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Understanding competitiveness in fintech: Examining the effects of innovativeness and competitive intensity

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Abstract

This research explores how innovativeness and competitive intensity impact the competitiveness of fintech startups in Indonesia, with special attention to the moderating effect of competitive intensity. Grounded in the Resource-Based View (RBV) and Dynamic Capabilities Theory, the study seeks to examine how internal strategic capabilities and external competitive forces interact to influence firm competitiveness within the dynamic fintech landscape. Based on a survey of 144 fintech companies in Indonesia and analyzed using Partial Least Squares Structural Equation Modeling, the results confirm that innovativeness and competitive intensity are both significant predictors of firm competitiveness. Nevertheless, the analysis revealed that competitive intensity does not significantly moderate the relationship between innovativeness and competitiveness. This outcome implies that the positive effect of innovativeness on firm competitiveness persists irrespective of the degree of external market competition. The study enriches existing literature by offering empirical insights from the emerging fintech sector in Indonesia and underscores the enduring strategic value of innovation in maintaining competitiveness. Practical implications for fintech leaders and directions for future scholarly inquiry are also presented.

Keywords: Competitiveness, Fintech startups, Innovativeness, Competitive intensity, Dynamic capabilities

1. Introduction

The emergence of fintech startups has transformed the global financial services industry (Brandl & Hornuf, 2020). Leveraging digital innovation, these firms offer agile, customer-centric solutions that challenge the dominance of traditional banking institutions. In emerging economies, fintech startups are not only enhancing financial inclusion but also reshaping how individuals and businesses manage money, access credit, and invest (Alt et al., 2018). As the fintech ecosystem continues to evolve rapidly, understanding the strategic drivers of competitiveness has become a central concern for both practitioners and scholars.

Among the key factors influencing firm competitiveness, innovativeness has consistently been highlighted as a crucial internal capability (Carvalho Proença, 2024). In dynamic sectors like fintech, the ability to generate and apply novel ideas is essential to deliver cutting-edge services, improve operational efficiency, and respond to changing consumer needs. Innovativeness is widely recognized as a dimension of entrepreneurial orientation that can drive firm growth, adaptability, and long-term success (Markova, 2025; Shan et al., 2016).

In parallel, competitive intensity—the degree of rivalry among existing firms—represents an important external force shaping strategic behavior (Chen et al., 2017). In highly contested fintech markets, where new entrants emerge frequently and technology adoption is rapid, firms are compelled to respond aggressively to market threats (Anand & Mantrala, 2019). While some literature suggests that high competition may erode profitability, other perspectives argue that it may also foster innovation, differentiation, and ultimately greater competitiveness (Omarova, (2020); Hutzschenreuter et al., (2021); Azeem et al., (2021); and Trivedi and Srivastava (2022).

Despite the relevance of these constructs, there remains a limited understanding of how innovativeness and competitive intensity jointly affect the competitiveness of fintech startups (Tang et al., 2023), particularly in developing economies. While previous studies have investigated similar relationships in manufacturing or large corporate

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settings, few have focused on early-stage or tech-driven financial firms using empirical modeling approaches.

To bridge this gap, the present study investigates the impact of innovativeness and competitive intensity on the competitiveness of fintech startups, drawing on data gathered from fintech firms, the analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM). This study specifically seeks to assess the direct influence of innovativeness on competitiveness, as well as examine the direct impact of competitive intensity on competitiveness.

This study enriches the existing literature by providing empirical insights from a rapidly growing, innovation-centric sector, while also extending theoretical understanding through the application of the Resource-Based View (RBV) and Dynamic Capabilities Theory in the fintech context. The findings offer practical guidance for fintech entrepreneurs and policymakers seeking to enhance the strategic positioning of digital financial service providers in competitive markets.

2. Literature Review

Rooted in the (Resource-Based View) RBV and Dynamic Capabilities Theory, this research explores how internal strengths and external pressures affect competitiveness in fast-changing environments such as fintech.

