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Infrastructure Expansion and Capability Traps: Divergent Development Trajectories of Community Enterprises Along the Lao–China Railway Corridor

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Abstract

Transportation infrastructure development, particularly the Lao–China Railway project, is often expected to generate growth opportunities for the production and service sectors. However, micro-level outcomes remain highly uneven and lack a clear explanatory mechanism, particularly among community enterprises. This study had two objectives: 1) to analyze changes in opportunity structures following the development of the Lao–China Railway, and 2) to examine how capability differentiation shapes divergent economic outcomes among community enterprises. A qualitative multiple-case study approach was employed. Data were collected through in-depth interviews and non-participant observation with 15 key informants, comprising representatives of 12 One District One Product (ODOP) enterprises in handicrafts, food and beverages, and traditional herbal medicine, and three government officials. The data were analyzed using pattern matching and cross-case synthesis. The findings revealed that: 1) the Lao–China Railway reshaped opportunity structures by expanding market access and increasing tourism-related demand. However, these changes produced uneven economic outcomes across enterprises, reflecting three development pathways: expansion, survival, and stagnation, and 2) the study also found that differences in enterprise capabilities played a central role in shaping the ability of enterprises to respond to emerging opportunities. In several cases, enterprises with limited resources experienced a capability trap, which restricted their ability to benefit from changing economic conditions. Based on these findings, the study proposes the concept of "opportunity-led transformation," which explains how enterprise capabilities condition the conversion of infrastructure-induced opportunities into divergent development outcomes. Therefore, policymakers need to implement capability-enhancement measures alongside transportation infrastructure development.

Keywords: Infrastructure Expansion, Capability Traps, Enterprise Capabilities, Divergent Development Trajectories, Lao–China Railway

1. Introduction

For decades, infrastructure development has played an important role in promoting economic and social development, particularly in developing countries. Previous studies suggest that investment in transportation infrastructure, including railways, roads, and logistics

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systems, can help reduce transaction costs, improve spatial connectivity, and facilitate the movement of goods, labor, and capital (Asian Development Bank, 2012; World Bank, 2020a). In the Greater Mekong Subregion, the Lao–China Railway has emerged as one of the major projects under China's Belt and Road Initiative (BRI), with the objective of strengthening regional economic and transportation connectivity across Southeast Asia (World Bank, 2020a; National Development and Reform Commission, 2022). As a result, the project is expected to expand market access, reduce transportation constraints, and stimulate regional trade and tourism (Keobounphanh et al., 2023).

Nevertheless, recent studies have begun to question the assumption that infrastructure development necessarily leads to improved economic outcomes. Although transportation infrastructure can enhance connectivity and expand market access, its benefits are often distributed unevenly. In many cases, enterprises with stronger resources and adaptive capabilities are better able to recognize, access, and respond to new economic opportunities than those with limited financial, technological, market, or institutional capabilities (Organisation for Economic Co-operation and Development, 2019; World Bank, 2020b). Similar patterns have also been identified in studies of Belt and Road Initiative (BRI)-related infrastructure development, where the economic benefits of infrastructure expansion often depend on complementary policies, local capabilities, and existing institutional conditions (Maliszewska & van der Mensbrugghe, 2019). In this sense, infrastructure may be understood less as a direct determinant of economic success and more as a condition that expands and reshapes economic opportunity structures.

These findings point to an important question concerning the relationship between transportation infrastructure and enterprise development at the local level. While infrastructure expansion can improve connectivity and market access at the macro level, enterprise-level economic outcomes remain highly uneven. Existing research still provides limited explanations of why enterprises exposed to broadly similar structural changes experience different development outcomes. To address this issue, this study introduces the concept of "opportunity-led transformation" as a way of understanding how infrastructure development reshapes economic opportunity structures, while differences in enterprise capabilities determine how these opportunities are recognized, accessed, and converted into economic outcomes. In this study, economic outcomes are understood not only in terms of business growth, but also in relation to divergent development trajectories, including expansion, survival, and stagnation.

