

WHY DO SOME RURAL BANKS DELAYS DIGITAL TRANSFORMATION? A STRATEGIC PERSPECTIVE

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ABSTRACT

This study aims to analyze the factors influencing digital transformation delay at Bank Perekonomian Rakyat using the Innovation Resistance Theory perspective. Specifically, this study examines the role of digital capability, relationship orientation, perceived strategic risk, and institutional pressure in explaining the phenomenon of delayed digital adoption in the local banking sector. This study used a quantitative approach with a survey method involving 168 respondents, who are supervisors and managers of BPR in several regions in Java Island. Data are analyzed using Partial Least Square SEM to examine the relationship between constructs in the research model. The result shows that digital capability has a significant negative effect on digital transformation delay and perceived strategic risk, while relationship orientation has a positive impact on perceived strategic risk. Furthermore, perceived strategic risk has been shown to increase the digital transformation delay, while institutional pressure has a negative effect on reducing it. These findings suggest that digital transformation delay at BPR is influenced by a combination of internal factors, perceived risk and external pressure. The result of this study implies that Bank Perekonomian Rakyat needs to enhance their digital capabilities and strategically manage risk perception and relationship orientation to accelerate the digital transformation. The novelty of this research lies in its attempt to explain the phenomenon of digital transformation delay as a form of resistance to innovation in small scale banking organizations, which has previously been studied primarily from a technology adoption perspective. It also integrates the internal, cultural and external factors into a comprehensive empirical model.

Keywords: Digital Transformation Delay; Digital Capability; Relationship Orientation; Perceived Strategic Risk; Rural Banks

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1. INTRODUCTION

Practical Phenomenon

Digital transformation has emerged as a major force reconfiguring the banking industry in recent decades. Digitalization is no longer simply the adoption of information technology; it has evolved into a strategic transformation encompassing changes to business models, operational processes, and customer experiences (Verhoef et al., 2021). In the financial services industry, digital transformation is characterized by the increased use of mobile banking, artificial intelligence, big data analytics and multichannel integration, enabling real – time interactions between banks and customers.

Recent studies have shown that digital transformation significantly improves operational efficiency, expands market access and increases customer engagement (Vial, 2019; Kaur et al., 2019). In the banking industry, digitalization has been shown to correlate with increased customer satisfaction and loyalty through ease of access, speed of transactions, and personalized service (Kaut et al., 2021).

The COVID-19 pandemic has further accelerated the massive acceleration of digital banking. Customers are shifting to digital services as the primary channel for interacting with banks, and are treating digital banking as a basic need, no longer as an optional service (Marcucci et al., 2021; Deloitte, 2022). Thus, digitalization has transformed from a source of competitive advantage to a minimum standard in the modern banking industry. The literature on service marketing emphasizes that digital service quality is a key determinant of customer satisfaction and loyalty in the contemporary banking industry (Rahi et al., 2021). Technology adoption models such as the Technological Acceptance Model and UTAUT consistently show that perceived usefulness, perceived ease of use and trust are determining factors in the use of digital banking service (Alalwan et al., 2018; Singh et al., 2020).

In the context of industrial competition, banks that fail to develop digital capabilities are likely to lose customers, who will switch to banks that offer faster and more flexible services (Drasch et al., 2018; Bouwman et al., 2019; Maskur et al., 2025). Recent studies also show that digital maturity is closely related to financial performance and perceptions of service quality (Martin – Pena et al., 2022). Thus, digitalization in the banking industry is no longer viewed as an optional strategy but has become an institutional theory that explains that organizations within the same industry tend to experience coercive and normative pressures to adopt practices considered industry standards (Verhoef et al., 2021). In this context, digital banking has become the most dominant practice in the banking industry.

Furthermore, regulatory transformation in Indonesia has changed the nomenclature of Bank Perkreditan Rakyat to Bank Perekonomian Rakyat through the law on financial sector

development and strengthening (UUPPSK, 2023). This change is not merely administrative but also reflects the expansion of the institution's mandate and role in supporting the local economic ecosystem. Historically, rural banks are known as relationship – based microcredit intermediaries. Various literature on community banking indicates that small banks have advantages in managing soft information and fostering close relationship with customers (Berger & Udell, 2002; DeYoung et al., 2015; Santoso et al., 2026). However, with the change in identity to Bank Perekonomian Rakyat, customer expectation for more comprehensive service, including digital services, have potential to increase.

Conversely a report from Otoritas Jasa Keuangan indicates that the digital maturity level of rural banks in Indonesia remains highly heterogeneous. Many institutions may face limitations in capital, human resources, and capabilities in implementing comprehensive digital transformation (OJK, 2024). This phenomenon creates a paradox: while digitalization has become a standard service in the banking industry, some rural banks are experiencing delays in digital transformation

Research Gaps

Most previous research has focused on the various factors driving digital banking adoption from customers' perspective or its impact on the performance of large and commercial banks (Alalwan et al., 2018; Kaur et al., 2021). Studies on digital transformation also tend to emphasize driving factors such as technology, competition, and regulation. However, there is limited research explicitly examining why small and medium – sized bank such as rural banks, strategically delay or even slow down their digital transformation. The perspective of strategic choice and innovation resistance at the organizational level remain relatively underexplored, particularly in the context of emerging markets.

This research not only examines structural barriers but also considers the possibility that delays in digitalization are part of bank's strategic considerations, including a strong orientation toward relationship – based banking, perception of customer readiness, and evaluations of the competitive value of digitalization.

2. LITERATURE REVIEW

Innovation Resistance Theory

Innovation Resistance Theory was first proposed by Ram & Sheth (1989) in the context of consumer behavior research, specifically to explain why consumers resist and delay adopting innovations, even when they offer rational benefits. This theory emerged as a critique of dominant approaches at the time, such as the Diffusion of Innovation Theory (Rogers, 2002), which focused more on the factors driving innovation adoption.

Ram & Sheth (1989) argued that resistance to innovation is not an anomaly but rather a natural response when an innovation is perceived as disrupting the status quo or established system. Thus, Innovation Resistance Theory shifts the focus from question such as Why is innovation adopted? to Why is innovation delayed? Although initial developed in the consumer context, recent literature has expanded the application of IRT to various sectors, including digital financial services and organizational digital transformation (Kaur et al., 2020; Talwar et al., 2020). In this context, resistance occurs not only at the individual level but also at the organizational level.

