

What Drives Loyalty Among Male Online Banking Customers? Uncovering Dynamics of Protection Ability, Co-Creation, and Social Support

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ABSTRACT

Purpose This study aims to investigate the influence of coping appraisal and protection co-creation behavior on the loyalty of male online banking customers, with social support acting as a moderating variable. **Methodology** The research is based on data collected from 127 male customers registered with Indonesia's four largest banks- BCA, BRI, BNI, and Mandiri- which are located in Surabaya. The study employs WarpPLS 8.0, a Partial Least Squares Structural Equation Modeling (PLS-SEM) technique, to test the proposed research hypotheses. **Findings** The results indicate that coping appraisal has a significant positive impact on the protection of co-creation behavior and loyalty. However, protection co-creation behavior does not directly influence loyalty. Additionally, the moderating role of social support does not enhance the effect of coping appraisal on protection co-creation behavior. **Suggestion** This study provides valuable insights for banking management in developing strategies to improve customer loyalty by strengthening customer protection capabilities and fostering better-coping appraisal mechanisms.

Keywords: Protection Capability; Protection Co-Creation; Loyalty; Social Support; Male Online Banking Customers.

ABSTRAK

Tujuan Penelitian ini bertujuan untuk menyelidiki pengaruh coping appraisal dan protection co-creation behavior terhadap loyalitas nasabah online banking pria, dengan dukungan sosial bertindak sebagai variabel moderasi. **Metodologi** Penelitian ini didasarkan pada data yang dikumpulkan dari 127 nasabah pria yang terdaftar di empat bank terbesar di Indonesia - BCA, BRI, BNI, dan Mandiri - yang berlokasi di Surabaya. Penelitian ini menggunakan WarpPLS 8.0, teknik Partial Least Squares Structural Equation Modeling (PLS-SEM), untuk menguji hipotesis penelitian yang diajukan. **Temuan** Hasil penelitian menunjukkan bahwa coping appraisal memiliki dampak positif yang signifikan terhadap protection co-creation behavior dan loyalitas. Namun, protection co-creation behavior tidak secara langsung memengaruhi loyalitas. Selain itu, peran moderasi dukungan sosial tidak meningkatkan pengaruh coping appraisal terhadap protection co-creation behavior. **Saran** Penelitian ini memberikan wawasan berharga bagi manajemen perbankan dalam mengembangkan strategi untuk meningkatkan loyalitas nasabah dengan memperkuat kemampuan perlindungan nasabah dan mendorong mekanisme coping appraisal yang lebih baik.

Kata kunci: Kemampuan Pelindungan; Ko-Kreasi Pelindungan; Loyalitas; Dukungan Sosial; Nasabah Laki Online Banking.

INTRODUCTION

In today's digital era, technology plays an important role, especially in the banking sector. The banking world is required to improve its performance quality by utilizing the latest technology. Internet banking is an innovation from the banking sector that has created convenience and efficiency for millions worldwide (Wodi et al., 2023). Internet banking is a form of electronic banking where customers can enjoy various banking services such as bill payments and investments. The existence of technology in the banking sector can improve the quality of service to customers by up to 24 hours (Mariana & Aidil Fadli, 2022). Almost all commercial banks in Indonesia currently use the Internet to make transactions. According to Retno Ayuningrum (2024), in recent years, the digital banking industry in Indonesia has faced major challenges related to data security and the increasing threat of fraud. Cases of customer personal data leaks, including sensitive data such as account numbers and transaction history, are a significant problem that can affect public trust in online banking services. In addition, this data leak can open up opportunities for fraud, such as phishing techniques, where leaked information will be used to steal customer data.

The Financial Services Authority has tried to tighten regulations and data protection, but these threats continue to grow along with technological advances. The solution to this is that financial institutions must further strengthen their security systems by using features such as multi-factor authentication (MFA) and artificial intelligence (AI) to detect potential fraud quickly. However, cybersecurity in the financial sector remains a major topic, and ongoing efforts are needed to ensure optimal customer protection in this digital era. Therefore, the banking sector continues to compete and strive to improve its Internet banking services to be better, which later triggers a sense of loyalty in its users (Dewi et al., 2022).

