

# The Role of IT in Facilitating the Raising of Capital Investment for Agricultural Sector in Tay Ninh Province, Vietnam

Ho Duy Xuyen<sup>1</sup> & Trinh Quang Thoai<sup>2</sup>

<sup>1</sup> Vietnam National University of Forestry, Hanoi, Vietnam

<sup>2</sup> Ph.D., Vietnam National University of Forestry, Hanoi, Vietnam

Correspondence: Ho Duy Xuyen, Vietnam National University of Forestry, Hanoi, Vietnam. E-mail: duyxuyenho@gmail.com

Received: January 24, 2025

Accepted: March 10, 2025

Online Published: March 25, 2025

doi:10.5539/ijbm.v20n3p1

URL: <https://doi.org/10.5539/ijbm.v20n3p1>

## Abstract

This study examines the role of Information Technology Application in facilitating the mobilization of investment capital within the agriculture sector of Tay Ninh Province. The study utilizes a quantitative design, employing a survey of 262 agricultural firms and investors, examined using Structural Equation Modeling (SEM) with SmartPLS 4 software. The results indicate that ITA substantially improves investment mobilization, serving as a vital intermediary among supportive policies, human resources, infrastructure, and investment promotion initiatives. The findings highlight the necessity of incorporating IT into agricultural policies to stimulate investments and promote sectoral growth, offering critical insights for policymakers and stakeholders in the region.

**Keywords:** Information Technology Application, Mobilization of Investment Capital, Tay Ninh Province, Agriculture sector

## 1. Introduction

Tay Ninh Province, situated in Vietnam's southern main economic zone, serves as a crucial agricultural center with a strategic location connecting Ho Chi Minh City and Cambodia. Agriculture constitutes the foundation of Tay Ninh's economy, engaging a considerable segment of the populace and making a significant contribution to the province's GDP. In 2023, agriculture constituted over 25% of Tay Ninh's gross regional domestic product (GRDP) and supported the livelihoods of more than 50% of the local populace (Tay Ninh Statistical Office, 2023). The province is renowned for its cultivation of staple commodities such as cassava, sugarcane, and rice, with its expanding cattle industry. Notwithstanding its potential, the agricultural industry encounters obstacles, such as antiquated farming methods and restricted access to finance, which impede its capacity to optimize productivity and economic output.

The mobilization of capital investment is essential for transitioning Tay Ninh's agriculture from conventional methods to a more modern and efficient industry. Investment is essential to enhance infrastructure, use new agricultural technologies, and promote sustainable farming practices that can augment productivity and mitigate environmental damage. Research indicates that areas with increased capital investment in agriculture witness substantial enhancements in crop yields and overall economic development (Duc Truong, Dat, & Huan, 2022). Nevertheless, Tay Ninh has traditionally faced challenges in securing adequate investment, with agricultural capital trailing behind other industries. From 2016 to 2020, the province's agricultural investment constituted under 15% of its overall development investment, underscoring an urgent necessity for policies to improve capital mobilization (Đào, 2022).

Information technology (IT) has emerged as a powerful tool to enhance the mobilization of capital investment in agriculture. IT applications can provide solutions for many of the challenges faced by investors and farmers, such as improving transparency in financial transactions, facilitating access to credit, and enabling better risk management through data analytics. According to a study by Hair (2020), the use of next-generation IT tools in financial processes can significantly reduce transaction costs and increase the efficiency of capital deployment. In the context of Tay Ninh, adopting IT in agricultural finance can help overcome barriers related to limited infrastructure and bureaucratic inefficiencies, making it easier for both domestic and foreign investors to channel

funds into the sector. Moreover, IT can support the development of digital platforms that connect farmers with investors, providing a more dynamic and accessible investment environment.

Conducting research on how IT applications can mediate the mobilization of investment capital in Tay Ninh's agricultural sector is critical to addressing these challenges. By examining the intersection of technology and finance, this study aims to provide evidence-based recommendations for enhancing capital flows into agriculture, thereby supporting the province's broader economic development goals. This research will build on existing studies, such as those by Quang (2019) and Tien (2019), which have explored investment strategies in the region but have not fully addressed the role of IT in capital mobilization. The findings will be invaluable for policymakers, investors, and agricultural stakeholders in Tay Ninh, offering a roadmap for leveraging technology to drive sustainable growth in the province's agricultural sector.

