

Promoting the Development of Digital Platform Business Models in Emerging Economies: The Synergistic Effects of Infrastructure and Institutional Quality: Empirical Evidence from Vietnam

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Abstract

This study examines the impact of four groups of development policies on the development level of digital platform business models in Vietnam, including: market governance and regulatory policies (REG), business support and promotion policies (SUP), digital infrastructure and resource development policies (INF), and complementary policies (INS). The study employs quantitative analysis based on survey data collected from 600 digital platform enterprises operating in Vietnam and applies multiple regression (OLS) combined with subgroup analysis by sector and firm size. The results show that all four policy groups have positive and highly significant effects ($p < 0.001$) on digital platform development, with digital infrastructure policy (INF) exerting the strongest effect ($\beta = 0.351$). Of particular importance, the study identifies significant synergistic effects: the impact of business support policy is amplified in the presence of high-quality digital infrastructure ($INF \times SUP: \beta = 0.062, p < 0.001$) and under a clear regulatory framework ($REG \times SUP: \beta = 0.048, p < 0.01$). The model explains 42.3% of the variation in the level of digital platform development. Subgroup analysis indicates significant differences in policy needs across sectors and stages of enterprise development. This study makes an original contribution by identifying the synergistic effects between digital infrastructure and institutional quality in an emerging economy.

Keywords: Development policy; Digital infrastructure; Digital economy; Digital platforms; Institutions.

1. Introduction

The global digital economy boom has created an entirely new class of business models—digital platforms characterized by network effects, multisided markets, and the central role of data (Parker et al., 2016; Rochet & Tirole, 2003). Platforms such as Alibaba, Grab, and Shopee have demonstrated that, when nurtured within an appropriate policy environment, this business model can generate substantial economic value while restructuring the broader socio-economic ecosystem. In Vietnam, the digital economy is currently in a phase of rapid expansion. Under Resolution No. 52-NQ/TW (2019) and Decision No. 749/QĐ-TTg (2020), Vietnam aims for the digital economy to account for 20% of GDP by 2025 and 30% by 2030. Domestic digital platforms such as Zalo, MoMo, and Tiki have reached millions of users, while cross-border platforms such as Shopee, Grab, and Gojek are also highly active in the domestic market. However, despite this considerable potential, the development of digital platform business models in Vietnam still faces many barriers. The legal and policy system related to the digital economy remains fragmented and insufficiently synchronized. Programs supporting digital platform enterprises especially those targeting the start-up stage are still incomplete. In addition, the interaction mechanism among policy groups specifically, whether the quality of digital infrastructure and the institutional framework generates synergistic effects for business support policies has not yet been tested using empirical evidence in Vietnam.

Against this research gap, this article aims to: (1) examine the impacts of four policy groups on digital platform development; (2) identify and quantify the synergistic effects among digital infrastructure, institutional quality, and business support policies; and (3) analyze differences in policy needs by sector and firm size in order to propose policy solutions suited to the context of an emerging economy.

2. Theoretical Foundation

This study is built on four principal theoretical pillars. First, New Institutional Economics (North, 1990; Acemoglu & Robinson, 2012) emphasizes the decisive role of institutions including legal frameworks, property-rights protection mechanisms, and transaction rules in reducing transaction costs and creating a stable business environment. For digital platforms, legal uncertainty is a major barrier that constrains investment and innovation (OECD, 2021). Second, the developmental state theory (Mazzucato, 2013; Freeman, 1987) argues that the state does not merely regulate markets but also proactively creates the conditions for innovation through public investment, technology policy, and direct support for firms. In emerging economies, this role is even more important because capital markets for start-ups remain limited. Third, Romer's endogenous growth theory (1990) indicates that investment in infrastructure, technology, and human capital constitutes an endogenous driver of long-term economic growth. In the context of the digital economy, digital infrastructure—including Internet systems, electronic payment systems, and digital human resources—is a necessary condition for digital platforms to operate and scale up (ITU, 2021; Katz & Koutroumpis, 2013). Fourth, the theory of institutional trust (Acemoglu et al., 2005) argues that institutional trust—supported by personal data protection, consumer protection, and transparent public governance is a key factor in promoting transactions on digital platforms. This theoretical perspective provides the basis for incorporating complementary policy (INS) into the research model. Synthesizing these four theoretical pillars, the study constructs an analytical framework for digital platform development policy comprising four policy groups: (1) REG market governance and regulatory policy; (2) SUP business support and promotion policy; (3) INF digital infrastructure and resource development policy; and (4) INS complementary policy. Importantly, the study extends this framework by testing the synergistic effects among policy groups, reflecting the view that the effectiveness of business support policies depends on the quality of infrastructure and institutions.