Customer loyalty is feedback or the result of the emergence of customer satisfaction as evidence of the success of service quality in meeting customer expectations. Customer loyalty is vital for banks because without customers, the bank cannot run its business smoothly and well (Widyananta & Utomo, 2024). Facts on the ground say that most banks only excel in their products and are weak in service or vice versa. Product excellence is only useful for achieving short-term goals for the company. By supporting service excellence, companies can create a long-term orientation through customer loyalty (Hermawati, 2023).

Digital transformation in the banking sector also has its own challenges in building customer loyalty. Customer data security is one of the biggest challenges for a bank (Alidha et al., 2024). This is because banking customer data contains personal and sensitive information that can be misused for crimes such as fraud and even identity theft. Therefore, protecting customer data and funds that make transactions in banking is crucial to fostering customer trust in carrying out various types of banking transactions (Yetno et al., 2024). According to previous research from (Ghazali et al., 2023), the higher an individual's perception of the severity and vulnerability to threats, the more likely they are to take protective action. According to (Kartika et al., 2020), the perception of value from customers can shape protective behavior when they can overcome the problem without reducing their sense of loyalty.

In addition to the assessment of protective capabilities, co-creation behavior is

also an important factor in creating customer loyalty. Co-creation behavior refers to the customer's commitment to strengthen and establish an emotional attachment to adopt security measures for products and services with service providers. Customers with a high sense of judgment in product and service development will be more involved in co-creation behavior, because they feel able to grow deeper and trust-based relationships with the bank, ultimately increasing their loyalty. Previous research from (Raza et al., 2020), revealed that customers who are actively involved in the co-creation process will strengthen the sense of customer involvement and ownership of the company. This involvement can create a stronger emotional relationship with customers and can increase customer loyalty to the company.

Social support also plays an important role in moderating the relationship between protective ability assessment and co-creation behavior with customer loyalty. The social support provided will help customers feel more confident and comfortable in using online banking services. Research by (Putri et al., 2024) states that the support provided by the bank will be considered a form of positive reward for customers, increasing loyalty to the bank. When customers feel supported, they will be more likely to provide positive feedback and engage in co-creation, strengthening their loyalty. According to (Yao et al., 2021), social support can increase an individual's protective ability by building a sense of security and confidence and strengthening co-creation behavior by encouraging active participation from customers in collective solution efforts.

This study is in line with the Protection Motivation Theory adopted from previous studies (Ruan et al., 2020; Zhang et al., 2020), which explains that the presence of a perceived threat can increase a person's motivation and behavior to protect themselves from threats. This theory can answer the relationship between social support variables in this research model because it explains how individuals respond to threats by considering internal and external factors, including the influence of the social environment. However, although previous studies have discussed many factors that influence customer loyalty, there is a gap in the literature regarding the specific role of protective ability assessments and co-creation behavior, especially in Indonesia's online banking context. Research from (Ghazali et al., 2023) emphasizes that although social support can moderate the relationship between protective ability and loyalty, much research has not explored how social support plays a role in increasing the involvement of male customers' co-creation behavior in online banking services. In addition, (Raza et al., 2020) found that customer security assessments are often general, without considering specific demographic perspectives, such as gender, which may influence customer loyalty perceptions.

Through this study, the author aims to analyze the influence of protective ability assessment and protective co-creation behavior on the loyalty of male online banking customers, with social support as a moderating variable. Based on the research gap described, this study is expected to provide a deeper understanding of strategies for increasing customer loyalty through a security approach and customer involvement in service co-creation. With a better understanding of this relationship, banks are expected to be able to design more effective strategies to increase customer loyalty and create a better and safer experience for online banking service users.