## 2. Literature Review

### 2.1 *The Mobilization of Capital Investment*

The agricultural sector has historically been a cornerstone of economic development, particularly in developing regions. As highlighted by Kafando, the relationship between agriculture and manufacturing is pivotal, with agricultural development often serving as a catalyst for industrial growth (Kafando, 2018). This interdependence underscores the necessity for effective capital mobilization strategies that leverage technological advancements to enhance productivity and investment appeal in agriculture. Medvedeva further emphasizes the importance of long-term support programs aimed at fostering sustainable agricultural development, which includes improving the investment climate for agricultural businesses (Medvedeva, 2023). Such programs are essential for creating a conducive environment for capital investment, which is crucial for the growth of the agricultural sector.

In the context of Tay Ninh Province, the integration of IT into agricultural practices can significantly enhance operational efficiency and productivity. Rustemov et al. discuss the importance of innovative development in agriculture, suggesting that the implementation of technology can lead to more effective decision-making regarding financing innovative agricultural projects (Rustemov et al., 2018). This aligns with the notion that IT applications can streamline processes, reduce costs, and ultimately attract more capital investment into the sector. The role of IT in agriculture is further supported by the findings of Aubert et al., who argue that the adoption of precision agriculture technologies is crucial for sustainable farming practices (Aubert et al., 2012). This technological adoption not only improves productivity but also enhances the overall investment attractiveness of the agricultural sector.

Moreover, the relationship between capital investment and agricultural productivity is underscored by the findings of Chen, who posits that increased capital mobility can significantly expand agricultural output and productivity (Chen, 2024). This is particularly relevant for Tay Ninh Province, where the mobilization of capital through IT applications can facilitate access to modern agricultural techniques and resources. The potential for IT to act as a mediator in this process is critical, as it can help bridge the gap between available capital and its effective utilization in agricultural practices.

The significance of human capital in the agricultural sector cannot be overlooked, especially during challenging times such as the COVID-19 pandemic. Purwantini's research indicates that human capital performance is vital for agricultural development, as it directly influences productivity and the effective use of capital (Purwantini, 2023). In Tay Ninh, enhancing human capital through IT training and education can further support the mobilization of capital investment by equipping farmers and agricultural workers with the necessary skills to leverage technology effectively.

Furthermore, the dynamic relationship between agriculture and other economic sectors, as explored by Kelikume and Nwani, highlights the interconnectedness of agricultural output with services, construction, and trade (Kelikume & Nwani, 2020). This interconnectedness suggests that investments in IT not only benefit the agricultural sector but also have a ripple effect on the broader economy. By enhancing agricultural productivity through IT, Tay Ninh can stimulate growth in related sectors, thereby attracting further investment and fostering economic development.

The role of government policies in supporting agricultural IT initiatives is also crucial. As noted by Dzemydaitė, government expenditure on agriculture can significantly influence agricultural output and, consequently, the mobilization of capital investment (Dzemydaitė, 2018). In Tay Ninh, targeted government policies that promote IT adoption in agriculture can lead to increased productivity and investment, creating a favorable environment for capital inflow.

Moreover, the implications of technological advancements in agriculture extend to the efficiency of resource use.

Kholodova's research emphasizes the importance of diagnosing the efficiency of resource utilization in agriculture, particularly in the context of digital transformation (Kholodova, 2021). By applying IT solutions, Tay Ninh can optimize resource allocation, reduce waste, and enhance overall productivity, thereby making the agricultural sector more attractive for capital investment.

The integration of IT in agriculture also aligns with global trends towards sustainability and efficiency. As highlighted by Gill et al., the convergence of cloud computing and big data analytics offers new opportunities for agricultural practices, enabling better decision-making and resource management (Gill et al., 2019). This technological shift can significantly enhance the investment appeal of the agricultural sector in Tay Ninh, attracting both domestic and foreign investors interested in sustainable agricultural practices.

Moreover, the potential for IT to facilitate better market access and information dissemination is critical for mobilizing capital investment. By utilizing IT solutions, farmers in Tay Ninh can gain access to market information, pricing data, and best practices, which can enhance their competitiveness and attractiveness to investors. This aligns with the findings of Mustafa et al., who emphasize the importance of organizational investment in IT for improving performance and governance in agricultural sectors (Mustafa et al., 2019).

The literature also suggests that the agricultural sector can serve as a foundation for broader economic growth. As noted by Awokuse and Xie, agriculture plays a vital role in economic development, particularly in developing countries (Awokuse & Xie, 2014). By enhancing capital investment in agriculture through IT applications, Tay Ninh can stimulate economic growth and improve livelihoods, thereby reinforcing the sector's importance in the regional economy.

