

# The Impact of Electronic Customer Relationship Management and Quality Moderated by Sharia Compliance on Loyalty (Study on Islamic Banks in Jakarta)

Rochmad Rochmad<sup>1</sup>, Ahmad Mukhlis Yusuf<sup>2</sup>, Rahmat Mulyana<sup>3</sup>

<sup>1,2,3</sup> Institut Agama Islam Tazkia, Bogor

✉ [2006.rochmad.005@student.tazkia.ac.id](mailto:2006.rochmad.005@student.tazkia.ac.id)

**Abstract** : In the rapidly digitizing landscape of Islamic banking, innovation is imperative for competitiveness and delivering top-tier services to customers. Electronic Customer Relationship Management (E-CRM) emerges as a key solution, streamlining interactions between banks and customers in the digital realm. This study delves into how E-CRM and Service Quality affect Customer Loyalty within Islamic banks, with a focus on Shariah Compliance as a moderating factor. The aim is to decipher how the Islamic banking sector can cultivate and enhance customer relationships in the digital age. Employing a quantitative approach, the research collects survey data from 212 Islamic bank customers through random sampling. Structural Equation Modeling (SEM), executed using IBM AMOS V.22 software, scrutinizes the collected data. Findings indicate a significant, positive contribution of E-CRM to Customer Loyalty. Interestingly, Service Quality doesn't wield a significant influence on Customer Loyalty, suggesting the presence of other influential factors in the Islamic banking arena. Notably, Shariah Compliance emerges as an important moderating element, bolstering the connection between Service Quality and Customer Loyalty, though it doesn't moderate the impact of E-CRM on Customer Loyalty.

**Keywords** : **Electronic Customer Relationship Management (E-CRM), Service Quality, Shariah Compliance, Loyalty.**

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## 1. INTRODUCTION

The recent cyberattack incident on Bank Syariah Indonesia (BSI) is a major concern in the context of cybersecurity and the banking sector. The attack involved a series of actions aimed at accessing, damaging, or stealing sensitive data and financial information stored in the bank's systems. The cyberattack on Bank Syariah Indonesia (BSI) is an incident that highlights the weaknesses and risks that financial institutions can experience in dealing with threats in the digital world. It provides an insight into the complexity of cybersecurity challenges faced by modern banks, especially in the context of Islamic banks such as BSI.

The development of information and communication technology has accelerated the transformation of the banking sector, hence banks must provide the best services for their customers triggered by intense competition, increasing globalization, and rising consumer expectations (Al-Dmour, Algharabat, Khawaja, & Al-Dmour, 2019).

This needs to be done to retain customers and increase their financial profitability. Cybersecurity is not only a technical issue in the midst of digitalization, but also a momentum in ethics and compliance with sharia principles in the banking business. The cyberattacks that have occurred underscore the importance of maintaining the integrity and security of customer financial data, which is in line with the ethical values and principles of Islamic finance that underlie the operations of Islamic banks such as BSI (Fitriani, Subagiyo, & Nur Asiyah, 2023).

In the face of intense competition in the banking sector, banks must keep up with the latest technological trends to improve service quality (Mat Rahim, Mohamad, Abu Bakar, Mohsin, & Md Isa, 2018). Digitalization has changed the way businesses interact with customers through the internet (Hendriyani & Auliana, 2018). For Islamic banks, innovation in services is important, but it must comply with the principles of Islamic finance (Arafa, Ramadan, & Hussin, 2021). Technological developments in recent years have prioritized speed and efficiency in the banking business, especially thanks to the development of the telecommunications sector (Azila & Noor, 2011). The evolution from Customer Relationship Marketing (CRM) to Electronic Customer Relationship Management (E-CRM) is a response to changes in an increasingly complex business environment, driven by technological advances (Hendriyani & Auliana, 2018). The concept of E-CRM in banking is an attempt to understand the relationship between banks and customers by combining people, processes, and technology (Oumar, Mang'Unyi, Govender, & Rajkaran, 2017).

