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The Impact of Intellectual Capital, Digital Transformation Capability, and Innovation Culture on Organizational Performance: The Role of Competitive Intensity as a Resource Value Reallocation Mechanism in Vietnamese Commercial Banks

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Abstract. The pressure on commercial banks has increased due to digitalization, fintech development, and changing customer demands. This study examines the effects of intellectual capital, digital transformation capability, and innovation culture on organizational performance, while investigating the moderating role of competitive intensity in Vietnamese commercial banks. Drawing on the resource-based view, dynamic capabilities view, and contingency theory, the study develops and tests a research model using survey data collected from 551 managerial staff members of Vietnamese commercial banks. The results reveal that intellectual capital, digital transformation capability, and innovation culture positively affect organizational performance, with innovation culture showing the strongest effect. Competitive intensity has a negative direct effect on organizational performance and produces asymmetric moderating effects by weakening the contribution of intellectual capital while strengthening the effects of digital transformation capability and innovation culture. The findings highlight that the value of strategic resources depends on competitive conditions and suggest that banks should prioritize adaptive capabilities, particularly digital transformation and innovation culture, to improve organizational performance.

1. Introduction

There have been some significant transformations resulting from the digital revolution, especially in the realm of the banking industry. This has resulted due to the advent of such technologies as artificial intelligence, big data, cloud computing, digital banking, and fintech. These transformations offer banks an array of new opportunities but, at the same time, increase competition among banks necessitating their continuous innovations.

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In this environment, tangible resources are increasingly limited in their ability to generate sustainable competitive advantage. Instead, intangible resources such as intellectual capital, digital transformation capability, and innovation culture are emerging as the defining factors behind an organization's capacity to adapt and grow. According to [1], resources that are valuable, difficult to imitate, and difficult to substitute form the foundation of sustainable competitive advantage. In the banking sector, these resources not only enhance operational performance but also support organizations in adapting to the rapidly changing business environment.

There have been numerous studies that have confirmed the significance of intellectual capital on organizational performance [2] & [3]. Digital transformation capacity has also been recognized as one of the key factors that would help organizations become more efficient, offer better services to customers, and be more adaptive to the digital business environment [4]. Innovation culture facilitates constant learning, creative thinking, and renewal [5] & [6].

However, just having important resources does not always guarantee better organizational performance. According to [7], a resource's value is dependent on how adaptable and how capable an organization is of refitting its resources in a constantly changing environment. In addition, according to [8], a resource's effectiveness relies on its compatibility with the environment faced by an organization. This implies that there could be differences in how effectively one can use the same resource depending on the level of competition.

As far as the banking sector is concerned, competition has been steadily increasing due to the advent of digital banks and fintech companies as well as fast-changing customer demands. In such an environment, the value of intangible resources might significantly fluctuate; while some resources might lose their ability to differentiate, others gain greater importance for organizational performance. Unfortunately, this mechanism is understudied.

Unlike most prior studies that treat competitive intensity simply as a moderating variable, this study argues that competitive intensity functions as a mechanism for redistributing strategic value across organizational resources. From this perspective, the study does not merely test the effects of resources on organizational performance but also explains why the value of those resources shifts under varying competitive conditions.

1.1. **Research gaps.** Even though many studies focus on intellectual capital, digital transformation capability, innovation culture, and organizational performance, the literature review shows that there are some important gaps that should be investigated.

First, according to the resource-based view (RBV), companies are expected to possess competitive advantages, which can contribute to superior organizational performance. Nevertheless, very few works in the field explore whether the value of these resources remains unchanged regardless of changes in the competitive environment. While previous studies have focused on resources that contribute to superior performance, very little is known about whether the value of these resources changes under the influence of competition.

Second, the majority of previous studies have focused on the effect of intellectual capital, digital transformation capabilities, and innovation cultures in isolation. This means that very little information is provided in terms of response of accumulative and adaptive resources under competitive pressure and whether the value of these resources differs when the conditions of competition change.

Third, most of the available evidence comes from the developed countries. Despite the rapidly changing conditions in developing countries, especially those in the financial services industry in Vietnam, very few studies have been done in this area.

To explain the gaps mentioned, Table 1 provides information about the available literature.

TABLE 1. Summary of research gaps and the positioning of the current study

Research scope	**Past literature**	**Current study**
Investigate how intellectual capital affects organizational performance	Yes	Yes
Investigate how digital transformation capability affects organizational performance	Yes	Yes
Combine intellectual capital, digital transformation capability, and innovation culture to create a unified model	Yes	Yes
Explore how competitive intensity influences the relationship	Limited	Yes
Examine the moderating role of competitive intensity	Very limited	Yes
Investigate resource value changes under varying competitive intensity	Unclear	Yes
Consider the banking sector of Vietnam	Limited	Yes
Merge Resource-Based View, Dynamic Capabilities Theory, and Contingency Theory into one research framework	Rare	Yes

1.2. **Research contributions.** The study is characterized by three major contributions. Firstly, it builds on the theoretical framework of Contingency Theory [8], providing evidence that competitive intensity influences not only the performance of organizations, but also affects the value of resources. The findings indicate that as competitive intensity increases, the strategic value of intellectual capital declines, whereas the strategic importance of digital transformation capability and innovation culture increases. In this way, the study sheds light on how competitive environment impacts the interconnection between resources and the performance of organizations.

Secondly, the study contributes to Dynamic Capabilities Theory [7], proving that digital transformation capability and innovation culture as two adaptive capabilities become especially valuable in situations of high competitive intensity. From the results obtained, it can be argued that the ability of organizations to continuously adapt and innovate becomes a prerequisite for their successful operations.

Finally, the study brings empirical evidence from Vietnam – a rapidly developing country, where digital transformation takes place in many industries including the banking industry. Based on identified research gaps, the study analyzes how intellectual capital, digital transformation capability and innovation culture affect the performance of Vietnamese commercial banks in situations of various levels of competitive intensity.

2. Theoretical Foundation and Hypothesis Development

2.1. **Resource-based view.** According to the Resource-Based View, competitive advantage is created due to possessing and utilizing resources that possess the characteristics of being valuable, rare, inimitable, and non-substitutable [1]. Under RBV, the performance of firms is determined not only by market conditions but also by the resources that a company owns and employs.

In the banking industry, tangible resources have been superseded by intangibles in terms of their significance. Factors such as employee expertise, governance systems, databases on clients, technologies used in business and organizational culture are seen as critical resources capable of creating sustained value. The resource-based view provides ample theoretical support for understanding the ways in which intellectual capital, digitalization capabilities, and innovative culture can contribute to organizational performance.

