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Strategy to Improve Service Continuity Performance Through Organizational Resilience and Business Continuity Management

Banu Surya Ganea Wijaya, Putu Nina Madiawati, Mahir Pradana
Telkom University, Indonesia
Email: banuwijaya@student.telkomuniversity.ac.id, pninamad@telkomuniversity.ac.id, mahirpradana@telkomuniversity.ac.id

ABSTRACT

This research analyzes strategies for enhancing Service Continuity through the integration of Organizational Resilience (OR) and Business Continuity Management (BCM), with Digital Technology as a moderating variable. The study focuses on PT. ABC, a heavy equipment rental company operating in a critical sector that faces operational challenges arising from supply chain disruptions, manual systems, and limited digital coordination. These circumstances necessitate the implementation of an organizational resilience strategy capable of ensuring sustainable service continuity. A quantitative approach was adopted using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method. The OR construct is modeled as a second-order formative construct comprising four dimensions: Anticipation, Readiness to Respond, Synchronization, and Proactive Learning. Data were collected through questionnaires distributed among respondents directly involved in the company's risk management and operational activities. The analysis is further supported by Importance–Performance Map Analysis (IPMA) to identify strategic priorities for improving service performance. The results reveal that OR significantly influences BCM, and that BCM has both direct and indirect (mediating) effects on Service Continuity. Moreover, Digital Technology strengthens the relationship between BCM and Service Continuity, demonstrating that the integration of cloud-based systems, real-time monitoring, and digital access enhances organizational responsiveness to disruptions. Among the OR dimensions, Readiness to Respond and Proactive Learning emerge as key factors in service performance improvement. In conclusion, the integration of Organizational Resilience and Business Continuity Management, supported by the adoption of digital technology, substantially enhances resilience and service sustainability within critical operational sectors.

Keywords: Organizational Resilience, Business Continuity Management, Service Continuity, Digital Technology, IPMA, Second-Order Construct

INTRODUCTION

In today's increasingly complex and uncertain business environment, Service Continuity has become a critical priority, especially for organizations delivering essential services (Moşteanu, 2024; Wiśniewski, Szwarc, & Skomra, 2023). Strong service continuity performance not only ensures operational stability but also safeguards corporate reputation and customer trust during disruptions or crises (Holloway, 2025; Moşteanu, 2024). However, many organizations remain vulnerable due to insufficient risk preparedness and suboptimal continuity management systems (Steen, Haug, & Patriarca, 2024). Global reports indicate that 91% of organizations experience at least one major disruption per quarter, with downtime costs ranging from USD 427 per minute for small businesses to over USD 9,000 per minute for large enterprises (Hausmann et al., 2023; Muralidhara, 2023). Moreover, 43% of small firms affected by disasters never recover, and despite these risks, only 61% of organizations have comprehensive Business Continuity Management (BCM) plans (Billingsley, 2022; De Matteis, Elia, & Del Vecchio, 2023).

In the Indonesian context, the challenges of service continuity are particularly acute. Data from the Indonesian National Board for Disaster Management (BNPB) show that Indonesia experienced more than 3,000 disaster events in 2023, with direct economic losses

exceeding IDR 15 trillion (approximately USD 1 billion), significantly impacting business operations across multiple sectors (Ariyaningsih et al., 2025; Berkademi & Ramadhan, 2025). Research by Tri Sumarni and Chalik Sjaaf (2022) on Indonesian hospitals during the COVID-19 pandemic found that only 38% of healthcare facilities had adequate business continuity plans, resulting in severe service disruptions. Similarly, a study on Indonesian microfinance institutions reported that 67% of organizations lacked systematic BCM frameworks, leaving them vulnerable during crises (Seputro, Kurniasari, & Maghfiroh, 2025; Widianti et al., 2024). These findings underline that Indonesian companies, particularly those in critical sectors such as PT. ABC, face distinct challenges including infrastructure limitations, regulatory gaps, and uneven levels of digital maturity—factors that make the integration of Organizational Resilience (OR) and BCM essential for maintaining service continuity.

The case of PT. ABC illustrates these challenges within Indonesia's heavy equipment rental sector (Rauf, 2023; Wijaya, Fadhilah, & Azizah, 2020). As a company providing critical infrastructure support services, PT. ABC experiences recurrent operational disruptions due to limited digital integration, manual coordination processes, and supply chain vulnerabilities—challenges that mirror those faced by many Indonesian firms. This situation highlights the strategic importance of integrating Organizational Resilience and BCM as a systematic approach to ensuring sustainable service continuity in response to unpredictable market and operational conditions (Loyarte, Gurrutxaga, & Funcia, 2024; Nikander, 2025).

Findings indicate that large-scale service disruptions remain widespread, with 91% of organizations experiencing quarterly incidents and 67% facing monthly downtime, underscoring the urgency of establishing structured BCM practices and strengthening Organizational Resilience (Jain & Mitra, 2025; Rigliettt, 2023). Yet, only 61% of organizations have formal BCM frameworks, revealing a significant implementation gap. This imbalance suggests that despite frequent operational disruptions, many organizations remain inadequately equipped to manage crises effectively, thereby jeopardizing overall service continuity (Assibi, 2024; Mizrak, 2024).

