

MARKET ORIENTATION, INNOVATION, AND TELECOMMUNICATION FIRM'S PERFORMANCE IN AN EMERGING MARKET: THE STRATEGIC NEXUS OF SUSTAINABLE COMPETITIVE ADVANTAGE

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ABSTRACT

In today's volatile, uncertain, complex, and ambiguous environment, sustaining superior performance poses particular challenges for firms in emerging markets, where rapid growth often coexists with institutional instability and resource constraints. Drawing on the resource-based view and dynamic capabilities theory, this study examines how market orientation (MO) and innovation capability (IC) contribute to firm performance in the telecommunications industry. Adopting a mixed-method research design, the study first conducted qualitative interviews with industry experts to refine constructs and contextualize measurement items. Subsequently, a survey of managers from firms in telecommunications was analyzed using partial least squares structural equation modeling. The findings reveal three main contributions. First, MO significantly enhances IC, demonstrating the interdependence of dynamic capabilities rather than their isolated effects. Second, MO and IC exert no direct influence on firm performance but instead operate through sustainable competitive advantage (SCA), confirming the full mediating role of SCA. Third, the study reconceptualizes SCA as a two-dimensional construct, namely differentiation-based and innovation differentiation capturing the unique technological and competitive dynamics of telecommunications. By combining qualitative insights with quantitative validation, this study advances theoretical understanding of the capability-advantage-performance nexus and provides practical guidance for emerging-market firms to strategically leverage MO and IC in creating long-term competitiveness.

Keywords: Market orientation, innovation capability, sustainable competitive advantage, firm performance, emerging market.

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1. INTRODUCTION

In the current volatile, uncertain, complex, and ambiguous (VUCA) global business environment, sustained superior firm performance remains a quintessential goal for firms worldwide, yet achieving it is particularly challenging in emerging markets (World Bank, 2023). These economies often combine rapid expansion and fierce rivalry with institutional instability and limited resources. In such landscapes, success depends not only on understanding external market forces but also on building internal capabilities that can be converted into lasting advantages. The Fourth Industrial Revolution (Industry 4.0) has been propelling the development of the digital era, significantly shifting the global usage of products and services towards digitalization (Javaid et al., 2024). As a result, high-tech industries like telecommunications play an indispensable role in the development strategies of all countries (David, 2019). As a national strategic high-tech industry, Vietnam's telecommunications sector has undergone significant changes since joining the WTO and furthering its integration into the global economy. However, overarching weaknesses persist among telecommunications firms, evident in various aspects such as market competitiveness, product and service quality, innovation, and the asynchronous development of telecommunications infrastructure (Foray et al., 2025). These vulnerabilities are critical as Vietnam's telecommunications industry is required to "open up" to foreign investors under bilateral and multilateral trade agreements. To understand how firms can bridge capability investments and performance outcomes, the study applies theoretical lenses: dynamic capabilities theory (DCT) based on resource-based view (RBV). DCT highlights firms' abilities to sense opportunities, seize them, and reconfigure resources in response to change (Teece, 2007), while RBV focuses attention on resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). Collectively, these findings indicate that upstream capabilities need to be developed into resources with VRIN characteristics to drive sustained firm performance.

Despite the proliferation of research on dynamic capabilities, three critical gaps persist in the literature. First, empirical evidence regarding the capability-performance relationship remains fragmented; while some scholars identify a direct positive link (Sett, 2018; Al-kalouti et al., 2020), others observe insignificant or conditional effects, pointing to the existence of underlying mediating mechanisms (Baía & Ferreira, 2024; Correia et al., 2021). Second, theoretical consensus is lacking regarding the structural relationship between MO and IC specifically, whether these capabilities function in parallel or follow a sequential order of influence. Third, in the context of Vietnam, specific factors such as regulatory constraints and the asynchronous development of infrastructure create unique institutional barriers. These barriers often prevent internal capabilities from translating immediately into performance, a contextual nuance that general frameworks have yet to fully address.

Therefore, this study aims to bridge these theoretical and empirical gaps by proposing and testing a comprehensive research model that evaluates the direct and indirect relationships among innovation capability, market orientation, sustainable competitive advantages, and firm performance. Our research offers several key contributions, particularly relevant to the burgeoning literature on emerging markets. First, by integrating IC, MO, SCA, and FPER into a single, comprehensive framework, we provide a more holistic understanding of how internal capabilities and external orientations interact to foster competitive success. Second, the study specifically investigates and empirically validates the critical mediating role of SCA, offering granular insights into the mechanisms by which innovation prowess and market responsiveness translate into

sustained outperformance. This clarifies how IC and MO truly become valuable assets, especially where market inefficiencies or resource scarcity might make establishing and maintaining SCA particularly challenging. Third, and perhaps most significantly, our empirical focus on an emerging market context, i.e., Vietnam allows us to validate and extend existing theories. By conducting this study in such an environment, the study aims to explore unique pathways or identify nuances in the strength of established relationships that may differ from those observed in developed markets, considering the distinct institutional, competitive, and resource landscapes. The findings from this study are expected to not only enrich the academic discourse on strategic management and organizational theory by offering context-specific insights but also provide actionable implications for managers and policymakers. It provides a strategic framework for telecommunications managers to optimize the allocation of limited resources between R&D (innovation capability) and marketing (market orientation). Specifically, the findings guide firms on how to synergize these investments to construct a sustainable competitive advantage, enabling them to shift from destructive price wars to value-based competition in a volatile emerging market.