Barney's (1991) Resource-Based View asserts that firms gain a competitive edge when they hold resources characterized by value, rarity, inimitability, and non-substitutability (VRIN). Innovativeness, as a form of organizational capability, aligns with these VRIN characteristics (Satar et al., 2025). In fintech startups, the ability to create, adopt, and deploy innovative technologies and solutions is essential for differentiation and sustaining competitiveness.

Meanwhile, the Dynamic Capabilities Theory (Teece et al., 1997) enhances the RBV by stressing the importance of a firm’s capability to assemble, renew, and adjust its internal and external strengths to stay competitive in turbulent markets. The ability to innovate and respond to competitive pressures serves as a dynamic capability that allows fintech startups to remain agile amid evolving customer needs, policy updates, and emerging technologies (David et al., 2024).

Together, these theories support the conceptual model that positions innovativeness (internal capability) and competitive intensity (external pressure) as key determinants of competitiveness.

2.1 Hypotheses development

Focusing on fintech startups, this study analyzes how innovativeness and competitive intensity relate to firm competitiveness. Drawing upon previous research and theoretical insights from RBV and Dynamic Capabilities Theory, it introduces three central hypotheses.

2.1.1 Innovativeness and competitiveness

A firm's innovativeness involves its commitment to experimentation, originality, and the pursuit of novel concepts that may translate into innovative products, services, or procedures (Ayinaddis, (2023); Klein et al., (2021). In the dynamic fintech environment, innovativeness plays a vital role in sustaining competitiveness by allowing firms to adapt their products and services to meet evolving customer needs and technological advancements (Al-Omoush & Alsmadi, 2024).

The RBV considers innovativeness a key internal asset that can drive long-term competitive advantage if it is valuable, unique, and difficult to copy (Barney, 1991). Teece et al. (1997) further emphasizes that innovative firms are more capable of adjusting to change and leveraging new opportunities on Dynamic Capabilities Theory.

Previous empirical findings indicate that firms with higher levels of innovativeness tend to achieve stronger performance and enhanced competitiveness. As evidenced by Ferreira et al. (2021), innovativeness was shown to strongly influence a firm’s ability to generate breakthrough innovations and gain competitive advantage in volatile market conditions. Similarly, Maijamaa et al. (2023), reported that innovativeness among fintech startups was positively associated with firm growth, particularly in emerging economies where technology-driven disruption is still maturing.

Empirical studies also support this relationship. For

example, Amin et al. (2020) found that fintech firms that prioritized innovation outperformed their peers in terms of user acquisition and market relevance. Similarly, Zhou et al. (2005) showed that innovativeness enhances a firm's ability to offer unique value propositions, contributing to superior competitiveness.

Based on the above, it is hypothesized that innovativeness plays a crucial and measurable role in enhancing the competitiveness of fintech companies.

H1: Innovativeness has a significant positive effect on competitiveness in fintech startups.

2.1.2 Competitive intensity and competitiveness

The concept of competitive intensity captures the level of competition in a market, including how many firms operate within it, how saturated the market is, and how often companies engage in competitive tactics such as lowering prices or improving services (Crick et al., 2024; Dagnino et al., 2021). In fintech, competition is fueled by low entry barriers, global scalability of digital platforms, and rapid customer migration driven by convenience and cost-efficiency.

The impact of competitive intensity on competitiveness is complex. On one hand, intense competition may reduce margins and make survival more difficult (Afin et al., 2025). On the other hand, several studies suggest that competitive pressure can spur firms to innovate, increase efficiency, and improve customer responsiveness, thereby enhancing their competitive position (Medhi & Allamraju, 2022; Panichakarn et al., 2024; Tetteh et al., 2025).

In the fintech industry, Feng et al. (2021) observed that competitive intensity triggered agile responses and increased service innovation, leading to superior customer outcomes and brand competitiveness. In fintech, low entry barriers, technological diffusion, and rapid product development cycles have intensified competition, especially in emerging markets (Le & Ikram, 2022). Likewise, Leong et al. (2017) argued that competition forces fintech firms to refine their business models continuously, making them more adaptive and resilient.