To address these objectives, this study focuses on community enterprises in Lao PDR, particularly those located along the Lao–China Railway corridor. These enterprises provide a useful empirical setting for examining the relationship between changing opportunity structures, enterprise capabilities, and the conversion of emerging opportunities into different economic outcomes. The SME promotion policy of Lao PDR, initiated in 2004, sought to increase employment, improve productivity, and strengthen national economic competitiveness by supporting economic diversification beyond traditional agricultural production (ASEAN, 2010; World Bank, 2020a). Within this policy framework, the One District One Product (ODOP) program has played an important role in promoting local products, generating community income, and linking local producers to wider markets. As of 2026, Lao PDR had more than 400 community enterprise groups engaged in activities such as handicrafts, food and beverage production, traditional medicine, and services (Department of Small and Medium Enterprise Promotion, 2026). This setting therefore provides appropriate context for examining why enterprises exposed to similar changes in economic opportunity structures may nevertheless follow different

development pathways. Accordingly, this study has two objectives: first, to analyze changes in economic opportunity structures associated with the development of the Lao–China Railway; and second, to examine how differences in enterprise capabilities shape divergent economic outcomes among community enterprises.

2. Materials and Methods

2.1 Research Design

This study employed a qualitative multiple-case study approach to examine how community enterprises responded to changing opportunity structures associated with the development of the Lao–China Railway. A multiple-case study design was appropriate because it allows contemporary social and economic phenomena to be examined within their real-life contexts while also enabling comparison across cases and an in-depth exploration of socially embedded enterprise capabilities and adaptive behaviors (Yin, 2018). This approach also supports an in-depth understanding of how local enterprises interpret and respond to structural and economic changes in practice (Creswell & Creswell, 2018).

2.2 Research Area

The study focused on community enterprises located along the Lao–China Railway corridor, particularly those operating under the One District One Product (ODOP) program. Fieldwork was conducted in four areas: Vientiane, Vang Vieng, Luang Prabang, and Oudomxay. These areas represent important economic and logistical locations connected to the railway and were purposively selected to enable comparisons across distinct socio-economic contexts: metropolitan consumption in Vientiane, nature-based tourism in Vang Vieng, heritage craftsmanship in Luang Prabang, and regional trade and transit activities in Oudomxay.

2.3 Sample Selection

Purposive sampling was used to identify participants with direct knowledge and experience of community enterprise development and changing economic conditions associated with the Lao–China Railway corridor. Community enterprises were eligible for inclusion if they were officially registered under the One District One Product (ODOP) program administered by the Department of Small and Medium Enterprise Promotion in Lao PDR and had relevant operational experience within the study areas. Enterprise heads or chairpersons were selected as key informants because of their direct involvement in enterprise management and decision-making.

Key informants were selected through purposive sampling based on three eligibility criteria: (i) official registration under the One District One Product (ODOP) program, (ii) relevant operational experience within the study areas, and (iii) direct involvement in enterprise management and decision-making. In total, 15 key informants participated in the study, comprising heads or chairpersons of 12 community enterprises and ODOP groups and three government officials. The enterprises represented three sectors: handicrafts (6), food and beverages (4), and traditional herbal medicine (2). This distribution reflected the availability of eligible enterprises across these sectors within the selected study areas rather than a predetermined proportional allocation. The three government officials involved in SME and community enterprise promotion were interviewed as contextual informants to provide broader perspectives on enterprise development and policy support.

2.4 Data Collection

Data were collected through in-depth interviews and non-participant observation. The researchers personally visited the participating ODOP groups and conducted face-to-face interviews with the key informants. Interviews were conducted in the Lao language, and each interview lasted approximately 60 minutes. A semi-structured interview guide was used to explore four core dimensions: (1) historical enterprise evolution, (2) operational changes following the Lao–China Railway development, (3) enterprise capability constraints, and (4) strategic market adaptations and emerging opportunities. Non-participant observations

were conducted during field visits to provide contextual information on enterprise operations, production activities, products, market conditions, and local settings. Observational information was recorded and used to complement the interview data. To strengthen the credibility of the findings, information from enterprise participants, government officials, interviews, and field observations was compared through triangulation.