However, a significant drawback associated with the classic RBV framework was its inability to elaborate on the process of transformation of resources into performance, which focused more on possession. Such a problem served as one of the reasons behind the emergence of Dynamic Capabilities theory.

2.2. **Dynamic capabilities theory.** The Dynamic Capabilities Theory holds that competitive advantage is not created just by having resources, but by being able to leverage and recombine them as needed to cope with a changing environment [7]. In the case of digital transformation, banks must continually adjust their strategies, operations, and business models due to technological advancements, shifts in customer needs, and increasing competition. Companies with higher dynamic capabilities usually detect and seize new opportunities, innovate better, and perform better overall.

On the basis of this framework, digital transformation capability and innovation management would become the tools companies use to keep up with rapidly changing conditions. Similarly, the importance of intellectual capital cannot be considered static – a great deal hinges on the ability to activate and utilize knowledge for productive purposes.

2.3. **Contingency theory.** The main idea behind the Contingency Theory is that there are no universally best managerial approaches applicable in any organization or situation [8]. In other words, the performance of organizational assets depends on the congruence of the characteristics of an organization and its external environment. The use of the same resources in diverse competition situations can produce very different results. In addition, the more intense competition becomes, the more difficult it will be for an organization to retain its competitive position by using its resources in the old way. Increased competitive intensity can change the relationship between the strategic resources of an organization and its performance.

2.4. **Integrating the three theories.** The three theoretical perspectives used in the research are complimentary. Resource-Based View offers insights into the use of intellectual capital, digital transformation capabilities, and innovation culture to create competitive advantage and improve

organizational efficiency. Yet, the Resource-Based View mainly focuses on the value of the resource but fails to provide insights into the ways such resources can be used in a dynamic environment. It is here where the focus of Dynamic Capabilities Theory comes in handy since this theory stresses the importance of the ability to combine, adapt, and innovate the use of resources to deal with the changing environment. In other words, from the perspective of Dynamic Capabilities Theory, digital transformation capabilities and innovation culture are viewed as skills helping organizations remain flexible and innovative in their operations. In its turn, the Contingency Theory suggests that the efficiency of resources and skills depends on the current situation in the environment. The relevance of resources for the organization largely depends on their usefulness in terms of the competitive environment and competition may affect how valuable intangible assets are for organizational efficiency.

2.5. **Intellectual capital and organizational performance.** Resource-Based View suggests that valuable, rare, and inimitable resources will help to create competitive advantage and improve performance results. In the context of banking sector, intellectual capital represents one of the most important strategic resources, since the majority of the products and services offered require the application of knowledge and information, as well as good customer service quality.

Intellectual capital is typically viewed as consisting of three elements – human capital, structural capital, and relational capital. They allow for improvement in service quality, operational efficiency, effective cooperation inside the organization, and sustainable client relations. The empirical research by [2], [3] shows positive correlations between intellectual capital and bank performance.

With an intensification of competition towards knowledge intensity and service quality, banks having better intellectual capital will be able to create higher value and achieve higher performance results.

H1: Intellectual capital positively impacts organizational performance of Vietnamese commercial banks.

2.6. **Digital transformation capability and organizational performance.** The concept of digital transformation capability refers to the ability of an organization to incorporate digital technologies into its activities and develop new ways of delivering value to its customers through the process of digitization and redesigning processes [4], [10]. It does not refer to simple investments in technology but rather to the capability of utilizing such investment in order to initiate a change in the organization.

According to the theory of dynamic capabilities, companies characterized by high responsiveness to changes occurring in their environment will tend to be more successful than less responsive firms. Within the banking industry, higher digital transformation capability implies better customer experience, lower costs, faster transaction time, and greater innovativeness – facts supported by various studies [11], [12].

H2: Digital transformation capability positively affects the organizational performance of commercial banks in Vietnam.

2.7. **Innovation culture and organizational performance.** An innovation culture consists of a set of values, beliefs, and norms that facilitate learning, innovation, and adaptability [5], [6]. An innovation culture creates the right environment for innovation to flourish and be put into practice.

Dynamic Capabilities Theory suggests that the ability to innovate continuously is a prerequisite for adaptation in dynamic business environments. A strong innovation culture in banking leads to improvement in processes, innovation of products, and improved responsiveness towards customers. Several studies have shown that organizations with strong innovation cultures outperform others since when staff is motivated to learn and experiment, organizations make better use of their assets [6], [13].

H3: Innovation culture positively affects the performance of commercial banks in Vietnam.

2.8. **The moderating role of competitive intensity.** Contingency Theory [8] holds that resource and capability effectiveness is not fixed — it varies with the conditions an organization operates in. A resource that creates substantial value in one context may deliver far less in another, so understanding the full impact of intangible resources requires accounting for the competitive environment.

In Vietnamese banking, competitive intensity has been climbing steadily — driven by fintech entrants, digital banks, financial technology platforms, and rapidly shifting customer expectations. Banks face mounting pressure to continuously adjust strategy, innovate services, and sharpen their adaptive capacity.

Competitive intensity and intellectual capital

Intellectual capital creates value through specialized knowledge, experience, organizational processes, and customer relationships [9]. Under heavy competitive pressure, however, some of these components can be imitated and their differentiating power eroded. Owning knowledge is no longer sufficient on its own; the value of intellectual capital becomes increasingly dependent on the ability to translate that knowledge into concrete action and innovation.

H4a: Competitive intensity moderates the relationship between intellectual capital and the organizational performance of Vietnamese commercial banks.

Competitive intensity and digital transformation capability

Digital transformation capability reflects the ability to integrate technology, redesign processes, and adapt to a digital environment [4], [10]. As competition intensifies, banks need to respond faster to technological change and shifting customer demands — conditions under which strong digital transformation capability becomes a more meaningful differentiator.

Unlike resources that accumulate gradually, digital transformation capability is inherently adaptive. Its value tends to rise precisely when the environment turns more volatile and contested,

consistent with Dynamic Capabilities Theory's argument that adaptive capacity sits at the heart of competitive advantage.

H4b: Competitive intensity moderates the relationship between digital transformation capability and the organizational performance of Vietnamese commercial banks.

Competitive intensity and innovation culture

Innovation culture fosters learning, experimentation, and receptiveness to change [5], [6]. In low-competition environments, its effect on performance may not be especially visible. As competitive pressure builds, however, the ability to innovate continuously becomes a more critical condition for sustaining competitive position.