Although E-CRM provides benefits, its implementation also poses challenges such as data security, customer technological understanding, and potential alienation due to lack of human interaction (Helal, Rashwan, Lasheen, Mansi, & Hassan, 2019). E-CRM is an approach that integrates the concept of Customer Relationship Management (CRM) with web technology, especially through the Internet, to provide more personalized, responsive, and efficient services to bank customers (Hendriyani & Auliana, 2018). This means that most interactions between customers and banks, both sharia and conventional, occur through electronic media. Although E-CRM technology offers the potential to improve services, the issue of the extent to which its application is truly effective in increasing customer loyalty of Islamic banks is still a question (Azila & Noor, 2011).

In the context of Islamic banks, the use of technology must also pay attention to the principles of compliance with Islamic law, namely Sharia compliance (SC) (Al-Araj, Haddad, Shehadeh, Hasan, & Nawaiseh, 2022). These principles must be integrated in the bank's operations to ensure that Islamic banking products and services comply with Islamic principles. Although many Islamic banks have adopted fintech technologies such as e-banking and mobile banking to provide financial services to customers, competition with conventional banks in providing similar services remains a challenge (Suhartanto et al., 2022). Product and service differences in Islamic banks are considered to be of high quality as they relate to aspects of worship (Zaerofi, Sukmara, & Haryono, 2022). This makes it important for Islamic banks to differentiate the technology used with conventional banks in order to remain compliant with Islamic principles (Usman, Projo, Chairy, & Haque, 2022). Islamic bank customers expect services that comply with Islamic sharia principles, although sometimes there are discrepancies that can reduce loyalty (Suhartanto et al., 2022; Kartika et al., 2020).

The increasing popularity and rapid development of the Islamic banking industry has led to expectations of improved service quality and higher sharia compliance (Asnawi, Sukoco, & Fanani, 2020). Public awareness of sharia principles drives the

expectation that Islamic banks will provide high quality services and be compliant with these principles (Zaerofi et al., 2022; Ahmed et al., 2022). This encourages Islamic banks to continuously innovate and improve their service standards to meet these expectations and maintain customer trust and loyalty (Ahmed et al., 2022). The inability of banks to have sophisticated systems or efficient processes can make it difficult for customers to transact or obtain the information they need (Andrade & Tumelero, 2022). These limitations can lead to customer dissatisfaction and reduced loyalty (Yussaivi, Lu, Syarief, & Suhartanto, 2021). Therefore, prompt and effective response to customer issues or complaints is crucial. While Islamic banks have adopted various technology platforms and systems to support E-CRM and other services, imperfect system integration can be an issue that affects the overall customer experience and their loyalty (Dehghanpouri, Soltani, & Rostamzadeh, 2020).

In an effort to retain and attract customers, Islamic banks must prioritize and focus on service quality (Asnawi et al., 2020). The importance of understanding the impact of service quality on customer loyalty is increasingly felt because competition in the Islamic banking industry is heating up (Abror et al., 2020). In this context, it is important to explore the role of E-CRM, service quality, and sharia compliance in influencing customer loyalty in Islamic banks. In many cases, Islamic banks need to ensure that the services they provide comply with sharia principles to maintain their integrity (Zaerofi et al., 2022). However, problems can arise if banks are unable to handle customer complaints or provide adequate solutions, which can lead to customer disappointment and loss of trust.

Previous research has produced mixed findings, possibly due to differences in research methodologies, samples used, and characteristics of the banking industry. Therefore, this study makes a contribution by incorporating these factors and exploring the moderating role of shariah compliance in the relationship between E-CRM, service quality, and customer loyalty in Islamic banks. This provides deeper and relevant insights for Islamic banks in designing service strategies that blend sharia values with customer needs. This research is also important because specific research on the application of E-CRM in Islamic banks is still limited, while Islamic banks have unique characteristics in sharia-based banking principles and practices.

## **2. LITERATURE REVIEW AND METHOD**

### **2.1 E-CRM in Islamic Banks**

Islamic banks, in contrast to conventional banking, follow Islamic sharia principles and have a strong focus on superior customer service and maintaining good relationships with them to maintain business sustainability (Ascarya & Yumanita, 2005; Nurjannah et al., 2020). In this digital era, where customers prefer to interact with banks through digital channels, E-CRM (electronic Customer Relationship Management) becomes an invaluable tool for Islamic banks (Al-Dmour et al., 2019). E-CRM utilizes information technology to improve customer service and enables banks to deeply understand customer needs and preferences (Dyche, 2002). In addition, E-CRM provides important analytical capabilities for Islamic banks in making strategic decisions by analyzing customer data (Saleem & Rokbeh, 2022). By providing superior services through digital channels, Islamic banks can strengthen relationships with customers, achieve competitive advantage, and win the hearts and trust of customers in the context of Islamic banking.