While intense competition may threaten profitability, it can also stimulate strategic innovation and efficiency. Under Dynamic Capabilities Theory, firms under competitive pressure may develop adaptive behaviors and processes that enhance responsiveness and performance. Thus, competitive intensity can act as an external driver that indirectly motivates internal improvements, including product innovation, process reengineering, and customer engagement.

Boukis et al. (2020) and Leong et al. (2017) found that fintech firms operating in highly competitive markets often achieve higher levels of innovation and strategic agility, which in turn strengthens their market position. This suggests that competitive intensity, rather than being purely a threat, can serve as a motivator for firms to upgrade their capabilities and competitiveness.

Accordingly, we posit that competitive intensity has a direct and positive relationship with fintech startup competitiveness.

H2: Competitive intensity has a significant positive effect on competitiveness in fintech startups.

2.1.3 Moderating role of competitive intensity

While innovativeness is crucial for firm competitiveness, its effectiveness may depend on the level of external competitive pressure (Aliasghar et al., 2022). In highly competitive markets, innovative actions may yield stronger results as firms must move faster, differentiate more clearly, and respond aggressively to market signals. Conversely, in low-competition environments, innovation may not be as urgently needed or rewarded, potentially reducing its impact on competitiveness (Wang & Wang, 2024).

From a contingency perspective, the external environment—particularly competitive intensity—acts as a contextual factor that shapes the strength of internal resource-performance relationships (Pertusa-Ortega et al., 2010). This is also aligned with the structure-conduct-performance paradigm (Bourai et al., 2024), where industry dynamics affect the strategic behavior and outcomes of firms.

Empirical support for this moderation comes from studies like Zhang and Jedin (2023), who showed that external dynamism and pressure magnify the

positive effects of internal capabilities. Likewise, Jin et al. (2022), found that market turbulence increased the returns from product innovation on firm outcomes.

H3: Competitive intensity moderates the relationship between innovativeness and competitiveness.

2.2 Summary of empirical gaps and contribution

While previous studies have examined innovativeness and competitiveness in various industries, and some have explored the effects of competitive intensity on firm behavior, limited research investigates both constructs simultaneously in the fintech startup context, particularly in developing economies. Moreover, few studies employ PLS-SEM to test the structural relationships using primary data from fintech founders or managers.

By adopting the Resource-Based View and Dynamic Capabilities Theory, this study offers valuable insights into firm behavior in an industry marked by constant change; exploring how internal innovativeness and external competition jointly affect competitiveness; providing empirical evidence from an under-researched context using robust quantitative modeling.

2.3. Conceptual framework

In line with the aforementioned hypotheses, the conceptual framework illustrated below is proposed:

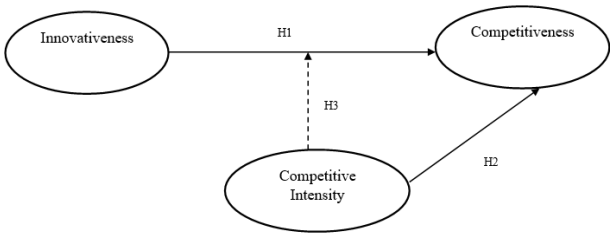

Figure 1. Presents the conceptual framework and hypotheses of the study
Source: Developed by the authors, 2025

3. Methodology

A quantitative research design was utilized to assess the effects of innovativeness and competitive intensity on fintech startup competitiveness, using cross-sectional survey data.

This study focuses on fintech companies operating in Indonesia's digital financial services sector. Founders, executives, and managers involved in strategy and innovation were selected through purposive sampling, yielding 144 valid responses for analysis. A structured questionnaire was used to gather data, distributed via online and offline methods. All latent variables were measured using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

As measurement of variables, Innovativeness (Ilieva et al., 2025) measured using adapted items from Domi et al. (2019); Yang and Tsai (2019); Shashi et al. (2019); and Anees-ur-Rehman et al. (2018), capturing the firm's orientation toward new ideas, products, and creative processes.; Competitive Intensity: Items were adapted from Charoensukmongkol and Lamsam (2022); Anning-Dorson and Nyamekye (2020); Feng et al. (2019); and Jaworski and Kohli (1993), measuring the extent of perceived competition and rivalry in the fintech sector.; Competitiveness: Indicators reflect market performance, customer retention, differentiation capability, and overall strategic positioning, adapted from Atuahene-Gima et al. (2005); Narver et al., (2000); and Deshpandé and Farley (1998). Each construct is treated as reflective and consists of 3 to 5 indicators.