Organizations with stronger innovation cultures tend to adapt faster to market shifts, launch new initiatives more effectively, and hold up better under pressure. The value of innovation culture, accordingly, grows with the intensity of competition.

H4c: Competitive intensity moderates the relationship between innovation culture and the organizational performance of Vietnamese commercial banks.

2.9. **Research Model.** Building on the Resource-Based View Theory, Dynamic Capabilities Theory, and Contingency Theory, this research posits a model where intellectual capital, ability to engage in digital transformation, and innovation culture act as independent variables affecting organizational effectiveness. Competition intensity is a moderating variable that can change the effects that the aforementioned factors have on the efficiency of the organization.

In other words, the suggested model takes into account the theory which states that effectiveness of an organization can be seen both in its possession of valuable resources and competences and in the competitive environment within which the organization operates. As competitive pressure increases, the importance of different resources changes in diverse ways.

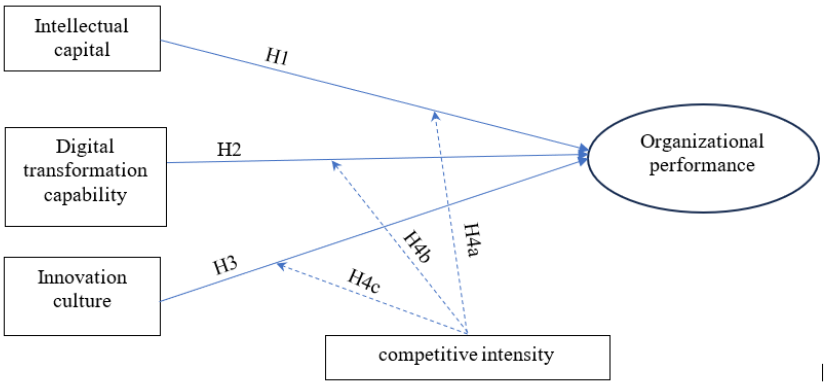


FIGURE 1. Research model

3. Research Methodology

3.1. **Research design.** For the test of the hypotheses stated in the paper, a quantitative method is used, which involves the use of a cross-sectional survey design.

The choice of the quantitative method is justified by the nature of the research, since the theory that underpins it involves Resource-Based View [1], Dynamic Capabilities Theory [7] and Contingency Theory [8].

Since the research model includes various latent variables and considers a moderation effect, Partial Least Squares Structural Equation Modeling (PLS-SEM) was chosen for its implementation.

3.2. **Research context and sample.** Vietnamese commercial banking is the chosen research industry due to being one of the industries that have been affected the most by digital transformation. Apart from competitive pressure by traditional banks, firms have to contend with an influx of fintechs, financial technology companies, and changing client requirements.

Participants of the survey included middle managers, senior managers, and individuals involved in managing, digital transformation, and strategizing in Vietnamese commercial banks. Participants were selected because they had a complete knowledge of development strategies, the organization's capacity, competition, and bank performance. Moreover, participants were actively engaged or managed digital transformation projects, organizational innovation processes, and resources at their organizations.

Data collection occurred between March and June 2024 through both paper-based and online survey forms. In all, 650 questionnaires were distributed, and after data screening, only 551 completed responses remained valid.

In line with [14], a sample size exceeding 500 responses is acceptable in PLS-SEM modeling with complex models involving multiple moderators. Therefore, the sample size is considered adequate for PLS-SEM analysis.

3.3. **Rationale for selecting PLS-SEM.** There are four main reasons why the study utilizes PLS-SEM approach. Firstly, the research is concerned with the predictive perspective of explaining variance in organizational performance, which falls perfectly into the scope of capabilities of PLS-SEM. Secondly, the suggested conceptual framework utilizes several latent variables and three moderating effects, thus increasing the level of complexity of the analysis process. Thirdly, it is possible to test simultaneously measurement and structural models through PLS-SEM, as well as test interactions in management studies effectively. Finally, this approach requires no strict conditions concerning data normality, which makes it very appropriate for studying strategic management, digital transformation, and organizational capabilities. Therefore, PLS-SEM can be viewed as the most appropriate methodology for the research model under consideration.

Table 2. Summary of research measurement scales

Concept	Components	Number of Items	Source
Intellectual capital	**Human capital, structural capital, relational capital**	**4**	**Bontis (1998); Subramaniam and Youndt (2005)**
Digital transformation capability	**Digital infrastructure, data, digital workforce, digital governance**	**5**	**Vial (2019); Verhoef et al. (2021)**
Innovation culture	**Encouraging creativity, learning, and acceptance of change**	**5**	**Dobni (2008); Büschgens et al. (2013)**
Competitive intensity	**Competitive pressure, technological change, customer pressure**	**5**	**Jaworski and Kohli (1993)**
Organizational performance	**Financial and non-financial**	**5**	**Venkatraman and Ramanujam (1986)**

4. Research Findings

4.1. **Measurement model assessment.** Prior to the analysis of the structural model, the measurement model was conducted to examine the reliability, convergent validity, and discriminant validity of the constructs. For reliability, the measures employed the Cronbach's Alpha and Composite Reliability. On the other hand, Average Variance Extracted (AVE) was used for examining convergent validity, while Fornell-Larcker Criterion, cross loadings, and HTMT were used for discriminant validity.

The results presented in Table 3 reveal Cronbach's Alpha scores between 0.736 and 0.917 and composite reliabilities between 0.834 and 0.939, both of which are above 0.70 as the acceptable level. The same is also true with regard to AVE scores between 0.558 and 0.754, which are higher than 0.50.

Table 3. Reliability and convergent validity of the measurement model

Construct	Cronbach's Alpha	Composite Reliability	AVE
Competitive Intensity	0.917	0.939	0.754
Digital Transformation Capability	0.893	0.921	0.701
Intellectual Capital	0.736	0.834	0.558
Innovation Culture	0.851	0.894	0.627
Organizational Performance	0.888	0.918	0.694

Further testing for discriminant validity was conducted using the Fornell-Larcker criterion. As seen in Table 3, the square roots of the AVE values for each construct are larger than the correlations between the constructs, thus suggesting that the measures have discriminant validity as per the advice provided by [15]. From the results, it can be concluded that the constructs under investigation reflect distinct aspects of organizational capacity and performance in digital banking.

Moreover, cross-loading analysis was conducted to test the discriminant validity of the scales. According to the findings, every observed variable is more highly loaded on its respective construct than on any other construct, meaning that the observed variables are good measures of the research constructs they represent.