2. LITERATURE REVIEW

2.1. Dynamic capabilities theory

Teece et al. (1997) introduced the dynamic capabilities theory (DCT) to address the limitations of the resource-based view (RBV) in explaining how firms respond to changes in the business environment. To comprehensively explain the capability-performance nexus, this study integrates the RBV and DCT, not as parallel backdrops, but as complementary theoretical mechanisms informing specific hypotheses. RBV provides the foundational explanation for why firms possess a competitive edge, framing IC and MO as strategic, valuable, rare, inimitable, and non-substitutable (VRIN) resources essential for market entry and survival. However, in the context of an emerging market characterized by environmental turbulence and rapid technological obsolescence, RBV alone is insufficient to explain the sustainability of performance. Thus, DCT is necessary to explain how firms sustain this advantage over time. DCT informs the logic of our mediation hypotheses by positing that possessing strategic resources (IC and MO) is not enough; firms must actively "sense, seize, and reconfigure" these resources into a sustainable competitive advantage (SCA). This adaptability is widely recognized as essential for sustaining superior and enduring firm performance (Wang & Ahmed, 2007). Within the literature, dynamic capabilities have been characterized in three complementary ways: (1) as resources that satisfy the VRIN criteria (Eisenhardt & Martin, 2000); (2) as the ability to integrate, build, and reconfigure a firm's resources to align with changing conditions (Teece et al., 1997); and (3) as drivers of performance improvement and competitive advantage (Karman & Savanevičienė, 2020; Lin & Wu, 2014). In the context of this study, the emerging Vietnamese telecommunication market marked by rapid expansion and the deployment of 5G (Ministry of Information and Communication, 2024) highlights the strategic importance of dynamic capabilities. Firms with strong innovation capability can leverage these capabilities to deliver differentiated services, while those with a well-developed market orientation can anticipate shifts in customer preferences. Together, these capabilities foster the creation of unique, hard-to-imitate value propositions. According to DCT, a prerequisite for effective operation is that firms must possess VRIN resources, whether developed internally or acquired externally. These resources enable the transformation of operational processes, thereby

building the adaptive capacity needed to respond to market and environmental changes. This adaptive capacity, in turn, contributes to superior performance and the establishment of competitive advantage. Moreover, competitive advantage can act as a mediating mechanism, converting capabilities (inputs) into improved performance outcomes (Correia et al., 2021; Lin & Wu, 2014). Such transformation takes place within the organizational processes of the firm (Eisenhardt & Martin, 2000), representing a set of operational practices that continually refine capabilities to build sustainable competitive advantages and deliver outstanding long-term results. Building on this perspective, the present study examines how telecommunication firms continuously renew their resource base. In this framework, DCT informs the hypotheses regarding dynamic organizational behaviors, including MO and IC. Complementarily, the mediating role of SCA is framed through the lens of VRIN resources that ultimately drive superior performance.

2.2. Market orientation and innovation capability

Market orientation is a dynamic capability that fulfills the criteria outlined by Teece et al. (2007) as “sensing,” “seizing,” and “readjusting or reconfiguring” (Pfajfar et al., 2024). A market-oriented approach involves creative marketing programs and innovation strategies designed to satisfy or even transform customer needs. This is achieved through intelligence generation, intelligence dissemination, and responsiveness (Ngo & O’Cass, 2012). In other words, market orientation can be considered a continuous innovation activity that creates products and services of superior value (Akman & Yilmaz, 2008).

Similarly, innovation capability is also a dynamic capability (Araújo et al., 2018), representing the continuous process of inventing, discovering, and applying new ideas to create products or business processes. These systematic activities in market processes, production, operations, organization, and the transfer of knowledge and technology occur both within and outside the firms during the innovation process (Inigo & Albareda, 2019). Innovation often pertains to two aspects: (1) technological innovation and (2) market orientation innovation, which includes the degree of alignment with current technology platforms and responsiveness to the market and customers (Ngo & O’Cass, 2012). Thus, innovation is intrinsically linked to a firm’s market orientation and technological capabilities (Zhou et al., 2019). In other words, firms that excel in market orientation are often pioneers in implementing innovations in market approaches, products, processes, and operations. This pioneering spirit is a crucial tool for enhancing a firm’s innovation capability (Osuagwu, 2019; Akman & Yilmaz, 2008). Therefore, the study proposes the following hypothesis:

H1: Market orientation has a positive effect on telecommunication firms' innovation capability

2.3. Market orientation and firm performance

The resource-based view (RBV) posits that a firm’s ability to achieve and sustain competitive advantage derives from resources and capabilities that are valuable, rare, inimitable, and non-substitutable (VRIN) (Barney, 1991). Within this framework, market orientation is not merely a strategic choice but a deeply embedded organizational capability that is hard for competitors to replicate. A strong market orientation fosters systematic processes for generating, disseminating,

and responding to market intelligence concerning customer needs and competitor actions (Kohli & Jaworski, 1990). Such superior information processing enables telecommunication firms to proactively address evolving demands, including the growing need for high-speed internet, diversified digital services, and industry-specific enterprise solutions. Research in Vietnam's marketing communications industry has found that market orientation enhances firm performance by enabling the creation of superior customer value and competitive advantages that are difficult to imitate (Hoang & Bui, 2021). In this way, market orientation becomes a VRIN capability that contributes directly to improved financial performance, greater market share, and stronger customer loyalty. Similar findings from the telecommunications industry highlight that market orientation, particularly customer orientation and inter-functional coordination, strengthens dynamic capabilities and drives performance (Opoku & Kimani, 2024). Last, as highlighted in dynamic capabilities theory, market orientation is positively related to the performance of a firm according to this mechanism (Sett, 2018). Therefore, the study proposes the following hypothesis:

H2: Market orientation has a positive effect on telecommunication firms' performance

2.4. Innovation capability and firm performance

When it comes to firm performance, innovation capability is a dynamic capability that plays an essential role in creating outstanding competitive advantages for firms (Cho & Pucik, 2005). It is also a key factor in building a solid business foundation and ensuring sustainable development (Hofmann et al., 2012). Innovation capability represents the ability to continuously pursue innovation, enabling the reconfiguration and transformation of resources into core assets to address challenges arising from changes in the business environment (Wang & Ahmed, 2007). Studies have demonstrated that innovation capability significantly impacts firm performance and suggest the need for further research on its effects across different industries and contexts (Al-kalouti et al., 2020; Rajapathirana & Hui, 2018).

Moreover, innovation capability, viewed through the lens of dynamic capabilities (Teece, 2007), allows emerging telecommunication firms to proactively adapt to environmental shifts rather than merely react to them. In a sector where technological obsolescence is a constant threat and consumer preferences can shift rapidly, the ability to innovate becomes a proactive mechanism for maintaining strategic fit and creating new value. Firms with greater innovation capability can escape intense price competition by offering differentiated, higher-value services, leading to improved profitability and market share. Empirical research widely supports this connection, demonstrating that dynamic capabilities, which encompass innovation, significantly contribute to firm performance across various industries and developing economies (Dang et al., 2025). Therefore, the study proposes the following hypothesis:

H3: Innovation capability has a positive impact on telecommunication firms' performance

2.5. The mediating role of sustainable competitive advantage

Sustainable competitive advantage materializes when a firm implements a value-creation strategy that remains beyond the reach of current or potential competitors, making it difficult to replicate

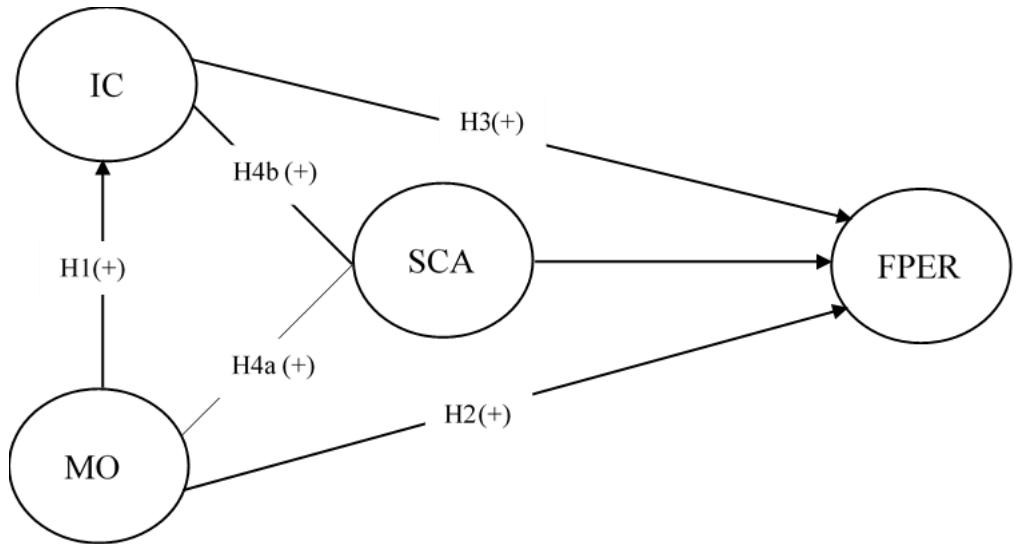
(Barney, 2015). While empirical studies traditionally highlight cost leadership and differentiation as effective strategies (Porter, 1989; Su et al., 2017), the unpredictable fluctuations of Industry 4.0 make the transition from a temporary to a "sustainable" advantage increasingly challenging (Khan et al., 2020; Annunziata et al., 2018). During this transition, firms must leverage dynamic capabilities; specifically sensing, seizing, and reconfiguring to convert rare resources into lasting market superiority. Consequently, this study explicitly reconceptualizes sustainable competitive advantage by focusing on differentiation-based and innovation differentiation dimensions, while de-emphasizing traditional cost-based advantages (Zhou et al., 2009; Su et al., 2017). This theoretical choice is grounded in the specific economic realities of the modern telecommunications sector (Alkhatib & Valeri, 2024; Javaid et al., 2024). First, cost leadership has become increasingly transient; firms with greater innovation capability must escape intense price competition to offer higher-value services (Dang et al., 2025). As tariff barriers lower due to trade agreements and integration, competing solely on price is insufficient (World Bank, 2023). Instead, innovation differentiation emerges as the primary driver of sustainability (Karia & Asaari, 2016). In a high-velocity environment characterized by the deployment of 5G and constant threats of technological obsolescence, strong R&D and cutting-edge technology create high barriers to imitation (Ministry of Information and Communication, 2024; Barney, 1991). Thus, in this context, sustainability is achieved by creating unique value propositions that current or potential competitors cannot match (Barney, 2015; Baía & Ferreira, 2024).

