REGULATION AND TECHNOLOGY INNOVATION IN SUPPORT OF COMPREHENSIVE CUSTOMER EXPERIENCE IN THE BANKING INDUSTRY IN KEDIRI

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ABSTRACT

Finalidade: The finalidade of the study is to investigate the influence of regulation and technology innovation on the comprehensive customer experience in the banking industry in Kediri, East Java.

Purpose: The purpose of the document is to present the results and discussion of a study conducted on the regulation and technology innovation in support of comprehensive customer experience in the banking industry in Kediri. The document aims to test and develop a policy model suitable for several banks in Kediri City, East Java, and provide views and policy models that can be applied to other banks to improve the comprehensive banking experience for customers.

Theoretical framework: The theoretical framework of the study is based on the Regulation and Technology Innovation in Support of Comprehensive Customer Experience in the Banking Industry in Kediri. It focuses on the influence of regulation and control of customer account security, monitoring the digital banking experience, and the need for continuous technology service innovation on the comprehensive banking experience in the four banks in Kediri City. This framework is supported by previous research that discusses the importance of regulatory resilience, basic security design of internet banking models, and sustainability relations. Additionally, it aligns with studies that explore barriers to innovation and change, online reviews and product sales, and factors affecting bank customers’ usage of electronic banking.

Methods: The method used in the study is an associative research design and proportionate stratified random sampling technique. This approach allowed the researchers to analyze the influence of regulation and technology innovation on the comprehensive customer experience in the banking industry in Kediri, East Java. The study involved collecting data from customers of four banks in Kediri and conducting statistical analysis to determine the impact of regulation, control of customer account security, monitoring of digital banking experience, and technology service innovation on the comprehensive banking experience. The findings from the analysis were used to recommend strategies for banks to improve customer experience and security.

Findings: The findings of the study indicate that regulation and control of customer account security and monitoring the digital banking experience have a significant positive influence on
the comprehensive banking experience in Kediri, East Java. However, the need for continuous technology service innovation and minimizing customer identity theft did not have a significant effect on the comprehensive banking experience. The study recommends strategies for banks, such as implementing new technological innovations, introducing fraud simulations, and strengthening security systems, to improve the comprehensive banking experience for customers. These strategies aim to increase the attractiveness of features, minimize customer identity theft, and provide a more secure and efficient banking experience. Overall, the recommended strategies can help banks create a more comprehensive customer experience and increase customer confidence in banking services.

**Practical implications:** The practical implications of the study include the recommendation for banks to implement new technological innovations, introduce fraud simulations, and strengthen security systems to improve the comprehensive banking experience for customers. Additionally, the study suggests the importance of continuous security protection with best-in-class data management and the need for government awareness to consistently socialize victimization in the banking business. These practical implications aim to increase the attractiveness of features, minimize customer identity theft, and provide a more secure and efficient banking experience for customers. Overall, the recommended strategies can help banks create a more comprehensive customer experience and increase customer confidence in banking services.

**Originality/Value:** The originality and value of the study lie in its focus on the specific context of the banking industry in Kediri, East Java, and its emphasis on the influence of regulation and technology innovation on the comprehensive customer experience. The study's findings provide insights into the specific factors that significantly impact the banking experience in this region, highlighting the importance of regulating and controlling customer account security and monitoring the digital banking experience. Additionally, the study's recommendations for banks to implement new technological innovations, introduce fraud simulations, and strengthen security systems offer practical strategies for improving the comprehensive banking experience for customers. Overall, the study contributes to the existing literature by providing a policy model that can be applied to other banks to enhance the customer experience and security in the banking industry.

**Keywords:** bank, security, financial technology, regulation, customer experience, comprehensive banking experience.

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**RESUMO**

**Finalidade:** A finalidade do estudo é investigar a influência da regulamentação e inovação tecnológica na ampla experiência do cliente no setor bancário em Kediri, Java Oriental.

**Objetivo:** O objetivo do documento é apresentar os resultados e a discussão de um estudo realizado sobre a regulamentação e a inovação tecnológica em apoio à ampla experiência do cliente no setor bancário em Kediri. O documento pretende testar e desenvolver um modelo de política adequado para vários bancos em Kediri City, Java Oriental, e fornecer opiniões e modelos de política que podem ser aplicados a outros bancos para melhorar a experiência bancária abrangente para os clientes.

**Estrutura teórica:** A estrutura teórica do estudo é baseada no Regulamento e Inovação Tecnológica em Apoio à Experiência Abrangente do Cliente no Setor Bancário em Kediri. Ele se...
concentra na influência da regulamentação e controle da segurança da conta do cliente, monitorando a experiência bancária digital, e a necessidade de inovação contínua de serviços de tecnologia na experiência bancária abrangente nos quatro bancos na cidade de Kediri. Este quadro é apoiado por estudos anteriores que discutem a importância da resiliência regulamentar, da concepção de segurança básica dos modelos de banca via Internet e das relações de sustentabilidade. Além disso, está alinhado a estudos que exploram barreiras à inovação e à mudança, análises on-line e vendas de produtos, e fatores que afetam o uso de bancos eletrônicos por parte dos clientes dos bancos.

Métodos: O método utilizado no estudo é um projeto de pesquisa associativa e técnica de amostragem aleatória estratificada proporcional. Esta abordagem permitiu que os pesquisadores analisassem a influência da regulamentação e inovação tecnológica na ampla experiência do cliente no setor bancário em Kediri, Java Oriental. O estudo envolveu a coleta de dados de clientes de quatro bancos em Kediri e a realização de análises estatísticas para determinar o impacto da regulamentação, controle da segurança da conta do cliente, monitoramento da experiência bancária digital e inovação de serviços de tecnologia na experiência bancária abrangente. As conclusões da análise foram utilizadas para recomendar estratégias para os bancos melhorarem a experiência e a segurança dos clientes.