The mobilization of capital investment in the agricultural sector of Tay Ninh Province is intricately linked to the application of information technology. The literature reviewed underscores the multifaceted benefits of IT in enhancing agricultural productivity, optimizing resource use, and improving market access. Furthermore, the role of government policies and human capital development is crucial in creating a conducive environment for investment. As Tay Ninh continues to embrace technological advancements, it stands to benefit significantly from increased capital investment, ultimately fostering sustainable agricultural development and economic growth.

While previous studies have contributed valuable insights into the role of investment policies and technological integration in the agricultural sector, they often overlook the mediating role of Information Technology (IT) in capital mobilization. This research addresses this gap by providing empirical evidence of how IT applications can facilitate the mobilization of investments in Tay Ninh's agriculture sector, a critical aspect that has been underexplored in existing literature. Moreover, this study expands upon the work of Tien (2019) and Quang (2019), offering a more comprehensive framework that incorporates IT as a central driver in investment attraction.

## 2.2 Hypotheses Development

### 2.2.1 Support and Investment Attraction Policies

Research indicates that well-structured policies, such as subsidies, tax incentives, and infrastructure development programs, can significantly encourage the adoption of IT by reducing costs and risks associated with technological investments (Hair, 2020). These policies can create a favorable environment that incentivizes farmers and agricultural businesses to integrate IT solutions, leading to increased efficiency and productivity in the sector. Moreover, support and investment attraction policies play a pivotal role in drawing both domestic and foreign investments into agriculture. Policies that offer clear and consistent investment guidelines, coupled with financial incentives, are shown to increase investor confidence and attract the necessary capital for agricultural development (Tien, 2019). As a result, the following hypotheses are constructed as:

*H1a: Support and Investment Attraction Policies have a positive impact on the application of Information Technology towards the agricultural sector in Tay Ninh Province.*

*H1b: Support and Investment Attraction Policies have a positive impact on the mobilization of investments towards the agricultural sector in Tay Ninh Province.*

### 2.2.2 Quality and Quantity of Human Resources

A well-educated and sizable workforce is needed to deploy and use IT in agriculture. Highly skilled workers can operate advanced technologies, adapt to new IT systems, and innovate agricultural practises, increasing productivity and efficiency (Dang, Visseren-Hamakers, & Arts, 2017). A skilled staff ensures that technology and other resource investments are managed well, improving returns and investor trust. Skilled labor lowers

investment risks, making agriculture more appealing to domestic and global investors (Duc Truong, Dat, & Huan, 2022). Consequently, the following hypotheses are constructed:

*H2a: Quality and Quantity of Human Resources have a positive impact on the application of Information Technology towards the agricultural sector in Tay Ninh Province.*

*H2b: Quality and Quantity of Human Resources have a positive impact on the mobilization of investments towards the agricultural sector in Tay Ninh Province.*

### 2.2.3 Infrastructure System

An extensive infrastructure, encompassing dependable transportation networks, electricity provision, and digital connectivity, is essential for the efficient integration of information technology in agriculture. Access to high-speed internet and stable electricity allows farmers and agricultural enterprises to incorporate new technology like precision farming, real-time data analytics, and automated machinery. This, in turn, enhances production and efficiency (Hair, 2020). In addition, strong infrastructure increases the appeal of the agricultural industry to investors by lowering expenses and overcoming logistical obstacles. Investors are more inclined to allocate capital when they have confidence that their investments will be backed by a robust infrastructure that enables streamlined production, distribution, and communication processes (Quang, 2019). Therefore, the following hypotheses are constructed:

*H3a: Infrastructure System has a positive impact on the application of Information Technology towards the agricultural sector in Tay Ninh Province.*

*H3b: Infrastructure System has a positive impact on the mobilization of investments towards the agricultural sector in Tay Ninh Province.*

### 2.2.4 Investment Promotion Programs

Investment promotion programs, which often include incentives such as tax breaks, subsidies, and grants, are designed to attract both domestic and foreign investors by reducing the costs and risks associated with investing in agriculture. By offering specific incentives for technology adoption, these programs can significantly encourage agricultural enterprises to integrate IT solutions, thereby improving productivity, efficiency, and competitiveness (Tien, 2019). Moreover, investment promotion programs create a favorable environment that boosts investor confidence, making the agricultural sector more attractive by demonstrating government commitment and support for sustainable agricultural development (Hien, 2018; Tran, 2023). Thus, we propose the following hypotheses:

*H4a: Investment Promotion Programs have a positive impact on the application of Information Technology towards the agricultural sector in Tay Ninh Province.*

*H4b: Investment Promotion Programs have a positive impact on the mobilization of investments towards the agricultural sector in Tay Ninh Province.*