2.5 Data Analysis

All recorded interviews were transcribed verbatim and checked against the original audio recordings for accuracy. Qualitative coding was conducted manually through a two-stage inductive–deductive process. First, within-case analysis generated first-order empirical codes from interview transcripts, which were grouped into analytical categories related to market opportunities, enterprise capabilities, adaptive responses, and economic outcomes. Second, cross-case pattern matching and synthesis organized these categories into four core enterprise capability dimensions and three development pathways. Observational information was used to contextualize and corroborate patterns identified in the interview data. Coding consistency was maintained through repeated examination of transcripts, comparison of codes across cases, and verification of emerging themes against the original data. The analysis followed Yin's (2018) multiple-case study approach, incorporating within-case analysis, pattern matching, explanation building, and cross-case synthesis. Each of the 12 community enterprises was first analyzed as an individual case before patterns were compared across cases to identify similarities, differences, and recurring relationships. Information from the three government officials was used to support the interpretation of the broader institutional and policy context rather than being treated as separate enterprise cases.

The analysis focused on explaining how changes in opportunity structures interacted with differences in enterprise capabilities and how these differences shaped enterprise responses and economic outcomes. Cross-case comparison subsequently identified three broad development pathways: expansion-oriented, survival-oriented, and stagnation-prone.

3. Results

3.1 The finding to changes in opportunity structures following the development of the Lao–China Railway

3.1.1 Infrastructure as a Catalyst for Opportunity Structure Reconfiguration

The Lao–China Railway project is a major transportation infrastructure development connecting Kunming City in Yunnan Province of the People's Republic of China with Vientiane Capital of the Lao People's Democratic Republic. The railway has a total length of approximately 1,035 kilometers, with more than 400 kilometers located within Lao PDR border, covering 10 major stations (National Development and Reform Commission, 2022). The route supports both passenger and freight transportation. Passenger trains operate during the daytime, while freight trains run at night. At present, the railway operates through five major passenger stations, including Boten, Muang Xay (Oudomxay), Luang Prabang, Vang Vieng, and Vientiane Capital, with plans to expand passenger services to 10 stations in the future (VietAsia Travel, 2022).

The findings further suggest that the railway increasingly functions as a dynamic economic corridor characterized by growing flows of goods, people, and investment. However, the emergence of these opportunities has remained uneven across enterprises. Differences in enterprise capabilities strongly shape the extent to which businesses are able to respond to changing market conditions and utilize newly emerging opportunities. This pattern is reflected in the experiences of local entrepreneurs:

Ms. Suay (pseudonym, head of processed food enterprise group, Vang Vieng district, Vientiane province) said that "…After the railway opened, our products started selling better because more people came to the

area…Previously, sales were around 700,000–800,000 kip, but they have increased since then."

Mr. Chaiwat (pseudonym, head of ODOP center, Xay district, Oudomxay province) said that "…After the railway opened, more customers started coming. Tourists could see our products more easily…"

3.1.2 Transformation of Economic Opportunity Structures

The findings indicate that the development of the Lao–China Railway has reshaped the economic opportunity structures surrounding community enterprises in three major dimensions: the spatial expansion of markets, transformation of demand dynamics, and increasing integration into regional market and distribution networks. Beyond improving transportation speed, the railway has reduced spatial and temporal barriers to mobility, facilitating greater movement of people and goods and creating new opportunities for market interaction along the corridor. The influx of railway passengers has also transformed demand dynamics from predominantly local functional purchases toward tourist-driven demand for aesthetically appealing and souvenir-related products. This shift has created dual pressure for traditional producers: maintaining authentic cultural heritage while meeting modern packaging and quality standards. These changes demonstrate how large-scale transport infrastructure can alter the economic environment in which community enterprises operate by expanding market possibilities, changing patterns of demand, and strengthening connections with wider commercial networks.