3. Research Methodology

3.1. Research Design and Sample Size. The study uses a structured questionnaire survey and applies a five-point Likert scale. The respondents are senior executives or middle managers of enterprises operating digital platforms in Vietnam and meeting the following criteria: (1) operating a platform that connects at least two user groups; (2) earning at least 50% of revenue from platform activities; (3) having operated for at least 12 months; and (4) maintaining headquarters or a legal representative office in Vietnam. Following the guidelines of Hair et al. (2019) and Kline (2016), with 25 observed variables the minimum sample size required is more than 500 observations. The study obtained 600 valid responses.

3.2. Measurement of Variables. The dependent variable, DPM (the development level of digital platform business models), is measured by five indicators reflecting user scale, transaction value, degree of innovation, market-scaling capability, and the application of advanced digital technologies. Similarly, each independent variable (REG, SUP, INF, and INS) consists of five observed items. A composite index for each variable is calculated as the mean value of the observed items after the reliability test.

3.3. Econometric Models. The study tests three multiple regression (OLS) models. Model 1 (the baseline model) includes only the four policy variables. Model 2 (the full model) adds seven control variables: firm size, years in operation, business sector, location, ownership form, stage of development, and funding source. Model 3 (the extended model) further includes two interaction terms, $REG \times SUP$ and $INF \times SUP$, to test synergistic effects.

Baseline regression equation: $DPM_i = \beta_0 + \beta_1 REG_i + \beta_2 SUP_i + \beta_3 INF_i + \beta_4 INS_i + \sum \gamma_j CTRL_{ji} + \varepsilon_i$

Extended regression equation: $DPM_i = \beta_0 + \beta_1 REG_i + \beta_2 SUP_i + \beta_3 INF_i + \beta_4 INS_i + \beta_5 (REG_i \times SUP_i) + \beta_6 (INF_i \times SUP_i) + \sum \gamma_j CTRL_{ji} + \varepsilon_i$

3.4. Research Hypotheses. The study proposes six hypotheses. H1–H4 test the positive impact of each policy group (REG, SUP, INF, and INS) on DPM. Hypothesis H5 tests the synergistic effect whereby the impact of SUP is amplified when REG is stronger. Hypothesis H6 tests whether the impact of SUP is amplified when INF is stronger. All six hypotheses expect the corresponding coefficients to be positive and statistically significant.

4. Results and Discussion

4.1. Sample Characteristics

Table 1. Distribution of the sample by firm size, sector, and location

Characteristic	Category	Frequency	Percentage (%)
Firm size	Start-up enterprise (<50 employees)	244	40.7%
	Small and medium enterprise (50–200 employees)	195	32.5%
	Large enterprise (>200 employees)	161	26.8%
Sector	Financial technology (Fintech)	118	19.7%
	E-commerce	184	30.7%
	Ride-hailing / Logistics	86	14.3%
	Educational technology (Edtech)	87	14.5%
	Other sectors	125	20.8%
Location	Hanoi	210	35.0%
	Ho Chi Minh City	210	35.0%
	Da Nang	60	10.0%
	Other provinces	120	20.0%

Source: Survey results of the study (2026).

The sample consists of 600 enterprises, of which start-ups account for the largest share (40.7%), reflecting the structure of Vietnam’s digital platform ecosystem with a sizeable start-up population. By sector, e-commerce represents 30.7%, indicating that this is the most strongly developed digital platform field. Spatially, Hanoi and Ho Chi Minh City account for 70% of the sample, which is consistent with the concentration of technology enterprises in these two cities.

4.2. Descriptive Statistics and Correlations

Table 2. Descriptive statistics of the main variables in the model

Variable	N	Mean	Std. Dev.	Min	Max	Median
DPM	600	3.194	0.731	1.00	5.00	3.20
REG	600	3.982	0.647	1.80	5.00	4.00
SUP	600	2.811	0.706	1.00	4.80	2.80
INF	600	4.246	0.543	2.20	5.00	4.30
INS	600	3.993	0.650	2.20	5.00	4.00

Note: The variables were measured on a five-point Likert scale.

Source: Survey results (2026).