Conclusões: As conclusões do estudo indicam que a regulamentação e o controle da segurança da conta do cliente e o monitoramento da experiência bancária digital têm uma influência positiva significativa na experiência bancária abrangente em Kediri, Java Oriental. No entanto, a necessidade de inovação contínua dos serviços de tecnologia e de minimizar o roubo de identidade do cliente não teve um efeito significativo na experiência bancária abrangente. O estudo recomenda estratégias para os bancos, tais como a implementação de novas inovações tecnológicas, a introdução de simulações de fraude e o reforço dos sistemas de segurança, de modo a melhorar a experiência bancária abrangente para os clientes. Essas estratégias visam aumentar a atratividade dos recursos, minimizar o roubo de identidade do cliente e fornecer uma experiência bancária mais segura e eficiente. De um modo geral, as estratégias recomendadas podem ajudar os bancos a criarem uma experiência mais abrangente para os clientes e a aumentarem a confiança destes nos serviços bancários.

Implicações práticas: As implicações práticas do estudo incluem a recomendação aos bancos de implementarem novas inovações tecnológicas, introduzirem simulações de fraude e reforçarem os sistemas de segurança de modo a melhorar a experiência bancária abrangente para os clientes. Além disso, o estudo sugere a importância da proteção contínua da segurança com o melhor gerenciamento de dados da categoria e a necessidade de conscientização do governo para socializar sistematicamente a vitimização no negócio bancário. Essas implicações práticas visam aumentar a atratividade dos recursos, minimizar o roubo de identidade do cliente e fornecer uma experiência bancária mais segura e eficiente para os clientes. De um modo geral, as estratégias recomendadas podem ajudar os bancos a criarem uma experiência mais abrangente para os clientes e a aumentarem a confiança destes nos serviços bancários.

Originalidade/valor: a originalidade e o valor do estudo estão em seu foco no contexto específico do setor bancário em Kediri, Java Oriental, e sua ênfase na influência da regulamentação e inovação tecnológica na ampla experiência do cliente. As conclusões do estudo fornecem informações sobre os fatores específicos que afetam significativamente a experiência bancária nessa região, destacando a importância de regulamentar e controlar a segurança da conta do cliente e monitorar a experiência bancária digital. Além disso, as recomendações do estudo para que os bancos implementem novas inovações tecnológicas, introduzam simulações de fraude e reforcem os sistemas de segurança oferecem estratégias práticas para melhorar a experiência bancária abrangente para os clientes. De um modo geral, o estudo contribui para a literatura existente ao fornecer um modelo de política que pode ser aplicado a outros bancos para melhorar a experiência e a segurança dos clientes no setor bancário.

Palavras-chave: banco, segurança, tecnologia financeira, regulamentação, experiência do cliente, experiência bancária abrangente.
1 INTRODUCTION

Banks play a significant role in supporting the world economy through financial management, lending, and providing banking products and services. In addition, banks play an important role in maintaining economic stability and taking monetary and fiscal policies to promote economic growth (Satriya and Maisaroh 2019). Therefore, banks have a great influence in global economic conditions and can have a positive impact on society and the business world (Nicolas, Tarazi, and Ozturk Danisman 2023). Banks BRI, BNI, Mandiri, and BSI show a good understanding in integrating security regulations and controls, digital banking monitoring, service technology that continues to innovate, and efforts to minimize cybercrime to create a comprehensive banking experience for customers. They continue to develop secure services in accordance with regulations and further strengthen their security systems (Dhanya, B. K., & Velmurugan, V. P. 2023). By utilizing service technology that continues to innovate and improve customer experience through efforts to minimize cybercrime such as misused customer identities.

Regulation and control of customer account security as well as a comprehensive customer experience in the context of financial technology are urgent for banks in Kediri, East Java. In the digital age, security and customer identity risks can be threatened by increasingly sophisticated fraudulent practices. Therefore, banks must improve their understanding and compliance with security regulations and controls, and develop safe and compliant services and products (Sultana et al. 2022). In addition, banks must optimize digitalization strategies and innovations in banking services to improve security, efficiency, and customer experience (Veluthedan, S. P., & Kiran, K. B. 2023). Related research also needs to be carried out to develop the best solutions in managing financial system risk and resilience in an integrated manner (Mayr, Mitter, and Aichmayr 2017), and increase collaboration between banks in the development of these solutions. Therefore, research on this topic needs to be carried out immediately to maintain the sustainability of banks in Kediri, East Java.

This research provides a number of strategies from corrected intervening models that can be implemented by BRI, BNI, Mandiri, and BSI in dealing with various situations related to financial regulation, customer security, and technological innovation in banking services. Some of these strategies include developing monitoring systems, simulating fraud, developing RSOs, and SGMM, as well as optimizing cost management services. In addition, this study also emphasizes the importance of educating customers about
financial security measures that can be taken to minimize the risk of identity fraud and unsafe financial transactions.

This study thoroughly reviews the policy model of corrected intervening using the constructs of Regulation and Control of Customer Account Security, Monitoring the Digital Banking Experience, The Need for Continuous Technology Service Innovation, Minimizing Customer Identity Theft and Comprehensive Banking Experience at BRI, BNI, Mandiri and BSI banks in Kediri, East Java. This review is to strengthen the intervening model applicatively into the sustainability of the bank's Comprehensive Banking Experience.