### 2.2.5 Information Technology Application

The application of IT enhances transparency, efficiency, and productivity in agriculture, which are key factors that attract investors. For example, digital platforms can provide real-time data on crop conditions, market prices, and supply chain logistics, enabling investors to make informed decisions and reduce risks associated with agricultural investments (Hair, 2020). Moreover, applications of IT such as precision farming, automated irrigation systems, and data-driven decision-making tools can significantly improve the efficiency and profitability of agricultural operations, making the sector more appealing to investors (Duc Truong, Dat, & Huan, 2022). By demonstrating the potential for higher returns and reduced operational risks, the adoption of IT in agriculture directly contributes to increased investor confidence and capital inflows. Therefore, the following hypothesis is constructed:

*H5: The application of information technology has a positive impact on the mobilization of investments towards the agricultural sector in Tay Ninh Province.*

From the above discussions, the research model is developed as:

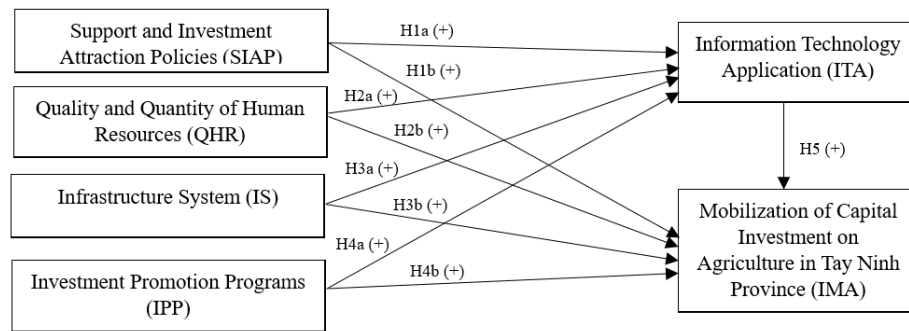


Figure 1. Research model

### 3. Data Collection and Analysis

#### 3.1 Data Collection and Sampling

Participants in this study completed a self-administered questionnaire on repurchase intention. To guarantee broad reach and ease, agricultural investors were surveyed face-to-face and email. To easily collect data from a varied sample, researchers used convenience sampling (Hair, 2020). The demographic survey assesses support and investment policies, human resources, infrastructure, and capital mobilization of capital investment measures. Ten internet users took a pre-test to ensure the questionnaire was clear and relevant. They made modest changes to improve comprehension. May and June saw 262 surveys. The sample size in this study met structural equation modeling criteria of 10 units per latent variable (Hair, 2020). The SEM-PLS analysis showed a shift in investment focus to the agriculture sector in Tay Ninh Province.

While the convenience sampling method employed in this study has provided valuable insights, it is acknowledged that this approach may limit the generalizability of the findings. Future research could benefit from employing a more random sampling technique to ensure a more representative sample of agricultural investors. This would help mitigate potential sampling biases and provide a broader perspective on the role of IT in mobilizing investment across different regions and sectors within Vietnam.

#### 3.2 Data Analysis

Table 1. Demographic information of the respondents

Variable	Category	Frequency	Percentage (%)
<i>Business Location</i>	in Tay Ninh province	109	41.6
	outside Tay Ninh province	153	58.4
<i>Business Scale</i>	Small-sized business	40	15.3
	Medium-sized business	141	53.8
	Large-sized business	81	30.9
<i>Investment Experience</i>	Under 3 years	38	14.5
	From 3 to under 10 years	128	48.9
	From 10 to under 20 years	96	36.6
	Under 3 years	38	14.5
TOTAL		262	100.0

Source. From the authors' data analysis results.

Table 1 shows the varied characteristics of the Tay Ninh Province study participants on information technology in agriculture. Only 41.6% of the enterprises examined were in Tay Ninh Province, while 58.4% were outside. Most businesses were medium-sized (53.8%), followed by large (30.9%) and small (15.3%). About 48.9% of respondents had 3 to 10 years of agricultural investment experience, while 36.6% had 10 to 20 years' experience. Only 14.5% had less than 3 years of investment experience. This broad sample illuminates Tay Ninh's agricultural sector's IT application and the mobilization of capital investment elements.

Table 2. Reliability and discriminant validity tests

	$\alpha$	CR (rho_a)	CR (rho_c)	AVE	IMA	IPP	IS	ITA	QHR	SIAP
IMA	0.924	0.927	0.946	0.814						
IPP	0.919	0.920	0.939	0.756	0.442					
IS	0.900	0.902	0.926	0.715	0.395	0.690				
ITA	0.914	0.916	0.936	0.744	0.126	0.378	0.784			
QHR	0.890	0.891	0.919	0.694	0.597	0.379	0.349	0.157		
SIAP	0.925	0.927	0.944	0.771	0.157	0.406	0.671	0.453	0.077	

*Source:* From the authors' data analysis results.