Partial Least Squares Structural Equation Modeling (PLS-SEM) was conducted using SmartPLS version 4.0, selected for its ability to accommodate complex models, small-to-medium samples, and non-normal data. The analysis was performed using a two-step procedure:

1. Measurement Model Assessment: Validity and reliability are evaluated using indicator loadings, composite reliability (CR), average variance extracted (AVE), and discriminant validity via the heterotrait-monotrait ratio (HTMT).
2. Structural Model Assessment: Path coefficients, R^2 values, effect size (f^2), and predictive relevance (Q^2) are evaluated.If moderation is tested, an interaction term is created using the product indicator approach.

To minimize common method bias, several

procedural remedies were applied, including question randomization and clear construct separation. The full collinearity VIF was also checked to assess potential bias in the structural model.

4. Results and Discussion

To evaluate the proposed model, Partial Least Squares Structural Equation Modeling (PLS-SEM) was conducted using SmartPLS 4. In the model, innovativeness and competitive intensity were treated as exogenous variables, while competitiveness served as the endogenous construct. Additionally, competitive intensity was examined as a moderating variable in the relationship between innovativeness and competitiveness.

4.1 Results

4.1.1 Measurement model evaluation

The following table 1 shows the measurement model was assessed for reliability and validity.

Table 1. Measurement model evaluation

Variable	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Competitive Intensity	0.788	0.856	0.855	0.596
Competitiveness	0.861	0.863	0.906	0.707
Innovativeness	0.923	0.927	0.936	0.619

Source: Elaborated by Author, 2025

All constructs showed strong internal consistency reliability, with Cronbach's alpha and composite reliability values above the 0.70 threshold. Convergent validity was confirmed, as all Average Variance Extracted (AVE) values exceeded 0.50, and all indicator loadings were above 0.70.

Discriminant validity was established using the Fornell-Larcker criterion and HTMT ratio, both of which indicated adequate separation among constructs, which was confirmed via all HTMT ratios < 0.85.

4.1.2 Structural model evaluation

Bootstrapping with 5,000 subsamples was used to test the significance of path coefficients. The results are presented in Table 2.

Table 2. Path coefficients and significance

Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
Competitive Intensity → Competitiveness	0.25	0.251	0.078	3.21	0.001	Supported
Innovativeness → Competitiveness	0.609	0.615	0.067	9.09	0.000	Supported
Innovativeness × Competitive Intensity → Competitiveness	-0.092	-0.084	0.062	1.476	0.14	Not Supported

Source: Elaborated by author, 2025

The R^2 value for Competitiveness was 0.59, indicating that the model explains 59% of the variance in the dependent variable. The model also demonstrated acceptable predictive relevance ($Q^2 > 0$).

4.2. Discussion

This study examined how innovativeness and competitive intensity affect competitiveness in fintech startups, including whether competitive intensity moderates the effect of innovativeness.

4.2.1 Main effects

The results demonstrate that innovativeness exerts a strong and statistically significant influence on competitiveness, thereby supporting H1. This finding is consistent with Ferreira et al. (2021) and Maijamaa et al. (2023), which emphasizing that fintech startups that prioritize innovation are more likely to gain market advantage, enhance customer satisfaction, and create differentiation in an increasingly digital financial landscape.

Similarly, competitive intensity also shows a significant positive impact on competitiveness, validating H2. This reinforces the notion that a rapidly evolving and competitive market compels fintech firms to consistently adapt, enhance service delivery, and sharpen their value offerings. It echoes prior findings by Leong et al. (2017) ; Le and Ikram, (2022); and Feng et al. (2021) that competition acts as a catalyst for agility and strategic growth.

