

# The Impact of Participation in Business Associations or Networks on the Income of Small and Medium-Sized Enterprises (SMES) in Pakse City and Paksong District, Champasak Province

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## ABSTRACT

This research aims to study the impact of participation in business associations or networks on the income of small and medium-sized enterprises (SMEs) in Pakse City and Paksong District, Champasak Province. The study population totaled 7,391 individuals (5,362 in Pakse City and 2,029 in Paksong District). A sample size of 380 individuals was calculated using Taro Yamane's formula, employing proportional sampling. Quantitative data was analyzed using OLS regression on the 380 respondents. Working capital and asset values were analyzed using a multivariate regression model. The results showed that the majority of respondents and SMEs were female (260 individuals), aged 59 years and older, and were Lao nationals. The majority (196 individuals, 51.58%) were engaged in trading before starting their businesses, and 101 individuals (26.58%) had a high school education, primarily from technical colleges. With 101 credit units, representing 16.29 percent, they have fewer than 5 years of business experience. With 195 credit units, representing 51.32 percent, they have 16-20 years of experience. With 27 credit units, representing 7.11 percent, they have 21 years or more of experience. With 10 credit units, representing 2.63 percent, they have 21 years or more of experience. The majority participated in fewer than 5 training sessions, with 99 people, representing 85.34 percent, and 206 people, representing 40.95 percent, respectively. From the analysis results, it can be concluded that the factors affecting the income of SMEs in Pakse City and Paksong District, Champasak Province, are as follows: nationality of the business owner (Nlt), education level of the business owner (Edm), business experience (Exp), strong market competition (Sc), number of employees (Labor), increased business expansion expenses (M\_exp), participation in associations (Group), online advertising (Ua), and tools used for scanning QR codes (Qr).

**Keywords:** MSMEs; Business Associations; Business Networks; Firm Performance; Social Capital.

## 1. Literature Review and Problem Statement

The Lao People's Democratic Republic is a rapidly growing economy with a GDP growth rate of 7%, the highest in Southeast Asia. The Lao population is projected to increase by 38%, from 8 million in 2022 to 8.8 million in 2030, if the economy continues to grow and develop. For a country with such a young and

rapidly growing population, policy decisions must focus on creating effective jobs and generating income while also fostering a business-friendly environment.

Small and medium-sized enterprises (SMEs) in Laos are a key driver of the country's economic development and play a vital role in generating income and employment (Asian Development Bank [ADB], 2020). Several studies indicate that SMEs in Laos account for approximately 99% of all businesses and employ more than 80% of the total workforce (Ministry of Industry and Commerce [MOIC], 2019). However, despite their crucial role in the national economy, these enterprises face several limitations, including limited access to funding, a lack of business management knowledge, and insufficient tools or technologies for business expansion (World Bank, 2020). Furthermore, participation in business groups or networks, such as business associations or industrial councils, is a crucial mechanism for empowering SME entrepreneurs by facilitating the exchange of information, knowledge, and business opportunities (Organisation for Economic Co-operation and Development [OECD], 2021).

However, several studies have highlighted the challenges in the business environment that hinder increased investment in developing countries, particularly in ASEAN countries, which continue to face structural and institutional limitations (World Bank, 2020). In particular, the shortage of skilled labor and quality human resources remains an urgent problem for the business sector, affecting competitiveness and the attraction of foreign investment (Asian Development Bank [ADB], 2021). Furthermore, limited access to capital is a significant challenge for businesses, especially small and medium-sized enterprises (SMEs), which often struggle to access credit and funding for expansion (International Finance Corporation [IFC], 2020). At the same time, complex regulatory and administrative environments can obstruct business operations and hinder regional economic integration among ASEAN member states (Organisation for Economic Co-operation and Development [OECD], 2021). This situation makes it essential for domestic businesses to systematically identify problems and limitations in their operations in order to provide input and recommendations to the government for improving economic policies that better align with the needs of the business sector (Lao National Chamber of Commerce and Industry, 2016).