HYPOTHESIS DEVELOPMENT

Male Customer Loyalty

Customer loyalty is a tendency to remain loyal to the products and services offered by the bank, with little desire to switch to other banking service providers that offer similar products to meet their needs (Al-Ghifari & Khusnudin, 2022). Customer loyalty is one of the keys to the bank's success in retaining customers for the long term. According to Rahmawani (2021), men have a higher level of trust in making financial decisions, including in choosing digital financial services such as mobile banking. They are more loyal to financial products if the product's benefits can be felt, especially in terms of efficiency and ease of use. According to research Hardiyanti (2022) conducted at Bank Syariah, male customers are more influenced by functional factors and direct experience in determining their loyalty to banking services.

Protection Ability (KP) and Co-Creation Behavior of Protection (PKP)

Based on Article 1, paragraph (4) of the Financial Services Authority Regulation No. 6/POJK.07/2022 concerning consumer and community protection in the financial services sector, consumer and community protection is an action aimed at providing insight and understanding related to the products or services of Financial Services Business Actors (PUJK) that will be utilized by consumers, as well as providing legal certainty to protect consumers in fulfilling consumer rights and obligations in the financial services sector (Ekayani et al., 2023). In banking business operations, maintaining the confidentiality of customer personal data is an obligation. Because of an agreement between the bank and the customer, the bank must protect the customer's interests. In addition, protecting the confidentiality of customer personal data is important not only for the customer himself but also for the bank, which needs customer trust to invest their funds in the bank (Tambing et al., 2023).

Consumer protection is an important concept in an economic activity that aims to ensure that consumers receive goods and services that meet eligibility standards. In the context of customer protection, there are two approaches: indirect protection against the risk of loss that may arise due to bank policies or business activities and direct protection against the risk of loss arising from bank operational activities (Fatmala Putri & Ratna Sari, 2023). According to Faizal et al. (2023), the protective capability is customer awareness to carry out online security practices to protect personal information and recognize signs of online fraud. According to Mulyati (2016), protective capability is an action that secures data against threats that may arise. Ghazali et al. (2023) stated that protective capability refers to how individuals deal with threats or risks associated with cyber fraud.

Co-creation behavior is defined as a multidimensional concept that includes eight behaviors, namely information seeking, personal interaction, information sharing, responsibility, helping, advocacy, providing feedback, and tolerance. These behaviors describe customers' efforts to integrate customer resources into the service system (Mostafa, 2020). According to (Erwin et al., 2024) co-creation behavior can also include an act of co-creation through a collaborative approach involving various parties in the process of creating new products, services, or innovations. (Raza et al., 2020) stated that co-creation behavior is a process of active customer involvement in creating shared value with the company.

According to (Atmajaya et al., 2023), in terms of consumer behavior and protection, it is crucial to protect consumer rights carefully. Consumer rights have been clearly regulated by laws made by state institutions. Denhama & Andringab (2021) said that the two variables complement each other because Co-Creation drives long-term growth and sustainability, while Protective Ability is used when a quick short-term solution is needed. Rönnberg Sjödin et al. (2016) explain the provider-customer relationship through protective coping strategies that ultimately improve the value of the Co-Creation process and support better implementation in the marketing and service management process. This statement also supports that a person's resilience will create coping strategies and create creative behavior (Sugiono et al., 2023).

H1: Protective Ability has a positive effect on Protective Co-Creation Behavior in male digital banking customers.

Protection Ability and Loyalty (LO)

Loyalty is a strong commitment to continue repurchasing preferred products in the future so that customers remain loyal and make repeat purchases on an ongoing basis (Vahlevi & Indra, 2022). Loyalty is a form of strong relationship between customers and the company, and customer loyalty is a very important aspect (Lubis et al., 2022). Customer loyalty is a tendency for customers to remain loyal to the bank's products and services, with little desire to switch to other banking service providers that offer similar products to meet their needs (Al-Ghifari & Khusnudin, 2022). Based on previous research, Rather (2021) shows that customers with a high sense of protection ability will tend to be more actively involved in co-creation behavior, fostering trust and better relationships that can increase their sense of loyalty.

H2: Protection Ability has a positive effect on loyalty in male digital banking customers.