4.2.2 Moderation effect

Contrary to expectations, the analysis revealed that the moderating role of competitive intensity in the relationship between innovativeness and competitiveness was not statistically significant, leading to the rejection of H3. This implies that while both innovativeness and competitive intensity individually influence competitiveness, the level of competitive intensity does not meaningfully affect how strongly innovativeness contributes to competitiveness.

This outcome may reflect the resilience of innovativeness as a driver of competitiveness, unaffected by fluctuations in competitive intensity. It could be that in the fintech sector—where innovation is a baseline expectation—its benefits are consistently realized, regardless of external pressure. Alternatively, the non-significant interaction may reflect contextual or industry-specific factors where customer demand, regulation, or technological change exert a greater influence than market rivalry.

4.2.3 Theoretical and practical implications

The study theoretically supports the Resource-Based View and Dynamic Capabilities Theory in explaining fintech competitiveness through innovation and market pressure. However, the absence of a moderating effect raises questions about which contextual conditions truly influence the strength of innovation's impact, calling for future research.

Practically, fintech leaders should note that fostering innovation is vital for competitiveness regardless of the current intensity of competition. Meanwhile, navigating competitive markets remains important, but does not necessarily change how much innovation contributes to success.

As managerial implications, several practical insights emerge from the study. First, fintech start-up should prioritize innovation regardless of competition. Fintech leaders should consistently invest in developing innovative capabilities. The findings suggest that innovation contributes significantly to competitiveness, even in less intense competitive environments. Innovation in product design, user experience, and backend technologies can serve as key differentiators.

Second, fintech start-up should embrace competitive intensity as a performance driver. Rather than viewing market rivalry as a threat, fintech firms should perceive it as a stimulus for growth. Firms operating in competitive environments tend to perform better, likely because competition forces strategic discipline, speed, and customer-centric innovation.

Third, fintech start-up should avoid overestimating the synergy between innovation and competition. Since the interaction between innovation and competitive intensity was not significant, managers should avoid assuming that innovation will necessarily be more impactful in competitive environments. Instead, innovation should be viewed as a core strategy in any market condition.

Last, fintech start-up should build resilience through capability development. The findings reinforce the importance of building dynamic capabilities that

allow firms to sense, seize, and reconfigure strategies in response to both internal and external changes.

5. Conclusions and Limitations

5.1. Conclusions

This study investigated the role of innovativeness and competitive intensity in driving competitiveness in fintech startups. The findings confirm that both innovativeness and competitive intensity are significant predictors of firm competitiveness. However, the hypothesized moderating effect of competitive intensity on the innovativeness–competitiveness relationship was not supported.

The findings demonstrate that although innovativeness and competitive intensity each play a role in shaping competitiveness, the influence of innovativeness does not fluctuate with competitive pressure. This insight advances the debate on whether the benefits of innovation are contingent or enduring, affirming its position as a pivotal asset for sustained competitiveness in the fintech domain.

5.2. Limitations and Future Research

While this study offers valuable insights, it is not without limitations, which in turn present opportunities for future research. First, the reliance on cross-sectional data restricts the ability to draw causal conclusions; thus, longitudinal studies are encouraged to observe how the relationships among innovativeness, competitive intensity, and competitiveness develop over time. Second, the study focuses exclusively on fintech startups in Indonesia, potentially limiting the generalizability of the findings to other sectors. Future research could extend the model to traditional financial institutions or other technology-intensive industries for broader applicability. Third, although the measurement scales were adapted from established literature, they may still be sensitive to contextual variations. Future studies could refine these constructs or incorporate additional indicators—such as customer satisfaction, market share, or operational agility—to capture a more comprehensive view of competitiveness and innovation. Furthermore, the non-significant moderation effect of competitive intensity suggests the need to explore alternative moderating or mediating variables, such as firm size, regulatory pressure, strategic agility, or digital maturity, to better understand the conditions under which innovativeness translates into competitiveness. Finally, integrating qualitative methods, such as case studies or in-depth interviews, could enrich the findings by providing deeper insights into how fintech firms perceive and strategically respond to innovation and market competition.

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