Table 4. Fornell–Larcker Test

Constructs	CI	DTC	IC	InC	OP
Competitive Intensity	0.868				
Digital Transformation Capability	0.003	0.837			
Intellectual Capital	-0.041	-0.043	0.747		
Innovation Culture	-0.100	0.307	0.046	0.792	
Organizational Performance	-0.136	0.257	0.161	0.305	0.833

Note: Diagonal values are the square roots of AVE.

Table 5. Cross-Loadings of Measurement Indicators

Indicators	CI	DTC	IC	InC	OP	CI x InC	CI x DTC	CI x IC
CI1	0.879	0.030	-0.016	-0.115	-0.128	0.055	-0.023	0.059
CI2	0.899	0.017	-0.047	-0.071	-0.133	0.030	-0.050	0.047
CI3	0.896	-0.003	-0.072	-0.086	-0.115	0.061	-0.034	0.077
CI4	0.912	-0.007	-0.066	-0.104	-0.111	0.049	-0.040	0.062
CI5	0.746	-0.033	0.033	-0.056	-0.099	0.018	-0.058	0.081
DTC1	0.002	0.840	0.001	0.246	0.209	0.107	0.065	-0.089
DTC2	0.045	0.817	-0.049	0.263	0.207	0.052	0.046	0.004
DTC3	-0.010	0.854	-0.028	0.270	0.244	0.087	0.048	-0.091
DTC4	-0.020	0.826	-0.052	0.218	0.199	0.066	0.050	0.006
DTC5	-0.001	0.847	-0.053	0.284	0.211	0.040	0.020	-0.042
IC1	-0.024	-0.023	0.715	0.056	0.109	0.040	-0.007	-0.130
IC2	-0.035	0.023	0.784	0.010	0.130	-0.051	0.012	-0.157
IC3	-0.054	-0.048	0.740	0.047	0.109	-0.018	-0.080	-0.115
IC4	-0.012	-0.080	0.746	0.029	0.129	-0.042	-0.081	-0.109
InC1	-0.121	0.216	0.068	0.772	0.232	0.057	0.052	-0.066
InC2	-0.054	0.267	0.028	0.787	0.251	0.037	0.044	-0.061
InC3	-0.069	0.211	0.036	0.793	0.250	0.084	0.065	-0.015
InC4	-0.085	0.278	0.011	0.806	0.248	0.047	0.103	0.005
InC5	-0.070	0.240	0.039	0.800	0.224	0.038	0.076	0.027
OP1	-0.083	0.283	0.147	0.262	0.718	0.140	0.158	-0.117
OP2	-0.124	0.229	0.100	0.248	0.869	0.151	0.166	-0.179
OP3	-0.112	0.170	0.137	0.254	0.857	0.154	0.137	-0.117
OP4	-0.118	0.198	0.133	0.252	0.855	0.196	0.134	-0.144
OP5	-0.130	0.171	0.148	0.244	0.856	0.187	0.148	-0.183
CI x DTC	-0.046	0.055	-0.051	0.086	0.180	0.316	1.000	-0.169
CI x IC	0.074	-0.053	-0.172	-0.028	-0.178	-0.080	-0.169	1.000
CI x InC	0.050	0.085	-0.027	0.067	0.199	1.000	0.316	-0.080

In addition, cross loading analysis was conducted as additional evidence for discriminant validity between constructs in the study. As indicated in Table 5, each observed variable shows its highest loading to its assigned construct compared to any other constructs. This implies that the observed variables can successfully distinguish among the latent variables and, therefore, the suitability of the measurement model [14].

Next, the study utilized the Heterotrait-Monotrait ratio for testing discriminant validity through a stricter approach. As demonstrated in Table 6, the HTMT ratios for all pairs of constructs fall short of the suggested 0.85 level by [16]. Therefore, discriminant validity is confirmed in all constructs within the study.

All of these findings confirm the fact that the measurement model is psychometrically sound and can be used as a basis for moving on to evaluating the structural model. Model fit was

TABLE 6. HTMT Matrix

Constructs	CI	DTC	IC	InC	OP
Competitive Intensity					
Digital Transformation Capability	0.034				
Intellectual Capital	0.071	0.076			
Innovation Culture	0.114	0.350	0.070		
Organizational Performance	0.150	0.283	0.196	0.348	

additionally assessed via the Standardized Root Mean Square Residual (SRMR). A value of SRMR equal to 0.064, which is less than the suggested criterion of 0.08, means that there is a good model-data fit, meaning that the theoretical model represents the observed data well [17].

4.2. **Structural model assessment.** Given the fact that the measurement model had fulfilled the required criteria, the study continued to test the structural model along with the moderating effect using partial least squares structural equation modeling (PLS-SEM)

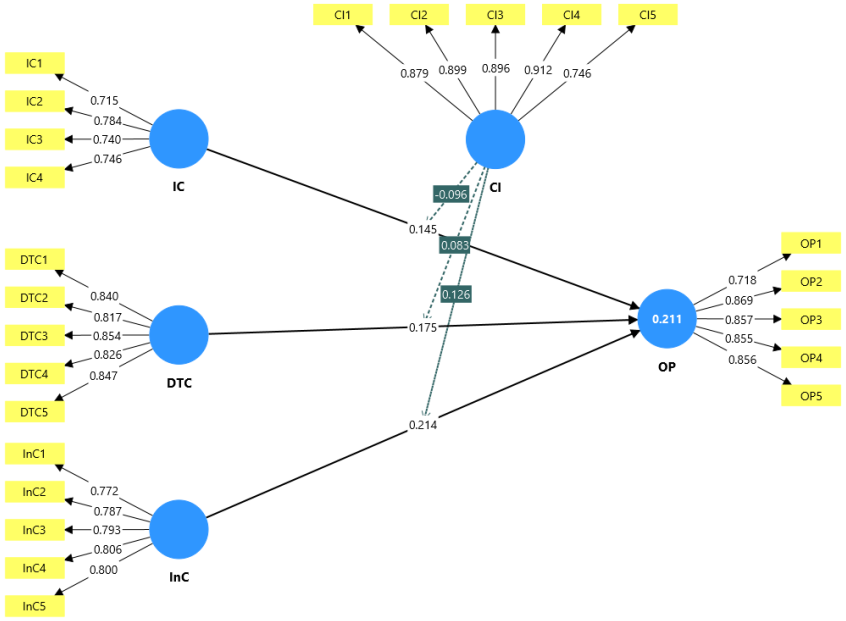


FIGURE 2. Structural model estimation results

It was found from the initial evaluation that the outer loading value for the observed variable IC5 was 0.256, which was much lower than the required level. As suggested by [17], the observed variable IC5 was dropped to ensure higher reliability and consistency of indicators, as well as convergent validity. All other indicators after dropping IC5 met the necessary requirements.