Innovation Resistance Theory states that resistance to innovation arises when the innovation is perceived to pose certain obstacles. Ram & Sheth (1989) identified two main categories. The first is functional barriers, which are barriers related to the functional aspect of innovation, including usage barriers, value barriers, and risk barriers. The second is psychological barriers which take the form of tradition barriers and image barriers. In contemporary literature, IRT is often modified with the variables of perceived risk, perceived complexity and value incongruence, particularly in studies discussing digital services (Kaur et al., 2020; Talwar et al., 2020). The essence of Innovation Resistance Theory is that resistance is not simply a lack of motivation to adopt an innovation but rather the result of rational and normative evaluations of the potential disruption the innovation will cause to the existing system.

In the banking industry, digital transformation encompasses major changes to banks' business models and the way they interact with their customers. Digital banking introduces technologies such as mobile banking, artificial intelligence, and multi – channel platforms that fundamentally change the way banks operate and interact with customers. Innovation Resistance Theory is highly relevant to the context of this research because digitalization carries strategic and operational risks, including cybersecurity risk, system failure risks, and uncertainty regarding return on investment (Vial, 2019).

The second relevance is that digital transformation can disrupt traditional business models, particularly for banks that prioritize personal relationships and interactions with customers. The third relevance is that rural banks have limited resources, resulting in higher perceived risk and implementation complexity compared to other commercial banks. Thus, the delay in digital transformation in some rural banks can be understood as a form of digital innovation that has the potential to disrupt the established strategic balance.

In recent years, several studies in the banking and digital finance services industry have used IRT as an analytical framework. Kaur et al. (2020) used Innovation Resistance Theory to explain the resistance to adopt mobile payment and found that perceived risk and usage barriers significantly influence adoption resistance. Furthermore, Talwar et al. (2020) applied IRT in the context of mobile banking and showed that tradition and image barriers influence usage intention

Previously, Laukkanen (2019) also highlighted that resistance to digital banking service is often in certain segments due to psychological factors and perceived risk. Furthermore, Sharma et al (2021) found that in digital finance service, resistance factors also have an equally strong influence on adoption. Most of these studies focus on the consumers' perspective, but few have applied Innovation Resistance Theory to explain resistance at the organizational level, particularly in the context of rural banking in developing countries. Therefore, applying IRT to analyze digital transformation delays in rural banks provides a theoretical contribution by expanding the domain of IRT from the individual to the organizational level.

Digital Capability and Digital Transformation Delay Relationship

Digital capability is a key determinant in the success of digital transformation in business organizations. Recent literature defines digital capability as an organization's ability to integrate, build, and reconfigure digital technology-based resources with the aim of responding to environmental changes that occur (Warner & Wager, 2019). In the context of digital transformation, this capability includes information technology infrastructure, digital human resource competencies, as well as managerial capabilities to be able to direct digital strategies in an integrated manner (Verhoef et al., 2021). Organizations with a high level of digital capability tend to have structural and strategic readiness to implement digital innovation more quickly and systematically

Several previous empirical studies have proven that digital capabilities have a role as the main enabler in accelerating the digital transformation process. Warner & Wager (2019) found that companies that develop dynamic digital capabilities will reduce uncertainty and internal organizational barriers in the process of implementing digital innovation. Likewise, the results of research conducted by Li et al. (2018), which underlines the significance of digital capabilities in increasing the speed and effectiveness of technology-based business model transformation.

The latest study by Warner & Wagner (2019), again confirms that technological readiness and digital capabilities of business organizations have a negative effect on organizational inertia in the digital transformation process, which means that the higher the digital capabilities, the lower the organization's tendency to delay implementing innovation.

From the perspective of Innovation Resistance Theory, resistance to innovation often arises because of perceptions of high complexity and risk (Kaur et al., 2020). Digital capabilities function as a risk reduction mechanism, because organizations that have sufficient digital competencies will assess innovation as something that can be controlled and managed. Thus, strong capabilities will reduce perceptions of functional barriers such as usage barriers and risk barriers which will ultimately reduce resistance to digital innovation. Vial (2019) previously emphasized that one of the causes of failure in digital transformation is a lack of internal capability

in managing technology strategically.

In the context of the banking industry, digital capabilities are becoming increasingly crucial considering that digital transformation always involves banking system integration, cyber security and customer data management. Studies in the banking sector show that information technology capabilities have a positive impact on the level of innovation adoption and the speed of implementation of digital services (Bllichfeldt & Faullant, 2021). Thus, limitations in digital capabilities in small-scale banks or BPRs will have the potential to increase organizational resistance and slow down the implementation of digital transformation.

Based on these theoretical and empirical arguments, it can be assumed that digital capabilities have a role as an internal factor that can reduce barriers to innovation and accelerate digital transformation. On the other hand, low digital capabilities will increase the possibility of delays. Thus, the following hypothesis is proposed to be tested empirically

H1. Digital capabilities have a negative effect on digital transformation delay.

Digital Capability and Perceived Strategic Risk

Digital capabilities are viewed as a strategic resource that enables organizations to manage the technological complexity and uncertainty that arises in the digital transformation process. In the strategic management and information systems literature, digital capabilities are defined as an organization's ability to leverage digital technology, data and human resource competencies to create value and support strategic decision making (Verhoef et al., 2021). These capabilities encompass information technology infrastructure, data analytics competencies, and the organization's ability to integrate digital technology into business processes. Organizations with high levels of digital capabilities tend to have a better understanding of the potential benefits and risks of technology, thus enabling them to more effectively manage the uncertainties that can arise in the digital transformation process.

Several previously published empirical studies have shown that digital capabilities play a crucial role in reducing perceived risk associated with digital technology implementation. In a study on organizational digital transformation, Warner & Wager (2019) found that organizations that develop dynamic digital capabilities can reduce strategic uncertainty because they have the capacity to simultaneously adjust business and technology strategies.

These capabilities enable companies to anticipate technological risks and reduce the potential for implementation failure. Similar findings are also underscored by research conducted by Vial et al. (2019), which shows that one of the main causes of strategic risk in digital transformation is a lack of internal organizational capabilities in managing digital technology and accompanying organizational changes.

