRM can use together to achieve higher performance. To partially fill in this gap, the goal of the current study is to analyze the effects of T-CRM and H-CRM on the development of partnership quality and customer behavior (i.e., willingness to invest more). This work could contribute to banking marketers in designing marketing strategies and managing CRM to promote more the satisfaction level of their customers. More specifically, the findings of the current research might be a good point to banking managers and consultants to begin creating service types that employ both technology and human touch in designing effective CRM.

**Literature Review and Hypotheses Development**

Drawing on SOR Framework (Mehrabian & Russell, 1974), the relationships among the study variables were developed. The framework suggests that the Stimuli-Organism-Respon sequence demonstrates how a stimulus (S) can influence human’s (organism-O) response (R). SOR Framework suggests that a circumstance may lead to felt emotion, which in turn, the emotion may encourage the person to react or behave based on his/her emotion. This conception is the basic knowledge of understanding why a person behaves in a particular action (Mehrabian, A., & Russell, 1974). For instance, this framework has
already been used to explain the effect of service experienced by customers (Durna, Dedeoglu, & Balikcioglu, 2015; Goi, Kalidas, & Yunus, 2018). As a stimulus, a good CRM can be expected to encourage positive emotions of customers, in turn, their positive behavior.

Literature suggests that CRM consists of seven components, i.e., customer prospecting, relations with customers, interactive management, understanding customer expectations, empowerment, partnerships, and personalization (Nath, Gugnani, Goswami, & Gupta, 2009). The seven components aim to create a conducive service environment in such ways organizations can search, interact with, empower, maintain relationships with, and acknowledge the needs of customers. In the CRM process, the main focus is on developing relationships that create mutual benefits to all parties (i.e., an organization with its customers, Zeithaml, L. berry, & Parasuraman, 1996). The customers are satisfied by experiencing the high quality of a relationship, whereas the organization can achieve its goals more effectively (Ascarza, Ebbes, Netzer, & Danielson, 2017). Since searching for new customers is more expensive than keeping the existing ones, CRM may be an effective tool to keep the existing customers with the companies. The ultimate goal of CRM is to strengthen the customers’ willingness to continue the buying pattern.

The adoption of technology in CRM makes customers proceed transactions more easily (Husain et al., 2013). In the banking industry, customers can use e-banking in various transactions. The ease, speed, and accuracy offering by T-CRM make the customers delighted to interact more with the banks. Also, they can access relevant information promptly. The situation can strengthen customer engagement (Choudhury & Harrigan, 2014; Dewnarain, Ramkissoon, & Mavondo, 2019) because they perceive that the relationships with the banks to be advantageous. This study suggests that the more the T-CRM, the better the partnership quality (Chen & Ching, 2007). High quality of T-CRM is a good stimulus for promoting a higher partnership quality. Therefore, the following hypothesis is proposed:

\[ H_{1a} \quad : \text{T-CRM will be positively related to partnership quality} \]

The second type of CRM is H-CRM. Employees remain to have a central role in this industry. Somehow, the customers of banks seem likely to be more happy and satisfied when they can talk directly to the banks’ staffs rather than communicate via e-mail or website (Laudon & Laudon, 2016). This type of CRM thus requires skillful employees who can serve their customers as needed (Sivaraks, Krairit, & Tang, 2011). People are inherently equipped with the ability to feel with intuition and to create more specific treatments for their partners. They thus can offer more personalized solutions for customers, which cannot be given by technology. If customers experience high-quality H-CRM, they are more likely to deepen their relationships with the banks. As a stimulus, H-CRM can develop a high quality of the partnership. As the representatives of the institutions, employees who deliver a high quality of service might represent that the
banks are also qualified to serve them in the future (Goi et al., 2018; Manthiou, Ayadi, Lee, Chiang, & Tang, 2017). Therefore, the following hypothesis is proposed:

\[ H_{1b} : H-CRM \text{ will be positively related to partnership quality} \]

We believe that the willingness to invest more is an essential behavior of the customers of banks because it might be highly related to the banks' performance. This behavior measures the extent to which the customers encourage to invest their money in the banks. It is suggested that when a customer has a good perception of interaction with his/her bank, the willingness to invest more can be increased (Agnihotri, Yang, & Briggs, 2019). The customer feels that the valued relationship has to be continued and strengthened. Finally, the following hypothesis is proposed:

\[ H_2 : Partnership \text{ quality will be positively related to willingness to invest more} \]

## Research Methods

This study is a quantitative study that employed an online-survey method to collect the research data. In line with the context of our study, we targeted the customers of banks to become our samples. We chose the customers of the three biggest Indonesian Banks, namely Bank Mandiri, Bank Central Asia (BCA), and Bank Rakyat Indonesia (BRI). The reason was these banks have enough experience to implement T-CRM (e.g., e-banking, ATM, mobile banking) and H-CRM (e.g., teller, customer service) as tools to maintain the bank-customer relationship. The significance of proposed paths was evaluated by using the Warp PLS 6.0.