After this, the study tested for multicollinearity using the Variance Inflation Factor (VIF). It can be seen from Table 7 that all VIF values were less than the conservative limit of 3.3. Thus, it is apparent that the problem of multicollinearity did not affect the accuracy of the estimate of the model. Similar to [18], the present findings also suggest that the Common Method Bias is not a serious issue here.

Table 7. Variance Inflation Factor (VIF) Results

Relationship	**VIF**
CI → OP	1.024
CI × DTC → OP	1.152
CI × IC → OP	1.073
CI × InC → OP	1.124
DTC → OP	1.117
IC → OP	1.045
InC → OP	1.127

The explanatory ability of the proposed model was determined by means of the coefficient of determination (R^2). As shown in Table 8, the coefficient of determination (R^2 = 0.211) indicates that the model explains 21.1% of the variance in organizational performance. This suggests that the model has a modest level of explanatory power, indicating that intellectual capital, digital transformation capability, innovation culture, and competitive intensity account for a meaningful proportion of organizational performance.

Table 8. Model Coefficient of Determination

Endogenous Construct	R^2
Organizational Performance	0.211

In addition, Blindfolding was used to measure the predictive relevance of the model. The Q^2 value of organizational performance is greater than zero (Q^2 = 0.327), which suggests that the model possesses good predictive relevance.

4.3. **Hypothesis Testing.** The research hypotheses were tested using the Bootstrap technique with 5,000 resamples. Results are presented in Table 9.

Table 9. Direct effects testing results

Hypothesized Relationship	β	t-value	p-value	Result
CI → OP	-0.105	2.767	0.006	Supported
DTC → OP	0.175	3.585	< 0.001	Supported
IC → OP	0.145	3.167	0.002	Supported
InC → OP	0.214	4.298	< 0.001	Supported

From the results presented, it is clear that both IC, DT ability, and innovation culture contribute positively and significantly towards the performance of the organization. As such, this paper presents empirical evidence in favor of hypotheses H1, H2, and H3.

Among the predictor variables, innovation culture exhibits the strongest positive effect on organizational performance (β = 0.214, p < 0.001), followed by digital transformation capability (β = 0.175, p < 0.001) and intellectual capital (β = 0.145, p = 0.002). This implies that adaptation and transformation abilities become crucial when attempting to sustain the performance of banks through digitalization processes.

Finally, competitive intensity becomes negatively related to organizational performance (β = -0.105; p = 0.006). This indicates that high levels of competitiveness are detrimental to performance if there is not enough adaptive ability.

4.4. **Effect Size Assessment.** The study further assessed the relative contribution of each predictor variable through the effect size coefficient f^2.

TABLE 10. Effect Size Results

Predictor	f^2
CI → OP	0.014
DTC → OP	0.035
IC → OP	0.026
InC → OP	0.051
CI × DTC	0.009
CI × IC	0.013
CI × InC	0.023

The effect sizes of innovation culture are quite large followed by digital transformation capability and intellectual capital. While the f^2 values are not significant in terms of magnitude, they still carry some level of theoretical importance as they capture the differences in how the intangible assets impact firm performance. The interaction terms generate fairly small but significant effect sizes, which suggest that competitive intensity acts as a contextual variable that impacts strategy implementation.

4.5. **Moderating role of competitive intensity.** The moderating role of competitive intensity was tested through interaction effects between competitive intensity and each of the three organizational capabilities. Results are presented in Table 11.

TABLE 11. Moderating Effects Testing Results

Interaction Effect	β	**t-value**	**p-value**	**Result**
CI × DTC → OP	0.083	2.074	0.038	Supported
CI × IC → OP	-0.096	2.366	0.018	Supported
CI × InC → OP	0.126	3.030	0.002	Supported

The results demonstrate the presence of significant moderation effects of competitive intensity on all the three hypothesized relationships.

Competitive intensity reduces the impact of intellectual capital on organizational performance (β = -0.096; p = 0.018). The results imply that knowledge accumulation loses its importance in a highly competitive environment due to the quicker spread of knowledge, expertise, and service experience between competing banks.

On the other hand, the influence of digital transformation capability (β = 0.083; p = 0.038) and innovation culture (β = 0.126; p = 0.002) on organizational performance becomes greater when faced with competitive pressure. In other words, such capabilities as being adaptable and capable of resource reconfiguration become even more valuable in the face of competitive pressures, which allow banks to cope better with the process of change.

The results correspond to previous research stating the importance of technology-based organizational capabilities in improving strategic adaptability and organizational performance through the means of opportunity perception, resource reconfiguration, and decision support under uncertain environmental conditions [19].

Thus, the results reveal not only the influence of competitive intensity on organizational performance but also on resource value, which can be illustrated in the subsequent simple slope graphs.