Table 2 provides evidence that the constructs included in the study are both reliable and capable of distinguishing across different variables. The Cronbach's Alpha ( $\alpha$ ) values for all constructs exceed the acceptable threshold of 0.70, with values ranging from 0.890 to 0.925, showing a high level of internal consistency across the measurements. The Composite Reliability (CR) values, including both rho\_a and rho\_c, exhibit high levels, ranging from 0.902 to 0.944, which further confirms the reliability of the constructs. The Average Variance Extracted (AVE) for each construct surpasses the 0.50 benchmark, with values ranging from 0.694 to 0.814. This indicates that a significant portion of the variance is captured by the constructs themselves, rather than being attributed to measurement error. Furthermore, the discriminant validity is verified by observing that the square root of the average variance extracted (AVE) for each construct is greater than the correlations between constructs (Hien, 2023). This indicates that each construct is separate and unique from the others. The data presented here together illustrate the strength and reliability of the measuring methodology used in this research.

### 3.3 Structural Equation Modelling

Table 3. Path coefficients

Hypothesis	Relationship	Original sample	Mean	STDEV	T statistics	P values	Result
H1a	SIAP -> ITA	0.172	0.172	0.071	2.418	0.016	Accepted
H1b	SIAP -> IMA	0.270	0.270	0.068	3.953	0.000	Accepted
H2a	QHR -> ITA	0.172	0.173	0.057	3.042	0.002	Accepted
H2b	QHR -> IMA	0.265	0.266	0.053	4.971	0.000	Accepted
H3a	IS -> ITA	0.130	0.130	0.055	2.368	0.018	Accepted
H3b	IS -> IMA	0.145	0.145	0.057	2.523	0.012	Accepted
H4a	IPP -> ITA	0.501	0.499	0.053	9.447	0.000	Accepted
H4b	IPP -> IMA	-0.214	-0.215	0.066	3.230	0.001	Accepted
H5	ITA -> IMA	0.482	0.482	0.060	7.997	0.000	Accepted

*Source:* From the authors' data analysis results.

Table 3 reveals significant relationships between the constructs examined in the study. All hypothesized relationships were supported, with path coefficients indicating positive impacts across the variables. Specifically, the Support and Investment Attraction Policies (SIAP) showed a significant positive impact on both the application of Information Technology (ITA) ( $\beta = 0.172$ ,  $p = 0.016$ ) and the mobilization of capital investments (IMA) ( $\beta = 0.270$ ,  $p = 0.000$ ). Similarly, the Quality and Quantity of Human Resources (QHR) positively influenced both ITA ( $\beta = 0.172$ ,  $p = 0.002$ ) and IMA ( $\beta = 0.265$ ,  $p = 0.000$ ). The Infrastructure System (IS) was also found to have a positive effect on ITA ( $\beta = 0.130$ ,  $p = 0.018$ ) and IMA ( $\beta = 0.145$ ,  $p = 0.012$ ). Investment Promotion Programs (IPP) demonstrated the strongest impact on ITA ( $\beta = 0.501$ ,  $p = 0.000$ ), while also significantly affecting IMA ( $\beta = -0.214$ ,  $p = 0.001$ ). Lastly, the application of Information Technology (ITA) had a robust positive impact on the mobilization of investments (IMA) ( $\beta = 0.482$ ,  $p = 0.000$ ). These results highlight the critical role of policies, human resources, infrastructure, and IT in enhancing mobilization of capital investment in Tay Ninh's agricultural sector.

In addition, the unexpected negative impact of Investment Promotion Programs (IPP) on investment mobilization ( $\beta = -0.214$ ,  $p = 0.001$ ) warrants further investigation. Several contextual factors may contribute to this result, including bureaucratic delays in processing investment applications, which could deter potential investors. Additionally, the misalignment of incentives between government initiatives and investors' expectations might lead to reduced effectiveness of IPP in attracting investments. Lastly, a lack of clear communication regarding the benefits and processes of IPP may cause uncertainty among investors, resulting in lower capital inflow into the sector.

Table 4. Specific indirect effects

Relationship	Original sample	Sample mean	STDEV	T statistics	P values	Result
IPP -> ITA -> IMA	0.242	0.241	0.042	5.785	0.000	Supported
IS -> ITA -> IMA	0.063	0.063	0.028	2.256	0.024	Supported
QHR -> ITA -> IMA	0.083	0.083	0.029	2.837	0.005	Supported
SIAP -> ITA -> IMA	0.083	0.083	0.036	2.328	0.020	Supported

Source. From the authors' data analysis results.