This study used an associative research design with proportionate stratified random sampling technique on 200 customers from four banks in Kediri City. The research tools used were interviews with Zoom meeting techniques, indirect observation, and questionnaires distributed via WhatsApps chat. Research data is tested for quality with various steps, such as convergent validity, average variance extracted, discriminant validity, inner model, and path coefficients. From the results of the analysis, the corrected intervening model will be determined on the construct studied to design the right strategy to improve the overall banking experience for customers in dealing with the existing situation.

This research is to provide views and policy models that can be applied to other banks to improve a comprehensive banking experience for customers. In addition, field applicatives contribute to showing the importance of influencing policy factors in improving the Comprehensive Banking Experience and providing guidance for banks in formulating appropriate policies.

2 THEORETICAL FRAMEWORK

Although banks have agreed to improve security and reduce the risk of fraud for customers, there are still some weaknesses that must be corrected immediately in order to compete in this increasingly competitive banking world (Aguado-Correa et al. 2023; Tulcanaza-Prieto, Aguilar-Rodríguez, and Lee 2022; Yussaivi, Suhartanto, and Syarief 2020). First, even though these banks have provided cash-based assistance for monitoring bank accounts, mobile money, and prepaid cards for customers. However, there are still security gaps that need to be fixed so that the monitoring system can run optimally (Sanusi, Rameli, and Isa 2015; Shanigaram et al. 2023; Singh et al. 2022). Secondly, even
though the banks have designed simulated frauds that customers are informed about in order to raising awareness about financial security, but the simulation is still considered ineffective and has not been able to provide a deep enough understanding for customers (Allen et al. 2023; Cheng et al. 2022). Third, although these banks have adopted the latest technology to minimize the risk of fraud, there are still some technical weaknesses in the implementation of the technology that must be corrected in order to run optimally (Degryse and Huylebroek 2023; Kaya 2022; Lasmini et al. 2020). Therefore, continue to innovate and develop more sophisticated technology and increase the effectiveness of fraud monitoring and simulation systems in order to provide an edge in this increasingly competitive banking world (McKeever 2023). In addition, these banks also need to strengthen cooperation and collaboration with each other to develop the best solutions to manage financial system risk and resilience in an integrated manner.

3 METHODOLOGY

3.1 RESEARCH DESIGN

The research design uses associatives to determine the correction model of the hypothesis that has been designed (Gumelar et al. 2020). This design is reinforced by a strategy that has applicative feasibility to the banks mentioned.
3.1.1 Population, Sampling Size and Sampling Technique

The population that has been recorded from the bank is 5400 by sampling using the Proportionate Stratified Random Sampling method, with the following number of samples (Andayani and Yasa 2022; Karlina 2011).

<table>
<thead>
<tr>
<th>Bank</th>
<th>Ni</th>
<th>Sampel</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRI</td>
<td>570</td>
<td>56</td>
</tr>
<tr>
<td>BNI</td>
<td>750</td>
<td>73</td>
</tr>
<tr>
<td>Mandiri</td>
<td>340</td>
<td>33</td>
</tr>
<tr>
<td>BSI</td>
<td>390</td>
<td>38</td>
</tr>
<tr>
<td>Total Sample</td>
<td>2050</td>
<td>200</td>
</tr>
</tbody>
</table>

From the Proportionate Stratified Random Sampling, there was a total sample used by 200 customers from the four banks.

3.2 INSTRUMENTS

3.2.1 Interview

Zoom meeting interview technique is used because respondents are in different locations in East Java. This method allows bank managers to identify areas that need improvement and improve their services specifically so as to meet customer needs (Sadikin and Hamidah 2020). By conducting interviews online, they can also obtain broader and in-depth data from different perspectives to improve the bank's Comprehensive Banking Experience.

3.2.2 Observation

Observation is carried out indirectly, namely by analyzing the results of interviews that have been conducted through zoom meetings (Sadikin and Hamidah 2020). This process involves selected respondents to explain in depth according to their understanding of the instruments used in the study, so that they can be used to interpret the data obtained more accurately and validly. Thus, these observations make a significant contribution to understanding the Comprehensive Banking Experience of the banks studied.

3.2.3 Research Tools

To conduct interviews using zoom meetings, the research tools used aim to meet the urgency of research and as a more efficient observation strategy (Sadikin and
Hamidah 2020). Meanwhile, for the distribution of research forms, the WhatsApps chat application was used by designing questionnaires through google forms (Bui et al. 2022). After that, the results of filling out the questionnaire were tabulated using a spreadsheet and computerized using the SMART-PLS 3.0 analysis tool to determine the intervening model (Gumelar et al. 2020). This is done to obtain more valid and accurate research results in understanding the Comprehensive Banking Experience in the banks studied.