According to Forrester Research and the Disaster Recovery Journal (DRJ, 2023), executive sponsorship for BCM programs remains strong at 96%, with 42% of sponsors providing substantial support (Figure 2). Nevertheless, although 81% of companies conduct a Business Impact Analysis (BIA), many still lack detailed mapping between critical business functions and their supporting processes (Mustafa, Smolarski, & Elamer, 2025; Zils, Howard, & Hopkinson, 2025). Additionally, 56% have never conducted full-scale continuity simulations, revealing gaps in actual disruption preparedness (Figure 3). Reporting structures are also evolving, with BCM programs reporting directly to the Chief Risk Officer (CRO) increasing from 9% in 2021 to 23% in 2023, signaling a shift from technical compliance toward strategic risk management (Mahwe, 2024; Slapničar, Axelsen, & Eulerich, 2025). These findings emphasize the necessity of integrating Organizational Resilience, Business Continuity Management, and digital technology to address the growing complexity of modern business environments (Kanaan, Ahmad, Aloun, Alorfi, & Alrawashdeh, 2025; Russo & Reis, 2025).

Supporting the DRJ findings, the SysGroup (2024) report reinforces the urgency of digital resilience and contingency planning. It shows that 44% of businesses lack a formal Disaster Recovery Plan (DRP), with 53% of downtime attributed to software failures and 52% to cybersecurity incidents. The implications are severe—40% of businesses never reopen after a disaster, and only 33% maintain adequate data protection, leaving organizations highly vulnerable to breaches. In the UK alone, there are approximately 65,000 hacking attempts daily, with nearly 4,500 successful intrusions. These statistics (Figure 4) highlight the multifaceted causes of service disruptions and underscore that investing in BCM and Organizational Resilience is not merely a technical requirement but a strategic imperative for business sustainability.

To build organizational resilience, companies require a structured and adaptive management framework such as BCM, which serves not merely as an operational tool but as a strategic model for proactively managing risks through anticipation, response, and recovery (ISO 22301, 2019). The effectiveness of BCM depends on an organization's adaptability, cross-functional coordination, and efficient resource utilization—factors increasingly enabled by digital innovations such as cloud infrastructure, real-time monitoring, and data analytics. Nonetheless, external shocks—such as pandemics, logistics disruptions, and natural disasters—combined with internal inefficiencies may continue to hinder service performance if not managed through coherent resilience strategies. This urgency is reflected in PT. ABC's operational records for 2024, where service continuity targets of 90% were achieved only in October, with earlier months performing below target, including a low of 73% in April and gradual recovery to 88% by December.

These figures point to PT. ABC's inability to consistently meet its continuity goals and reveal a performance gap compared to BAP Construction, which surpassed 90% in the final quarter. Despite having a formal BCM framework, PT. ABC's implementation remains fragmented, lacking synergy with organizational resilience principles, digital monitoring infrastructure, and inter-departmental coordination. The absence of real-time early warning systems and limited staff involvement in crisis management further hinder effective recovery.

The novelty of this research lies in three major contributions to existing scholarship: (1) it is among the first studies to operationalize Organizational Resilience as a second-order formative construct within the BCM framework, offering a comprehensive and hierarchical understanding of resilience dimensions—contrasting with previous unidimensional models; (2) the integration of Importance–Performance Map Analysis (IPMA) enables simultaneous evaluation of both the importance and performance of OR dimensions, presenting more actionable strategic insights for practitioners—an analytical approach rarely implemented in service continuity studies; and (3) this study investigates the moderating role of Digital Technology in the BCM–Service Continuity relationship within the Indonesian context, addressing a significant gap in the literature concerning digital transformation and business continuity in emerging markets.

These findings underscore the necessity for an adaptive, digitally integrated resilience strategy to enhance response capabilities and operational stability during unexpected disruptions. Against this backdrop, the study titled Strategies to Improve Service Continuity Performance through Organizational Resilience and Business Continuity Management proposes a conceptual and empirical framework combining Organizational Resilience with digitalized BCM practices focused on real-time monitoring, scenario-based planning, and optimized cloud technology utilization.

The study's objectives are threefold: (1) to empirically examine the direct and indirect effects of Organizational Resilience on Service Continuity through Business Continuity Management; (2) to investigate the moderating role of Digital Technology in strengthening the BCM–Service Continuity relationship; and (3) to identify the priority dimensions of Organizational Resilience requiring strategic attention, using IPMA to improve service performance. The practical implications of this research extend to both academic and managerial domains: academically, it strengthens theoretical understanding of the resilience–continuity link and validates the second-order OR construct; managerially, it provides evidence-based recommendations for Indonesian firms, especially in critical sectors, to prioritize resilience investments and digital transformation initiatives. Furthermore, the findings carry policy implications for the development of standardized BCM regulations and digital infrastructure frameworks that enhance organizational resilience in emerging economies.

METHOD

This study adopts a quantitative approach with a descriptive–correlational and causal design to analyze the relationships among Organizational Resilience (OR), Business Continuity Management (BCM), Digital Technology (DT), and Service Continuity Performance (SC), examining both direct and indirect effects along with mediating and moderating roles. OR is modeled as a second-order reflective construct comprising four dimensions: Anticipation, Readiness to Respond, Synchronization, and Proactive Learning. Meanwhile, BCM, DT, and SC are measured through their respective multidimensional indicators. The research population consists of all 150 employees of PT. ABC, a heavy equipment rental company, with total sampling employed to ensure proportional representation across organizational levels. Data were collected using a structured 34-item questionnaire on a five-point Likert scale, distributed online via Google Forms. The data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) in SmartPLS 4.0 to assess construct validity, structural relationships, and hypotheses, thereby providing empirical insights to support strategic improvements in organizational resilience and service continuity.

RESULT AND DISCUSSION

Characteristics of Respondents

Table 1 presents the distribution of respondents based on gender. Of the 150 respondents, 131 (87.33%) were male, and 19 (12.67%) were female. This distribution indicates a substantial dominance of male respondents, with a percentage gap of 74.66%, reflecting that PT. ABC's workforce remains largely male-dominated—particularly in field and technical roles.