Relationship between PKP and Loyalty

According to (Hanifawati & Yudin, 2022) there is a relationship between the existence of protective co-creation behavior and satisfaction that creates loyalty, where this satisfaction is a mediation that has a significant and positive impact between Protective Co-Creation Behavior and Loyalty. (Baehaqi, 2022) stated that there is a link between the Co-Creation variable and loyalty that influences consumers by involvement in the search for the value they expect. According to (Novi & Mariana, 2024) it shows that customer loyalty can be influenced by the value of Protective Co-Creation Behavior, which has an effect on customer satisfaction with the system and business.

H3: Protective Co-Creation Behavior has a positive effect on loyalty in male digital banking customers.

The Moderating Role of Social Support (DS)

Social support is a term that describes how social relationships can benefit a person's mental or physical health (Hasanuddin & Khairuddin, 2021). Social support is a view from others that shows that a person needs affection, attention, appreciation, respect, and involvement (Sestiani & Muhid, 2022). Social support is the presence of people who care, are ready to help, and can be relied on to give us appreciation and affection (Saputro & Sugiarti, 2021). Social support is the presence of certain individuals who personally provide advice, motivation, guidance, and help find solutions when someone faces problems or difficulties in carrying out activities in a directed manner to achieve

their goals (Da'awi & Nisa, 2021). According to Maslihah (2011), social support can be interpreted as comfort, attention, appreciation, or assistance that a person gets from their interactions with others. According to (Yao et al., 2021) social support can increase individual protective abilities by building a sense of security and confidence and strengthening co-creation behavior by encouraging active participation from customers in collective solution efforts.

Aryandika and Kurniawati (2017) stated that there is a relationship between co-creation behavior through social support and the factors that make up consumer interactivity, which can influence and increase consumer participation and involvement in products so that they can increase brand value.

H4: Social Support moderates the effect of Protective Ability on Protective Co-Creation Behavior of male digital banking customers.

Research Model

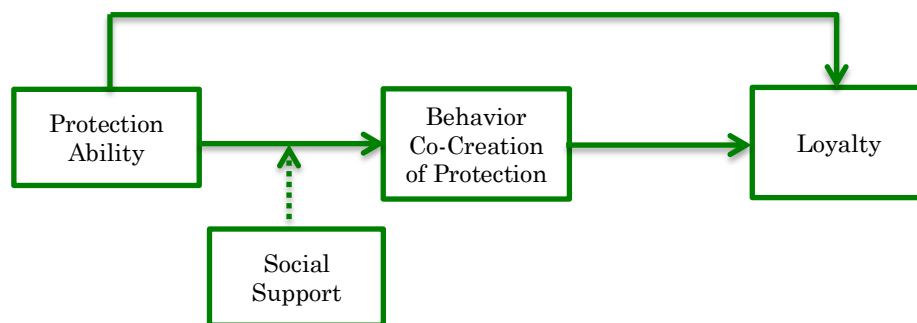


Figure 1. Research Model

Sources of previous research ideas (Ghazali et al., 2023; Kartika et al., 2020; Raza et al., 2020; Yao et al., 2021)

METHODOLOGY

Sample and Data Collection

To take the research sample, several criteria have been set, namely male respondents and at least 17 years old, respondents have been bank customers for at least 1 year, respondents have access to online banking services, have at least one savings account, and have made transactions through online banking at least once in the last month. Determining respondent criteria is expected to provide a reasonably high insight into online banking. Determination of the duration of being a customer is carried out because this study requires views from customers who actually use online banking services. The data collection method in this study is using a questionnaire. Data from this study were collected by distributing questionnaires to male customers who use online banking with a minimum age limit of 17 years and over and domiciled in Surabaya. Those willing to become respondents will be given a questionnaire link to be filled out online, which can provide convenience to respondents because they can fill it out in their spare time and also help minimize paper use. The instrument from this study will later be used as a research sample. Three participants who are online banking users were selected to review the initial questionnaire.

Measurement

Protection Ability

The measurement of the protective ability assessment construct uses five items adapted from previous research (Ghazali et al., 2023). The trial of this research instrument shows a Cronbach's Alpha value of (0.689), which indicates that the results are valid and reliable.