Table 2. Operational Definition of Variables

<table>
<thead>
<tr>
<th>Construct</th>
<th>Construct and Reference Indicators</th>
<th>Codes</th>
<th>Likert Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation and Control of Customer Account Security</td>
<td>1) Shadow Banking in Business Financing for Regulatory and Financial System Resilience (Hu 2023) 2) Objective discussion of the basic security design of the Internet banking model combined with sustainability relations (Djunaedi 2016b; Laely, Djunaedi, and Rosita 2020; Lee, Lim, and Lim 2013; Lidiawan, Ujianto, and Cempena 2023) 3) Implementation of data breach laws (Fan and Fan 2023) 4) Ecological security of customer data information systems (Tian et al. 2022) 5) OBS innovation and transactions conducive to commercial banks (Zhang, Chen, and Jin 2020) 6) laterization of regional innovations with security modifications and legislative frameworks (Kirilchuk et al. 2022)</td>
<td>RCCAS1 RCCAS2 RCCAS3 RCCAS4 RCCAS5 RCCAS6</td>
<td>1-5</td>
</tr>
<tr>
<td>Monitoring the Digital Banking Experience</td>
<td>7) Cash-based assistance for monitoring bank accounts, mobile money and prepaid cards (Abdelgawad, Khan, and Baharmand 2023; Cahyani 2022) 8) Big data technology with competitive operational banking workflows (Laely et al. 2022; Singh et al. 2022) 9) IoT integrated digital transformation in superior banking processes (Khanboubi, Boulmakoul, and Tabaa 2019; Nizioł 2021) 10) Balance score card for promotion in reducing hoaxes, improving management control and measuring banking performance (Esther Akinbowale, Eckart Klingelhöfer, and Fekadu Zerihun 2022) 11) Financial laundering compliance with blockchain tools (Thommandru and Chakka 2023) 12) Completeness of digital distribution monitoring and the financial sector runs dynamically (Barroso and Laborda 2022; Javaid et al. 2023; Rehman et al. 2020)</td>
<td>MDBE1 MDBE2 MDBE3 MDBE4 MDBE4</td>
<td>1-5</td>
</tr>
<tr>
<td>The Need for Continuous Technology</td>
<td>13) Development of National Electronic Fund Transfer and NIBSS Instant Payment</td>
<td>NCTSI1 NCTSI2 NCTSI3</td>
<td>1-5</td>
</tr>
</tbody>
</table>
innovations on customer mobile (Ashiru, Balogun, and Paseda 2023; Yang et al. 2023)
14) Non-technological innovations are developed to understand customer needs, spreading activities closely to the economy, social, and environment exclusively (Lay Hong, Boon Cheong, and Syaiful Rizal 2016; Manohar et al. 2023)
15) High-tech based business model and innovation performance decisions (Jian and Hongxia 2023; Tschulkow et al. 2020; Zhang 2022)
16) Interface innovation based on ergonomics, features, unique promotions and customer comfort (Djunaedi 2016a; Fusaro and Kang 2021; Laely et al. 2020)
17) The design infrastructure in the interface features does not experience bugs (Bastari et al. 2020; Damberg 2023; Panjaitan 2017)
18) Cost Cutting Innovations to Increase Equity to Increase Feature Appeal to Customers (Aitken et al. 2021; Egorov 2022)

Minimizing Customer Identity Theft
19) Protect customers with artificial intelligence and strengthen face lock feature encryption code (Alshwayat et al. 2023; Nizioł 2021)
20) Design fraud simulations that are seminared to customers (Allen et al. 2023; Sanusi et al. 2015)
21) Development of Secure Online Transaction Algorithm (SOTA) (Gualdoni et al. 2017)
22) Government awareness to socialize victimization consistently in the banking business (Kemp 2023)
23) Continuous security protection with best-in-class data management (Javaid et al. 2023; Thommandru and Chakka 2023)
24) The importance of e-economy security with access restrictions according to policies (Khanboubi et al. 2019; Miciula et al. 2020)

Comprehensive Banking Experience
25) Minimizing external debt activity during banking crises (Eijffinger and Karataş 2023)
26) Technology Acceptance Modeling di Bank (Alnemer 2022; Cahyani 2022; Ly and Ly 2022)
27) Comprehensive knowledge and understanding according to the banking policy used (Hosseini, Abdolvand, and Harandi 2022)
28) Linearity of the regulatory framework of reporting according to competitive SDGs (Aguado-Correa et al. 2023)
29) Pengembangan Research Spin-Offs (RSOs) (Fasano et al. 2023)
30) Aktivitas System Generalized Method of Moments (SGMM) (Shanigaram et al. 2023)
3.3 PROCEDURE

In data quality testing, there are several important steps that need to be done. The first step is to test the convergent validity stage with a value of > 0.500 (Berlin, Seifart, and von Blanckenburg 2022). In addition, it is also necessary to determine the average variance extracted > 0.400 (Purnamadewi and Suresh 2020) and discriminant validity value with composite reliability > 0.700 (Spivakovsky, Suh, and Janal 2022). After that, inner model testing was carried out with the R-Adjusted Square stage between 10% to 100% hypothesis testing with Ttable > 1.96, and determined the effect size of the research construct matrix. The final step is to design the relationships between variables that have been corrected and prove that the alternative hypothesis is accepted. All these steps are carried out to ensure that the data used in the research has good quality so as to obtain valid and reliable research results.

Desain Intervening Model

4 RESULTS AND DISCUSSION
4.1 CORRECTED MODEL
4.1.1 Outer Model

Corrected outer loading with a standard value > 0.700 in figure 2 with table 1 analysis in the feasibility of outer loading model constructs. The outer loading value
<0.700 has been eliminated so that each of the constructs has 1 item to 2 items with the resulting value in the feasibility of the outer loading construct model in table 1 below.