Other research also confirms that digital capabilities have a negative relationship with the

perceived risk of digital innovation. A study by Warner & Wagner (2019) shows that organizations with higher levels of digital capabilities tend to have lower levels of organizational inertia and strategic uncertainty in the face of digital transformation. This occurs because organizations with adequate technological competencies can reduce implementation complexity and increase confidence in digital decision making. Thus, the existence of digital capabilities can function as a risk mitigation mechanism, helping organizations view digital transformation as a strategic opportunity rather than a source of threat.

In the digital finance and banking industry, digital capabilities also play a role in reducing the uncertainty related to system security, technology integration, and customer data management. Research conducted by Blichfeldt & Faullant (2021) demonstrates that organizations with strong technological capabilities are better able to manage risks associated with digital innovation and implement new technologies with lower failure rates. Adequate technological capabilities enable organizations to develop security procedures, create better control systems, and manage digital risk more effectively.

However, several studies have shown that increasing digital capabilities does not directly reduce perceived organizational risk. Other studies have shown the organization increasingly engaged in digital transformation more become aware of the potential of new risks, and system failure risks (Bouveret, 2018; Li et al., 2020). In such circumstances, organizations with high level of digital capabilities may experience greater risk awareness despite their great ability to manage these risks. These findings suggest that the relationship between digital capabilities and perceived strategic risk can be complex, depending on the organizational level.

Nevertheless, most of the literature indicates that digital capabilities generally act as a factor that reduces uncertainty and perceived risk in the digital transformation process. Within the Innovation Resistance Theory framework, perceived risk is a functional barrier that can hinder innovation adoption (Ram & Sheth, 1989; Kaur et al., 2020). Organizational digital capabilities increase, these barriers tend to diminish as the organization feel more capable of managing the technology and its strategic consequences. Based on the arguments above, we proposed following hypothesis to be tested empirically.

H2. Digital capabilities have a negative effect on perceived strategic risk.

Relationship Orientation and Perceived Strategic Risk

Relationship orientation is a key characteristic of small-scale financial institutions, particularly community – based banks and rural banks. In banking literature, relationship orientation refers to an organizational strategy that emphasizes long term interaction, personal closeness, and the use of informal information in building relationships with customers (Beck et al., 2018). This business model enables banks to gain a deeper understanding of customer

circumstances, thereby increasing trust and reducing information asymmetry in financial transactions. Therefore, many small banks maintain relationship orientation as a source of competitive advantage that differentiates them from larger, more automated financial institutions.

However, the development of digital technology in the banking industry often brings significant changes to the interaction pattern between banks and customers. Digital banking encourages the automation of service process, the use of data – driven systems, and digital platform – based interaction that reduce reliance on face – to – face communication. Research by Cornelli et al. (2023), shows that the digitalization of the financial sector tends to replace some traditional mechanism with system, data and algorithm-based communication. This change has the potential to create strategic tensions for organization with a strong relationship orientation. This is because digital transformation can be perceived as diminishing the differentiation value built through personal relationships with customers.

Several other empirical studies also show that organizations with strong relationship orientation tend to be more cautious in adopting technological innovations that have the potential to change customer interaction pattern. Research published by Giannakis & Kavadias (2022) demonstrated that organizations that rely on interpersonal interaction for value creation often view digitalization as a source of strategic uncertainty, especially when technology can replace the human interaction process that has become an integral part of the business.

Similar findings are also expressed in research by Puschmann et al. (2020), which shows that digital transformation in the financial sector will create concerns regarding the loss of relational closeness between financial institution and customers, particularly in banking institutions operating in non – urban areas. From the perspective of Innovation Resistance Theory, this condition can be understood as a form of tradition barrier between innovation and established organizational practice. Recent research on the adoption of digital innovation in financial services also shows that the conflict between technological innovation and organizational values can increase perceptions of uncertainty and strategic risk in the digital transformation process (Marcucci et al., 2021). Based on the theoretical arguments and empirical findings above, we propose the following hypothesis for empirical testing

H3. Relationship orientation has a positive effect on perceived strategic risk

Perceived Strategic Risk and Digital Transformation Delay

The perception of strategic risk is a crucial factor influencing an organization's decision to adopt technological innovation. In the context of digital transformation implementation, strategic risk refers to the uncertainty perceived by a business organization regarding the negative impact of implemented digital technology on performance, operational stability and the sustainability of the organization's current business model (Bhimani, 2020).

Digital transformation often involves significant technology investment, changes to organizational structures, and requires complex business process adjustment. This can create uncertainty about whether the implementation will yield positive results, and the consequences management will face. This in turn leads to increasing perceived risk at the managerial level, as business decision-makers.

Within the framework of Innovation Resistance Theory, perceived risk is a key functional barrier that can trigger resistance to innovation. Individuals and organizations tend to delay the adoption of innovation perceived as having significant potential for loss or uncertainty. In the context of digital transformation, perceived risk can encompass various aspects such as cybersecurity risk, the risk of technology implementation failure, the risk of operational disruption, and the financial risk resulting from digital investment not delivering the expected results (Nambisan et al., 2019). When organizations view digital transformation as a source of strategic uncertainty, the tendency to delay the implementation of digital innovations increases.

Several empirical studies have shown that perceived risk can slow the digital transformation process within organizations. Research conducted by Kraus et al. (2019) found that strategic uncertainty and perceived risk are among the main obstacles organizations face in implementing digital transformation strategies. Perceived risk by management often makes organizations more cautious in making technology investment decisions and tends to delay the implementation until the level of uncertainty is perceived to be lower. Another study by Bai et al. (2021) also shows that perception of technological and operational risk can hinder the adoption of digital technology within organizations, especially in companies with limited resources and experience in using advanced technologies.

In the context of the banking industry, perceived risk related to digital transformation is becoming increasingly important due to the financial sector's high sensitivity in data security, system stability, and the importance of regulatory compliance. Banks often face strategic risk related to the implementation of digital technologies, including cybersecurity risks, and operational failures of information systems (Banna et al., 2021).

However, several studies have shown that perceived risk is not always a barrier to the implementation of innovative digital technologies. In some cases, awareness of the risks serves as a driver developing risk mitigation strategies and accelerating investment in more reliable technologies that provide better security assurance (Soto – Acosta, 2020). Based on the theoretical and empirical arguments above, we propose the following hypothesis for empirical testing

H4. Perceived strategic risks have a positive effect on digital transformation delay

Institutional Pressure and Digital Transformation Delay

Institutional pressure is an external factor that influences an organization's decision to

adopt innovation and undertake strategic changes. Within Institutional Theory, organizations act not only based on economic efficiency, but also on pressure from the institutional environment, which encourages them to adapt to prevailing norms, regulations, and industry practices (DiMaggio & Powell, 1983).