Alternatively, sustainable competitive advantage functions as a "mediator" (Lin & Wu, 2014), facilitating the transformation of resources (inputs) through a firm's reconfiguration and readjustment to form sustainable competitive advantages and promote outstanding long-term business outcomes (Wu, 2007). In emerging economies characterized by institutional voids and rapid technological turnover (World Bank, 2023; Foray et al., 2025), the possession of dynamic capabilities such as market orientation and innovation capability does not automatically guarantee superior firm performance (Le & Ikram, 2022; Nguyen Van et al., 2025). This disconnect arises because developing these dynamic capabilities requires substantial investment in R&D and information systems. Therefore, firms face significant challenges in transitioning from possessing capabilities to realizing actual performance (Khan et al., 2020). During this transition, SCA serves as a critical mediating mechanism (Baía & Ferreira, 2024; Correia et al., 2021). Building on this foundation from dynamic capabilities theory, the study proposes that dynamic capabilities such as market orientation and innovation capability indirectly influence firm performance through sustainable competitive advantage (Alkhatib & Valeri, 2024; Eriksson, 2014). Therefore, this study proposes the following hypotheses:

H4a: Market orientation indirectly enhances firm performance by fostering the firm's sustainable competitive advantages.

H4b: Innovation capability indirectly enhances firm performance by fostering the firm's sustainable competitive advantages.

Figure 1: Conceptual model



Source: Authors' own work

3. METHODOLOGY

3.1. Measurement scale

This research employs a mixed-methods approach, integrating both qualitative and quantitative methodologies. The utilization of such a combination remains a subject of ongoing debate within the research community. However, this study aligns with the methodology proposed by Sovacool et al. (2018), conducting in-depth interviews with a semi-structured format to determine potential adjustments to observed variables within the research context. The qualitative data obtained through interviews are complemented by quantitative measures, serving the dual purpose of hypothesis testing and evaluating the relationships within the established model (Appolloni et al., 2021).

The measurement scales employed in this study draw heavily from previous research. To assess the observed variables within the model, we utilized 7-point Likert-type scales, ranging from 1 denoting “strongly disagree” to 7 denoting “strongly agree.” The scales for innovation capability (IC), market orientation (MO), and firm performance (FPER) have been adapted from the work of Ngo & O’Cass (2012, 2013). To be specific, innovation capability (IC) comprises 5 observed variables, as outlined by Ngo & O’Cass (2012). These variables gauge a firm’s ability to innovate in management and production processes, products, marketing strategies, and in the development of new markets. Meanwhile, market orientation (MO) is a second-order concept that consists of 3 components with 9 observed variables. These variables measure a firm’s ability to build its

database (intelligence generation), circulate information (intelligence dissemination), and respond to external factors (e.g. customers, suppliers, and business environment) and internal factors (responsiveness) (Ngo & O'Cass, 2012). In turn, firm performance is evaluated using 3 observed variables, including market share, revenue growth, and profit growth, aligned with the firm's set objectives (Ngo & O'Cass, 2013). Last, sustainable competitive advantage is defined as a firm's superiority in the market compared to its competitors, as illustrated by its differentiation and innovation differentiation. This includes 6 observed variables, as identified by Zhou et al. (2009).

However, to ensure the relevance of these instruments, the author also conducted semi-structured interviews, following the guidelines of Malhotra et al. (1996), with 6 business experts, each with at least 10 years of experience in the telecommunications industry. These interviews helped identify and adjust observed variables, if necessary, to align them with the specific research context. As a result, most of the observed variables associated with each research concept have been tailored to fit the contextual requirements. The most considerable adjustment was made within the IC and SCA concept (see Appendix A and B).

3.2. Data collection and sample

The snowball sampling method was employed for data collection, primarily because of the characteristics of the telecommunications industry, where it is difficult to obtain a comprehensive sampling frame of firms (Ellard-Gray et al., 2015). Snowball sampling proved feasible and effective for reaching hard-to-access corporate managers. Access was facilitated by professional networks, which commenced multiple entry points for referral chains, thereby reducing single-network bias and strengthening response reliability. The survey sample comprises 202 firms operating in the telecommunications industry of Vietnam, including those involved in infrastructure, products, services, materials, equipment manufacturing and trading. The sample represents both state-owned and private enterprises and was collected using the snowball sampling method. Besides, to mitigate the potential selection bias and elite bias often associated with this method, the study implemented rigorous diversity control measures regarding respondent profiles and firm characteristics. First, regarding network diversity, the referral chains were initiated from multiple independent seeds to ensure the sample covered various sub-sectors. Crucially, to avoid a purely top-down strategic bias, the respondent criteria were not limited to C-suite executives. The sample encompasses a spectrum of managerial levels, ranging from Deputy Heads of Departments to General Directors. This stratification ensures a balanced perspective, integrating insights from high-level leaders responsible for strategic planning with those of functional managers (e.g., Deputy Heads) who are directly involved in operational execution. Second, to ensure the representativeness of the sample across different scales, specific screening criteria were applied. Participating firms were required to have been in operation for at least three years and possess an annual revenue exceeding 3 billion VND. This threshold ensures that the selected firms are established businesses with sufficient organizational complexity and resources to exhibit observable dynamic capabilities, rather than transient or micro-enterprises. These steps collectively strengthened the methodological rigor, ensuring that the collected data reflects a diverse and realistic cross-section of the industry.

After sending the survey questionnaires directly to the participating businesses, the researcher-initiated telephone communication with the surveyed subjects to seek their permission and

assistance in responding to the survey questions. The researcher diligently monitored and tallied the number of surveys returned on a weekly basis. The researcher also relies on the content of the returned questionnaires to continue to contact and remind respondents to respond. With the careful application of the snowball sampling method for data collection, the survey questionnaires were directed to the appropriate target audience, resulting in a complete and satisfactory response rate. Therefore, all 202 observations were retained for analysis following the screening process.