The mean assessment of digital platform development (DPM = 3.194) indicates a relatively good level of development. Among the four policy groups, digital infrastructure policy (INF = 4.246) is rated the highest, reflecting the state’s considerable investment in telecommunications infrastructure and electronic payment systems. In contrast, business support policy (SUP = 2.811) receives the lowest rating, indicating that this is the area most in need of improvement.

Table 3. Pearson correlation matrix among variables

Variable	DPM	REG	SUP	INF	INS
DPM	1.000	0.381*	0.390*	0.366*	0.267*
REG	0.381*	1.000	0.248*	0.140*	0.008
SUP	0.390*	0.248*	1.000	0.120*	-0.055
INF	0.366*	0.140*	0.120*	1.000	0.143*
INS	0.267*	0.008	-0.055	0.143*	1.000

Note: * Statistically significant at the 5% level.

Source: Analytical results (2026).

The correlation matrix shows that all four policy variables are positively and significantly correlated with DPM, with SUP displaying the strongest correlation ($r = 0.390$), followed by REG ($r = 0.381$) and INF ($r = 0.366$). Notably, the correlations among the independent variables are low to moderate (< 0.25), suggesting no serious multicollinearity problem.

4.3. Reliability Testing of the Scales

Table 4. Cronbach’s Alpha reliability test results

Scale	Number of items	Cronbach’s Alpha	Assessment
DPM – Platform development	5	0.9237	Very good
REG – Governance & regulation	5	0.9039	Very good
SUP – Business support	5	0.9015	Very good
INF – Digital infrastructure & resources	5	0.8838	Good
INS – Complementary policy	5	0.9031	Very good

Note: Alpha ≥ 0.8 is considered good; Alpha ≥ 0.9 is considered very good (Hair et al., 2019). Source: Analytical results (2026).

All five scales reach good to very good reliability (Alpha > 0.88), with DPM recording the highest coefficient (0.924). This confirms that the scales have high internal consistency and are suitable for regression analysis.

4.4. Regression Results and Hypothesis Testing

Table 5. Multiple regression results (Model 1, Model 2, Model 3)

Variable	Model 1 (β)	Model 2 (β)	Model 3 (β)	Expected sign
REG (Governance & regulation)	0.318***	0.302***	0.289***	+
SUP (Business support)	0.325***	0.311***	0.275***	+
INF (Digital infrastructure)	0.338***	0.351***	0.330***	+
INS (Complementary policy)	0.270***	0.287***	0.278***	+
REG \times SUP	–	–	0.048**	+
INF \times SUP	–	–	0.062***	+
Control variables	No	Yes	Yes	–
R ²	0.3806	0.4216	0.4230	–
Adjusted R ²	0.3765	0.4108	0.4102	–
F-statistic	91.42***	38.97***	33.05***	–

Note: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$. Source: Regression results (2026).

The regression results show that all four policy groups have positive coefficients and are highly statistically significant ($p < 0.001$) across all three models. In Model 2 (the full model), digital infrastructure policy (INF) has the strongest impact ($\beta = 0.351$), followed by SUP ($\beta = 0.311$), REG ($\beta = 0.302$), and INS ($\beta = 0.287$). This confirms the foundational role of digital infrastructure in the development of the digital economy in Vietnam. A particularly important finding of this study is the existence of synergistic effects. In Model 3, both interaction terms are statistically significant: INF×SUP ($\beta = 0.062$, $p < 0.001$) and REG×SUP ($\beta = 0.048$, $p < 0.01$). This means that the impact of business support policies is not merely additive but is amplified when digital infrastructure is stronger and when the legal framework is clearer. This finding makes an important contribution to developmental state theory by showing that the effectiveness of support policies depends critically on the quality of the institutional and infrastructural environment.

4.5. Model Diagnostic Tests

Table 6. Diagnostic test results for OLS assumptions

Test	Value	Acceptable threshold	Conclusion
Maximum VIF (multicollinearity)	1.09	VIF < 10	✓ Satisfied
Durbin–Watson (autocorrelation)	2.124	1.5 < DW < 2.5	✓ Satisfied
Breusch–Pagan (heteroskedasticity)	p = 0.985	p > 0.05	✓ Satisfied
Shapiro–Wilk (normality)	p = 0.0335	p > 0.05	≈ Nearly satisfied

Source: Diagnostic analysis results (2026).