The Eighth National Economic and Social Development Plan (2016–2020) is a vision plan based on expected outcomes or key goals at the end of its five-year period. It sets the direction for the country's economic and social development in line with the long-term development context and emphasizes sustainable development in economic, social, and environmental aspects (Ministry of Planning and Investment [MPI], 2016). The plan establishes clear development goals and tasks and coordinates them with the development plans of government agencies, the private sector, and local organizations to ensure unified policy implementation and efficient execution within the allocated budget (MPI, 2016). Furthermore, the plan specifies sources of funding for development projects, encompassing domestic budget, foreign aid and loans, private sector investment (both domestic and foreign), and support from various financial systems and institutions to ensure sufficient economic resources for development (Lao National Chamber of Commerce and Industry, 2016). Simultaneously, the Eighth National Development Plan establishes a systematic framework for monitoring and evaluating performance, providing information for relevant agencies to promote, track, and assess implementation at various stages, particularly annual and mid-term evaluations. And the final evaluation of the plan (MPI, 2016). Such monitoring and evaluation processes are important in reflecting the successes, weaknesses, shortcomings, and challenges that arose during the plan's implementation, which helps relevant agencies to improve policies, measures, and operational guidelines to suit changing circumstances (Lao National Chamber of Commerce and Industry, 2016).

A study by Sayvaya et al. (2023) showed that factors affecting the performance of Lao SMEs include management training, receiving business advice, and joining business groups, which can help businesses grow in terms of revenue and profit. In addition, a study by Kongmanila (2023) showed that business size, number of employees, and experience of the entrepreneur are also factors affecting the performance of SMEs. Siliphon Novvatthanaphon (2007) studied the factors affecting the support of micro and small enterprises; Sutima Wangbanat (2013) studied the factors of success of micro and small enterprises; and Kyophilavong & Sayvaya (2016) studied the impact of Chinese foreign direct investment on the performance of small and medium enterprises in Laos. The results of the study all had an impact on the income of small enterprises. In Pakse City and Paksong Districts, areas with strong trade and tourism, participation in business groups can effectively help SMEs access information, training, and marketing opportunities. Boonlua (2013) also showed that participation in business associations has a significant impact on the performance of SMEs. Therefore, this study is interesting for examining the impact of participation in business associations or networks on the performance of MSMEs in Pakse and Paksong districts.

## 2. Objective

The objectives of this study are as follows:

Studying the impact of participation in business associations or networks on the income of small and medium-sized enterprises (SMEs) in Pakse City and Paksong District, Champasak Province.

## 3. Materials and Methods

The sample for this study focused on business units in two locations: Pakse City and Paksong District, Champasak Province. According to the 2025 report from the Department of Industry and Commerce of Champasak Province, there were 16,702 registered micro, small, and medium-sized enterprises (MSMEs) across 10 districts. For this study, only two districts were examined: Pakse City, with 5,362 units, and Paksong District, with 2,029 units, totaling 7,391 units.

To streamline the analysis and minimize the time required for data collection, the sample size was determined using Taro Yamane's (1973) formula. According to this calculation, the total sample size for the study was 380 units. The samples from each district were then selected using a random sampling technique, as detailed below:

**Table 1 Presents the random sampling method used to select the groups included in the study.**

No	District name	Population (Units)	Sample (Units)
1	Pakse City	5,362	276
2	Paksong District	2,029	104
<b>Total</b>		<b>7,391</b>	<b>380</b>

Source: Department of Industry and Commerce, Champasak Province, 2025.

This study aims to assess the impact of participation in business associations or networks on the income of small and medium-sized enterprises (SMEs) in Pakse City and Paksong District, Champasak Province. A quantitative research approach is employed, using a multiple regression model estimated through ordinary least squares (OLS). During the analysis, common econometric issues, such as multicollinearity among independent variables and heteroskedasticity, may occur. Any such issues identified will be

appropriately addressed during the evaluation process. The modeling framework applied in this study is based on the simulation model structure proposed by Suesawatwanich, P. (2024), which provides a robust approach for analyzing the relationships between network participation and firm income.