The following is a detailed description of the collected sample:

(1) Business sectors: The total proportion of firms operating in the following sectors: telecommunications products/services, infrastructure services, and materials, equipment, telecommunications equipment manufacturing and trading is 58.9%. Additionally, 19.8% of firms surveyed focus on two business sectors, a smaller but significant portion (18.8%) is active in three or more sectors.

(2) Years in operation: 100% of the surveyed firms have been in operation for at least 3 to 5 years. Of these, 22.7% of firms have been in operation for over 3 years, 61.1% of firms have been in operation for 5 to 15 years, 14.1% of firms have been in operation for 15 to 20 years, and 2% of firms have been in operation for over 20 years.

(3) Characteristics of respondents: 100% of respondents hold positions from deputy head of department and above, with an educational level of university or 70% of respondents are at the level of department head/deputy, while 30% are at a higher level (general director, deputy general director, director, deputy director). Of these, 83.3% have been working in the industry for 6 to 20 years or more, 9.6% have been working in the industry for over 20 years, and the remaining 7.1% have been working in the industry for 1 to 5 years.

(4) Annual revenue. 100% of the surveyed firms possess an annual revenue exceeding 3 billion VND. Specifically, the segment of 3-10 billion VND accounts for 33.7% of the sample, while the 10-100 billion VND bracket constitutes 46.7%. Large firms with revenue surpassing 100 billion VND are 19.6%.

3.3. Data analysis technique

This study utilized a cross-sectional design, which can potentially lead to covariance among variables and pose challenges of common method bias (CMB) for data interpretation (Cooper et al., 2020). The study applied procedural controls (clear instructions, confidentiality assurances, a concise mixed-wording questionnaire) and conducted statistical tests post-collection. Harman's single-factor test showed that the first factor did not exceed the 50% threshold, confirming no CMB in the research model.

This study employs partial least squares structural equation modeling (PLS-SEM), with data analysis conducted using the support software SmartPLS. The PLS-SEM technique was utilized to examine how constructs are related and to determine their ability to predict endogenous variables.

4. RESULTS

4.1. Assessment of measurement model

Table 1 confirms the high reliability of the scale, as all latent variables exhibit Outer loading and Cronbach's α values exceeding 0.708 and 0.700 respectively (Hair et al., 2020), signifying that the observed variables in the model align consistently with their corresponding concepts, with no inappropriate observed variables. Convergent validity is established when the Average Variance Extracted (AVE) indices surpass 0.5 (Hair et al., 2020).

Table 1: Convergent validity and reliability

Construct	Loading range	α	CR	AVE
Market orientation (MO)**				
Intelligence generation (MO_IG)*	0.819 - 0.864	0.797	0.876	0.701
Intelligence dissemination (MO_ID)*	0.780 - 0.892	0.818	0.882	0.715
Responsiveness (MO_REL)*	0.861 - 0.905	0.720	0.876	0.780
Innovation capability (IC)	0.746 - 0.809	0.796	0.866	0.619
Sustainable competitive advantage (SCA)**				
Differentiation based (SCA_DIF)*	0.862 - 0.920	0.863	0.916	0.785
Innovation differentiation (SCA_INNO)*	0.952 - 0.956	0.901	0.953	0.910
Firm performance (FPER)	0.837 - 0.862	0.828	0.897	0.745
Notes: α - Cronbach's Alpha; CR - Composite Reliability; AVE - Average Variance Extracted; * - 1 st order construct; ** - 2 nd order construct				

Source: Authors' own work

Table 2: Heterotrait-Monotrait Ratio (HTMT)

	FPER	IC	MO_ID	MO_IG	MO_REL	SCA_DIF	SCA_INNO
IC	0.775						
MO_ID	0.603	0.752					
MO_IG	0.619	0.792	0.692				
MO_REL	0.841	0.789	0.728	0.770			
SCA_DIF	0.814	0.873	0.669	0.777	0.865		
SCA_INNO	0.668	0.847	0.868	0.688	0.809	0.726	

Source: Authors' own work

For discriminant validity establishment (**Table 2**), this study employs the Heterotrait-Monotrait ratio (HTMT). Initial analysis identified some high correlations. We based upon the cross loadings results to remove one problematic indicator, i.e., MO_REL2. The refined measurement model showed improved HTMT ratios, with values ranging from 0.603 to 0.873. Although there were some correlations higher than 0.850, they were still considered acceptable under the 0.900 threshold (Henseler et al., 2015).

4.2. Structural model assessment

Table 3: R^2 and R^2 adjusted of endogenous constructs

	R^2	Adjusted R^2
Innovation capability (IC)	0.537	0.535
Sustainable competitive advantage (SCA)	0.781	0.779
Firm performance (FPER)	0.524	0.517

Source: Authors' own work

The results from the structural model reveal that VIF values for all latent variables range from 1.000 to $4.566 \leq 5$, suggesting the absence of collinearity (Hair et al., 2020). Besides, in this research, Adjusted R^2 ranges from 0 to 1, with higher values indicating a stronger explanatory power. The model demonstrates a high level of explanation, with Adjusted R^2 values of 0.535 for innovation capability, 0.779 for sustainable competitive advantage (SCA), and 0.517 for firm performance (FPER) surpassing the reference threshold of 0.26. Therefore, the model exhibits a high explanatory capability.