Table 4 illustrates how Information Technology Application (ITA) acts as a mediator between different elements and the mobilization of capital investments in the agricultural sector of Tay Ninh Province. The findings indicate that Support and Investment Attraction Policies (SIAP) have an indirect impact on Mobilization of capital investment (IMA) through ITA ( $\beta = 0.083$ ,  $p = 0.020$ ), emphasizing the significant importance of ITA as a mediator. Similarly, the influence of the Quality and Quantity of Human Resources (QHR) on IMA is indirect and occurs through ITA ( $\beta = 0.083$ ,  $p = 0.005$ ). This suggests that having a trained staff improves the adoption of IT, which then helps in mobilizing investments. The Infrastructure System (IS) indirectly affects IMA through ITA ( $\beta = 0.063$ ,  $p = 0.024$ ), indicating that a strong infrastructure allows for more efficient IT deployment, resulting in improved investment returns. Furthermore, Investment Promotion Programs (IPP) have a significant impact on IMA via means of ITA mediation ( $\beta = 0.242$ ,  $p = 0.000$ ), highlighting the crucial role of promotional measures in promoting IT adoption, which in turn stimulates mobilization of capital investment. These findings emphasize the crucial role of IT in improving the effectiveness of policies, human resources, infrastructure, and promotional campaigns in mobilizing capital investments in agriculture.

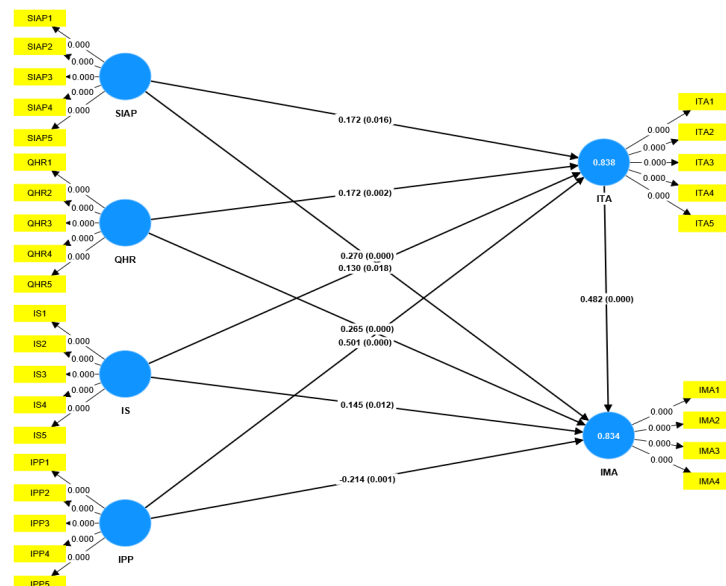


Figure 2. Result of PLS-SEM structural model path coefficient

Source. From the authors' data analysis results.

#### 4. Findings Discussion

The findings of this study align with and expand upon existing research on the role of Information Technology Application (ITA) in the agricultural sector, particularly in the context of investment mobilization. Similar to the conclusions drawn by Hair (2020), this study confirms that ITA significantly enhances the efficiency and attractiveness of agricultural investments, acting as a crucial mediator between supportive policies, human resources, infrastructure, and investment outcomes. The strong direct impact of investment promotion programs on ITA observed in this study corroborates the findings of Tien (2019), who emphasized the importance of government-led initiatives in driving technological adoption in agriculture. By confirming that ITA not only facilitates investment mobilization but also amplifies the effectiveness of policy support, this research provides further evidence that comprehensive strategies integrating IT can optimize the mobilization of capital in agriculture, particularly in regions like Tay Ninh Province.

Moreover, the study's results also resonate with the findings of Hien (2024), Duc Truong, Dat, and Huan (2022), who highlighted the importance of a skilled workforce in adopting climate-smart agriculture practices. This study similarly demonstrates that the quality and quantity of human resources positively impact ITA, which in turn enhances investment mobilization. Additionally, the study extends the work of Quang (2019) by showing that a robust infrastructure system not only directly supports IT adoption but also indirectly contributes to attracting investments through the mediation of ITA. These comparisons indicate that while the study builds on existing literature, it also provides a nuanced understanding of how ITA functions as a pivotal element in connecting various enablers—such as policies, human resources, and infrastructure—with successful investment mobilization in the agricultural sector of Tay Ninh Province. This comprehensive approach highlights the need for an integrated strategy that emphasizes the role of IT in overcoming traditional barriers to investment, thus supporting the broader development goals of the region.