Table 1. Respondents' Characteristics Based on Gender

No.	Gender	Percentage	Number of Respondents
1.	Male	87,33%	131
2.	Female	12,67%	19
	Total	**100%**	**150**

Source: Primary Data Processed (2025).

Table 2 illustrates the distribution of respondents by age group. The majority fall within the 25–34 age range, totaling 56 individuals (37.3%), followed by the 35–44 age group with 39 respondents (26%). Meanwhile, 28 respondents (18.7%) are under 25 years old, 17 (11.3%) are aged 45–54, and 10 (6.7%) are over 54. This distribution indicates that most respondents are within the productive age range of 25–44 years, highlighting their dominant role in operational activities and decision-making at PT. ABC.

Table 2. Respondents' Characteristics Based on Age

No.	Age	Percentage	Number of Respondents
1.	< 25 Year	18,7%	28
2.	25 – 34 Year	37,3%	56
3.	35 – 44 Year	26,0%	39
4.	45 – 54 Year	11,3%	17
5.	> 54 Year	6,7%	10
	Total	**100%**	**150**

Source: Primary Data Processed (2025).

Table 3 presents the distribution of respondents based on their highest level of education. The majority hold a Bachelor's degree (S1) with 57 respondents (38%), followed by Diploma (D1–D3) graduates with 36 respondents (24%), Senior High School or equivalent qualifications with 29 respondents (24%), Master's degree (S2) holders with 18 respondents (12%), and Doctoral degree (S3) holders with 3 respondents (2%). This distribution shows that most respondents have a higher education background, which is particularly relevant for understanding corporate policies, managerial strategies, and the implementation of operational sustainability systems at PT. ABC.

Table 3. Respondents' Characteristics Based on Study

No.	Last Study	Percentage	Number of Respondents
1.	High School or equivalent	24%	36
2.	Diploma or equivalent (D1–D3)	24,0%	36
3.	Bachelor's Degree (S1)	38,0%	57
4.	Master's Degree (S2)	12%	18
5.	Doctoral Degree (S3)	2%	3
	Total	**100%**	**150**

Source: Primary Data Processed (2025).

Table 4 shows the distribution of respondents based on their length of employment. The majority have worked for less than one year, accounting for 45 respondents (30%) of the total sample. The second largest group consists of employees with 1–3 years of service (27.3%), followed by 24% with 3–5 years, and 28 respondents (18.7%) with more than 5 years of service. This distribution suggests a relatively high proportion of new employees, which may influence the consistency of service strategy implementation and the overall maturity of risk management practices within the company.

Table 4. Respondents' Characteristics Based on Occupation

No.	Employment Status	Percentage	Number of Respondents
1.	< 1 year	30,0%	45
2.	1–3 year	27,3%	41
3.	3–5 year	24,0%	36
4.	> 5 year	18,7%	28
	Total	**100%**	**150**

Source: Primary Data Processed (2025).

Data Analysis

Based on the distribution of questionnaire responses, the majority of respondents demonstrated strong agreement with the indicators of the Anticipation variable. Using the continuum line approach, most values were concentrated around scale 4 (Agree) to 5 (Strongly Agree), indicating that PT. ABC employees generally perceive their organization as having robust anticipatory capabilities in managing risks. This finding aligns with (Carbonara et al., 2024), who highlight the importance of sense-making and risk awareness in strengthening organizational anticipation toward disruptions, emphasizing that integrating anticipation into decision-making enables organizations to project market conditions and proactively adjust strategies. Overall, the continuum line analysis suggests that PT. ABC has developed solid anticipatory capabilities, particularly in recognizing early signs of potential disruptions,

understanding operational risks, and consistently updating mitigation procedures—all of which are reflected in the five corresponding indicators.

Presents the summary of respondents' answers to five statements representing the Anticipation dimension of Organizational Resilience, reflecting the organization's ability to recognize risks early, share risk information across units, and update procedures regularly to anticipate service disruptions. All statements received percentage scores above 76.56%, ranging from 76.13% to 77.33%, which fall under the "Good" category. The highest score (77.33%) was obtained for the statement "Management provides support for risk anticipation efforts," demonstrating strong respondent confidence in leadership commitment to risk mitigation initiatives. Conversely, the lowest score (76.13%) was associated with "Recognizing early warning signs of disruptions," indicating that early detection processes could still be enhanced. The overall average score for Anticipation was 76.56%, confirming adequate organizational capability in identifying and anticipating risks, thereby strengthening strategic resilience. These findings reinforce, who assert that embedding anticipation within managerial decisions allows organizations to forecast market shifts and formulate adaptive strategies. Accordingly, respondents' positive perceptions imply that PT. ABC has established a proactive and structured risk mitigation framework, serving as a foundational element of its Organizational Resilience. Figure 4.1 illustrates the position of this variable on the continuum line, comparing actual scores with the ideal benchmark.

The analysis of the Readiness to Respond variable was conducted to assess the organization's ability to respond to crises quickly and effectively, supported by available resources and established protocols.

Which summarizes respondents' feedback on five statements representing indicators of the Readiness to Respond dimension within Organizational Resilience, the findings show that this dimension reflects the organization's preparedness in terms of resources, procedures, and effective response mechanisms during crises or service disruptions. All statements received relatively high percentage scores ranging from 76.27% to 77.60%, categorized as "Good." The highest score was given to "Communication is effective during service disruptions" (77.60%), indicating respondents' confidence in emergency communication channels, while the lowest score was for "Personnel can make quick decisions during emergencies" (76.27%), suggesting room for improvement in decision-making under pressure. Overall, the average score was 76.93%, falling under the "Good" category, highlighting that PT. ABC is considered adequately prepared to respond to crises through resource availability, documented procedures, team readiness, and coordinated decision-making. Using the continuum line approach, this dimension contributes significantly to strengthening Organizational Resilience, with organized response capacity being crucial for operational continuity, particularly in the heavy equipment industry prone to technical and operational disruptions. These findings align with Shepherd and Williams (2023), who emphasize that organizations with flexible and reliable response pathways achieve higher resilience in times of crisis. Thus, the positive perception of respondents underscores that PT. ABC has successfully integrated structural and responsive resilience elements as part of its long-term organizational sustainability strategy.