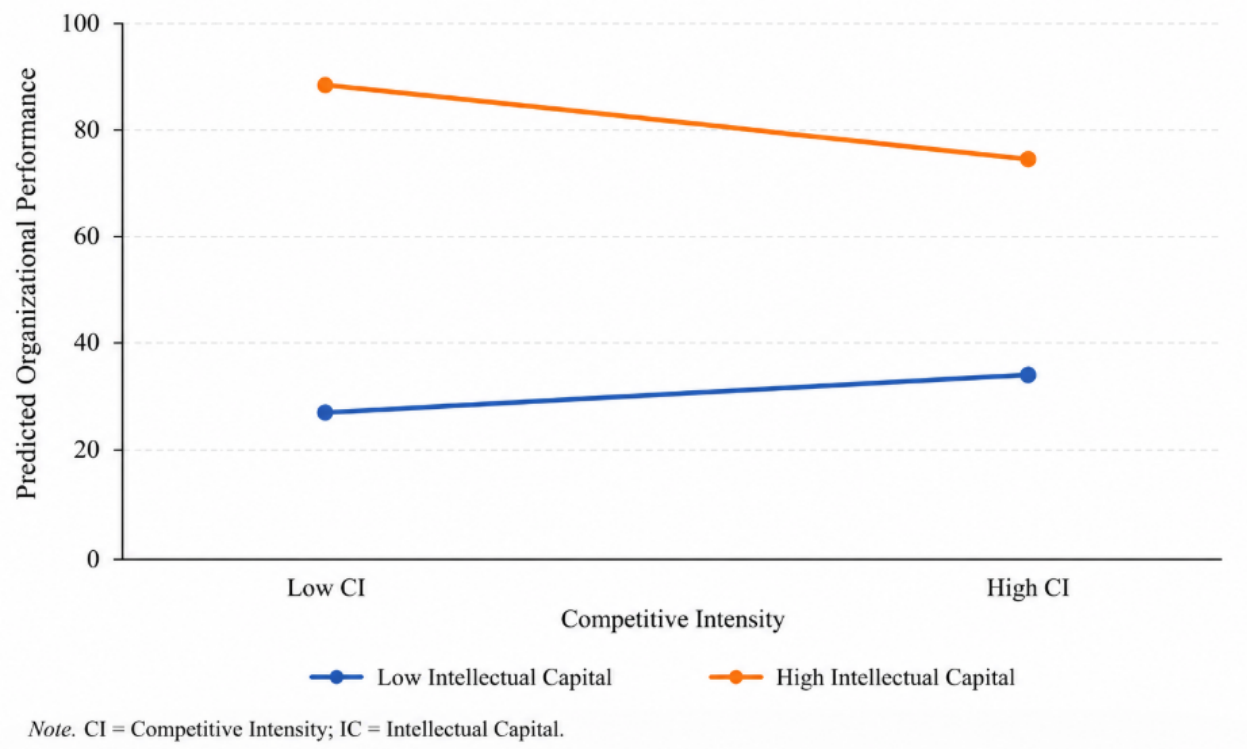


FIGURE 3. Moderating effect of competitive intensity on the relationship between intellectual capital and organizational performance (CI × IC → OP)

Figure 3 shows that as competitive intensity increases, the effect of intellectual capital on organizational performance diminishes, suggesting that the value of accumulated knowledge resources tends to decline in highly competitive environments.

In contrast, Figure 4 shows that competitive intensity amplifies the effect of digital transformation capability on organizational performance, reflecting the growing importance of technological adaptability in competitive environments.

Just as shown in Figure 5, the higher the competitive intensity, the greater its impact on the relationship between innovation culture and performance. Indeed, this is the most pronounced moderating impact in the model ($\beta = 0.126$).

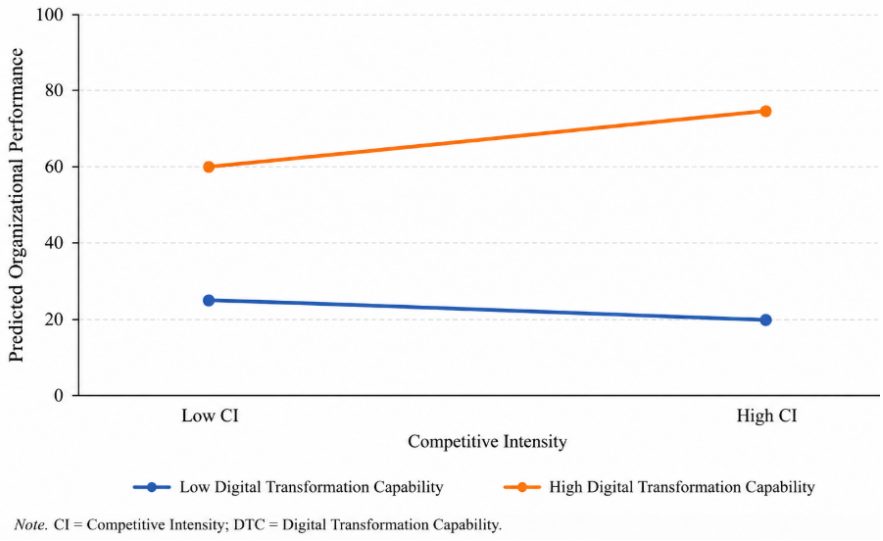


FIGURE 4. Moderating effect of competitive intensity on the relationship between digital transformation capability and organizational performance (CI × DTC → OP)

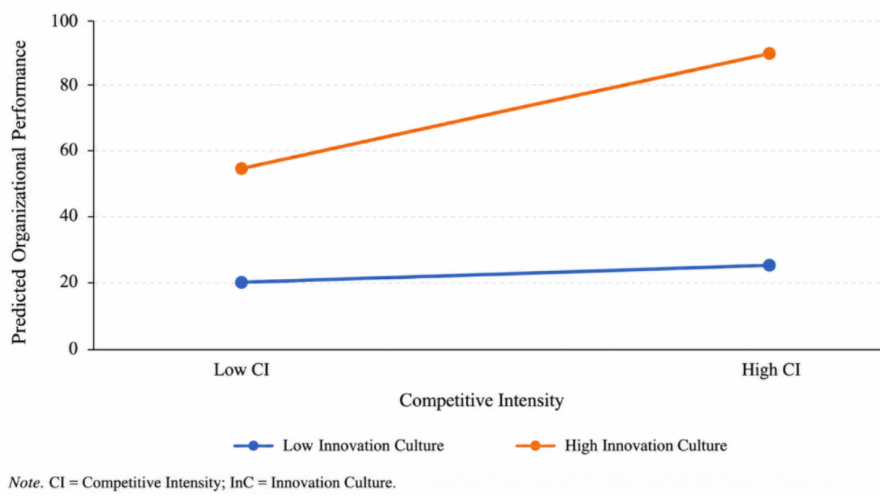


FIGURE 5. Moderating effect of competitive intensity on the relationship between innovation culture and organizational performance (CI × InC → OP)

Overall, these results indicate that competitive intensity reduces the strategic value of intellectual capital and elevates the importance of digital capability and innovation culture, showing that competition acts as a redistribution strategy for strategic value.

5. Discussion of Research Findings

The obtained results provide additional evidence of the positive impact of intellectual capital, digital transformation capability, and innovation culture on organizational performance in the Vietnamese commercial banking environment. These results resonate well with Resource-Based

View and Dynamic Capabilities Theory, arguing that valuable and scarce resources and capabilities give companies an opportunity to improve operational efficiency and sustain competitive advantage. At the same time, it is necessary to note that the research findings point out that not all resources have equal value in different competitive contexts.

With regard to intellectual capital, the results confirm its positive impact on organizational performance ($\beta = 0.145$; $p = 0.002$), following the findings of [2] and [3]. However, compared to the impact of digital transformation capability and innovation culture, it appears relatively modest in the context of Vietnamese commercial banks' digital transformation. This means that while specialized knowledge, managerial experience, operational procedures, and customer relationships remain essential components of organizational success in the banking sector, they are not sufficient in the age of digital banking anymore.