An econometric equation is applied to investigate the impact of participation in business associations or networks on the income of small and medium-sized enterprises (SMEs).

$$\text{Ln}(\text{Income}) = \beta_0 + \beta_1 \text{Sex} + \beta_2 \text{Age} + \beta_3 \text{Ntl} + \beta_4 \text{Edu} + \beta_5 \text{Exp} + \beta_6 \text{Train} + \beta_7 \text{Bp} + \beta_8 \text{Sc} + \beta_9 \text{Labor} + \beta_{10} \text{M\_exp} + \beta_{11} \text{Rb} + \beta_{12} \text{Np} + \beta_{13} \text{Group} + \beta_{14} \text{Ua} + \beta_{15} \text{Qr} + e_i$$

**Where:**

Sex: Gender of the business owner

Age: Age of the business owner

Ntl: Nationality of the business owner

Edu: Education level of the business owner

Exp: Business experience

Train: Number of training sessions attended

Bp: Business plan

Sc: Strong market competition

Labor: Number of employees

M\_exp: Expenses for business expansion increased compared to the previous year

Rb: Rapidly changing consumer trends and behaviors

Np: Natural disasters or Pandemics

Group: Enterprise participating in a business association

Ua: Use of online advertising

Qr: QR code scanning

$\beta_0$ : Constant term (intercept) of the model;

$\beta_1, \beta_2, \dots, \beta_{15}$ : Coefficients (slopes) of the independent variables;

$e_i$ : Error term (expected residual).

**Table 2: Definitions and descriptions of variables used in the regression model.**

Variables	Definition of variables	Measuring unit	Expected sign	Sources of variable	
Dependent variables					
1	Lnincome	Natural logarithm of Enterprise income	Index	Suesawatwanich (2024)	
Independent variables					
1	Sex	Gender of the business owner	1 = Male, 0 = Female	Positive	Zhang et al (2014)
2	Age	Age of the business owner	Years	Positive	Resmi et al (2019)
3	Ntl	Nationality of the business owner	1 = Lao, 0 = Otherwise	Positive	Dogbe et al (2020)

4	Edu	Education level of the business owner	1 = Vocational level or above; 0 = Otherwise	Positive	Milovanovic et al (2020)
5	Exp	Business experience	Years	Positive	Nguyen et al (2018)
6	Train	Number of training sessions attended	Number of times	Positive	Dogbe et al (2020)
7	Bp	Business plan	1 = Yes, 0 = Otherwise	Positive	Kyophilavong (2016)
8	Sc	Strong market competition	1 = Yes, 0 = Otherwise	Positive	Authors
9	Labor	Number of employees	Persons	Positive	Dogbe et al (2020)
10	M-exp	Expenses for business expansion increased compared to the previous year	1 = Increased, 0 = Not increased	Positive	Dwumah (2024)
11	Rb	Rapidly changing consumer trends and behaviors	1 = Increased, 0 = Not increased	Positive	Authors
12	Np	Natural disasters or Pandemics	1 = Yes, 0 = Otherwise	Positive	Authors
13	Group	Enterprise participating in a business association	1 = Member, 0 = Non-member	Positive	Kyophilavong(2016)
14	Ua	Use of online advertising	1 = Yes, 0 = Otherwise	Positive	Al-azzam et al (2024)
15	Qr	QR code scanning	1 = Yes, 0 = Otherwise	Positive	Ding et al (2019)

Source: the authors

#### 4. Results and Findings

The study results indicate that the majority of SME entrepreneurs in Pakse City and Paksong Province, Champasak Province, are female (260 individuals), aged 59 years or older, and are Lao nationals. Regarding their previous occupation, the majority were in trading (196 individuals, 51.58%). In terms of education, the majority have a high school diploma (101 individuals, 26.58%), followed by technical college education (101 individuals, 16.29%). Regarding business experience, the majority have less than 5 years of experience (195 individuals, 51.32%), while 27 individuals (7.11%) have 16-20 years of experience, and only 10 individuals (2.63%) have 21 years or more of experience. In terms of training, the majority have attended fewer than 5 training sessions (99 individuals, 85.34%), and 206 individuals (40.95%) have received training in financial planning and accounting. In analyzing the impact of participation in business associations or networks on SME income, several econometric issues were examined, including heteroskedasticity. To correct for this problem, heteroskedasticity-robust standard errors (White's correction) were applied to the ordinary least squares (OLS) estimates. This method does not alter the coefficient estimates but adjusts the standard errors to produce valid statistical inference,

ensuring reliable t-statistics and p-values even when the variance of the error terms is not constant. The results of the OLS regression are summarized in Table 3 below.