PKP (Protective Co-Creation Behavior)

The measurement of the protective co-creation behavior assessment construct uses seven items adapted from previous research (Sutarso et al., 2019). The trial of this research instrument shows a Cronbach's Alpha value of (0.745), which indicates that the results are valid and reliable.

Loyalty

The measurement of the loyalty assessment construct uses three items adapted from previous research (Garepasha et al., 2020). The trial of this research instrument shows a Cronbach's Alpha value of (0.685), which indicates that the results are valid and reliable.

Social Support

Measurement of the social support assessment construct used five items adapted from previous research (Zimet et al., 1988). The trial of this research instrument showed a Cronbach's Alpha value of (0.714), which indicates that the results are valid and reliable.

Data analysis

This study uses two analysis techniques: descriptive analysis and statistical analysis. The descriptive analysis technique will describe the respondents' answers to the questionnaire in general. The statistical analysis technique used in testing the hypothesis of this study is WarpPLS 8.0, using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach.

RESULTS

Based on the results of data analysis, respondents in this study came from the Surabaya area, with a total of 127 male respondents (100%) who can represent a particular segment that is the focus of the study. The majority of respondents are in the productive age range, namely 21-27 years, with a frequency of 47 people (37%), and 28-35 years, with a frequency of 42 people (33.1%). Meanwhile, the age group of 36-43 years includes 11 people (8.7%) and over 43 years as many as 7 people (5.5%). In terms of the last education, respondents who have a bachelor's degree dominate with a frequency of 62 people (48.8%), followed by high school / vocational high school as many as 43 people (33.9%), diploma as many as 17 people (13.4%), and especially 5 people (3.9%). Based on occupation, most respondents worked as private employees (47 people or 37%), followed by civil servants (22 people or 17.3%), self-employed (21 people or 16.5%), and students (37 people or 29.1%).

Table 1 Respondent Characteristic

Category	Sub-category	Frequency	%	cumulative %
Age (years)	17-20	20	15,7	15,7
	21-27	47	37	52,8
	28-35	42	33,1	85,8
	36-43	11	8,7	94,5
	>43	7	5,5	100
Education	High School/Vocational High School Diploma	43	33,9	33,9
	Bachelor's Degree	17	13,4	47,2
	Postgraduate Degree	62	48,8	96,1
	Student	5	3,9	100
	PNS (Public)	37	29,1	29,1
Occupation	Private Employee	22	17,3	46,5
	Self-Employed	47	37	83,5
	Brimo	21	16,5	100
	M-BCA	29	22,8	22,8
	Livin	46	36,2	59,1
Digital banking services used	BNI M-Banking	34	26,8	85,8
	< 6 month	18	14,2	100
	6 s/d 12 month	20	15,7	15,7
	>12 month	36	28,3	44,1
Duration of using digital banking services	Once	71	55,9	100
	Twice	9	7,1	7,1
	Three times	32	25,2	32,3
	>Three times	43	33,9	66,1
		43	33,9	100

Source : Author (2025)

In terms of the use of digital banking services, respondents showed a high preference for services from large banks, with BCA (46 people or 36.2%) and Bank Mandiri (34 people or 26.8%) as the most widely used, followed by Bank BRI (29 people or 22.8%) and Bank BNI (18 people or 14.2%). Based on the length of use of digital banking services, the majority of respondents have used this service for more than a year, namely, 71 people (55.9%), while 36 people (28.3%) have used it for less than a year and 20 people (15.7%) have used it for less than 6 months. In terms of transaction frequency, most respondents made transactions three times (43 people or 33.9%) or more than three times (43 people or 33.9%) in one month. As many as 32 people (25.2%) made transactions twice, while only 9 people (7%) made transactions once in one month. Based on these data, the majority of respondents are productive-age men with relatively high levels of education and diverse jobs. Respondents actively use digital banking services, with more than one year of experience and quite frequent transaction frequencies, especially for large bank services such as BCA and Mandiri. This shows that digital banking services have become an important part of respondents' daily financial activities.