There might be two reasons explaining such observations. Firstly, the value of knowledge becomes increasingly dependent on the organization's capacity to implement this knowledge and develop innovation based on it. As operations are becoming digitized, knowledge about the bank's business model, management principles, and services becomes less valuable since competitors have easy access to these information. Secondly, the process of replication of organizational knowledge and experience takes place much easier due to the availability of advanced technologies and the emergence of a common business ecosystem that facilitates the adoption of best practices. Accordingly, the value of organizational knowledge is becoming increasingly dependent on an organization's ability to innovate and adapt instead of mere knowledge ownership.

This leads to the conclusion that commercial banks operating in Vietnam are likely to need to redirect efforts toward building the capacity to develop innovative services based on the available knowledge rather than knowledge management. This will help companies to differentiate themselves from competitors by developing proprietary innovations instead of replicating existing knowledge. From the perspective of Dynamic Capabilities Theory, this conclusion is fully logical since technology adoption requires a company to innovate continuously.

Digital transformation capability also has a positive impact on organizational performance ($\beta = 0.175$; $p < 0.001$), confirming the findings of [10] and [11]. It means that technological advancements do not necessarily result in improved organizational performance. Rather, the performance benefit depends on an organization's capacity to implement technology, make changes in operational procedures and processes, adjust governance, and develop a culture that would allow delivering value to customers with technology. In the banking industry, technology adoption becomes valuable when transformed into an enhanced ability to deliver services to customers fast, securely, and efficiently.

As shown in this example, these findings are also in accordance with the postulates of Dynamic Capabilities Theory since the value of technology depends on its effective exploitation within an organization. Moreover, from the same point of view, in the context of growing competitive pressures, it is particularly important for commercial banks operating in Vietnam to invest in

technology and its proper exploitation as they face increased competitive pressure from digital banks and fintech firms.

However, it should also be kept in mind that in addition to benefits, digital transformations often bring about certain disadvantages related to the excessive use of technology. Namely, implementing multiple technology initiatives at the same time increases complexity and requires the implementation of costly changes in an organization's governance and operations. Given the importance of information security, risk management, and other issues, transformation overload is possible, negatively affecting organizational performance. Thus, it is critical for organizations to understand that technology investments should be accompanied by appropriate actions and changes aimed at effective exploitation.

Finally, innovation culture was found to have the greatest impact on organizational performance (β = 0.214; p < 0.001), following the findings of [5] and [6]. As noted before, knowledge and technological innovations are relatively easy to replicate, while an innovation-friendly organizational culture is hard to imitate. This can partially explain why innovation culture had a more pronounced impact than digital transformation capability and intellectual capital. In particular, innovation culture facilitates the efficient exploitation of intellectual capital as well as its renewal.

Moreover, innovation culture makes the process of technological innovation significantly easier by fostering open communications and exchange of information. Therefore, an innovation culture is a type of organizational resource that not only has high inherent value but also increases the value of other resources. Thus, according to Dynamic Capabilities Theory, organizational performance increasingly depends on the organization's capacity to create a proper culture for learning, exchanging information, and experimenting instead of accumulating knowledge resources.

In turn, competitive intensity negatively impacts organizational performance (β = -0.105; p = 0.006), following the findings of [8]. As explained before, competitive intensity in today's business environment brings great challenges associated with innovation, shorter periods during which organizations enjoy competitive advantage, as well as the requirement to frequently adjust strategies. Thus, Vietnamese commercial banks must continuously invest in technology, improve their services and offer better customer experiences in order to cope with competition and remain successful.

The central contribution of the research in this regard lies in its findings concerning the moderating effect of competitive intensity on the impact of intellectual capital, digital transformation capability, and innovation culture on organizational performance. Competitive intensity attenuates the impact of intellectual capital (β = -0.096; p = 0.018), amplifying the impact of digital transformation capability (β = 0.083; p = 0.038) and innovation culture (β = 0.126; p = 0.002).

According to Resource-Based View, valuable, rare, difficult-to-imitate, and irreplaceable resources give companies opportunities to achieve competitive advantage and outperform other organizations. However, as seen in this case, the resource value cannot be perceived as an absolute concept independent from the competitive context. In highly competitive environments,

valuable, rare, and irreplaceable resources can become much less valuable due to diffusion processes. For instance, as discussed above, information can be easily replicated due to technological advancements, resulting in lower resource value and reduced differentiation effect.

Therefore, as can be argued from Dynamic Capabilities Theory and Contingency Theory, the competitive environment can influence resource value depending on the competitive conditions. In highly competitive environments, organizational performance largely depends on its capacity to adapt to changes and renew its resources. When technology, customer demands, services, and other components of organizations constantly evolve, organizations that are able to respond to changes quickly will gain competitive advantages. Therefore, the strategic value of resources shifts from accumulation to renewal.

It is also noteworthy that competitive intensity not only alters resource value in general but also influences the value of different types of resources differently. In other words, competitive pressure changes the relative strategic value of different organizational resources. The results indicate that competitive pressure has a negative impact on the value of intellectual capital but positive on that of digital transformation capability and innovation culture.

While in this study no variables were used that could help to estimate the transfer of value between the considered resources, the obtained empirical findings allow concluding that value redistribution takes place. In other words, competitive intensity redistributes the strategic value of resources. Again, value redistribution does not mean direct transferring of value from one resource to another. Instead, it refers to the alteration of relative resource values facilitated by competition.

6. Theoretical Contributions

The following discussion highlights the main scholarly contributions made by the study in relation to the existing research streams related to resources, capabilities, and organizational performance in the context of digital transformation.

To begin with, the present study makes a meaningful contribution to the further development of the Contingency Theory. Specifically, in contrast to previous work that predominantly viewed the competitive intensity as an environmental condition affecting performance outcomes, the current study demonstrates that competitive intensity can be considered a mechanism for reallocating strategic values between organizational resources. This conclusion is based on the asymmetric moderation effects that were found in the course of the empirical analysis conducted in the study. Specifically, the results demonstrate that while competition reduces the value of organizational intellectual capital in terms of performance enhancement, it increases the strategic value of digital transformation capability and innovation culture. Moreover, the value of accumulative organizational resources declines in response to increased competitive pressure while that of adaptive

resources rises. As a consequence, competitive intensity does not affect organizational performance alone – in the context of digital transformation, it determines which resources serve as a base for obtaining competitive advantage.