In modern organizational literature, institutional pressure is generally classified into three forms such as coercive pressure, which originates from government regulations and policies; mimetic pressure which arise from an organization's tendency to imitate successful business practice; and normative pressure which stems from professional standards and stakeholder expectations (Dubey et al., 2019).

In the context of digital transformation, institutional pressure is often a primary driver for business organizations to implement digital technologies. Government regulations, industry association policies, and changes in consumer expectations for internet – based service often create pressure for organizations to accelerate the implementation of digital transformation. Research by Dubey et al. (2019) underscores the significant impact of institutional pressure on the adoption of digital technologies as organizations strive to maintain legitimacy and competitiveness in an increasingly digitalized business environment. As digitalization practice becomes the norm in an industry, organizations that fail to adopt these technologies will miss out on the opportunities to face even greater competitive pressure.

Several empirical studies also demonstrate that institutional pressure can accelerate the digital transformation process in business organizations. A study by Mikalef & Krogstie (2020) highlighted that pressure from the external environment, including industry competition and regulatory demands, encourages the organization to develop capabilities and adopt new technologies earlier. These findings are also supported by previous research by Tian et al. (2018) which demonstrated that pressure from competitors and government regulations encourage companies to increase investment in digital technology to maintain their competitiveness in the market.

In the banking industry, institutional pressure on digitalization is increasing along with the development of fintech, changes in consumer behavior, and regulatory policies that encourage innovation in digital financial services. Research by Gomber et al. (2018) showed that the development of internet – based digital platform has created significant competitive pressure for the traditional financial industry to adopt digital technologies to maintain the relevance in the ever – changing financial industry. Furthermore, regulations encouraging the digitalization of financial services have also increased pressure on banks to accelerate the implementation of digital transformation in their operations and customer service.

However, several studies have shown that organizational responses to institutional pressure can vary depending on internal characteristics. Organizations with limited resources and

technological capabilities will struggle to respond quickly to institutional pressures (Vial, 2019). Based on theoretical arguments and several contradictions from previous empirical research, we propose the following hypothesis for empirical testing

H5. Institutional pressure has a negative effect on digital transformation delay

3. METHODS

This research uses a quantitative approach to examine the causal relationship between the construct of digital capability, institutional pressure, relationship orientation, perceived strategic risk, and digital transformation delay in small scale banking institutions. Data analysis is conducted using Partial Least Square SEM. This method is chosen because PLS – SEM is considered more suitable for predictive and exploratory research, especially when the research model is still in the theory development phase or integrating several new constructs within a single conceptual framework (Hair et al., 2022).

Compared with covariance – based SEM, which is generally used to test the established theories, PLS – SEM is more appropriate because has several advantages such as the tolerance for small sample sizes, less requirement for a strictly normal data distribution, and the ability to estimate complex research models with a large number of indicators and constructs (Sarstedt et al., 2021). In the context of this research, the use of PLS – SEM is relevant because the conceptual model developed combines the Innovation Resistance Theory perspective with organizational variables that are relatively rarely tested empirically in the context of rural banking.

Population and Sampling

This research used a sample of 168 professionals with working experience in the banking industry and currently working at various Bank Perekonomian Rakyat operating in Central Java, East Java, West Java, special region of Yogyakarta, and Jakarta. Respondents in this study are supervisors and managers who understood organizational strategy, operational policies, and decision – making process related to digital transformation in banking institution.

The selection of this research area is based on several considerations. The most important is these provinces are centers of economic and financial activity on the island of Java, which has a relatively large number of rural banks, compared to other provinces in Indonesia. This aligns with data from Otoritas Jasa Keuangan, which states that the majority of BPR in Indonesia operate on the island of Java. Therefore, the selection of this area is highly relevant to describing the phenomenon examined in this study.

The data collection process used a survey method with a snowball sampling technique. This questionnaire distribution process begins by contacting initial respondents at several rural

banks in Central Java. After respondents complete the questionnaires, they are asked to provide recommendations for colleagues at other rural banks with similar positions and working experience. Through this recommendation process, the respondent network gradually expanded, allowing the researcher to reach a wider sample in a relatively efficient timeframe.

In Partial Least Square – based research, the sample size does not have to be as larger as required in covariance – based SEM. Hair et al. (2022) stated that the minimum sample size in PLS – SEM can be determined using the 10 – times rule approach, which is ten times the structural path connecting the constructs in the study. In addition to this approach, several other methodological studies have suggested that the recommended sample size for a model to have estimation power and stability is 100 to 200 respondents (Sarstedt, 2021).

The sampling technique used in this study is snowball sampling, a non-probability sampling method in which initial respondents who meet the research criteria are asked to recommend or connect the researcher with other respondents who also meet the same criteria. This technique is typically used when the research population is relatively specific or difficult to reach directly, allowing researchers to leverage respondents' social or professional networks to expand the number of participants (Parker et al., 2019).

In the context of this study, the focus population is the management of Bank Perkonomian Rakyat, who understands organizational strategy and the digital transformation process at their institution. Given that not all bank employees have access to strategic information related to digitalization policies, a sampling approach that allows researchers to reach respondents with relevant knowledge and experience is necessary. Snowball sampling is also commonly used in organizational and management research when researchers need access to a group of respondents with specific expertise or positions within the organization (Naderifar et al., 2017)

Operational Definition

Digital capability refers to a business organizations' ability to utilize digital technology, big data, and technology – based human resource to support the business process and create added value for the organization. In several digital transformation literatures, digital capability is considered a necessary capability for organizations to integrate internet based digital technology with business strategy, develop adequate technology infrastructure, and manage organizational change resulting from the implementation of digital technology (Verhoef et al., 2021). This capability also encompasses various aspects such as information technology capabilities, human resource digital skills, and the organizations' ability to implement digital solutions in its daily operations.

Operational – wise, in this study, digital capability is measured based on respondents' perception of the organizations' ability to develop and utilize digital technology to support

business process and customer service. Measurement indicators include aspects such as the availability of digital technology infrastructure, employee digital competence, information technology system integration capabilities, and the organizations' ability to develop digital technology – based innovations.