## Results and Discussion

### Respondents and Analytical Procedure

| Table 1 | Respondents' Characteristics |
|---------|-----------------------------|
| Description | Group | Frequency | % |
| Gender | Female | 119 | 73.9% |
| | Male | 42 | 26.1% |
| Status | Student | 93 | 57.8% |
| | Employee | 45 | 28.0% |
| | Entrepreneur | 10 | 6.2% |
| | Others | 13 | 8.1% |
| Highest Education | High school | 40 | 24.8% |
| | Undergraduate | 107 | 66.5% |
| | Graduate | 14 | 8.7% |
| Year(s) Joining with the bank | <1 year | 14 | 8.7% |
| | ≥1 year | 147 | 91.3% |
A total of 200 online questionnaires were distributed. We could collect 161 usable responses. The characteristics of respondents are presented in Table 1. Before hypotheses testing, we evaluated the validity, reliability, inner model, and model fit, respectively.

Instrument validity was evaluated by observing their cross-loadings (Kock, 2019). Table 2 demonstrates the results of the analysis. All instruments’ items were valid.

We used WarpPLS 6.0 for assessing the reliability of the study variables. The Cronbach’s alpha was used to measure whether an instrument was reliable or not. Table 3 shows the results. All variables were reliable.

We performed several testings intended for evaluating the inner model and model fit before hypotheses testing. As shown in Table 3, T-CRM dan H-CRM could account for a partnership quality of 26%. Whereas, willingness to invest more could account for partnership quality of 28.6%. Model fit is shown in Table 5. The analysis results demonstrated that hypotheses testing was eligible to continue.
Rimbasari & Wijaya
Examining the Relevance of T-CRM and H-CRM for the Bank-Customer Partnership Quality ...

**Table 4** Results of Inner Model Assessment

| Variable          | R-Square |
|-------------------|----------|
| T-CRM             | -        |
| H-CRM             | -        |
| Partnership quality | 0.260    |
| Willingness to invest more | 0.286    |

**Table 5** Results of Model Fit Assessment

| Index    | P-Value | Criteria | Status          |
|----------|---------|----------|-----------------|
| APC = 0.397 | P < 0.001 | P < 0.05 | Model accepted  |
| ARS = 0.273 | P < 0.001 | P < 0.05 | Model accepted  |
| AVIF = 1.043 | P < 5.0   |          | Model accepted  |

Finally, we tested the proposed hypotheses. The analysis results are shown in Figure 1 and Table 6. A summary of the results is also presented in Table 6.

**Figure 1** Results of Hypotheses Testing

**Table 6** Summary

| Hypothesis                                     | Beta | Sig    | Decisions |
|-----------------------------------------------|------|--------|-----------|
| H1a T-CRM will be positively related to partnership quality | 0.355 | P < 0.001 | Supported |
| H1b H-CRM will be positively related to partnership quality | 0.301 | P < 0.001 | Supported |
| H2 Partnership quality will be positively related to willingness to invest more | 0.534 | P < 0.001 | Supported |

**Discussion**

Hypothesis 1a was supported. It is suggested that T-CRM is positively related to partnership quality. This finding is consistent with prior studies (Chen & Ching, 2007; Santouridis & Veraki, 2017), pointing out that the use of technology in CRM can promote relationship quality and customer engagement. The finding also confirms that T-CRM makes the customers of banks perceive closer relationships with and stronger trust in their banks. T-CRM also makes communication and transaction more comfortable to do. For example, they can get information such as balance, mutations, and others.
Investments in T-CRM are thus a focal task for all banks (Chen & Ching, 2007). Interactions with T-CRM can be conducted anytime, anywhere, to deepen the relationship between the customers and the banks.

Hypothesis 1b was supported. It is suggested that H-CRM can improve partnership quality. In line with a work conducted by Agnihotri, Trainor, Itani, and Rodriguez (2017), it is demonstrated that humans in most service industries contribute a significant impact on the development of relational quality. H-CRM makes the relationship quality better and more profound. When customers are served with empathy and good emotions, they are happier. Any technology, even it is brilliant, cannot replace these benefits. The customers of banks are still willing to queue to get more personalized solutions for their problems when a machine cannot do it so.

The findings of this study suggest that T-CRM and H-CRM are both critical for the development of the bank-customer partnership quality. Even though T-CRM had a slightly more substantial effect on partnership quality, the effect of H-CRM was not small. In this era, technology is very focal when a customer wants to interact with his/her service provider; however, the importance of human touch in the relationship cannot be deniable.

Hypothesis 2, suggesting that partnership quality is mainly related to the willingness to invest more, was also supported. This result was in line with the previous work (Lee, 2017), discovering that when a customer perceived a valued relationship with his/her service/good provider, he/she was motivated to buy the product more. It confirms that the stronger the provider-customer partnership quality, the longer the buying pattern will be. Moreover, a strong partnership quality can likely be a good measure of customer loyalty.

Conclusion

This study links T-CRM, H-CRM, partnership quality, and willingness to pay more in the banking industry. The findings suggest that T-CRM and H-CRM are good stimuli to increase partnership quality. Furthermore, partnership quality is necessary to increase customers’ willingness to invest more. It is suggested in this study that T-CRM is vital to implement in this era. However, it has to be complemented with H-CRM. The balanced portion of the two makes a bank can acquire beneficial relationships with its customers. When effective relationships exist, desirable behaviors of customers are shown. The willingness to invest more is a good indicator to measure how well a bank implements its CRM. Finally, T-CRM and H-CRM have central roles in order to enhance organizational performance. As investments, well-organized T-CRM and H-CRM can influence customers’ perception and behavior, and the banks can reap benefits from the application of both.
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