#### 5. Implications

In Tay Ninh Province and other agricultural regions, this research has major policy consequences. A strong policy framework that encourages farmers to use IT is one of the main ramifications. The study shows that investment promotion initiatives significantly affect IT adoption and the mobilization of capital investment. Thus, policymakers should develop and improve regulations that attract investments and promote IT integration in agriculture. This could include tax incentives, technological subsidies, and IT training grants. The province can modernize its agriculture sector and attract investors by promoting such efforts.

The study emphasizes using IT to boost efficiency and productivity for agricultural companies and investors. Due to the strong association between IT adoption and investment mobilization, agricultural enterprises may gain from adopting sophisticated technologies. This could incorporate precision farming, data analytics for decision-making, or automated technologies to maximize resource utilization. However, investors may regard IT-enabled firms as lower-risk, higher-potential possibilities, increasing their willingness to invest. Thus, agricultural firms should actively enhance their technology to attract capital and boost competitiveness.

The results of data analysis also show that human resources are crucial to IT adoption and investment mobilization. This means that any development strategy should prioritize agricultural workforce quality and quantity. Data management, software use, and technical maintenance training programmes for agriculture could help modernise the sector. Educational institutions in Tay Ninh could also work with the agricultural business to update their courses to meet technological needs. Tay Ninh can use IT to attract investment and boost agricultural productivity with a competent workforce.

Infrastructure development is another key topic of research. Increasing the region's physical and digital infrastructure should be a priority because it boosts IT adoption and investment. This could entail providing remote internet access, updating transportation networks to convey commodities, and ensuring a reliable electricity source for IT operations. By investing in infrastructure, the province can foster technological innovation and investment, boosting agricultural prosperity. This also supports regional development goals because increased infrastructure promotes agriculture and other industries.

While this study highlights the role of Information Technology (IT) in mobilizing capital investment for agriculture in Tay Ninh, it does not fully explore the differential impact of IT on domestic versus foreign investments. It is plausible that foreign investors may benefit more from IT platforms due to their reliance on data-driven decision-making processes and access to advanced technology. Conversely, domestic investors might be more impacted by factors like local infrastructure and government incentives. Future research could examine how IT adoption can be tailored to address the specific needs of domestic and foreign investors in the region, providing insights into the nuances of investment attraction strategies.



Finally, the research implies that a holistic strategy is needed to maximize agricultural IT adoption benefits. Policymakers, corporations, and schools must collaborate to foster technological innovation and investment. PPPs could involve the government providing infrastructure and policy assistance while corporations invest in IT and personnel development. Research and development should also be encouraged to find new technologies and methods that boost agricultural output and investment. By encouraging such collaboration, Tay Ninh may become a pioneer in agricultural innovation, drawing local and foreign investment and assuring economic sustainability.

## 6. Limitations and Future Research

It is important to acknowledge several limitations in this study. First, the use of convenience sampling could lead to potential selection biases, as the sample may not fully represent the broader population of agricultural investors in Vietnam. Second, the reliance on self-reported data introduces the possibility of response biases, where respondents may overstate or understate their experiences with IT adoption and investment mobilization. Future studies should consider employing randomized sampling techniques and objective data sources to mitigate these limitations and enhance the validity of the findings.