Table 4: Test of research hypotheses

Hypothesis	Path coefficient	f^2	p-value	Result
H1: MO $\rightarrow$ IC	0.773	1.160	0.000	H1: Accepted
H2: MO $\rightarrow$ PER	0.174	0.018	0.083	H2: Rejected
H3: IC $\rightarrow$ PER	0.170	0.021	0.065	H3: Rejected
H4a: MO $\rightarrow$ SCA $\rightarrow$ FPER	0.237		0.001	H4a: Accepted
H4b: IC $\rightarrow$ SCA $\rightarrow$ FPER	0.165		0.000	H4b: Accepted

Source: Authors' own work

The test results (**Table 4**) indicate that H1 is supported with p-values < 0.05 and f^2 values of 1.160, signifying a substantial impact level between MO and IC, confirming that market orientation is a critical input for innovation. However, hypothesis H2 and H3 are rejected due to a p-value > 0.05 , indicating that MO and IC do not have a direct relationship with FPER. Economically, this finding implies that in the capital-intensive telecommunications sector, direct investments in MO and IC appear as overheads in the short run. Concerning the mediating relationship, the model suggests that SCA plays a positively full mediating role between MO, IC, and firm performance (H4a, H4b). The results confirm the validity of these hypotheses with p-values < 0.05 . This highlights the value conversion mechanism: dynamic capabilities (MO, IC) act as strategic costs that only generate FPER when they successfully create a barrier to entry or a SCA that competitors cannot easily mimic.

5. DISCUSSION

The study reveals a robust influence of MO on the IC within the telecommunications sector (**H1**). The finding, consistent with earlier research by Ngo & O'Cass (2012), emphasizes the pivotal role of MO in promoting business innovation. In essence, MO is geared towards continuous innovation, facilitating the creation of products and services of exceptional value (Akman & Yilmaz, 2008). Consequently, it stimulates innovation activities across all facets of business operations from administration and operations to production and business processes. As a result, firms that adopt a market-oriented approach and possess effective tools for intelligence generation, intelligence dissemination, and responsiveness are poised to drive dynamic innovation activities in marketing, research and development, management, and production processes. These initiatives, in turn, demonstrate a novel and effective IC that propels firms towards achieving their strategic objectives.

Next, the study indicates that MO and IC do not directly influence firm performance (**H2, H3**), which differs from previous findings (Al-kalouti et al., 2020; Rajapathirana & Hui, 2018; Sett, 2018). In the Vietnamese telecommunications sector, investments in market intelligence and innovation are subject to significant time-lag effects before they can translate into observable firm performance. The development and deployment of new network infrastructure, digital services, or innovation-based products typically necessitate long-term strategic planning, complex regulatory approvals, and substantial capital investment (Foray et al., 2025; Ministry of Information and Communication, 2024). Consequently, these capabilities often fail to bear immediate returns in the short term, highlighting the necessity of SCA as a mechanism to capture and sustain value over time (**H4a, H4b**). Hence, our finding confirms the perspective about the full mediating role of SCA which has been proposed in systematic review research (Baía & Ferreira, 2024). In other words, while DCs are essential, they alone cannot directly produce superior performance. As explained, market orientation enhances a telecommunication firm's ability to develop and leverage unique, valuable, and hard-to-imitate resources and capabilities (grounded in RBV, enabled by dynamic capabilities), which in turn solidify its sustainable competitive advantage. This sustained advantage then directly translates into superior firm performance. For instance, a highly market-oriented telecommunication firm can identify a burgeoning demand for IoT-enabled smart home solutions before competitors. Its market orientation enables it to rapidly develop and launch such services, leveraging its internal coordination. This first-mover advantage and tailored offering constitute a sustainable competitive advantage. This advantage then allows the firm to capture a significant

market share in this new segment, generate higher revenues, and build stronger brand loyalty, directly impacting its profitability and growth.

In addition, when a telecommunication firm successfully leverages its innovation capability, it creates new products, services, or operational processes that possess VRIN attributes from an RBV standpoint (Barney, 1991). For instance, a proprietary network optimization algorithm developed through innovation, a first-to-market cloud communication platform, or a highly effective customer engagement model can become a rare and valuable internal resource. Their complexity, tacitness, and embeddedness within the firm's routines make them difficult for competitors to imitate quickly (Barney, 1991). Therefore, innovation capability, acting as a dynamic capability, actively builds, renews, and reconfigures the very resources and capabilities that underpin a firm's potential for competitive advantage. Once these VRIN resources and capabilities are successfully generated through innovation, they form the bedrock for achieving and maintaining sustainable competitive advantage. This advantage allows telecommunication firms to differentiate their offerings, achieve superior cost structures, or secure unique market niches (Porter, 1985). For example, a telecommunication firm that innovates a highly reliable and extensive fiber optic network across rural areas or develops a uniquely user-friendly digital ecosystem gains a competitive edge that is difficult for rivals to erode immediately. This sustainable advantage enables the firm to attract and retain a larger customer base, command better pricing, achieve higher market share, and operate with greater efficiency, all of which directly translate into superior financial and non-financial performance (Hoang & Bui, 2021). Without this crucial intervening step of establishing a sustainable competitive advantage, even substantial investments in innovation might lead to only transient gains, as competitors could quickly imitate the innovations, eroding potential profits and market position. Thus, while innovation capability is the engine, it is the sustainable competitive advantage derived from that innovation that directly drives improved firm performance.