## 2.2 Research Framework and Hypothesis Development

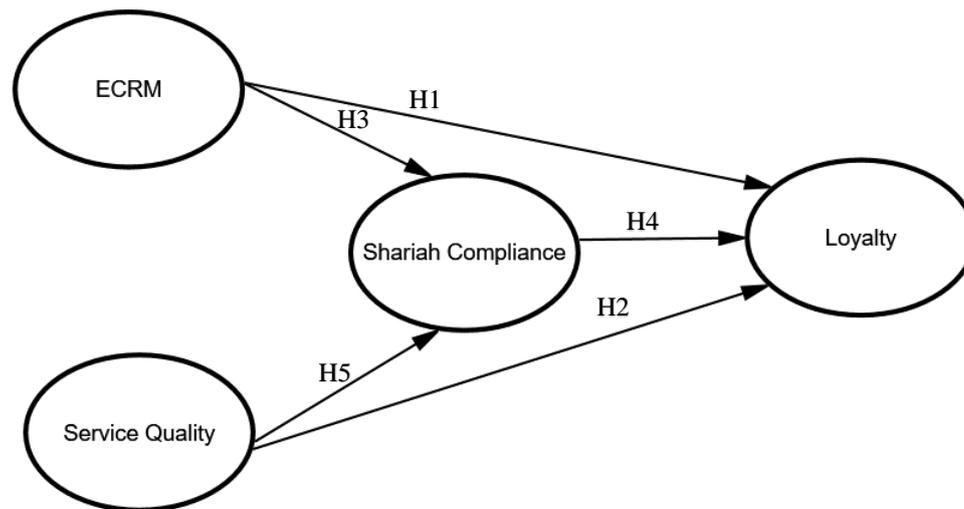


Figure 1: Research Framework Model

1. The relationship between E-CRM and Islamic bank customer loyalty  
There is empirical evidence to support that E-CRM affects the level of customer loyalty in Islamic banks (Mulyono & Situmorang, 2018 and Oumar et al., 2017) that the implementation of E-CRM effectively has a positive impact on customer loyalty. The relationship between E-CRM and customer loyalty in Islamic banks is an important aspect in the context of the banking business. In the context of Islamic banking, E-CRM can be a very effective tool for strengthening relationships with customers and promoting business sustainability. The proposed hypothesis is:

**H1:** E-CRM affects the loyalty of Islamic bank customers

2. Relationship between service quality and customer loyalty of Islamic banks  
Indicates that the quality of service at Islamic banks will play a role in influencing customers to continue using Islamic banks in their financial transactions. The findings of research conducted by (Asnawi et al., 2020) and (Abror et al., 2020) have provided empirical evidence that service quality affects the loyalty of Islamic bank customers. Thus, the results of these studies support the concept that customers will tend to continue using Islamic banks if they experience good service quality. In this case, the study provides a strong empirical basis for linking service quality with customer loyalty in the context of Islamic banks. The proposed hypothesis is:

**H2:** Service quality affects the loyalty of Islamic bank customers

3. The relationship between E-CRM and the quality of Islamic bank services  
The implementation of E-CRM in Islamic banks has a positive impact in improving the quality of service to customers. Through E-CRM, Islamic banks can easily provide fast and precise responses to questions and requests from customers. Customer service can be done in a shorter time, and customers have the convenience of accessing banking information and services anytime and anywhere. This responsiveness and efficiency contribute significantly to improving the quality of Islamic bank services. The results of research conducted by (Aldaihani & Bin Ali, 2018) and (Saleem & Rokbeh, 2022) on Islamic banks confirm the importance of E-

CRM in improving service quality. These studies concluded that the implementation of E-CRM has a positive impact on customer experience and customer satisfaction levels. By using information technology and digital channels, Islamic banks are able to provide more personalized and relevant services, understand customer needs better, and provide more effective solutions in accordance with sharia principles. The proposed hypothesis is:

**H3:** E-CRM affects the quality of Islamic bank services

4. The relationship between E-CRM moderated by sharia compliance on Islamic bank loyalty

Shariah compliance often relates to transparency in financial transactions. If an E-CRM platform provides customers with easy access to understand how their funds are being managed in a Shariah-compliant manner, it can strengthen their loyalty towards the bank. For customers who place a high priority on sharia principles, the bank's ability to respond and address any issues or complaints that may arise in a sharia-compliant manner can be a key factor in maintaining loyalty. E-CRM can assist in this process by facilitating effective communication between banks and customers. The proposed hypothesis is:

**H4:** Shariah compliance moderates the effect of E-CRM on loyalty

5. Relationship between service quality moderated by sharia compliance on Islamic bank customer loyalty

If Islamic banks are able to provide quality services that are in line with sharia values and principles, customers who are highly concerned with sharia compliance may be more likely to be loyal. Shariah compliance may moderate this relationship through increased customer trust. Islamic banks can play an active role in educating customers about sharia principles and how the services they provide are aligned with these values. If customers are satisfied with the quality of Islamic bank services and feel that sharia values are respected, they may be more likely to remain loyal. By providing better understanding to customers, banks can strengthen emotional connections with them, which can have a positive impact on loyalty. The proposed hypothesis is:

**H5:** Shariah compliance moderates the effect of service quality on loyalty

## 2.3 Method

### 2.3.1 Population and Sample

This study focuses on a population consisting of individuals who reside in the DKI Jakarta area and have become customers in Islamic banks. Given the widespread population in the DKI Jakarta area, a sample approach is taken to represent the characteristics of the entire population. The sampling technique applied is the random sampling method, which involves random selection of individuals from the entire population, either in the form of individuals or groups. In the context of this research, the number of respondents who involved themselves in filling out the questionnaire reached 212. The active participation of these respondents provides a strong empirical basis for the analysis conducted, by enabling the development of findings that can be further generalized. This analysis therefore

represents an attempt to portray a comprehensive picture of the respondents' characteristics and profile, which in turn will provide a more solid basis for the interpretation of the analysis results and research findings. Table 1 presents the available respondent data:

Table 1. Profile of Respondents

Characteristic	Description	Frequency	(%)
Gender:	Male	135	64
	Female	77	36
Age (years):	17 - 30	67	32
	31 - 40	94	44
	41 - 50	32	15
	> 50	19	9
	Senior high school	25	12
Education level:	Diploma	46	22
	Undergraduate	96	45
	Master/PhD/Doctoral	45	21
	Employee	59	28
Employment status:	Civil Servant	19	9
	Army/police	8	4
	Entrepreneur/Trader	106	50
	Teacher/lecturer	20	9
	< 2	16	7
Duration of being consumer:	2 - 4	26	12
	5 - 7	74	35
	8 - 10	82	39
	< 10	14	7

Source: Primary data processed, 2023

### 2.3.2 Data Analysis

This study adopts a data analysis approach through the application of the SEM (Structural Equation Model) model by utilizing IBM AMOS (Analysis of Moment Structures) software. The use of the SEM analysis method is directed at the ability of this model to describe the relationship that exists between endogenous and exogenous variables in a theoretical framework. In line with the view (Arbuckle, 2011) in many contexts, these variables are often indicated or measured by a series of interconnected indicators. AMOS software allows modeling the relationship between variables in a more structured and more detailed manner, which in turn will result in a more in-depth interpretation and more accurate analysis results in accordance with the research objectives (Arbuckle, 2011).

### 2.3.3 Confirmatory Factor Analysis (CFA) Test

Before proceeding to the structural model testing stage, an important stage that must be carried out is the process of measuring latent constructs, including validity and reliability checks, known as confirmatory factor analysis. In this stage, Confirmatory Factor Analysis (CFA) is used by utilizing AMOS software as the main tool. The main purpose of this stage is to test the extent to which the indicators used in the study can reflect or describe well the variables being

studied (Arbuckle, 2011). The criteria that must be met is that each indicator must have a valid loading  $> 0.7$ , indicating that the indicator significantly represents the dimension being measured (Arbuckle, 2011). This stage of CFA forms a solid empirical basis to ensure that the model developed has a strong basis before further analysis is carried out.