**Table 3: The impact of participation in business associations or networks on SME income**

Variables	Definition of variables	Coefficient	t
Sex	Gender of the business owner	-0.0903309	-0.59
Age	Age of the business owner	-0.0090783	-1.08
Ntl	Nationality of the business owner	-0.657844***	-3.03
Edu	Education level of the business owner	0.588725***	4.09
Exp	Business experience	0.026425*	1.95
Train	Number of training sessions attended	-0.0543859	-0.31
Bp	Business plan	-0.0448653	-0.32
Sc	Strong market competition	-3.28897***	-3.72
Labor	Number of employees	1.03600***	6.92
M-exp	Expenses for business expansion increased compared to the previous year	0.763544***	4.18
Rb	Rapidly changing consumer trends and behaviors	0.3270434	1.52
Np	Natural disasters or Pandemics	0.1216744	0.58
Group	Enterprise participating in a business association	1.59156***	5.62
Ua	Use of online advertising	1.03412***	4.28
Qr	QR code scanning	0.4075387*	1.8
Cons		22.3205***	22.66
Number of obs = 380			
F(15, 364) = 23.19			
Prob > F = 0.000			
R-squared = 0.5072			
Root MSE = 1.2155			

Source: the authors' own calculations.

Note: \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

The study found that factors related to the nationality of the business owner (Ntl) had a significant negative impact on SME income at the 1% level. When the entrepreneur was Lao, it resulted in a log(income) decrease of approximately 65.78% when other factors were kept constant. This reflects limitations in capital, knowledge, or business networks compared to foreign entrepreneurs. This result is consistent with the work of Dogbe et al. (2020), who indicated that diversity in background and international networks enhance business potential, especially in developing countries.

The education level of the business owner (Edu) has a significant positive effect on income at the 1% level. Specifically, if an entrepreneur has a vocational education or higher, it results in an SME income increase of 58.87%, keeping other factors constant. This demonstrates that highly educated entrepreneurs possess superior business management skills, such as planning, decision-making, and adapting to market changes, leading to increased income. Furthermore, education provides better access to information and

technology, consistent with Milovanovic et al. (2020), who found that human capital directly impacts the efficiency of SMEs.

Business experience (Exp) has a significant positive impact on revenue at a 10% level. One year of increased experience results in an increase of approximately 2.64% (*ceteris paribus*) when other factors are kept constant. This indicates that more experienced entrepreneurs can learn from the past, understand consumer behavior, and manage risk better, leading to greater business stability and increased revenue. Although the correlation is not very high, it is still practically important. These findings are consistent with Nguyen et al. (2018), who identified entrepreneurial experience as a key factor in improving the efficiency and survival of small businesses.

Strong market competition (SC) has a significant negative impact on revenue (1%). When faced with high competition, decreases by as much as 328.89% when other factors are kept constant. This demonstrates the vulnerability of SMEs to price and cost pressures, indicating that the intensity of competition forces businesses to lower product prices, increase marketing costs, or lose market share, resulting in reduced revenue. This is particularly true in the context of SMEs with limited resources, consistent with Yuan et al. (2019), who found that excessive competition reduces profitability and the survival rate of SMEs.

The number of employees (labor) has a significant positive impact on revenue at the 1% level. An increase of 1 employee results in a 103.60% increase in revenue, considering other factors are kept constant, demonstrating that businesses with a larger workforce can increase production capacity, expand their service offerings, and better meet customer needs, leading to higher revenue. Furthermore, this reflects the relationship between business size and performance and the role of labor in increasing production capacity and business expansion, consistent with Dogbe et al. (2020), which found a positive correlation between labor size and business performance.

Increased business expansion expenses (M\_exp) have a positive impact on revenue at the level of 1%. If a business increases expenses, the potential result is a 76.35% increase in revenue, assuming other factors are kept constant. This indicates that additional investments such as marketing or technology, machinery purchases, store improvements, or branch expansion enhance operational potential and generate future revenue. Although they increase costs in the short term, the benefits are significant in the long term, consistent with Dwumah (2024)'s finding that strategic investment improves the performance of SMEs.

Enterprise participating in a business association (Group) had the most significant positive impact at the 1% level. SMEs that were members of a group experienced a 159.15% increase in revenue when other factors were kept constant. This demonstrates that networking provides entrepreneurs with greater access to information, news, business opportunities, and support. Furthermore, it fosters collaboration and reduces business limitations, reflecting the role of “social capital” and business networks in accessing new information, markets, and opportunities. These results are consistent with those of Zhang et al. (2014), Aladejebi (2020), and Nyuur et al. (2018), who affirmed that business networks are a crucial mechanism for enhancing the efficiency and revenue of SMEs through the concept of social capital.