Further, institutional pressure is an extreme pressure felt by business organizations to quickly adapt to changing norms, regulations, and practices prevailing in the industry. From an Institutional Theory Perspective, organizations often adopt certain practices or technologies not only for efficiency reasons, but also because of pressure from institutional environment that demands organizations adhere to the latest applicable industry standards (Dubey et al., 2019). In the context of digital banking transformation, institutional pressure can come from various sources such as regulators, industry competitors and customer demands for digital services. Therefore, institutional pressure in this research is operationally measured through respondents' perception of the extent to which their organizations felt pressure from regulators, competitors, and customer expectations to adopt digital technology in banking services.

On the other hand, relationship orientation refers to an organizations' strategic orientation that emphasizes building long – term relationship with customers as a source of competitive advantage. In banking literature, this concept is often associated with the practice of relationship banking, a service approach that emphasizes personal interactions, trust, and the use of informal information in the relationship between the bank and its customers (Marcucci et al., 2021).

In the context of small – scale banks such as Bank Perekonomian Rakyat, relationship orientation is often a primary strategy for maintaining customer loyalty and reducing information asymmetry in financial transactions. Operationally, in this research, relationship orientation is measured based on respondents' perception of the extent to which the organization emphasizes personal interaction with customers, building long term relationship with customers, and utilizing relational information in business decision – making processes.

Perceived strategic risk refers to the level of uncertainty organizations perceive regarding the potential negative consequences of a strategic decision, including the implementation of digital transformation. Strategic risk in the context of digital transformation can encompass various aspects such as financial risk that can arise from service disruptions or data security breaches (Nambisari et al., 2019). In this study, perceived strategic risk is measured by respondents' perception of the level of risk they perceived related to the implementation of digital transformation within their organization. Measurement indicators included perception of financial risk, operational risk, and strategic uncertainty that could arise from technological changes within the organization.

Finally digital transformation delay refers to an organization's delay in comprehensively

adopting and implementing digital technology across business processes and services. Digital transformation essentially involves fundamental changes in business models, operational process and organizational interaction with customers using digital technology (Vial, 2019). This research operationalizes digital transformation delays to the extent to which an organization is late in implementing digital initiatives compared to technological developments in the banking industry in general. This variable is measured through respondents' perception of the extent to which their organization delays or slow down digital technology investment, digital service development and the implementation of digital transformation strategies.

4. RESULTS AND DISCUSSION

Validity and Reliability Test Result

Table 1 below provides information on the result of convergent validity testing for the Digital Capability construct, measured five indicators. Based on the analysis, all indicators had outer loading values exceeding the recommended minimum limit of 0.70, indicating that these indicators adequately represent the digital capability construct. More specifically, indicator Cap4 has the highest loading value among the other indicators, at 0.875. This value indicates that the organization's ability to develop innovation in the form of digital services is the strongest aspect in building digital capability at rural banks. This also indicates that digital service innovation is a crucial element that can be used to support organizational readiness for digital transformation in the banking industry.

Table 1. Digital Capability

No	Item	Indicator	Loading	AVE
1	Our rural bank has adequate digital technology infrastructure to support the bank operations	Cap1	0.746	0.603
2	Our rural bank employees possess the digital skills necessary to implement new technology	Cap2	0.794	
3	Our rural bank can integrate digital technology to existing business process	Cap3	0.725	
4	Our rural bank actively develops innovative digital technology - based services	Cap4	0.875	
5	Our rural bank can rapidly adopt new digital technologies	Cap5	0.731	

Source: Data Processed (2026)

Other indicators, such as Cap2, showed a relatively high loading value of 0.794. This indicates that human resource competency in digital technology is also a crucial factor in building an organizational digital capability. Meanwhile, indicators Cap1 (0.746), Cap3 (0.725), and Cap5 (0.731) also have loading value above the recommended threshold, indicating that all indicators are valid in measuring the digital capability construct

Furthermore, the Average Variance Extracted value for the digital capability construct is 0.603, which is above the recommended minimum value of 0.50. This indicates that the digital capability construct can explain more than 60% of the variance in its indicators, thus concluding that the construct has an adequate level of convergent validity

These results indicate that the five indicators used in this study adequately represent the digital capability construct. These findings indicate that digital capability at rural banks is influenced not only by the availability of technological infrastructure, but also by employee digital competence, the ability to integrate technology into business process, the ability to innovate digital services, and the organization's ability to adopt new technologies rapidly.

Table 2 below provides information about convergent validity test results for the Institutional Pressure construct. In more detail, the Press1 indicator, which represents pressure from the regulators or financial authorities to encourage the development of digital banking service, has a very high loading value of 0.977. This value indicates that regulation from financial authorities is one of the strongest sources of institutional pressure driving digitalization at rural bank (Bank Perekonomian Rakyat). These results demonstrate that regulatory policies play a significant role in shaping the direction of digital transformation in the banking industry, particularly for small – scale financial institution such as rural banks.

Table 2. Institutional Pressure

No	Item	Indicator	Loading	AVE
1	Regulations from financial authorities encourage our rural bank to develop the digital banking service	Press1	0.977	0.737
2	Competition with other banks encourages our rural banks to adopt digital technology	Press2	0.750	
3	Customers expect our rural bank to provide more modern digital services	Press3	0.798	
4	Digitalization practices implemented by other banks influence our rural bank's decision to develop digital services	Press4	0.977	
5	Developments in the banking industry in general put pressure on our organization to digitalize	Press5	0.759	

Sources: Data Processed (2026)

Furthermore, another indicator with a high loading value is Press4, with a value of 0.977, which illustrates the influence of digitalization practices implemented by other banks on organizational decisions to develop digital services. This indicates the phenomenon of mimetic pressure in the banking industry, where organizations tend to imitate various business practices implemented by other organizations in the same industry to maintain legitimacy and competitiveness.

Meanwhile, the Press3 indicator, which relates to customer expectations for modern digital services, has a loading value of 0.798, indicating that changes in customer behavior and

expectation are also important factors which drive organization to continue developing digital banking services. Furthermore, the Press2 (0.750) and Press5 (0.759) indicators also show loading values above the recommended limit, indicating that all indicators are valid in measuring the institutional pressure construct. The Average Variance Extracted for this construct also indicates that the institutional pressure construct explains approximately more than 73% of the variance in its indicators, thus this construct has an excellent level of convergent validity.