<table>
<thead>
<tr>
<th>Codes</th>
<th>Items</th>
<th>Outer Loading</th>
<th>Batas Terendah</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBE5</td>
<td>Pengembangan Research Spin-Offs (RSOs)</td>
<td>0.832</td>
<td>0.700</td>
<td>High and Valid Correlation</td>
</tr>
<tr>
<td>CBE6</td>
<td>Aktivitas System Generalized Method of Moments (SGMM)</td>
<td>0.727</td>
<td>0.700</td>
<td>Korelasi tinggi dan Valid</td>
</tr>
<tr>
<td>MCIT2</td>
<td>Design fraud simulations that are seminared to customers</td>
<td>1.000</td>
<td>0.700</td>
<td>High and Valid Correlation</td>
</tr>
<tr>
<td>MDBE1</td>
<td>Cash-based assistance for monitoring bank accounts, mobile money and prepaid cards</td>
<td>1.000</td>
<td>0.700</td>
<td>High and Valid Correlation</td>
</tr>
<tr>
<td>NCTSI6</td>
<td>Cost Cutting Innovations to Increase Equity to Increase Feature Appeal to Customers</td>
<td>1.000</td>
<td>0.700</td>
<td>High and Valid Correlation</td>
</tr>
<tr>
<td>RCCAS1</td>
<td>Shadow Banking in Business Financing for Regulatory and Financial System Resilience</td>
<td>0.702</td>
<td>0.700</td>
<td>High and Valid Correlation</td>
</tr>
<tr>
<td>RCCAS2</td>
<td>Objective discussion of the basic security design of the Internet banking model combined with sustainability relations</td>
<td>0.908</td>
<td>0.700</td>
<td>High and Valid Correlation</td>
</tr>
</tbody>
</table>

Source: olah data, 2023

Based on the outer loadings, it can be inferred that the item "Cash-based assistance for monitoring bank accounts, mobile money and prepaid cards" (MDBE1) has a strong
correlation with the construct it represents, with a loading of 1.000. The items "Designing fraud simulations in seminars to customers" (MCIT2) and "cost-cutting innovations to increase equity to increase feature appeal to customers" (NCTSI6) also have high loadings at 1.000. Meanwhile, the items "Pengembangan Research Spin-Offs (RSOs)" (CBE5) and "Activities System Generalized Method of Moments (SGMM)" (CBE6) have weaker loadings at 0.832 and 0.727, respectively. The items "shadow banking in business financing for regulatory and financial system resilience" (RCCAS1) and "objective discussion of the basic security design of Internet banking models combined with sustainability relations" (RCCAS2) also have moderate to high loadings at 0.702 and 0.908, respectively.

<table>
<thead>
<tr>
<th>Table 3. Kelayakan AVE Konstruks Model Composit e Reliabilit y</th>
<th>Lowest Limit</th>
<th>Average Variance Extracted (AVE)</th>
<th>Lowest Limit</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive Banking Experience</td>
<td>0.758</td>
<td>0.700</td>
<td>0.611</td>
<td>0.500</td>
</tr>
<tr>
<td>Minimizing Customer Identity</td>
<td>1.000</td>
<td>0.700</td>
<td>1.000</td>
<td>0.500</td>
</tr>
<tr>
<td>Monitoring the Digital Banking Experience</td>
<td>1.000</td>
<td>0.700</td>
<td>1.000</td>
<td>0.500</td>
</tr>
<tr>
<td>Regulation and Control of Customer Account Security</td>
<td>0.792</td>
<td>0.700</td>
<td>0.659</td>
<td>0.500</td>
</tr>
<tr>
<td>The Need for Continuous Technology Service Innovation</td>
<td>1.000</td>
<td>0.700</td>
<td>1.000</td>
<td>0.500</td>
</tr>
</tbody>
</table>

Source: olah data, 2023

The composite reliability value for the Comprehensive Banking Experience is 0.758, exceeding the predetermined low of 0.700. This shows that the construct of Comprehensive Banking Experience has good reliability in measuring its variables. The Average Variance Extracted (AVE) for the Comprehensive Banking Experience was 0.611, also exceeding the predetermined low of 0.500. This shows that the construct of Comprehensive Banking Experience has sufficient discriminant validity, which is able to distinguish between one construct and another. In particular, for Bank BRI, BNI, Mandiri and BSI in Kediri, it can be assumed that the Comprehensive Banking Experience construct has good reliability and discriminant validity in measuring the overall banking experience of customers at the four banks in Kediri city. However, to make conclusions
more accurate, it is necessary to conduct a more in-depth statistical analysis using more specific data and focused on certain aspects of the banking experience.

4.1.2 Inner Model

Table 4. The Role of Model Constructs

<table>
<thead>
<tr>
<th>Model Constructs</th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive Banking Experience</td>
<td>18.2%</td>
</tr>
<tr>
<td>Minimizing Customer Identity</td>
<td>37.0%</td>
</tr>
</tbody>
</table>

Source: olah data, 2023

Comprehensive Banking Experience has a percentage of 18.2%. This shows that the Comprehensive Banking Experience factor has not been able to explain the significant variant of customer satisfaction in Kediri City which is the target of this study. R Square Adjusted represents the results of analysis from one location (Kediri City). Thus, the results can be generalized to the brands of Bank BRI, BNI, Mandiri, and BSI in general throughout the region. Because each brand has different banking characteristics and experiences and can have an impact on customer satisfaction in each location. Therefore, further research is needed to examine the effect of Comprehensive Banking Experience on customer satisfaction in other regions and for each brand in particular.

4.1.3 Path Coefficients

Figure 3. Corrected Intervening Model
The intervening model is corrected in figure 3, each construct has 3 items that have a valid and consistent effect with the value of the path coefficient in table 5.