Table 2. Variable Indicators by Loading Factor

Constructs	Items	Loading	Cronbach's alpha
ECRM	Customized roducts/services.	0.772	0.927
	Transaction security/privacy.	0.838	
	Alternative payment modes.	0.924	
	Troubleshooting.	0.848	
	Online feedback.	0.810	
	Frequently asked questions (FAQ).	0.749	
Service Quality	Modern tools and equipment.	0.892	0.955
	Fast service.	0.867	
	Service accuracy.	0.888	
	Knowledgeable staff.	0.860	
	Staff appear professional.	0.838	
	Providing a wide range of services.	0.852	
	Compatible with conventional bank services.	0.808	
	Using the latest technology.	0.817	
Syariah Compliance	Having a Sharia Supervisory Board.	0.825	0.954
	Operational activities in accordance with sharia principles.	0.905	
	Operating a profit sharing system or free from interest.	0.948	
	Implementing sharia-compliant products and services	0.927	
	Using sharia brand.	0.880	
Loyalty	Repeat purchase	0.728	0.950
	Habitual consumption of the brand.	0.793	
	Great preference for the brand.	0.820	
	Brand determination.	0.928	
	Belief that the brand is the best.	0.992	
	Recommending the brand to others.	0.896	
	Saying positive things about Islamic banks to others.	0.813	

Source: Primary data processed, 2023

Through testing conducted on all research variables, it is found that the constructs of the E-CRM variable, service quality, sharia compliance and loyalty have met the predetermined evaluation standards. From table 2, it can be seen that all measurement indicators for each variable have a loading value > 0.7. Thus, this stage forms a strong foundation to ensure that the model developed has a solid empirical basis before proceeding to the further analysis stage.

### 3. RESULTS AND DISCUSSION

#### 3.1 Structural Model Test Results

This test is to assess the feasibility of a structural model that has been made whether it meets the predetermined criteria based on goodness of fit. In the first test, it was found that the results of testing the structural model in the study were not good, so the next step is to improve the model by modifying the existing model. Model modification can be done by connecting existing indicators, for this reason it is necessary to know the output data generated by SEM Amos, namely indicators that have large modification indices values. Modifications are made so that the model being tested in the study has a Goodness of Fit value that matches the existing criteria. Table 3 displays the results of the structural model test.

Table 3. Goodness of Fit Index results on the structural model

Goodness of Fit Index	Cut off Value	Results	Description
Chi-Square	Diharapkan Kecil	3,206	Good Fit
Significancy Probability	$\geq 0,05$	,098	Good Fit
RMSEA	$\leq 0,08$	,020	Good Fit
GFI	$\geq 0,90$	,834	Marginal Fit
AGFI	$\geq 0,90$	,914	Good Fit
CMIN/DF	$\leq 2,00$	1,398	Good Fit
TLI	$\geq 0,90$	,983	Good Fit
CFI	$\geq 0,90$	,986	Good Fit

Source: Primary data processed, 2023

As a result of the goodness of fit analysis, most of the criteria have been well met, although there is one criterion that shows a marginal level of fit. This indicates that the proposed model structure is able to explain the relationship between the variables in the research framework. The conclusion is that the model as a whole can be used to understand the relationships between variables in the research context.

#### 3.2 Discussion

Tabel 5. Regression Weights

Direct Test			Estimate	S.E.	C.R.	P	Results
Loyalitas	<---	ECRM	.474	.181	2.621	.009	Significant
Loyalitas	<---	Kualitas	.312	.184	1.693	.090	Not Significant
Kualitas	<---	ECRM	.991	.078	12.629	***	Significant

Source: Primary data processed, 2023

Based on the test results that have been carried out, it can be seen in table 5, the effect of E-CRM on loyalty with a C.R value of 2.621 and a probability value (P) of  $.009 < 0,05$ . In accordance with the predetermined criteria if the significance value is  $<0.05$ , it accepts H1, namely E-CRM has an effect on the loyalty of Islamic bank customers. A strong argument for this result can be reflected in the development of increasingly dominant digitalization trends in the banking industry. With innovations in technology and digital platforms, Islamic banks are increasingly active in implementing E-CRM strategies to provide more efficient, personalized, and responsive services to customers.

The effect of service quality on loyalty with a C.R value of 1.693 and a probability value (P) of  $.090 > 0.05$ . Thus reject H2, namely service quality has no effect on the loyalty of Islamic bank customers. Currently, Islamic banks need to focus more on factors that differentiate them from conventional banks, such as strict application of sharia principles, services that are in accordance with religious values, and a more personalized and committed approach to customers. Although service quality remains relevant and needs to be maintained, this result indicates that there are other aspects that need more attention in an effort to maintain and expand the customer base in the Islamic banking environment.