Analysis of the constructs and items in the table above shows that all constructs and items have a significant contribution in describing respondents' perceptions regarding the risks of online banking services. Based on the data in the table above, the mean of the protective ability variable is known (5.698), PKP (5.7225), loyalty variable (5.855), and social support variable (5.67), which means that respondents' perceptions of all variables are classified as high. In the support construct, item DS3 ("My family helps

when making important decisions") has the highest factor loading value, meaning that family support is the most important aspect. In the protective ability construct, item KP5 ("I master various ways to overcome digital banking risks") has the highest factor loading (0.779). These results indicate that users consider protective abilities, such as mastering various ways to overcome the risks of online banking, to be the most important factor.

Table 2 Construct, Mean score, standard deviation and loading factor of statement items

	Mean	Standard Deviation	Loading Factor
KP1	5,78	1,031	0.600
KP2	5,79	1,199	0.652
KP3	5,72	1,098	0.709
KP4	5,59	1,143	0.744
KP5	5,61	1,273	0.779
PKP1	5,74	1,135	0.747
PKP2	5,78	1,181	0.669
PKP3	5,80	1,113	0.656
PKP4	5,57	1,088	0.687
LO1	5,77	1,033	0.885
LO2	5,94	,982	0.666
DS1	5,76	1,139	0.762
DS2	5,36	1,395	0.703
DS3	5,89	1,056	0.770

(Source: Processed data, 2024)

This perception reflects that the ability to protect data security is the main focus in the context of digital banking risks. The PKP construct in item PKP1 ("I share information on how to deal with digital risks with others") has the highest factor loading value, namely (0.747). This shows that information-sharing behavior is the most dominant behavior among respondents when dealing with threats. The loyalty construct in item LO1 ("I have a strong intention to continue using digital banking services") has a factor loading value of 0.885. The results of this study indicate that despite various data security risks, most respondents still strongly desire to continue using online banking services.

Table 3. Correlation Between Variables and Reliability

C onstruct	Code	KP	PKP	LO	DS
Protective capabilities	KP	(0.700)	0.618	0.120	0.385
Protective co -creative behavior	PKP	0.625	(0.650)	-0.018	0.423
Loyalty	LO	0.341	-0.018	(0.587)	-0.086
Social support	DS	0.465	0.423	-0.086	(0.622)
Indicator Validity & Reliability					
<i>Composite Reliability</i>	CR	0.826	0.832	0.313	0.752
<i>Cronbach's Alpha</i>	α	0.736	0.762	0.286	0.589
<i>Average Variance</i>	AVE	0.490	0.423	0.345	0.387
<i>Number of items</i>		5	4	2	3

(Source: Processed data, 2024)

Based on Table 3, the analysis results show the validity and reliability of the research constructs, which include protective ability, PKP, loyalty, and social support. Based on

the convergent validity test results through the Average Variance Extracted (AVE) value, most of the constructs have not met the validity criteria, namely with an AVE value greater than 0.50. The constructs of protective ability (AVE = 0.490), PKP (AVE = 0.490), social support (AVE = 0.387), and loyalty (AVE = 0.345) indicates that the construct is below the minimum limit so that the convergent validity for this construct requires further attention.

In terms of reliability, it shows that the Composite Reliability (CR) values for protective ability (0.826), protective co-creation behavior (0.832), and social support (0.752) are above the threshold of 0.70. This indicates that these constructs have high internal consistency. However, the CR value for loyalty (0.313) does not meet the threshold, so the loyalty construct cannot be considered reliable. For Cronbach's Alpha (α), most of the values also support the reliability of the construct, where protective ability (0.736), PKP (0.762), and social support (0.589) approach or meet the threshold of 0.70, except for loyalty (0.286) which is not reliable. The relationship between constructs was also tested through correlation analysis, which showed a significant relationship between several constructs, such as protective ability with PKP (0.618) and social support (0.385). However, the relationship between loyalty constructs with others is relatively low or negative, such as with PKP (-0.018) and social support (-0.086), which indicates a weak or insignificant relationship.