<table>
<thead>
<tr>
<th>Trayek Intervening Model</th>
<th>T Statistics</th>
<th>P Values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation and Control of Customer Account Security -&gt; Banking Experience</td>
<td>5.979</td>
<td>0.00</td>
<td>Ha accepted</td>
</tr>
<tr>
<td>Monitoring the Digital Banking Experience -&gt; Banking Experience</td>
<td>2.597</td>
<td>0.01</td>
<td>Ha accepted</td>
</tr>
<tr>
<td>The Need for Continuous Technology Service Innovation -&gt; Banking Experience</td>
<td>1.292</td>
<td>0.19</td>
<td>Ha rejected</td>
</tr>
<tr>
<td>Regulation and Control of Customer Account Security -&gt; Minimizing Customer Identity</td>
<td>1.731</td>
<td>0.08</td>
<td>Ha rejected</td>
</tr>
<tr>
<td>Monitoring the Digital Banking Experience -&gt; Minimizing Customer Identity</td>
<td>1.799</td>
<td>0.07</td>
<td>Ha rejected</td>
</tr>
<tr>
<td>Minimizing Customer Identity -&gt; Banking Experience</td>
<td>0.032</td>
<td>0.97</td>
<td>Ha rejected</td>
</tr>
<tr>
<td>Regulation and Control of Customer Account Security -&gt; Minimizing Customer Identity -&gt; Banking Experience</td>
<td>0.027</td>
<td>0.97</td>
<td>Ha rejected</td>
</tr>
<tr>
<td>Monitoring the Digital Banking Experience -&gt; Minimizing Customer Identity -&gt; Banking Experience</td>
<td>0.029</td>
<td>0.97</td>
<td>Ha rejected</td>
</tr>
<tr>
<td>The Need for Continuous Technology Service Innovation -&gt; Minimizing Customer Identity -&gt; Banking Experience</td>
<td>0.027</td>
<td>0.97</td>
<td>Ha rejected</td>
</tr>
</tbody>
</table>

Source: olah data, 2023

The intervening model analysis stated that Regulation and Control of Customer Account Security and Monitoring the Digital Banking Experience had a significant positive influence on the Comprehensive Banking Experience at the four banks (Bank BRI, BNI, Mandiri, and BSI) in Kediri. This is indicated by a T statistic value greater than 1.96 and a p value less than 0.05. Therefore, the alternative hypothesis (Ha) is acceptable for both variables. However, The Need for Continuous Technology Service Innovation did not have a significant effect on the Comprehensive Banking Experience at the four banks (Kitsios, Giatsidis, and Kamariotou 2021). This is indicated by a T statistic value that is less than 1.96 and a p value greater than 0.05. Therefore, the null hypothesis (Ho) is acceptable for this variable. the effect of Regulation and Control of Customer Account Security and Monitoring the Digital Banking Experience on
Minimizing Customer Identity is not significant (Hu 2023). This is indicated by a T statistic value of less than 1.96 and a p value greater than 0.05. Therefore, the null hypothesis (Ho) is acceptable for both variables. The effect of Minimizing Customer Identity on Comprehensive Banking Experience is also not significant (Thommandru and Chakka 2023), as shown by very small T statistics and very large p values. Therefore, the null hypothesis (Ho) is acceptable for this variable. In the overall results of the intervening model analysis above, it can be concluded that the Regulation and Control of Customer Account Security and Monitoring the Digital Banking Experience have a significant positive influence on the Comprehensive Banking Experience in the four banks, but the influence of The Need for Continuous Technology Service Innovation and Minimizing Customer Identity on the Comprehensive Banking Experience is not significant (Octabriyantiningtyas, Suryani, and Jatmiko 2019).

4.2 DISCUSSION

Based on the findings of the corrected intervening model design, the BRI, BNI, Mandiri and BSI bank groups can determine the right policy with the following strategy model.

4.2.1 Regulation and Control of Customer Account Security to Comprehensive Banking Experience

The strategy model that can be implemented by BRI, BNI, Mandiri and BSI in dealing with the situation is to increase understanding and compliance with existing regulations related to shadow banking and the development of RSOs (Fasano et al. 2023). Develop safe and compliant services and products to finance business, especially through internet interaction and sustainability relations. Implement a basic security system that is adequate for the internet banking model and utilize SGMM to optimize operational activities. Optimizing digitalization strategies and innovations in banking services to improve security (Octabriyantiningtyas et al. 2019; Salihu et al. 2019), efficiency and customer experience. Increase collaboration between banks to develop the best solutions to manage financial system risk and resilience in an integrated manner.
4.2.2 Monitoring the Digital Banking Experience to Comprehensive Banking Experience

The recommended strategy for BRI, BNI, Mandiri and BSI is for BRI: Integrate cash-based assistance with the banking system, thus enabling efficient and effective monitoring of bank accounts, mobile money, and prepaid cards for the development of RSOs and SGMM activities efficiently and effectively (Aurazo and Vega 2021; Avezum, Huizinga, and Raes 2022). BNI: Provides real-time transaction monitoring services for bank accounts, mobile money, and prepaid cards related to cash-based assistance, making it easier to develop RSOs and SGMM activities easily. Mandiri: Offers innovative technology solutions to facilitate monitoring of bank accounts, mobile money, and prepaid cards used for cash-based assistance (Abdelgawad et al. 2023), thus enabling faster and more accurate development of RSOs and SGMM activities. BSI: Building a network of cooperation with other financial institutions to run cash-based assistance programs integrated with bank account monitoring systems, mobile money, and prepaid cards that facilitate the development of RSOs and SGMM activities in a more structured and organized manner.