This indicates a more intricate relationship than originally described in the literature, since their impact seems to operate through the evolution and enhancement of operational capabilities. From this perspective, dynamic capabilities like MO and IC, when combined, collaborate to transform and generate creative, differentiated values that are difficult for competitors to imitate or replicate. This process culminates in the creation of SCA, where a firm implements a strategy that current or potential competitors cannot match or imitate at that time (Barney, 2015). As a result, the firms achieve their strategic objectives regarding revenue, profit, and market share. The result confirms the role of SCA in promoting superior firm performance through both tangible and intangible resources (Khan et al., 2019) across business sectors, including service innovations like telecommunications (Alkhatib & Valeri, 2024).

6. CONCLUSION

6.1. Theoretical implications

Following the perspective that few studies have examined the interrelationships among different dynamic capabilities and the mediating mechanisms that sustain competitive advantage and drive firm performance (Eriksson, 2014; Wang & Ahmed, 2007), this study makes three key theoretical contributions to the dynamic capabilities and telecommunications management literatures. First,

this study advances DCT by empirically validating the sequential causal mechanism of capabilities, challenging the conventional view that treats MO and IC as isolated, parallel drivers of performance. Our findings demonstrate a capability hierarchy where MO acts as the antecedent capability that fuels IC. This implies that for emerging market firms, innovation is not a standalone activity but a structured outcome of market orientation. Moreover, this research clarifies that the path to performance is not a simultaneous deployment of resources, but a step-by-step value chain: firms must first understand the market (MO) to innovate effectively (IC), and then convert that innovation into a defensible advantage (SCA). Second, the study also explores the full mediation of dynamic capabilities, with SCA as a “mediator” in promoting firm performance. Specifically, MO and IC influence performance indirectly via SCA, providing empirical support for the proposition that dynamic capabilities operate through intermediate, value-creating assets rather than necessarily producing immediate performance gains (Scheuer & Thaler, 2023). Third, this study advances the theoretical understanding of competitive advantage by proposing and validating a binary SCA model. Unlike Porter’s (1985, 1989) traditional framework, which often treats cost leadership and differentiation as distinct, mutually exclusive strategic positions, our findings suggest that in the high-velocity telecommunications sector, these boundaries are blurred. The binary SCA integrates innovation differentiation (technological superiority) and differentiation-based advantage (customer-centric relevance) as a unified construct. This extends previous views by demonstrating that for emerging market firms, innovation is not only a support activity but a decisive condition for differentiation. Without the hard power of technological innovation, the soft power of customer differentiation lacks sustainability in the digital era. Collectively, the study thus opens avenues for future research to investigate boundary conditions (e.g., institutional context, firm ownership) and interactive effects that shape when and how capabilities are converted into sustainable market advantage.

6.2. Practical implications

First, MO emerges as a significant factor for enhancing IC within the emerging telecommunications sector. For leading firms, adopting a strong MO necessitates a strategic shift from a predominantly domestic focus towards proactive international market expansion through strategic investments and collaborations. Furthermore, leading telecommunications firms with strong internal capabilities should strategically invest in enhancing their innovation capability through robust R&D initiatives. Such efforts should prioritize high value-added segments, particularly within the digital infrastructure domain. In recent years, some firms have shifted away from traditional product manufacturing to focus on digital infrastructure-related business areas, such as digital media services and digital solutions, while also developing supplementary technological products and equipment like conversion devices and eco-friendly materials. Simultaneously, the other firms within the telecommunications ecosystem, ranging from infrastructure to product and service provision, should cultivate market-responsive resources. At the moment, most firms in this group concentrate only on a single product for the domestic market. Exports, if any, are currently carried out through overseas investment projects of leading firms or through partial subcontracting. These firms have yet to demonstrate a proactive approach to exploring or penetrating international markets. Thus, the proposed solution is to establish a deliberate orientation toward diversifying product lines to better serve domestic demand, while simultaneously building internationally recognized brands, and enhancing production capability and product quality through improved processes and R&D.

Second, regarding the full mediator role of SCA. Within the interconnected landscape of the Vietnamese telecommunications market, where numerous firms operate across a value chain spanning infrastructure to service delivery, the developmental trajectory and strategic orientation of leading corporations shapes opportunities for the broader ecosystem. This inherent structure allows SCA to function as a crucial intermediary, enabling enterprises to capitalize on internal innovation in processes and management to achieve differentiation in branding and production, ultimately leading to positive business outcomes. However, a significant vulnerability lies in the sector's substantial reliance on imported raw materials and equipment, exposing it to risks such as global supply chain disruptions, as evidenced by the COVID-19 pandemic, and price volatility stemming from supply constraints or market manipulation. To address these challenges and sustain SCA, it advocates for the development of tightly integrated inter-firm business networks, creating robust domestic value chains from input to output. Specifically, instead of relying on broad market orientation, leading enterprises should operationalize the binary SCA model by shifting from price-based competition to ecosystem-based value creation. For instance, firms should use customer intelligence to bundle connectivity with digital content and IoT solutions, thereby creating high switching costs for competitors. Moreover, regarding the integration of local value chains. Firms in the ecosystem should move away from purely trading imported equipment to becoming certified original equipment manufacturers (OEM) for critical components like fiber optic cables or signal converters. Operational measures include adopting international quality standards to meet the procurement requirements of global vendors. This approach, following value chain theory (Kaplinsky et al., 2002), aims to establish significant entry barriers for external competitors and reduce the leverage of foreign suppliers, thereby strengthening the negotiating position of domestic enterprises in securing essential resources, including even digital services.

Third, proactive government support is essential for promoting the growth of domestic telecommunications, which supports industries and attracts targeted foreign direct investment. Recognizing the existing moderate level of SCA and the proactive investment in new capabilities by domestic firms, this intervention enhances self-sufficiency in critical materials and equipment for both physical and digital infrastructure deployment. These strategic efforts directly align with the United Nations' Sustainable Development Goal 9 by promoting resilient infrastructure and innovation-driven industrialization.