Second, the study contributes to the existing Resource-Based View by demonstrating that resource value is conditional upon the competitive situation within which an organization operates. Previous research tended to assume that valuable, rare, inimitable, and non-substitutable resources ensure high-level organizational performance regardless of the competitive environment. However, the results of the empirical analysis demonstrate that the resource-based effect on organizational performance differs depending on the level of competitive intensity within an industry. Specifically, when competition becomes stronger, the effect of intellectual capital on organizational performance declines while that of digital transformation capability and innovation culture increases substantially. Thus, it is not only the possession of specific resources that is important for ensuring the competitive advantage; rather, the fit between resources and competitive context is what should be taken into consideration in this respect.

Third, the study contributes to the literature on Dynamic Capabilities Theory through the demonstration that in highly competitive environments, adaptive capabilities are more important than accumulative resources as far as their ability to create organizational performance is concerned. The results of the analysis demonstrate that in addition to the positive influence of digital transformation capability and innovation culture on performance, the latter variables grow in their importance as competition becomes stronger. At the same time, the effect of intellectual capital on organizational performance decreases relatively. Therefore, competitive advantage in the era of digital transformation requires not only resources but also the capability of changing the configuration of resources in the face of environmental changes.

Finally, the study contributes to the existing body of knowledge related to the nature of organizational performance through the demonstration that the effect of each resource on performance differs depending on the competitive intensity. Specifically, instead of considering intangible resources to have a similar and stable effect on organizational performance, the study reveals that intellectual capital, digital transformation capability, and innovation culture generate distinct values of organizational performance in different competitive situations.

In summary, the main contribution made by the study in question is demonstrating that competitive intensity is an important mechanism influencing the allocation of strategic value across resources rather than just performance.

7. Governance Implications

Firstly, innovation culture should become the top-priority strategic investment for commercial banks. The analysis reveals that innovation culture contributes to organizational effectiveness in the most pronounced way among all the factors investigated in this paper. Moreover, it appears to be the resource that generates the highest value added when competition increases. It is explained

by the fact that in a digital-banking environment, sustainable competitive advantage is associated with learning and innovating rather than with static physical assets. Consequently, organizations should encourage innovation, experiment, and exchange knowledge without creating any administrative obstacles to innovation.

Secondly, digital transformation capacity should be considered the second most critical factor in terms of strategic investments. The findings demonstrate that digital transformation capacity becomes highly valued once the level of competition is high. Indeed, technologies provide a competitive advantage only when they are translated into organizational capabilities. In other words, management should not be limited to investing in technological development but pay attention to the development of the organizational capability in digital transformation.

Thirdly, the value of intellectual capital should be reconsidered. Although the study confirms the relevance of intellectual capital in achieving a competitive advantage, the results show that its relative value decreases as competition increases. This finding indicates the need for managers to stop accumulating intellectual capital and convert it into innovations and other types of values.

Finally, the current competitive conditions imply that resource management should include not only an equal allocation of resources but also identification of priorities in different competitive situations. For example, while in the case of low competition, intellectual capital continues to add much value to the organization, at high levels of competition, innovation capacity and digital transformation capacity appear to be relatively more important resources.

In conclusion, the research findings confirm the significance of resource management strategies from the perspective of strategic management of banks. Specifically, they show that competitive advantage in the digital-banking context is achieved not because of resource possession compared to competitors' resources but because of proper identification of relevant resources.

8. Research Limitations and Further Research Directions

Although the objectives of the research have been met successfully, there are certain limitations associated with the study. They must be accounted for when analyzing the outcomes of this work.

Firstly, due to the cross-sectional design, causality between the hypothesized variables remains unconfirmed. Even though the theoretical underpinnings of the study have been based on reputable literature, the reverse direction of the relationships might also occur. For example, banks with better operational performance might have more resources to invest in digital transformation and to develop an innovative corporate culture. Hence, further studies should consider using longitudinal designs to provide insights into the processes involved in the formation of organizational effectiveness.

Secondly, the data obtained during this research was self-reported and was provided by the management of commercial banks. Even though there is no evidence of general bias in the obtained data (according to the performed tests), self-reports still remain open to possible distortion related to cognitive bias or the phenomenon of rating too favorably the situation at hand. Hence, in order

to increase the robustness of the findings, it would be helpful to combine self-reported data with objective information about the banks.

Thirdly, the research focused on the Vietnamese banking sector, which is highly digitalized and exposed to tough competition, and in addition, the banks are heavily regulated by the government bodies. As a result, the value generation process of the discussed resources can differ in this context from that in manufacturing and service companies in other sectors. Consequently, care should be taken before extrapolating the results to other contexts. In order to generalize them, further investigations in other settings are required.

Finally, this study examined only three of many important intangible resources in today's world – intellectual capital, digital transformation capabilities, and innovation culture. In the era of increasing digitization, such strategic assets as big data, artificial intelligence applications, organizational learning and adaptation capabilities, and strategic flexibility should also be explored. Thus, the research should be extended by incorporating these factors into the model.

9. Conclusion

This research aims at analyzing the impact of intellectual capital, digital transformation capability, and innovation culture on organizational effectiveness in order to explore the role of competitiveness in shaping organizational efficiency in Vietnam's commercial banking sector. It is found that all three resources significantly affect organizational effectiveness in such a way that innovation culture has the most significant impact, followed by digital transformation capability and intellectual capital. Moreover, competitive intensity has a direct negative impact on organizational efficiency; however, it significantly moderates the impact of each resource on operational efficiency.

The main contribution of this research in terms of scientific literature is not about proving that intangible assets increase organizational efficiency, but rather about demonstrating that different resources are not valuable in all kinds of environments. Competitive intensity has a tendency to devalue intellectual capital; at the same time, digital transformation capability and innovation culture become much more valuable.

Conceptually, this paper contributes to existing resource-based view theory because instead of highlighting the resource ownership, it pays attention to context-dependent resource value. Also, it contributes to dynamic capabilities theory in that it supports the hypothesis according to which competencies become more important than resources in case of high competitive intensity. Most importantly, it demonstrates how competitive intensity plays a dual role of contextual and mechanism variable in determining strategic value.

From a managerial perspective, these results mean that competitive advantage in the digital banking business becomes dependent not on having more resources, but rather on having a proper type of resources in the environment. In other words, the competitive intensity works as a mediator that redistributes strategic value of resources according to their relative importance.

Conflicts of Interest: The authors declare that there are no conflicts of interest regarding the publication of this paper.

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