From the analysis results, most of the constructs meet the reliability and validity criteria, especially for protective ability, protective co-creation behavior, and social support. However, the loyalty construct shows weaknesses in reliability and validity, so it must be considered when interpreting the research results. Moderated social support also shows a negative relationship with the protective ability (-0.339) and protective co-creation behavior (-0.203), which may indicate a moderation effect not aligned with research expectations. Thus, this study provides important insights regarding the relationship between constructs in digital banking.

Table 4 Results of hypothesis testing

H	Connection	VIF	Beta, (p- value)	Conclusion
H1	Protective capabilities → PKP	1.263	0.628, (<0.001)	Supported
H2	Protective capabilities → Loyalty	1,319	0.203,(0.009)	Supported
H3	PKP → Loyalty	1,319	-0.077,(0.188)	Not supported
H4	Social support* Protective capabilities → PKP	1.263	0.096,(0.136)	Not supported

(Source: Processed data, 2024)

The table 4 shows the results of hypothesis testing in this study, which includes the relationship between several main constructs, such as protective ability, PKP, loyalty, and social support in the context of digital banking. Each hypothesis is tested using regression analysis with Variance Inflation Factor (VIF) values to check for multicollinearity and, Beta values and p-values to assess the significance of the relationship between variables. **Hypothesis 1 (H1)** tests the effect of protective ability on PKP. The analysis results show that this hypothesis is supported, with a beta value of 0.628 and a p-value of less than 0.001. This very small p-value indicates that the

effect of protective ability on PKP is statistically significant. The VIF of 1.263 indicates that there is no significant multicollinearity problem in this relationship.

Hypothesis 2 (H2) tests the effect of protective ability on loyalty. The results show this hypothesis is supported, with a beta value of 0.203 and a p-value of 0.009. With a p-value smaller than 0.05, the effect of protective ability on loyalty is considered statistically significant, meaning that the higher the protective ability, the higher the loyalty that arises. The VIF value of 1.319 also indicates no serious multicollinearity problem.

Hypothesis 3 (H3) evaluates the effect of PKP on loyalty. However, the test results show that this hypothesis is not supported, with a beta value of -0.077 and a p-value of 0.188. A p-value greater than 0.05 indicates that the effect of PKP on loyalty is not statistically significant. The VIF in this relationship is 1.319, which remains within the safe range, indicating the absence of multicollinearity.

Hypothesis 4 (H4) tests the interaction effect between social support moderation protective ability and PKP. The test results show that this hypothesis is not supported, with a beta value of 0.096 and a p-value of 0.136. With a p-value greater than 0.05, the interaction between social support and protective ability does not have a significant effect on PKP. The VIF on this interaction of 1.263 indicates no significant multicollinearity problem.

DISCUSSION

The Role of Protection Ability on Co-Creation

This study identifies the influence of protection ability on Customer PKP. The analysis results that have been tested show that this protection ability has a positive effect on PKP. Customers who can protect their digital data and transactions tend to be more active in the protection co-creation process and are more loyal to the bank. According to (Balla & Hagger, 2024), protection motivation theory is the main behavioral theory that aims to predict participation in carrying out protection and risky behavior. This study is in line with the protection motivation theory, which states that the ability to protect from perceived threats and risks can play an important role in motivating protective behavior.

The Role of Protection Ability on Loyalty

This study identifies the influence of protection ability on the loyalty of male customers in online banking. Statistical analysis results show that protection ability has a positive effect on loyalty. Customers who can protect their private data tend to have a higher sense of loyalty to banking. Zangmo et al. (2014) express that with the existence of protection ability, there will be a continuity of customer relationships that create a sense of trust that can affect consumer loyalty.

Co-Creation and Loyalty of Male Online Banking Customers

This study's results show that PKP does not significantly affect loyalty. The statistical analysis shows that PKP has no effect on loyalty. This indicates that customer involvement in co-creation alone is insufficient to build loyalty. Other factors, such as direct experience, service quality, and perceived security, may play a more dominant

role in building customer loyalty (Hanifawati & Yudin, 2022; Novi & Mariana, 2024).