The Synchronization variable in this study is used to measure the organization's ability to coordinate various units or departments harmoniously during a crisis.

Which presents the recapitulation of respondents' answers to five statements representing the indicators of the Synchronization dimension of Organizational Resilience, the results show that all indicators scored between 76.40% and 77.07%, categorized as "Good." The highest scores were on the indicators "Operations across units run simultaneously during a crisis" and "Teams work solidly and in coordination during a crisis" (77.07%), reflecting strong synergy and cross-functional integration, while the lowest was on "Important decisions are made collectively during a crisis" (76.40%), indicating room for improvement in

collaborative decision-making. Overall, the average score of 76.75% suggests that PT. ABC has established effective internal coordination systems to ensure organizational units operate in sync during emergencies. This finding highlights that Synchronization plays a crucial role in strengthening Organizational Resilience, particularly through aligning inter-unit roles, communicating responsibilities efficiently, and fostering collaborative decision-making. In line with Steen et al. (2024), who emphasized that synchronization between response authorities and field operations is central to resilience, these results confirm that PT. ABC has built a structure that is not only individually responsive but also integrated and collaborative, forming a strong foundation for service continuity during crises.

In this study, the Proactive Learning variable measures the organization's ability to learn from past crisis experiences and integrate those lessons into future system improvements, represented by five indicators as outlined.

The recap of respondent responses to five statements representing the Proactive Learning dimension of Organizational Resilience shows that all indicators scored between 74.00% and 78.13%, categorized as "Good." The highest score was for "Training materials can be adjusted to current conditions or needs" (78.13%), reflecting organizational flexibility in adapting learning content, while the lowest was for "The organization provides continuous learning support and motivation" (74.00%), indicating room for improvement in sustained learning support. Overall, the average score was 76.35%, signifying that PT. ABC has developed a proactive learning culture through regular training, relevant learning resources, and adaptability to current needs. This demonstrates that Proactive Learning plays a vital role in strengthening organizational resilience by fostering continuous learning, skill development, and cross-department collaboration, aligning with Lengnick-Hall et al. (2011) who highlight that proactive learning builds resilience through dynamic adaptation and knowledge integration.

In this study, Business Continuity Management (BCM) is used to assess the extent to which the organization is prepared and capable of maintaining business operations during disruptions or crises. The BCM variable consists of four strategic dimensions: risk and impact assessment, business continuity planning, disaster recovery planning, and cloud-based infrastructure & access.

The recapitulation of respondents' answers to five statements under the Business Continuity Management (BCM) variable shows that BCM measures the organization's readiness in designing, documenting, and systematically implementing service recovery strategies during disruptions or crises. The percentage scores for each indicator range from 71.20% to 78.40%, all falling into the "Good" category. The highest score was found in the statement "The organization responds and restores services quickly during a crisis" (78.40%), indicating strong and organized service recovery capabilities at PT. ABC, while the lowest score (71.20%) was recorded in "The organization conducts regular risk and impact analysis" and "Continuity systems are accessible through cloud infrastructure," reflecting areas needing improvement in digital systems and routine risk mapping. Overall, the average score for BCM was 73.84%, categorized as "Good" according to the continuum line approach, suggesting that PT. ABC has established a solid BCM framework, covering documentation, simulations, and crisis recovery, although consistency in risk analysis and cloud technology adoption requires further strengthening. These findings align with ISO 22301:2019, which emphasizes that organizations implementing effective BCM can maintain essential services, minimize damage, and accelerate recovery after crises. Thus, respondents' positive perceptions reinforce that PT. ABC has built a strong foundation for ensuring service and operational continuity, even though certain technical and strategic aspects still need enhancement for optimal preparedness.

Digital Technology in this study measures the extent to which the organization adopts and utilizes digital tools to support business continuity and operational effectiveness. This

variable encompasses four strategic dimensions—digital infrastructure, digital communication, data analytics and integration, and automation and innovation—each assessed through five questionnaire items, as summarized below.

The recap of respondents' answers to the five indicators of the Digital Technology (DT) variable shows that this dimension evaluates the level of digital integration, including cloud systems, ERP, and real-time monitoring, in supporting service continuity and Organizational Resilience during crises. The percentage scores ranged from 61.47% to 73.73%, with an average of 66.88%, falling under the "Fair" category. The highest score was recorded for the indicator "The company's ERP and GPS systems are integrated into one platform" (73.73%), reflecting relatively effective centralized information management. In contrast, the lowest score was "Company operations are monitored in real time by digital systems" (61.47%), indicating limited optimization of real-time operational tracking. Three of the five indicators—data security, real-time monitoring, and cloud usage—were categorized as "Fair," suggesting that while PT. ABC has begun to adopt digital technologies, advanced automation and integration capabilities remain underutilized. Using the continuum line approach, it can be concluded that the role of digital technology in strengthening Organizational Resilience and Business Continuity Management (BCM) at PT. ABC is still evolving. Full system-wide integration—particularly in monitoring, remote access, and real-time data protection—has not yet been achieved. This finding aligns with Rogers (2022), who argued that "successful digital transformation depends not only on technology adoption but also on an organization's cultural readiness and human resource capability to operate it effectively." Therefore, these results underscore the need for PT. ABC's management to accelerate comprehensive digital adoption, as strengthening digital infrastructure will significantly enhance operational resilience, recovery speed, and overall service continuity.