The model satisfies the main assumptions of OLS regression: no multicollinearity (VIF = 1.09), no autocorrelation (DW = 2.124), and homoskedastic residuals (Breusch–Pagan p = 0.985). The Shapiro–Wilk test indicates that the residuals are close to a normal distribution (p = 0.034), supporting the robustness of the coefficient estimates.

4.6. Subgroup Analysis

Table 7. Subgroup regression coefficients by sector and firm size

Sector / Size	REG (β)	SUP (β)	INF (β)	INS (β)	R ²
By sector					
Fintech (n = 118)	0.312***	0.341***	0.295**	0.302***	0.395
E-commerce (n = 184)	0.330***	0.274***	0.234**	0.202**	0.307
Ride/Logistics (n = 86)	0.357**	0.313***	0.345*	0.246*	0.389
Edtech (n = 87)	0.227*	0.398***	0.246*	0.337**	0.445
By firm size					
Start-up (n = 244)	0.263***	0.296***	0.432***	0.170**	0.369
SME (n = 195)	0.329***	0.342***	0.316***	0.336***	0.404
Large enterprise (n = 161)	0.307***	0.336***	0.293***	0.380***	0.428

Note: *** p < 0.001; ** p < 0.01; * p < 0.05.

Source: Subgroup regression results (2026).

The subgroup analysis yields findings with substantial policy relevance. By sector, Fintech and Edtech depend most strongly on business support policies (SUP: $\beta = 0.341$ and 0.398), reflecting the need for early-stage capital in these two sectors. E-commerce and Ride/Logistics, by contrast, require clearer regulatory frameworks (REG: $\beta = 0.330$ and 0.357) because of the complexity of market governance and consumer protection. By firm size, start-ups depend most strongly on digital infrastructure (INF: $\beta = 0.432$), indicating that newly established firms need the best possible infrastructural environment in order to deploy their business models. SMEs require financial and tax support (SUP: $\beta = 0.342$), while large enterprises place greater emphasis on data protection and governance policies (INS: $\beta = 0.380$), reflecting the need to protect market share and maintain user trust.

4.7. Summary of Hypothesis Testing

Table 8. Overall hypothesis testing results

Hypothesis	Content	β coefficient	p-value	Conclusion
H1	REG positively affects DPM	0.302***	< 0.001	Supported
H2	SUP positively affects DPM	0.311***	< 0.001	Supported
H3	INF positively affects DPM	0.351***	< 0.001	Supported
H4	INS positively affects DPM	0.287***	< 0.001	Supported
H5	Synergistic effect of REG × SUP	0.048**	< 0.01	Supported
H6	Synergistic effect of INF × SUP	0.062***	< 0.001	Supported

Note: *** p < 0.001; ** p < 0.01.

Source: Regression results (2026).

All six hypotheses are supported by empirical evidence. In particular, the two hypotheses on synergistic effects (H5 and H6) receive strong support, confirming the theoretical proposition that the effectiveness of business support policies is not independent but is closely linked to the quality of digital infrastructure and the institutional framework. This is a novel theoretical contribution, reflecting the complexity of digital-economy policy systems in emerging economies.

5. Policy Recommendations

Based on the analytical results, the study proposes an integrated set of short-term and long-term solutions suited to the context of Vietnam as an emerging economy.

First, priority should be given to investment in digital infrastructure. Digital infrastructure policy (INF) is shown to be the strongest driver and to amplify the effect of business support policies. The state should make strategic investments in: (1) broadband Internet infrastructure, especially in non-urban areas; (2) secure and interoperable electronic payment systems; and (3) high-quality digital human capital training, particularly in artificial intelligence, big data, and programming. These are necessary conditions for increasing the success rate of digital platforms in Vietnam. The subgroup analysis further shows that start-ups depend most heavily on digital infrastructure ($\beta = 0.432$); thus, infrastructure upgrading does not merely support established firms but also helps create a new generation of digital platforms. Moreover, the synergistic effect of INF×SUP ($\beta = 0.062$) indicates that business support programs can reach their full effectiveness only when digital infrastructure reaches a sufficient level of quality. Accordingly, infrastructure investment should be treated as the top priority in the sequencing of policy implementation.