4.2.3 The Need for Continuous Technology Service Innovation to Comprehensive Banking Experience

Strategy for BRI: BRI can implement cost-cutting innovations such as introducing new technologies that can cut bank operational costs. BRI can take advantage of the potential development of Research Spin-Offs (RSOs) by looking for opportunities in the field of financial technology (Fasano et al. 2023). In addition, BRI can also increase the attractiveness of features by developing a Generalized Method of Moments (SGMM) system that can facilitate the transaction process for customers.

Strategy for BNI: BNI can save operational costs by adopting digitalization technology and innovating banking services. BNI can take advantage of the development of Research Spin-Offs (RSOs) to seek opportunities in the field of financial technology (Fasano et al. 2023). In order to increase the attractiveness of features, BNI can develop a Generalized Method of Moments (SGMM) system as a solution to increase effectiveness in managing financial transactions.

Strategy for Mandiri: Mandiri can reduce operational costs by introducing new technological innovations in banking services, such as cutting-edge security technology
or new risk analysis systems (Ly and Ly 2022; Zhang et al. 2020). Mandiri can also take advantage of the development of Research Spin-Offs (RSOs) to integrate financial technology and develop new services for customers. In order to increase the attractiveness of features (Windasari et al. 2022), Mandiri can launch the Generalized Method of Moments (SGMM) system as a solution to increase speed and effectiveness in managing financial transactions for customers.

Strategy for BSI: BSI can cut operational costs by making operational management system efficiencies and introducing new technologies in banking services (Teka 2020). BSI can leverage the development of Research Spin-Offs (RSOs) to explore opportunities in the development of new financial applications. In order to increase the attractiveness of the feature, BSI can launch the Generalized Method of Moments (SGMM) system as a solution to increase effectiveness and security in managing financial transactions (Zhao et al. 2022).

4.2.4 Regulation and Control of Customer Account Security to Minimizing Customer Identity

The strategy that can be applied by BRI, BNI, Mandiri, and BSI in overcoming fraud risk in the digital era is to strengthen regulations and financial systems in shadow banking (Ashiru et al. 2023; Hu 2023; Ma et al. 2023), and designing fraud simulations that can be seminared to customers as a form of education. In addition, banks must continue to develop the basic security design of the internet model combined with sustainability relations as a more holistic fraud prevention effort. This can be done by increasing the use of security technologies, such as two-factor verification, encryption and others, as well as regularly conducting trainings for employees and customers related to fraud and how to reduce fraud risk.

4.2.5 Monitoring the Digital Banking Experience to Minimizing Customer Identity

BRI strategy: BRI will use cash-based assistance to closely monitor bank accounts, mobile money, and prepaid cards, as well as strengthen security systems so that customers avoid simulated fraud that can harm them (Abdelgawad et al. 2023).

BNI Strategy: BNI will increase the use of cash-based assistance to effectively monitor bank accounts, mobile money, and prepaid cards. In addition, BNI will also
educate customers about fraud tactics and provide the latest information related to safe and reliable payments (Abdelgawad et al. 2023).

Mandiri Strategy: Mandiri will use cash-based assistance and advanced security technology to monitor bank accounts, mobile money, and prepaid cards. In addition, Mandiri will also conduct strict supervision and provide online fraud reporting services so that customers can report suspected fraud quickly and easily (Abdelgawad et al. 2023).

BSI Strategy: BSI will strengthen its security system and utilize cash-based assistance to monitor bank accounts, mobile money, and prepaid cards. In addition, BSI will also conduct education and campaigns to customers regarding fraud tactics and provide the latest information related to safe and reliable online payments (Abdelgawad et al. 2023).

4.2.6 Minimizing Customer Identity to Comprehensive Banking Experience

Strategy for BRI: by discovering new business potential by developing Research Spin-Offs (RSOs). Implement the System Generalized Method of Moments (SGMM) to achieve optimal results. Educate customers about the benefits of RSOs and SGMM. Provide consulting services to help customers understand RSOs and SGMM in more depth.

Strategy for BNI: by conveying information about Research Spin-Offs (RSOs) and System Generalized Method of Moments (SGMM) as the latest innovations in the investment sector. Provide customers with successful case examples of using RSOs and SGMM (Alzate, Arce-Urriza, and Cebollada 2021; Mukhibad et al. 2023). Show how customers can leverage RSOs and SGMMs to increase the profitability of their investments. Teach customers how to monitor RSOs and SGMMs regularly to maximize their investment returns.

Strategy for Mandiri: by offering new investment products in the form of Research Spin-Offs (RSOs) and implementation of System Generalized Method of Moments (SGMM) as superior features (Alzate et al. 2021; Mukhibad et al. 2023). Teach customers how to choose RSOs and optimize the use of SGMM. Socialize the benefits of RSOs and SGMM to customers using real case studies. Provide consulting services to help customers maximize the benefits of RSOs and SGMM.

Strategy for BSI: by educating customers about the potential benefits of Research Spin-Offs (RSOs) and implementation of System Generalized Method of Moments.
(SGMM) (Alzate et al. 2021; Mukhibad et al. 2023). Clearly communicate the benefits and risks of RSOs and SGMMs to help customers decide if they are suitable for their investment. Provide training services for customers who want to learn more about RSOs and SGMM. Offer long-term services to help customers maximize profits from RSOs and SGMMs by monitoring market movements and providing timely investment advice.