In this study, Service Continuity measures the organization's ability to ensure uninterrupted service delivery to customers despite disruptions or crises. This variable includes four strategic dimensions—service availability, service recovery, operational resilience, and customer support responsiveness—each assessed through four questionnaire items.

The recap of respondents' responses to the four indicators of the Service Continuity (SC) variable indicates that PT. ABC demonstrates strong capabilities in maintaining core services, achieving swift recovery, and sustaining reliable service delivery during and after crises. All indicators scored between 75.47% and 76.67%, with an overall average of 76.10%, categorized as "Good" under the continuum approach. The highest score was recorded for the indicator "The organization maintains reliable service delivery to partners/customers during crises" (76.67%), while the lowest was "Services can be quickly restored after disruptions" (75.47%), suggesting the need for further improvement in recovery efficiency. Overall, these results reflect that PT. ABC has established robust service continuity capabilities that foster customer trust and ensure long-term operational stability. This finding supports Herbane (2010), who emphasized that service continuity represents both preparedness and operational agility within resilient organizations.

The analytical process for this study was conducted using SmartPLS, a widely recognized tool for implementing the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method. Figure 4.9 presents the analyzed research model, illustrating the relationships among constructs, indicator loading factors, path coefficients, and R-square values of endogenous variables. This model provides a visual summary of the analysis results, serving as the foundation for further interpretation and discussion in this study.

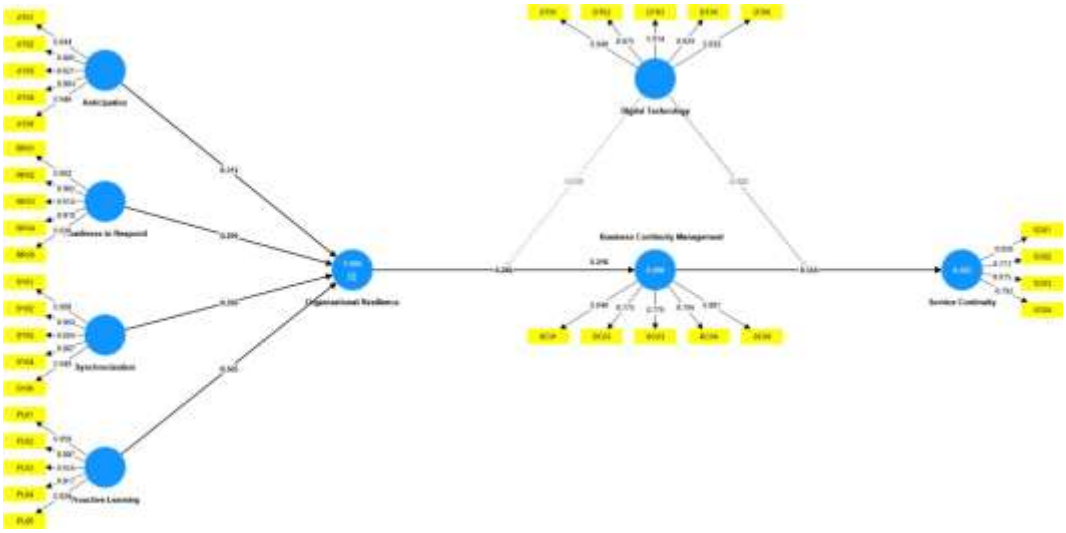

Figure 1. PLS Algorithm Measurement Model Results
Source: Processed Primary Data (2025)

In this study, construct validity was tested using three approaches: convergent validity, discriminant validity, and a reliability test. The results of the construct validity testing are summarized as follows.

The reliability test evaluates the consistency of an instrument in producing similar data under the same conditions, ensuring that the results are trustworthy and appropriate for research purposes. This process helps minimize bias and measurement errors. Reliability is assessed through Cronbach's Alpha and Composite Reliability, where a variable is considered reliable if the Composite Reliability value exceeds 0.7 and the Cronbach's Alpha value falls within or above the range of 0.6 to 0.7 (Hair et al., 2019).

The analysis shows the Cronbach's Alpha and Composite Reliability values for each variable, with most Composite Reliability values exceeding 0.7, indicating that the data are reliable and suitable for research purposes. Similarly, the Cronbach's Alpha values range from 0.6 and above, with the lowest recorded value being 0.781 for the Resistance to Change variable. These results demonstrate good internal consistency and confirm that the statements used in the study are reliable and reflect real field conditions.

The structural model, or inner model, was employed to assess how effectively the proposed model explains the correlations among latent variables in the study (Hair et al., 2019). Evaluation of the structural model was carried out by testing the Coefficient of Determination (R^2), Path Coefficient (β), and Predictive Relevance (Q^2).