The effect of E-CRM on service quality with a C.R value of 2.621 and a probability value (P) of  $.009 < 0.05$ . Thus accepting H3, namely E-CRM has an effect on service quality. The relationship between E-CRM and service quality can also be interpreted as a reflection of the commitment of Islamic banks in maintaining the quality of service to customers along with technological developments. These results also illustrate that adaptation to technological trends and the use of E-CRM can be one way for Islamic banks to increase competitiveness and expand the customer base, especially in the rapidly growing digital era.

Tabel 6. Test Results Through Mediating Variables

Indirect Effect	Zsobel Count	Results	P-Value
E-CRM --> Kepatuhan--> Loyalitas	1.475	Not Significant	0.14
Kualitas --> Kepatuhan --> Loyalitas	2.307	Significant	0.02

Source: Primary data processed, 2023

Based on the results of the test analysis conducted, it can be seen in Table 6 that the value of the Sobel Test is 1.475, which is below the critical threshold of 1.96, and the value of the P-value of 0.14, exceeding the significance level of 0.05. Referring to the predetermined criteria, where if the Sobel Test value is greater than 1.96 and the P-value is less than 0.05, the results of the test involving moderation variables indicate rejection of H4 because there is no evidence that E-CRM indicators have an influence on loyalty through sharia compliance. This result may indicate that the effect of E-CRM technology in increasing customer loyalty in an Islamic bank environment is not significantly influenced by the level of customer sharia compliance. Although sharia compliance is a strong and relevant value in the Islamic banking industry, it appears that in the context of implementing E-CRM technology, the sharia compliance factor may have a more limited impact in changing customer response or behavior towards services.

Based on Table 6, the Sobel Test result is 2.307 which exceeds the critical threshold of 1.96. While the P-Value is 0.02, lower than the significance level of

0.05. In accordance with the predetermined criteria, if the Sobel Test value exceeds 1.96 and the P-Value is less than 0.05. P-Value is less than 0.05, the conclusion of the test results involving moderating variables indicates acceptance of H5 that sharia compliance moderates the effect of service quality on loyalty. However, when comparing the direct effects value of 0.274 with the indirect effects value of 0.167, sharia compliance appears to weaken the effect of service quality on loyalty. The practical implication of this finding is that Islamic banks should consider sharia compliance factors in designing service strategies and policies that impact loyalty. In an effort to increase customer loyalty, focusing only on improving service quality may not be effective enough if it is not accompanied by attention to sharia compliance factors. Islamic banks can initiate initiatives that integrate Shariah values in their services, hoping to strengthen emotional and spiritual bonds with customers. They may be more critical of deviations from sharia principles and feel disappointed that the service they receive is not in line with their values. This may result in a perceived lack of shariah-compliant service quality and ultimately weaken customer loyalty.

#### 4. CONCLUSION

Overall, these findings provide valuable insights into the factors that influence customer loyalty in the Islamic banking industry. E-CRM implementation can positively influence loyalty and service quality, with Shariah compliance having an important role in the relationship between service quality and customer loyalty. However, findings suggesting that service quality itself may not have a significant influence on customer loyalty, provide a call for Islamic banks to maintain a balance between the factors of technology, service, and sharia values in an effort to build sustainable loyalty among its customers.

The limitations found in this study remind us to explore further in future research. Firstly, it should be acknowledged that this study was conducted within the framework of a specific Islamic bank context, which may limit the generalizability of the findings to the broader Islamic banking sector or even the conventional banking sector. To address this, future studies could expand the diversity of the sample by involving various Islamic banks or comparing them with conventional banks to analyze whether the findings remain consistent across different contexts. In addition, the quantitative methodology used in this study may not fully capture the complexity of the relationships that may exist between the variables under study. Therefore, the suggestion for future research is to consider a qualitative approach or a mixed research design. Involving in-depth interviews and content analysis can provide deeper insights into customer perceptions and experiences related to the factors that influence loyalty. The integration of qualitative methods can provide a richer emotional and contextual dimension in understanding the complexity of the relationship.

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