Overall, these results indicate that the institutional pressures felt by the rural bank in the context of digitalization originate from various sources, including government regulations, interbank competition, customer expectation, and evolving digitalization practices within the banking industry. These findings indicate that external environmental factors play a significant role in encouraging organizations to consider digital transformation in banking operations and services.

Table 3 below shows that the highest loading value is Rel5 at 0.921. This indicates that considering long term relationships in business decision making is the most dominant aspect in shaping relationship orientation at Bank Perekonomian Rakyat. This indicates that the strategic dimension of relationship orientation, particularly in the context of organizational decision making, is a crucial factor in relationship – based banking practices.

Table 3. Relationship Orientation

No	Item	Indicator	Loading	AVE
1	Our rural bank emphasizes the importance of building long term relationship with customers	Rel1	0.848	0.568
2	Personal interaction between bank employees and customers are a key part of our service strategy	Rel2	0.689	
3	Our rural bank strives to deeply understand customer needs through ongoing relationships	Rel3	0.081	
4	Trust between the bank and its customers is a top priority in our service	Rel4	0.889	
5	Our rural bank business decisions often consider long-term relationships with customers	Rel5	0.921	

Source: Data Processed (2026)

Furthermore, indicator Rel4 (0.889) and Rel1 (0.848) also showed high loading values. This reflects that the trust established between the bank and its customer, along with the emphasize on long – term relationship, are vital elements in building a relationship orientation. This research findings align with the main characteristics of rural banks, which rely on close relationships with customers as a source of competitive advantage.

Furthermore, the indicator Rel2, which reflects the importance of personal interactions between bank employees and customers, had a loading value of 0.689, slightly below the ideal threshold of 0.70. Nevertheless, this value is still acceptable in research model development, especially if the indicator has strong theoretical relevance (Henseler et al., 2009). However, the

Rel3 indicator has a loading value of 0.081, which is well below the recommended threshold. This value indicates that this indicator is unable to adequately represent the relationship orientation construct. Therefore, the Rel3 indicator should not be used again in future research to improve the quality of construct measurement.

The Average Variance Extracted value or the relationship orientation construct is 0.568 which is above the minimum value of 0.50 and indicates that this construct still has adequate convergent validity overall. This indicates that more than 50% of the indicator variance can be explained by the relationship orientation construct. Overall, these results indicate that relationship orientation at Bank Perekonomian Rakyat is primarily shaped by trust, long – term orientation, and the integration of relationship in strategic decision – making. However, further evaluation of specific indicators is needed to ensure that the construct used truly reflects the concept of relationship orientation optimally.

Table 4 contains information on the indicators with the strongest contributions which are Risk1 (0.909) and Risk5 (0.897), which relate to the perception of operational risk and threats to business continuity. High score for these two indicators, indicate that the risk dimension directly affecting operation and organizational continuity is a primary concern in the perception of strategic risk in rural banks. This suggests that concerns about the tangible impact of digital technology implementation are more dominant than other aspects.

Table 4. Perceived Strategic Risk

No	Item	Indicator	Loading	AVE
1	Implementing digital technology does not pose operational risk for our rural bank	Risk1	0.909	0.574
2	Digital transformation in our rural bank does not involve significant investment uncertainty	Risk2	0.574	
3	Adopting digital technology does not create significant data and information system security risk in our rural bank	Risk3	0.796	
4	Our rural bank face is confident about the long - term benefits of digital transformation	Risk4	0.527	
5	Implementing digital technology does not threaten the long - term sustainability of our rural bank's business	Risk5	0.897	

Source: Data Processed (2026)

Indicator Risk3 also shows a strong contribution, particularly in describing risks related to data and information system security. This finding reflects the organization's increasing awareness of digital security issues, which are a key challenge in digital transformation in the financial sector. However, there is variation in Risk4 loading value, which represents the level of confidence in the long – term benefits of digital transformation, shows a relatively lower contribution. This suggests that perception of long – term benefits are not fully aligned with the organization's perceived risk dimension. Furthermore, the Risk2 indicator (0.574), is also below the ideal threshold of 0.70

although it can still be considered in the model development research.

In aggregate, the Average Variance Extracted value of 0.574 indicates that this construct still meets convergent validity criteria, as can explain more than 50% of the indicators' variance. Thus overall, the Perceived Strategic Risk construct can still be considered suitable for use in further step analysis. Substantively, these results indicate that strategic risk perception in rural bank is more influenced by concerns about operational impacts and business sustainability, rather than investment considerations or long – term benefits. This reflects an organizational tendency to focus more on immediate, short – term risk, which may ultimately influence their attitude toward digital transformation implementation.

Table 5 further shows that the indicator with the most dominant contribution is Del5, with loading value of 0.980. This very high value indicates that the organizations' ability to maintain alignment with the development of digital services and the banking industry is a key indicator in measuring digital transformation delay. This indicates that the perception of the organizations' relative position within the industry is a crucial factor in assessing the level of delay.

Table 5. Digital Transformation Delay

No	Item	Indicator	Loadin g	AVE
1	Our rural bank adopts digital technology as quickly as other banks	Del1	0.810	0.677
2	The implementation of digital banking services at our rural bank is carried out in a timely manner	Del2	0.753	
3	Our rural bank actively adopts digital technology innovations without significant hesitation	Del3	0.731	
4	Digital technology investment decisions in our organization are made promptly when needed	Del4	0.817	
5	The development of digital services in our organizations keeps pace with the development of the banking industry	Del5	0.980	

Source: Data Processed (2026)

Furthermore, the other two indicators, Del4 (0.817), and Del1 (0.810), also play a significant role in shaping this construct. Both indicators relate to the speed of investment decision making and adoption of digital technology compared to other organizations. These results indicate that the speed of an organization's response to technological change is important dimension in understanding digital transformation delay. Indicators Del2 (0.753), and Del3 (0.731) also meet the established criteria, although their contributions are relatively more moderate than the other indicators. These two indicators reflect the timely implementation of digital service and the organizations' attitude toward adopting technological innovation, which remain integral to the delay construct of digital transformation.

The Average Variance Extracted value of 0.677 indicates that this construct has a good level of convergent validity, as it can explain more than 60% of the variance in its indicators.

Therefore, the Digital Transformation Delay construct can be considered to have strong measurement quality and is suitable for use in structural model analysis. However, it should be noticed that all indicators in this construct are structured as positive statements reflecting the absence of delay. Therefore, during the data analysis phase, reverse coding is required to ensure consistent interpretation of the construct, with higher scores representing higher level of digital transformation delay.