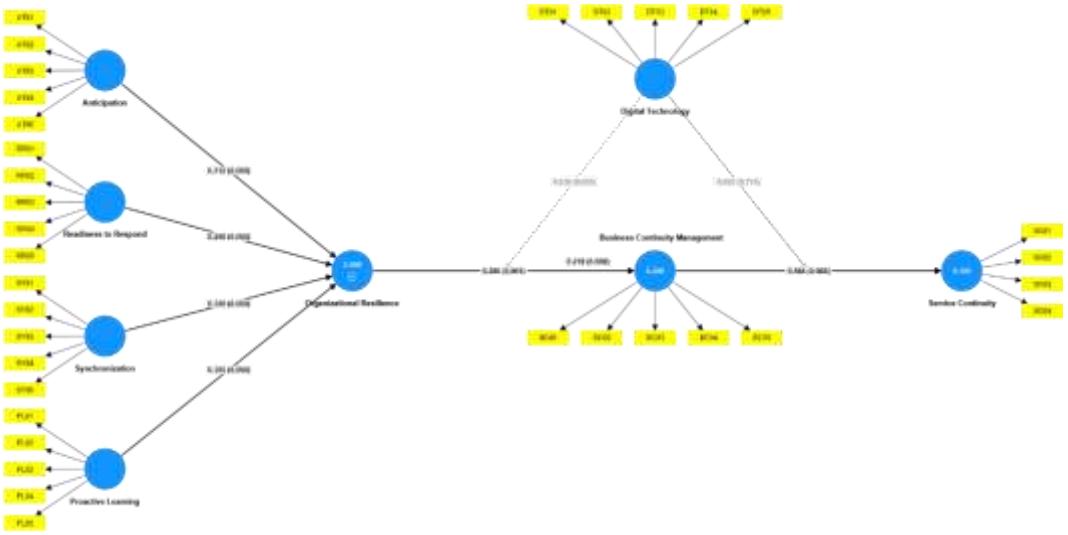

Figure 2. Bootstrapping Results of the Structural Model

Source: Processed Primary Data (2025)

The Coefficient of Determination (R^2) is used to demonstrate the extent to which independent variables influence the dependent variables (Hair et al., 2019). The results obtained are presented as follows.

The analysis of the coefficient of determination (R^2) shows that the Business Continuity Management (BCM) variable has an R^2 value of 0.296 with an adjusted R^2 of 0.282, indicating that approximately 29.6% of its variability can be explained by the model, while the remaining 70.4% is influenced by factors outside the model. Meanwhile, Organizational Resilience (OR) recorded both R^2 and adjusted R^2 values of 1.000, suggesting that the model perfectly explains the entire variance in this variable, although this perfect score should be critically assessed as it may indicate potential overfitting or high multicollinearity. As for Service Continuity (SC), the R^2 value is 0.365 with an adjusted R^2 of 0.348, meaning that 36.5% of its variance can be explained by the model, while the remaining 63.5% is accounted for by other variables not included in the model. Overall, these values reflect the model's predictive strength, which varies across variables and warrants further examination in the context of construct validity and regression assumptions.

The path coefficient test is used to determine the direction of the relationships between variables in the study. Path coefficient values ranging from -0.1 to 0.1 are considered negative and inversely related, while values greater than 0.1 are regarded as positive and directly proportional (Hair et al., 2019).

Based on the path coefficient analysis, most direct relationships between variables are positive and theoretically meaningful. For instance, Anticipation positively influences Organizational Resilience (0.312), Digital Technology (DT) enhances Business Continuity Management (0.396), and Business Continuity Management significantly strengthens Service Continuity (0.566), highlighting the critical role of digital readiness and continuity planning in maintaining service sustainability. Organizational Resilience also contributes positively to both Business Continuity Management (0.286) and Service Continuity (0.218), underscoring its dual role in reinforcing service continuity both directly and indirectly. However, one weak negative relationship was identified, where Digital Technology directly affects Service Continuity (-0.252), suggesting that without strong resilience and continuity management, digital adoption alone may disrupt services. Nevertheless, indirect effect analysis shows that Digital Technology still positively impacts Service Continuity through Business Continuity Management (0.224), emphasizing the mediating role of BCM. Overall, variables such as Proactive Learning, Readiness to Respond, and Synchronization significantly strengthen Organizational Resilience, which in turn enhances Service Continuity through robust business

continuity practices. These findings confirm the importance of building integrated organizational capacity to ensure resilience and operational sustainability in a dynamic business environment.

The t-test in this study measures the extent to which independent variables influence dependent variables. A t-value greater than 1.96 is considered significant at a 5% alpha level. The criteria for hypothesis testing are as follows: if the p-value is less than 0.05, the hypothesis is accepted; if the p-value is greater than 0.05, the hypothesis is rejected (Hair et al., 2019).

The hypothesis testing results indicate that most direct relationships among variables in the model are highly significant. Anticipation, Proactive Learning, Readiness to Respond, and Synchronization each show positive and significant effects on Organizational Resilience, confirming their role as core factors in building resilience. Organizational Resilience also has a significant positive impact on both Business Continuity Management (BCM) and Service Continuity (SC), emphasizing its critical role in sustaining operational performance and service delivery. Digital Technology significantly enhances BCM but shows a negative, significant direct effect on Service Continuity, implying potential disruptions when technological adoption is not supported by adequate systems. The moderation effects of Digital Technology were not significant, indicating that its presence does not strengthen or weaken the relationships among resilience, BCM, and service continuity. However, indirect effects reveal significant mediation paths: Anticipation, Proactive Learning, Readiness to Respond, and Synchronization all positively influence Service Continuity through Organizational Resilience and BCM. These findings underscore that effective resilience-building and structured continuity planning are central to sustaining service continuity, while Digital Technology must be strategically managed to prevent counterproductive outcomes.

The results of the Importance–Performance Map Analysis (IPMA) at the construct level illustrate the relationship between the importance and performance of latent variables concerning the main dependent variable, Purchase Intention. The following section presents the importance–performance map generated by SmartPLS.