Online advertising (UA) has a positive impact on firm revenue and is statistically significant at the 1% level. Firms that utilize online media experience an increase in income of approximately 103.41%, holding other factors constant (*ceteris paribus*). This indicates that the adoption of digital technology enhances customer reach, reduces traditional marketing costs, and increases sales opportunities. These findings reflect the role of the digital economy in the modern era, emphasizing the importance of digital marketing in expanding market access and improving firm performance. This result is consistent with the findings

of Al-Azzam et al. (2024), which show that the use of digital technology enhances the competitiveness of SMEs.

The use of QR codes has a positive impact on revenue at the level of 10%. When a QR code payment/scanning system is used, the potential impact on revenue increases by as much as 40.75% when other factors are kept constant. This reflects the role of fintech and the convenience of payments. The adoption of modern payment technology enhances customer convenience, improves the purchasing experience, and increases sales opportunities. Although the impact is not very high, it reflects the trend of the transition to digital business, which is consistent with Ding et al. (2019), who found that the use of technology increases revenue in the local business sector.

## 5. Conclusion

This study examined the impact of participation in business associations or networks on the income of small and medium-sized enterprises (SMEs) in Pakse City and Paksong District, Champasak Province. The findings provide clear empirical evidence that engagement in business associations and networks plays a significant role in enhancing the economic performance of SMEs. By integrating both quantitative and qualitative analytical approaches, the study demonstrates that network participation is not only a supportive mechanism but also a strategic tool that contributes to income growth, business expansion, and long-term sustainability.

The econometric results indicate that several key variables significantly influence SME income, particularly those related to participation in business networks, adoption of digital technology, and firm-specific characteristics. Variables such as participation in associations, online advertising, and access to business-related information show a positive and statistically significant relationship with income. This suggests that SMEs that actively engage in collaborative platforms are more likely to access market opportunities, share knowledge, and improve operational efficiency. Participation in business associations enhances information flow, enabling entrepreneurs to stay informed about market trends, pricing strategies, and customer preferences. This reduces information asymmetry and allows SMEs to make more informed decisions. Additionally, business networks provide opportunities for partnerships, joint ventures, and resource sharing, which ultimately reduce operational costs and increase productivity.

The role of digital technology, particularly online advertising, was also found to be a crucial determinant of SME income. Businesses that adopt digital tools can reach a wider customer base, improve marketing efficiency, and increase sales. The findings highlight that the integration of traditional business practices with modern digital platforms significantly improves competitiveness in today's economy. Moreover, firm-specific characteristics such as business experience, education level, and labor force also contribute positively to income generation. Entrepreneurs with higher education levels and more experience are better equipped to utilize available resources and adapt to changing market conditions. Similarly, a larger and more skilled labor force enhances production capacity and service quality.

However, some variables showed limited or insignificant effects, suggesting that not all factors contribute equally to income growth. This highlights the importance of focusing on the most impactful determinants, particularly those related to networking and technological adoption. It also suggests that policy interventions should prioritize strengthening business associations and improving access to digital infrastructure. From a policy perspective, the findings emphasize the need for government agencies and development organizations to promote SME participation in business associations and networks. This can be achieved through capacity-building programs, financial support, and the establishment of formal

networking platforms. Encouraging collaboration among SMEs can lead to stronger value chains and more resilient local economies. Furthermore, improving access to digital technology and training programs is essential for enhancing SME competitiveness. Providing support for digital marketing, e-commerce, and online business management can significantly increase income-generating opportunities for small enterprises.

In the context of Champasak Province, where SMEs play a vital role in local economic development, strengthening business networks can contribute to poverty reduction, job creation, and sustainable growth. The study underscores the importance of integrating local knowledge with modern business practices to achieve inclusive economic development. In conclusion, participation in business associations and networks has a significant and positive impact on the income of SMEs. The study confirms that networking, combined with digital adoption and human capital development, is a key driver of business success. Therefore, fostering an enabling environment that supports collaboration, innovation, and technology adoption is essential for the sustainable development of SMEs in the region.

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