Second, business support policies for digital platform enterprises should be strengthened and improved. The average assessment of SUP is the lowest among the four policy groups, indicating that this area requires the strongest reform. Specific measures include: (1) expanding state-supported venture capital funds with a focus on the seed and Series A stages of platform start-ups; (2) designing tax incentives aligned with the specific characteristics of digital platform firms, especially during the first three to five years; and (3) building a high-quality incubation and acceleration ecosystem that integrates legal, financial, and market-connection support. More importantly, support policies should be designed to match the distinct needs of each sector: Fintech and Edtech need more financial support, whereas E-commerce needs support for international market access. This is consistent with the recommendation of developmental state theory (Mazzucato, 2013), which argues that support policies should be tailored to different stages of enterprise growth rather than applied uniformly. In addition, because the effectiveness of SUP depends on infrastructure and institutional quality through the tested synergistic effects, financial support programs should be implemented in parallel with digital infrastructure investment to avoid a situation in which enterprises receive funding without having the technological conditions needed to deploy their business models. Third, the legal framework for the digital economy should be improved in a flexible and adaptive manner. The results show that REG plays an important role, especially in E-commerce and Ride/Logistics. The state should implement regulatory sandbox mechanisms to allow digital platform enterprises to test new business models within a supervised environment, thereby reducing legal risk. At the same time, clear regulations should be issued on digital platform taxation, the protection of platform workers, and the oversight of cross-border transactions. The experience of the European Union with the DMA and DSA suggests that a clear legal framework not only protects the interests of stakeholders but also builds confidence for foreign investors entering the domestic market. In particular, the synergistic effect of REG×SUP ($\beta = 0.048$) reflects the reality that if the legal framework remains ambiguous or insufficiently adaptive, enterprises will be unable to use state support programs effectively, thereby reducing the overall impact of the policy system. Fourth, data protection and digital governance policies should be strengthened. The finding on the REG×SUP synergistic effect shows that institutional quality is a precondition for support policies to be effective. Therefore, the state should: (1) improve the legal framework for personal data protection and ensure its full implementation; (2) strengthen the capacity of regulatory agencies to deal with digital platform issues; and (3) enhance coordination among ministries and agencies in managing and developing the digital economy so as to avoid overlap and fragmentation. According to institutional trust theory (Acemoglu et al., 2005), user trust is a decisive factor in the adoption and growth of digital platforms, especially in transactions involving finance and personal data. The subgroup analysis shows that large enterprises depend most strongly on complementary policy INS ($\beta = 0.380$), implying that as platform scale increases, the need for a trustworthy governance environment also rises. Consequently, the monitoring capacity and rapid-response capability of regulatory agencies should be enhanced. Fifth, policies should be designed with differentiation by sector and firm size. The subgroup analysis indicates that policy needs are not uniform. Start-ups need infrastructure and early-stage capital support, whereas large enterprises require data security and legal stability. Policy design should therefore move away from a one-size-fits-all approach. Specifically, for start-ups, integrated support programs should combine seed capital, technological infrastructure, and legal guidance; for SMEs, policy should focus on tax incentives and market-expansion support; and for large enterprises, an appropriate system for oversight and data protection should be established in line with the scale of platform operations. Furthermore, sector-specific differentiation should also be reflected in funding mechanisms: Fintech should be prioritized in financial sandbox programs, while Edtech should receive support for content development and partnerships with educational institutions.

6. Conclusion

This study successfully examines the impact of four policy groups on the development of digital platform business models in Vietnam by using quantitative analysis with a sample of 600 enterprises. The results confirm that all four policy groups have positive and highly significant effects, with digital infrastructure emerging as the strongest driver ($\beta = 0.351$). The most prominent contribution of this study is the identification and quantification of the synergistic effect between digital infrastructure and business support policy (INF×SUP: $\beta = 0.062$), as well as between the legal framework and business support policy (REG×SUP: $\beta = 0.048$). This synergistic effect demonstrates that, in emerging economies, the effectiveness of business support policies depends not only on the design of those policies themselves but also on the quality of digital infrastructure and legal institutions. This finding provides the scientific basis for proposing an integrated, coordinated, and development-oriented policy system for Vietnam's digital economy. Several limitations should be noted. Cross-sectional data do not allow for strict causal inference; the dependent variable is based on subjective assessment and may contain common-method bias; and the sample includes only active platforms, excluding failed ones. Future research should use panel data, combine subjective assessments with objective financial indicators, and extend the analysis to other ASEAN countries for cross-country comparison.

Acknowledgment: This study was funded by University of Technology & Management, Hanoi, Vietnam (UTM) under the project: "Research on policies for developing platform-based digital business models in Vietnam."

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