Overall, these results indicate that digital transformation in rural banks can be understood through a combination of factors such as the speed of adoption of technology, the timeliness of digital service implementation, and the organization's ability to keep up with industry developments. Together, these dimensions provide a comprehensive picture of the organization's position in the digital transformation process.

Table 6 below presents the result of the reliability test for each construct using Cronbach's Alpha and Composite Reliability parameters. In general, all constructs used in this research demonstrated Cronbach's Alpha values above 0.70, with the Institutional Pressure construct having the value of 0.907, indicating that the indicators within this construct have a very strong level of consistency in measuring the same concept. Meanwhile, the Relationship Orientation construct had the lowest value at 0.756, but still within the recommended minimum threshold.

Furthermore, the Composite Reliability values for all constructs are also above 0.70, with the most hovering around 0.90, such as for Institutional Pressure (0.93) and Digital Transformation Delay (0.91). This indicates that all constructs used to build this research model have a very good level of reliability in explaining the variance of their indicators. Composite Reliability is considered a more accurate measure in the context of PLS – SEM. The construction of Digital Capability, Perceived Strategic Risk and Relationship Orientation also had Composite Reliability values of 0.883, 0.866 and 0.845, respectively. These values also demonstrate solid values, indicating that the indicators used consistently represent the constructs being measured.

Table 6. Reliability and Validity Test Result

Constructs	Cronbach's Alpha	Composite Reliability
Digital Capability	0.835	0.883
Relationship Orientation	0.756	0.845
Institutional Pressure	0.907	0.932
Perceived Strategic Risk	0.801	0.866
Digital Transformation Delay	0.877	0.912

Source: Data Processed (2026)

Path Coefficient Result

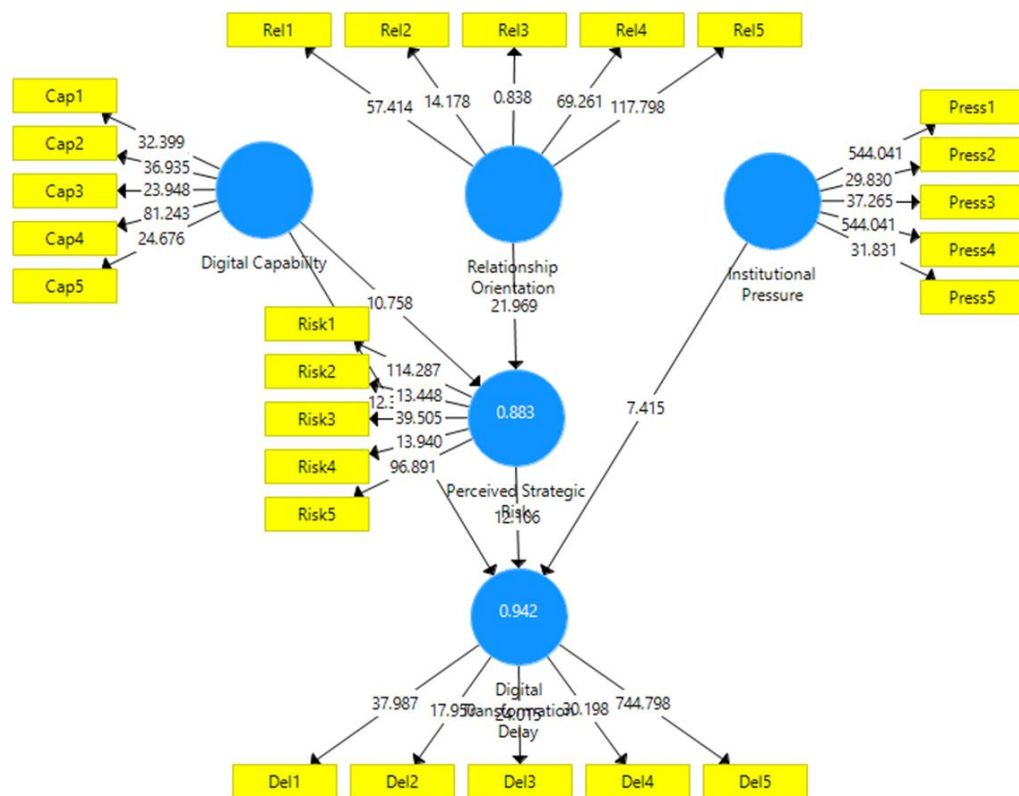
Table 7 below presents information regarding the result of the structural model testing, which aimed to evaluate the relationship between constructs in this research. Testing is conducted

using t-statistics and p-values as the basis for drawing conclusions regarding the proposed hypothesis. In general, the analysis result indicates that all relationships between the tested constructs have t-statistics exceeding the critical threshold of 1.96 and p-values less than 0.05, thus significantly supporting all hypotheses proposed in this research.

Table 7. Path Coefficients

Path	T Statistics (O/STDEV)	P Values
Digital Capability --> Digital Transformation Delay	12.388	0.000
Digital Capability --> Perceived Strategic Risk	10.758	0.000
Relationship Orientation --> Perceived Strategic Risk	21.969	0.000
Perceived Strategic Risk --> Digital Transformation Delay	12.106	0.000
Institutional Pressure --> Digital Transformation Delay	7.415	0.000

Source: Data Processed (2026)

**Figure 1. Research Model**

These results also indicate that the constructs used in this research significantly contribute to explaining the phenomenon of delayed digital transformation at Bank Perekonomian Rakyat. Therefore, the constructed structural model can be considered to have an adequate level of significance and is suitable to be used in further researcher.

Digital Capability and Digital Transformation Delay Relationship

The result of this study indicates that digital capability has a significant negative impact on digital transformation delay, meaning that the higher the digital capability, the lower the digital transformation delay. This finding aligns with various previous studies that have also confirmed that digital capability is a key driver of digital transformation acceleration in organizations (Warner & Wager, 2019; Vial, 2019).

Furthermore, several studies have shown more complex results. Li et al. (2018) found that digital capability does not always directly accelerate transformation, especially in small organizations facing resource constraints and internal resistance. In this context, digital capability alone is insufficient without comprehensive organizational readiness.

Theoretically, this finding can also be explained through the Resource – based View perspective, where digital capability is often viewed as a strategic resource that enables organizations to respond more effectively to environmental changes. Practically, these results indicate that rural banks with technological infrastructure, digital human resource, and adequate innovation capabilities tend to be better prepared to adopt digitalization.