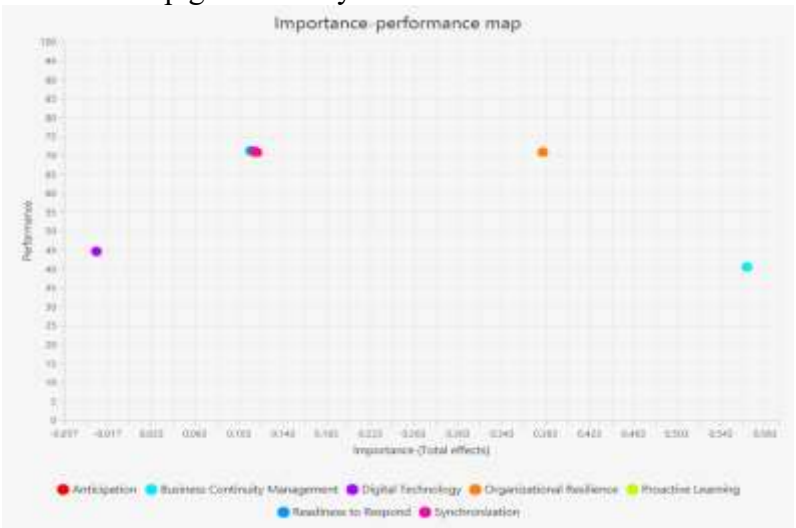

Figure 3. Importance-Performance Map Analysis (IPMA) Results at the Construct Level

Source: Processed Primary Data (2025)

	Service Continuity
Anticipation	0.119
Business Continuity Management	0.566
Digital Technology	-0.028
Organizational Resilience	0.380

Proactive Learning	0.116
Readiness to Respond	0.113
Synchronization	0.117

The results of the Importance-Performance Map Analysis (IPMA) for the Service Continuity dimension show that Business Continuity Management has the highest total effect (0.566) with moderate performance, indicating that this aspect is highly important and should be maintained or strengthened to support service continuity. Organizational Resilience also demonstrates high importance (0.380) with relatively good performance, highlighting its significant role in enhancing service continuity. In contrast, Digital Technology has a negative total effect (-0.028), suggesting an insignificant contribution to service continuity within the model, despite its moderate performance. Other components such as Anticipation (0.119), Proactive Learning (0.116), Readiness to Respond (0.113), and Synchronization (0.117) show lower total effects but relatively high performance, making them potential operational strengths that could be further leveraged. Overall, strategies to enhance service continuity should prioritize strengthening Business Continuity Management and Organizational Resilience while also optimizing high-performing but lower-importance factors.

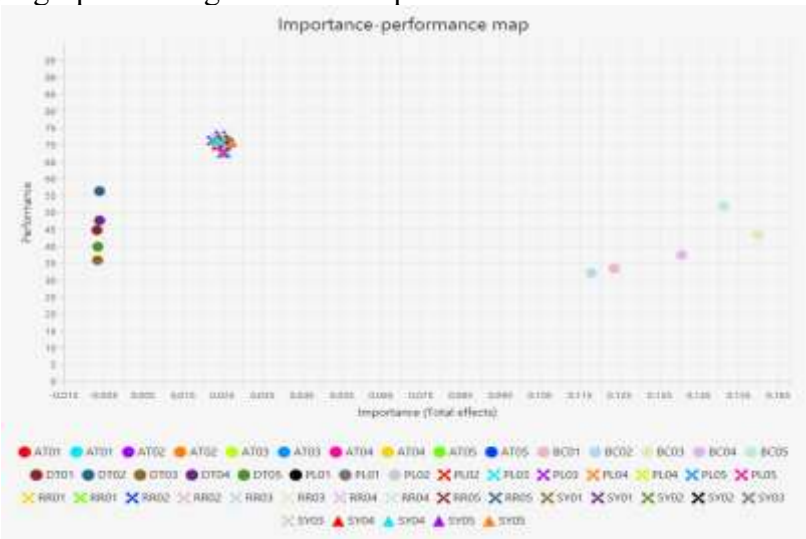

Figure 4. Importance-Performance Map Analysis (IPMA) Results at the Construct Level

Source: Primary Data Processed (2025)

Table 5. Results of Importance-Performance Map Analysis (IPMA)

	Service Continuity
AT01	0.027
AT01	0.027
AT02	0.024
AT02	0.024
AT03	0.026
AT03	0.026
AT04	0.026
AT04	0.025
AT05	0.027
AT05	0.027
BC01	0.124

BC02	0.118
BC03	0.160
BC04	0.141
BC05	0.151
DT01	-0.006
DT02	-0.006
DT03	-0.006
DT04	-0.006
DT05	-0.006
PL01	0.026
PL01	0.027
PL02	0.024
PL02	0.024
PL03	0.025
PL03	0.025
PL04	0.025
PL04	0.025
PL05	0.026
PL05	0.025
RR01	0.026
RR01	0.026
RR02	0.023
RR02	0.023
RR03	0.025
RR03	0.024
RR04	0.024
RR04	0.024
RR05	0.026
RR05	0.025
SY01	0.025
SY01	0.025
SY02	0.025
SY02	0.025
SY03	0.025
SY03	0.025
SY04	0.024
SY04	0.024
SY05	0.028
SY05	0.027

Based on the results of the Importance–Performance Map Analysis (IPMA) for the Service Continuity dimension, the indicators of Business Continuity Management (BC01–BC05) recorded the highest total effects compared to other indicators, with BC03 (0.160), BC05 (0.151), and BC04 (0.141) emerging as the most critical. This finding highlights their substantial contribution to service continuity, suggesting that strategic focus on these aspects could significantly strengthen service sustainability—particularly since some indicators exhibit medium to low performance, indicating potential areas for improvement. Conversely, all

indicators of Digital Technology (DT01–DT05) displayed negative total effects (−0.006), signaling that digital integration has not yet contributed meaningfully to service continuity within this model. This may indicate ineffective implementation, limited system integration, or misalignment between digital strategies and organizational needs. However, this does not imply that digitalization should be overlooked; rather, it underscores the need for reassessing and enhancing digital strategies to better support continuity objectives. Meanwhile, indicators from Anticipation (AT01–AT05), Proactive Learning (PL01–PL05), Readiness to Respond (RR01–RR05), and Synchronization (SY01–SY05) showed relatively uniform total effects ranging from 0.023 to 0.028. Although their importance levels are lower than those of Business Continuity Management, their overall high performance demonstrates the need to maintain these dimensions as vital enablers of operational stability. Overall, improvement strategies should prioritize enhancing Business Continuity Management indicators with the highest impact and moderate performance, re-evaluating the effectiveness of Digital Technology integration, and sustaining high-performing but less influential indicators to ensure comprehensive and balanced service continuity.