6.3. Limitations and future research directions

Overall, this study contributes to the stream of empirical research on dynamic capabilities and firm performance, focusing on the unique context of an emerging economy like Vietnam. Nevertheless, the research has certain limitations that open avenues for future directions. First, regarding sampling, the use of snowball sampling and the cross-sectional design may limit causal inference and generalizability. Future research should employ longitudinal designs to capture the capability maturation process. Since dynamic capabilities often exhibit a time-lag effect before influencing performance, longitudinal data would allow researchers to track how MO and IC evolve and strictly test the causal sequence proposed in this study. Second, the study focuses on the Vietnamese telecommunications sector. To extend the theoretical boundary conditions, scholars should conduct comparative studies across different contexts specifically comparing emerging versus developed markets (e.g., Vietnam vs. South Korea or Japan). Such comparisons would clarify whether the full mediating role of SCA is a universal phenomenon or specific to resource-constrained emerging

economies. Third, given the significant role of the government in the telecommunications industry, future models should incorporate institutional moderators, such as state ownership or regulatory intensity. Analyzing how these institutional factors interact with dynamic capabilities would provide a more granular understanding of how firms navigate the institutional voids typical of emerging markets to sustain their competitive advantage.

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APPENDIX

Appendix A. Summary of informants in the study

No.	Firm industry	Name	Title	Operation years
1	Network infrastructure development and leasing - infrastructure services - materials, equipment, telecommunications equipment manufacturing and trading - telecommunications products and services.	Ms. A	Deputy General Director	17
2	Network infrastructure development and leasing with materials, equipment, telecommunications equipment manufacturing and trading	Mr. B	General Director	16
3	Materials, equipment, telecommunications equipment manufacturing and trading with telecommunications products and services	Mr. C	Director	15
4	Network infrastructure development and leasing - infrastructure services - materials, equipment, telecommunications equipment manufacturing and trading - telecommunications products and services.	Mr. D	Head of Transmission	16
5	Network infrastructure development and leasing with telecommunications products and services	Mr. E	Deputy Director	27
6	Network infrastructure development and leasing - infrastructure services - materials, equipment, telecommunications equipment manufacturing and trading - telecommunications products and services.	Mr. F	Deputy General Director	30

Appendix B. Measurement scale

Coding	Items (Original)	Items (Adjusted)
Market orientation (MO) (<i>adapted from Ngo & O'Cass (2012); 7-point scale 1 = "strongly disagree" and 7 = "strongly agree"</i>)		
MO_IG	Intelligence generation	
1	Firms create customer databases to gather information such as feedback on product and service provision; product and service distribution; customer needs and customer preferences.	The same
2	Firms create competitor databases to gather information such as products and services, pricing, advertising and promotional programs, as well as the strategic plans of competitors.	The same
3	Firms create supplier databases to gather information such as manufacturing processes, industry practices, and supplier groups.	The same
MO_ID	Intelligence dissemination	
1	Customer information (feedback on product and service provision; product and service distribution; customer needs and customer preferences) is disseminated throughout the organization using communication channels such as documents and cross-departmental meetings.	The same
2	Competitor information (products and services, pricing, advertising and promotional programs, and strategic plans) is disseminated throughout the organization using communication channels such as documents and cross-departmental meetings.	The same
3	Supplier information (manufacturing processes, industry practices, and supplier group) is disseminated throughout the organization using communication channels such as documents and cross-departmental meetings.	The same
MO_REL	Responsiveness	
1	Firms promptly respond to customer information they collect and regularly update	The same
2	Firms promptly respond to competitor information they collect and regularly update	The same
3	Firms promptly respond to supplier information they collect and regularly update	The same
IC	Innovation capability (IC) (<i>adapted from Ngo & O'Cass (2012); 7-point scale 1 = "much worse than competitors" and 7 = "much better than competitors"</i>)	
1	Innovations in marketing strategies (products, services, distribution, prices, and marketing programs)	The same
2	Introduction of new products and services	The same

Coding	Items (Original)	Items (Adjusted)
3	Innovations in production process	The same
4	Innovations in governance and management practices	The same
5	<i>Exploring new markets</i>	<i>Eliminated because focusing on exploring new markets does not assess a firm's innovation capability</i>
Sustainable competitive advantage (SCA) (<i>adapted from Su et al. (2017) and Zhou et al. (2009); 7-point scale 1 = "strongly disagree" and 7 = "strongly agree"</i>)		
SCA_DIF	Differentiation based	
1	Firms' products deliver superior benefits to customers as compared to those offered by competitors.	The same
2	Firms establish prominent brands that are challenging to replicate.	The same
3	Firms achieve successful differentiation through effective advertising and promotional campaigns.	The same
4	<i>Firms' products were unique and nobody but our firm could offer them</i>	<i>Eliminated because firms in the industry are capable of providing the same products and services.</i>
SCA_INNO	Innovation differentiation	
1	Firms consistently invest in exploring and developing new capabilities in manufacturing and production.	The same
2	Firms consistently invest in exploring and developing new approaches to deliver products and services to their customers.	The same
FPER	Firm performance (<i>adapted from Ngo & O'Cass (2013); 7-point scale 1 = "much worse than competitors" and 7 = "much better than competitors"</i>)	
1	Achieve desired profit level	The same
2	Achieve desired revenue growth	The same
3	Achieve desired market share	The same