Social Support for Male Online Banking Customers

In this study, social support was also tested as a moderating variable, hoping that it would strengthen the relationship between protective ability and PKP on loyalty. The test results showed that this hypothesis was not supported, with a beta value of 0.096 and a p-value of 0.136. With a p-value greater than 0.05, the interaction between social support and protective ability did not have a significant effect on PKP. However, the results showed that the moderating effect of social support was not confirmed. However, previous literature has highlighted the importance of social support in creating a sense of security and increasing customer engagement (Hasanuddin & Khairuddin, 2021; Yao et al., 2021). This reveals that social support functions more as a supporting factor than a direct driver in online banking.

CONCLUSION

This study revealed that the ability to protect against digital banking security, such as preparing the necessary steps before digital banking risks occur and mastering various ways to overcome digital banking risks, encourages customers to be actively involved in PKP. These behaviors include proactive actions such as seeking information on overcoming risks, sharing experiences with others, following guidance from the bank, and helping other users deal with similar threats. This study also suggests that protective ability refers to an individual's way of dealing with threats or risks related to cyber fraud.

In addition, the protective capabilities of customers play an important role in encouraging male customers' loyalty to online banking services. Customers who actively protect their personal data, manage transaction security carefully and maintain the quality of service use wisely create a sense of security that strengthens their attachment to the service. The protection carried out by these customers shows their seriousness in maintaining personal rights and financial security, which contributes to a sense of trust and loyalty to the bank. Thus, the protective capabilities carried out by customers not only increase their satisfaction but also strengthen long-term relationships with the online banking services they use.

Research implications

This study has significant practical implications, especially in improving the security and loyalty of online banking customers. One of the main recommendations is the importance of banks educating their customers on protecting themselves from online threats. By educating customers on self-protection measures and providing advanced security technologies, banks can increase customers' sense of security. In addition, banks need to create an atmosphere of mutual trust between the institution and customers, where customers feel valued and involved in keeping their data secure. This can be applied in marketing strategies that emphasize security aspects more while strengthening bank risk management in the face of evolving digital threats. The findings also provide guidance in formulating more inclusive and proactive policies to maintain customer loyalty through improving security experiences.

The originality of this study lies in its specific focus on male online banking customers in Indonesia, providing new insights into how factors such as self-protection ability, cooperative behavior in protection, and social support influence customer loyalty. This study fills a gap in the more general literature by examining how gender and local context may influence attitudes towards digital security. This study also highlights the relationship between self-protection ability and customer loyalty, suggesting that security is not only the bank's responsibility but also the customer himself. In addition, the findings of this study open up new perspectives on how social support can influence customer behavior in maintaining security and increasing loyalty. Overall, this study makes an important contribution to understanding the dynamics of customer loyalty in the context of online banking in Indonesia with a more holistic and cooperative approach.

Limitations of Research and Suggestions

This study has several weaknesses that need to be considered. In terms of sampling techniques, applying the purposive sampling method can cause the study's results to not fully represent the population of male online banking users as a whole. This makes it difficult to generalize the data, especially for demographic groups or regions not represented in the sample. In addition, this study focuses more on large banks in Indonesia, such as Bank BCA, BRI, BNI, and Mandiri, without considering the customer experience of small banks. Small banks face different challenges and limitations, such as security technology or social support. This condition can make the study results less relevant to small banks and limit the possibility of implementing the recommendations generated from this study.

Based on the findings of this study, there are several suggestions for further research. First, research can be conducted to explore other factors that influence customer loyalty, such as service quality or additional features such as rewards. In addition, research can also compare loyalty between male and female customers to see if there are differences in the protection carried out. Research on the influence of the latest security technologies, such as biometric authentication or blockchain, can also provide insight into how technology influences loyalty. A long-term approach to how customer loyalty evolves over time is also helpful. Finally, comparative research across banks or countries can help understand whether effective protection practices in one place can be applied elsewhere.

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