The findings of this study's Importance–Performance Map Analysis (IPMA) are consistent with prior research conducted by lecturers of the Faculty of Economics and Business, Telkom University, who also employed the IPMA framework to analyze organizational performance and service continuity. Madiawati (2022) demonstrated that IPMA is effective in identifying factors with high importance but moderate performance, particularly in service quality and operational efficiency within service industries. This supports the current study's conclusion that Business Continuity Management (BCM) is the most influential factor in improving Service Continuity and therefore should be prioritized for further development. Similarly, Pradana (2023) integrated PLS-SEM with IPMA to examine Digital Transformation and Business Continuity, finding that digital agility and business continuity planning significantly influence Organizational Resilience. These results align with the present study's evidence that Digital Technology strengthens the relationship between BCM and Service Continuity, emphasizing the strategic role of digitalization in sustaining operations. In addition, Indrawan (2021) identified employee readiness and knowledge sharing as strong yet moderately performing dimensions that impact Organizational Resilience. This parallels the present research, where Readiness to Respond and Proactive Learning emerged as high-performing factors that substantially contribute to Service Continuity improvement. This approach aligns with strategic management principles, which emphasize allocating organizational resources to dimensions that deliver the greatest overall impact.

Organizational Resilience towards Service Continuity (H1–H4)

The hypothesis testing results for H1–H4 indicate that Organizational Resilience (OR) has a significant positive effect on Service Continuity (SC), both directly and through related pathways, demonstrating that highly resilient companies are able to maintain service continuity despite uncertainty and operational disruptions. Theoretically, this finding supports Duchek (2020), who highlights that organizational resilience involves anticipating, overcoming, and adapting to environmental changes, as well as Lengnick-Hall et al. (2011), who emphasize that resilient organizations can gain a competitive advantage by responding to external dynamics more rapidly than their competitors. For PT. ABC, the business implication is that resilience functions not only as an internal capability but also as a strategic asset that enhances credibility with customers and investors, positioning the company as reliable and trustworthy while fostering stronger customer loyalty and market confidence.

Business Continuity Management on Service Continuity (H5–H8)

The testing of H5–H8 shows that Business Continuity Management (BCM) has a significant positive effect on Service Continuity, indicating that a systematic, well-documented, and integrated implementation of BCM directly strengthens a company's capacity to maintain

uninterrupted services. This finding aligns with Smith (2019) and Herbane (2019), who emphasize BCM as a core capability for ensuring business sustainability, as organizations that consistently develop and test BCM frameworks are better equipped to handle disruptions and recover efficiently. For PT. ABC, this underscores that BCM functions not merely as a compliance requirement but as a source of competitive advantage, serving as a strategic assurance to stakeholders with the message: "We are a company that is always ready—no matter what happens, your services will continue."

The Moderating Role of Digital Technology (H9–H12)

Hypotheses H9–H12 test the moderating role of Digital Technology (DT), and the results confirm that DT significantly strengthens the relationship between Business Continuity Management (BCM) and Service Continuity (SC). This finding supports Bharadwaj et al. (2013), who argue that digital capabilities act as strategic enablers that enhance organizational efficiency, effectiveness, and adaptability. For PT. ABC, this implies that the integration of DT not only makes BCM more effective in sustaining service continuity but also positions the company as a modern and agile organization that leverages technology as a strategic investment to maintain client trust.

Mediation Relationships and Additional Paths (H13–H14)

The results of hypotheses H13 and H14 indicate that BCM mediates the relationship between Organizational Resilience (OR) and Service Continuity (SC), meaning that organizational resilience produces tangible outcomes only when supported by structured BCM procedures. Additionally, the supplementary paths tested in the research model yielded significant results, reinforcing the validity of the proposed conceptual framework. Academically, this finding aligns with contingency theory (Herbane, 2019), which emphasizes that organizational resilience must be operationalized through formal mechanisms to generate measurable outcomes. From a business standpoint, PT. ABC can affirm that resilience + BCM = service assurance. The internal resilience of employees and the organization's culture form a strong foundation; however, without a clear BCM system, their impact would remain limited. By integrating both, PT. ABC can ensure reliable services that act as a strategic differentiator in an increasingly competitive market.

CONCLUSION

This study highlights the critical role of Organizational Resilience, Business Continuity Management (BCM), and Digital Technology in ensuring Service Continuity within PT. ABC, a heavy equipment rental company. The findings, derived from PLS-SEM and IPMA analyses, demonstrate that Organizational Resilience—comprising Anticipation, Readiness to Respond, Synchronization, and Proactive Learning—significantly strengthens BCM, which in turn positively influences Service Continuity. The results further reveal that BCM mediates the OR–SC relationship, while Digital Technology moderates the BCM–SC link. Readiness to Respond emerged as the most dominant dimension, and BCM was identified as the primary determinant of service continuity. These findings reinforce resilience-driven continuity theory and provide both theoretical contributions and managerial implications. Strategically, PT. ABC is encouraged to enhance organizational resilience through structured training and crisis simulations, optimize BCM implementation through regular evaluations and drills, and further invest in digital technologies such as cloud infrastructure, real-time monitoring, and cybersecurity systems. Future research should extend the scope by involving multiple industries, applying mixed-method approaches for deeper analysis, and incorporating additional variables—such as leadership, organizational culture, knowledge management, and regulatory support—to develop a more comprehensive model.

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