Digital Capability and Perceived Strategic Risk Relationship

The research results show that digital capability reduces perceived strategic risk, meaning that organizations with stronger digital capabilities tend to perceive digital transformation as more controllable and less risky. This finding aligns with research by Dubey et al. (2020), which found that digital capability can improve an organization's ability to manage uncertainty and operational risk. Furthermore, Xu et al. (2024) demonstrated that technological readiness and digital competency can reduce perceived risk in digital system adoption.

However, not all research supports this relationship. Verhoef et al. (2021) found that increased awareness of new risks, particularly those related to cybersecurity and technological complexity, led to similar findings by Benschis et al. (2025), who stated that organizations with a high level of digitalization are more sensitive to potential strategic risks.

Theoretically, these research findings support Innovation Resistance Theory, which states that increasing an organization's ability to understand and manage technology will reduce psychological barriers in the form of perceived risk. From a practical perspective, these results indicate that investing in digital capability development, both in terms of infrastructure and human resources, can be an effective strategy to reduce resistance to digital transformation at Bank Perekonomian Rakyat.

Relationship Orientation and Perceived Strategic Risk

The result of this study indicates that relationship orientation increases perceived strategic

risk, indicating that organizations that rely heavily on personal relationships with customers tend to view digitalization as a threat. This finding is supported by Marcucci et al. (2021) and Beck et al. (2018), which emphasized that the relationship banking model is potentially disrupted by digitalization due to reduced face to face interactions. Furthermore, Berger et al. (2020) found that banks focused on long – term relationship tended to be more conservative with new technologies.

Conversely, several studies have shown conflicting results. Alalwan et al. (2018) found that digital banking can strengthen customer relationships by improving service quality and accessibility. Verhoef et al. (2021) also emphasized that digital transformation can support customer engagement if implemented strategically.

Theoretically, these results add to the literature on Innovation Resistance Theory, particularly regarding the tradition barrier dimension, where deeply rooted values within an organization inhibit innovation. Practically, these findings indicate that Bank Perekonomian Rakyat needs to manage the transition from relationship-based banking to digital banking without eliminating the value of closeness to the customers, for example through a physical-digital banking approach.

Perceived Strategic Risk and Digital Transformation Delay

The research results show that perceived strategic risk increases digital transformation delay, meaning the higher the perceived risk, the greater the tendency for organizations to delay digital transformation. This finding is consistent with research by Featherman & Pavlou (2003) and a recent study by Kaur et al. (2021), which showed that perceived risk is a major factor inhibiting technology adoption. Furthermore, Marafon et al. (2018) found that perceived risk significantly influences resistance to digital innovation.

However, some research findings do not fully support this. Kane et al. (2019) showed that under conditions of highly competitive pressure, organizations continue to undertake digital transformation despite high perceived risks. Similarly, Nambisan et al. (2019) showed that digital companies tend to be more tolerant of risks as part of their innovation strategy.

Theoretically, these findings directly reflect Innovation Resistance Theory, where risk is a major barrier to the adoption of innovative technology. Practically, these results indicate that to accelerate digital transformation. Bank Perekonomian Rakyat needs to reduce risk perception by increasing digital literacy, strengthening security systems and providing clear regulations.

Institutional Pressure and Digital Transformation Delay

The result of this study also indicate that institutional pressure reduces digital transformation delay, indicating that pressure from the external environment encourages organizations to accelerate digital transformation. This result is also supported by various studies

such as those by Gomber et al. (2018), and Bogers et al. (2018), which state that pressure from regulators, competitors, and industry changes are key drivers of digital innovation. Furthermore, previous research by Teo et al. (2019) also underscored the importance of institutional pressure which has a significant influence on technology adoption within organizations.

However, several studies also shown the conflicting result. Mikalef et al. (2020) found that external pressure is not always effective without internal organizational readiness. Furthermore, institutional pressure can result in symbolic adoption without in-depth implementation (Wessel et al., 2021).

Theoretically, these findings align with Institutional Theory, particularly the concept of coercive and mimetic pressure, where the organizations are compelled to adapt to the external environment to maintain legitimacy. From a practical perspective, this research suggests that regulation, competition, and customer expectation play a significant role in encouraging rural banks to remain committed to digital transformation, despite internal constraints.

5. CONCLUSION

This study aims to empirically identify factors that significantly influence the digital transformation delay on Bank Perekonomian Rakyat, developed using the Innovation Resistance Theory perspective. Based on the analysis using the PLS-SEM approach, all hypotheses proposed in this study are proven significant.

The findings of this study indicate that digital capability plays a crucial role in accelerating the implementation of digital transformation, both directly by reducing delays and indirectly by reducing the perceived strategic risk. This directly reaffirms that technological readiness and an organization's digital competency are key foundations for facing digital change in the banking industry.

Conversely, relationship orientation has been shown to increase perception of strategic risk. This research also indicates that the distinctive characteristics of Bank Perekonomian Rakyat which relieve personal relationships with customers can create resistance to digitalization. The perception that implementing digital transformation disrupts relational closeness is one factor that slows technology adoption.

Furthermore, perceived strategic risk is shown to be a key determinant in explaining delays in digital transformation. The higher the perceived risk, the greater the tendency to delay the implementation of digital innovation. These findings further strengthen the role of risk as a psychological mechanism in Innovation Resistance Theory.

Furthermore, institutional pressure is shown to accelerate digital transformation by reducing delays. Pressure from regulators, competitors, and customer expectation are external factors which

force organizations to adapt to the development in the banking industry. Overall, this study shows that delays in digital transformation in rural banks are the result of a complex interaction between internal capabilities, organizational values, risk perception, and external pressures. Thus, digital transformation is not solely a technological issue but also involves strategic and cultural dimensions of the organization.

This study's limitation lies in the limited number of respondents at the managerial level, so the perspective obtained primarily reflects the organization's strategic perspective. However, digital transformation implementation also involves operational levels, which may have differing perceptions. Future research could expand the scope of respondents to include various organizational levels to obtain a more holistic picture.

Additionally, although the research model encompasses several important variables, it's possible that other factors have not been accounted for, such as organizational culture, leadership, regulatory compliance readiness or specific technology. These variables have the potential to provide additional explanations for the phenomenon of digital transformation delays.

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