4.2.7 Regulation and Control of Customer Account Security via Minimizing Customer Identity to Comprehensive Banking Experience

The strategy that can be applied to BRI, BNI, Mandiri, and BSI is to design fraud simulations in seminars to customers. This can help improve the basic security of the internet banking model combined with sustainability relations (Merhi, Hone, and Tarhini 2019). In addition, these banks can also provide cash-based assistance for monitoring bank accounts, mobile money, and prepaid cards as an effort to minimize the potential for cybercrime that occurs in the future (Saji and Sobhana 2021). By implementing this strategy, these banks can increase regulatory resilience and a better financial system for customers.

4.2.8 Monitoring the Digital Banking Experience via Minimizing Customer Identity to Comprehensive Banking Experience

BRI by improving customer security, BRI provides Cash-based assistance for monitoring bank accounts, mobile money and prepaid cards (R, Kuanr, and KR 2021). Customers can monitor their financial transactions and in case of suspicious activity, BRI will provide notifications. We also designed a customer-informed fraud simulation to educate and raise financial security awareness.

BNI understands how important financial security is for our customers. Therefore, we offer Cash-based assistance for bank account monitoring, mobile money and prepaid cards, allowing customers to monitor their transactions and notify suspicious activity. We also provide educational training, including fraud simulations, to increase customers' financial security knowledge (Filotto, Caratelli, and Fornezza 2021).

Mandiri with financial security according to customer perception is a top priority for Mandiri (Cherukur and Sivakumar 2021). We provide Cash-based assistance for monitoring bank accounts, mobile money and prepaid cards, so customers can monitor their transactions and get notified if there is suspicious activity. In addition, we designed
fraud simulations that educate customers about the financial security measures they need to know.

BSI is committed to protecting the financial security of our customers. Therefore, we provide Cash-based assistance for monitoring bank accounts, mobile money and prepaid cards, allowing customers to monitor their transactions and get notified if suspicious activity occurs. We also provide fraud simulations that help our customers understand the important financial security measures they can take.

4.2.9 The Need for Continuous Technology Service Innovation through Minimizing Customer Identity to Comprehensive Banking Experience

Strategy for BRI: BRI can increase the attractiveness of features with effective cost-cutting innovations to attract generation Y and Z customers (Christian, Jenny, and Mecmack 2021; Kesa 2018). One way is to design a fraud simulation that is seminared to customers with the aim of helping customers understand how to avoid forms of fraud in cash-based assistance transactions such as bank account monitoring, mobile money, and prepaid cards.

Strategy for BNI: BNI can strengthen the attractiveness of features by increasing the effectiveness of cost cutting. One strategy is to launch fraud simulations that introduce customers to the risks arising from cash-based assistance transactions such as bank account monitoring, mobile money and prepaid cards (Mufarih, Jayadi, and Sugandi 2020).

Strategy for Mandiri: Mandiri can increase the attractiveness of features by introducing new cost management services. One example is by optimizing the fraud simulation function to help customers maintain the security of their transactions with cash-based assistance such as bank account monitoring, mobile money and prepaid cards (Mufarih et al. 2020).

Strategy for BSI: BSI can increase the appeal of features by combining cost-cutting innovations and fraud simulations. This can help customers understand the risks of cash-based assistance transactions such as bank account monitoring, mobile money and prepaid cards, thus helping to increase customer awareness of security in managing their finances in general (Mufarih et al. 2020).

In facing the current conditions, banks such as BRI, BNI, Mandiri, and BSI need to implement the right strategy to improve the comprehensive banking experience for
customers. Some of the recommended strategies include regulation and control of customer account security, monitoring the digital banking experience, and developing continuous service innovations. In terms of regulation and control of customer account security, banks need to improve understanding and compliance with existing regulations related to shadow banking and the development of RSOs. Banks also need to improve the basic security systems of the internet banking model and utilize security technologies, such as two-factor verification and encryption. Thus, banks can strengthen regulatory resilience and a better financial system for customers. In monitoring the digital banking experience, banks need to strengthen fast, effective, and efficient services for customers by utilizing cash-based assistance for monitoring bank accounts, mobile money, and prepaid cards. Banks also need to provide education and socialization by conducting fraud simulations to help customers understand how to avoid forms of fraud in cash-based assistance transactions. In the development of continuous service innovation, banks need to implement new technologies such as RSOs, SGMM, and cutting-edge security features to provide a better and more efficient banking experience for customers. Banks must also continue to optimize digitalization services and innovation of banking services to improve security, efficiency, and customer experience in conducting banking transactions.

Overall, the right strategy must be implemented by banks such as BRI, BNI, Mandiri, and BSI to improve the comprehensive banking experience for customers. The development of technological innovations and appropriate banking services can help banks increase the attractiveness of features and attract generation Y and Z customers. In addition, the development of education and socialization through fraud simulation can also help customers understand how to avoid fraud risks in banking transactions.

5 CONCLUSION

Intervening model to examine the influence of several factors on Comprehensive Banking Experience at BRI, BNI, Mandiri, and BSI banks in Kediri City, East Java. The results showed that Regulation and Control of Customer Account Security and Monitoring the Digital Banking Experience had a significant positive influence on the Comprehensive Banking Experience in the four banks, and The Need for Continuous Technology Service Innovation and Minimizing Customer Identity did not have a significant influence. Based on the results of the analysis, several strategies can be implemented by these banks, such as increasing understanding and compliance with
regulations, optimizing digitalization strategies and innovation in banking services, strengthening security and monitoring systems, and conducting education and socialization to customers regarding fraud tactics.

All of these strategies can help banks create a more comprehensive customer experience and increase customer confidence in banking services.
REFERENCES


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