## References

- Aubert, B., Schröder, A., & Grimaudo, J. (2012). It as an enabler of sustainable farming: An empirical analysis of farmers' adoption decision of precision agriculture technology. *Decision Support Systems*, 54(1), 510-520. <https://doi.org/10.1016/j.dss.2012.07.002>
- Awokuse, T., & Xie, R. (2014). Does agriculture really matter for economic growth in developing countries? *Canadian Journal of Agricultural Economics/Revue Canadienne D'agroeconomie*, 63(1), 77-99. <https://doi.org/10.1111/cjag.12038>
- Chen, L. (2024). Imperfect factor mobility, agricultural producer service and agricultural development in developing economy. *Asian Research Journal of Arts & Social Sciences*, 22(2), 33-39. <https://doi.org/10.9734/arjass/2024/v22i2514>
- Dang, T. K. P., Visseren-Hamakers, I. J., & Arts, B. (2017). The institutional capacity for forest devolution: The case of forest land allocation in Vietnam. *Development Policy Review*, 35(6), 723-744.
- Đào, V. C. (2022). *Investment capital for economic development of Tay Ninh province* (Doctoral dissertation). Banking University of Ho Chi Minh City.
- Duc Truong, D., Tho Dat, T., & Huy Huan, L. (2022). Factors affecting climate-smart agriculture practice adaptation of farming households in coastal central Vietnam: The case of Ninh Thuan Province. *Frontiers in Sustainable Food Systems*, 6, 790089. <https://doi.org/10.3389/fsufs.2022.790089>
- Dzemydaitė, G. (2018). *Agriculture's impact on the economy: Inter-industry linkages and multiplier effects*. <https://doi.org/10.15544/rd.2017.057>
- Gill, S., Chana, I., & Buyya, R. (2019). IoT based agriculture as a cloud and big data service. In *Emerging Technologies for Agriculture and Environment* (pp. 1499-1521). <https://doi.org/10.4018/978-1-5225-9866-4.ch069>
- Hair, J. F., Jr. (2020). Next-generation prediction metrics for composite-based PLS-SEM. *Industrial Management & Data Systems*, 121(1), 5-11. <https://doi.org/10.1108/IMDS-11-2019-0618>
- Hien, P. H. (2018). Human resource management in small and medium enterprises in the context of the international economic integration of Vietnam. *Journal of Socio-Economic Information and Forecast*, 148(4), 45-56.
- Hien, P. H. (2023). The mediating effects of employee trust and job satisfaction in the relationship between empowerment leadership and employee loyalty. *International Journal of Environment, Workplace and Employment*, 7(2), 130-147. <https://doi.org/10.1504/IJEWE.2023.134527>
- Hien, P. H. (2024). Unveiling the influence of empowerment leadership on employee loyalty: The mediating role of employee trust and job satisfaction. *Journal of Applied Research in Engineering and Technology & Engineering*, 5(1), 1-12. <https://doi.org/10.4995/jarte.2024.195465>
- Kafando, N. (2018). Does the development of the agricultural sector affect the manufacturing sector? In *Economic Growth and Development in Africa* (pp. 209-239). Springer. [https://doi.org/10.1007/978-3-319-76222-7\\_10](https://doi.org/10.1007/978-3-319-76222-7_10)

- Kelikume, I., & Nwani, S. (2020). Agricultural sector linkage with other sectors of the economy: Evidence from Nigeria. *South Asian Journal of Social Studies and Economics*, 7(1), 1-23. <https://doi.org/10.9734/sajsse/2020/v7i130177>
- Kholodova, M. (2021). Model of diagnostics of the efficiency of using the resource potential of the agricultural sector economy. *E3S Web of Conferences*, 285, 01014. <https://doi.org/10.1051/e3sconf/202128501014>
- Medvedeva, L. (2023). Evaluating the effectiveness of programs for the agricultural sector support at the regional level. *E3S Web of Conferences*, 413, 01019. <https://doi.org/10.1051/e3sconf/202341301019>
- Mustafa, D., Sulaiman, S., & Nurdin, R. (2019). The role of organizational investment in social capital, information technology and service commitment on employee performance with good governance principles as intervening variables. *Proceedings of the International Conference on Sustainable Innovation*. <https://doi.org/10.4108/eai.3-10-2018.2284321>
- Purwantini, T. (2023). Human capital performance in the agriculture sector during the era of COVID-19. *Proceedings of the International Conference on Sustainable Development* (pp. 649-656). [https://doi.org/10.2991/978-2-38476-022-0\\_68](https://doi.org/10.2991/978-2-38476-022-0_68)
- Quang, A. (2019). *How the border economic zone in Vietnam was developed: The case of Tay Ninh city in the border with Cambodia* (Master's thesis). Itä-Suomen yliopisto.
- Rustemov, D., Abikayeva, M., Рахимова, Г., Омаркозхayeва, А., & Temirova, A. (2018). Determining the efficiency and the level of innovative development in agriculture: The case of Kazakhstan. *European Research Studies Journal*, 21(2), 650-664. <https://doi.org/10.35808/ersj/1030>
- Tay Ninh Statistical Office. (2023). *Statistical yearbook of Tay Ninh Province 2023*.
- Tien, N. H. (2019). Solutions to attract ODA investment into the southeastern economic region of Vietnam. *International Journal of Foreign Trade and International Business*, 2(1), 21-26.
- Tran, T. P. (2023). Impact of investment decision and capital mobilization decision on beta coefficient of technology and telecommunications enterprises listed in Vietnam. In *International Conference on Research in Management & Technovation* (pp. 461-472). Springer. [https://doi.org/10.1007/978-981-99-8013-8\\_37](https://doi.org/10.1007/978-981-99-8013-8_37)

## Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).