1) Spatial Expansion of Markets: One important change associated with the Lao–China Railway has been the expansion of market boundaries beyond local areas. Improved transportation connectivity and reduced logistical constraints have enabled some community enterprises to reach wider domestic, tourism-related, and cross-border markets. This spatial expansion manifested in two forms: direct access to visiting tourists and indirect market reach through intermediaries. However, participation in these expanded markets remains uneven. Some enterprises have been able to access new customer groups and wider trade channels, while others continue to depend largely on local markets. The findings therefore suggest that improved connectivity expands market opportunities but does not automatically ensure that all enterprises are equally able to access them.

Ms. Sawan (pseudonym, head of a bamboo handicrafts enterprise group, Xay District, Oudomxay Province) stated: "…Our clientele now spans local residents, domestic tourists, and foreigners. The majority are tourists who purchase our products to take back with them…"

Mr. Pradit (pseudonym, head of a weaving and handicrafts group, Luang Prabang City, Luang Prabang Province) stated: "…Most foreign customers either visit our shop directly or utilize intermediaries to procure our products…"

2) Transformation of Demand Dynamics: In addition to expanding market access, the Lao–China Railway has been associated with changes in patterns of consumer demand. Growth in railway-linked tourism and cross-border travel has shifted demand from predominantly local functional purchases toward products valued for their aesthetic appeal, cultural identity, and souvenir characteristics, while also increasing expectations for higher quality and improved packaging. In response, many enterprises have had to adjust their production processes, product designs, and marketing strategies to meet changing customer expectations. This shift created a dual pressure for many traditional producers: they were expected to preserve cultural authenticity while also improving packaging, product presentation, and quality to meet emerging market standards. The findings show that enterprises have responded to these changes in different ways. Some were able to adapt their products and production practices to emerging demand, while others faced difficulties adjusting to new market expectations. Changing demand dynamics therefore created opportunities for enterprise

growth while also generating new pressures for enterprises with limited adaptive capabilities.

Ms. Sawan (pseudonym, head of a bamboo handicrafts enterprise group, Xay District, Oudomxay Province) stated: "…It's not just one type anymore. There are many varieties and different sizes. We customize according to fluctuating customer preferences…We focus on singular, high-quality items. Diversifying too much makes quality control difficult…"

Mr. Arthit (pseudonym, head of a handicrafts enterprise group, Xaythany District, Vientiane Capital) stated: "…Nowadays, customers choose specific styles, sizes, and products with more distinctive characteristics… Chinese customers often buy them for worship purposes and as souvenirs. Souvenir products sell particularly well because tourists purchase them to take back home..."

3) Integration into Regional Market and Distribution Networks: Improved transportation connectivity has enabled some community enterprises to develop stronger connections with regional market and distribution networks. Several enterprises have worked with intermediaries, participated in regional trade fairs, and accessed broader distribution channels. While some expansion-oriented textile and handicraft enterprises established direct relationships with international buyers who placed repeat orders, smaller producers remained more dependent on intermediaries and local distribution channels. These changes reflect a gradual shift from predominantly local market participation toward wider commercial networks. However, integration into regional market and distribution networks remained highly asymmetric, reflecting differences in enterprises' ability to establish and maintain direct buyer relationships and their relative dependence on intermediaries. Many enterprises continue to face difficulties meeting product standards, expanding production capacity, or developing institutional and commercial connections. Consequently, the ability to participate in wider market and distribution networks remains concentrated among enterprises with greater readiness and stronger capabilities.

Mr. Chaiwat (pseudonym, head of an ODOP center, Xay District, Oudomxay Province) stated: "…This center aggregates local products and manages marketing. Upon receiving orders, we coordinate with villagers for production and subsequent sale…"

Ms. Mali (pseudonym, head of a textile and handicraft center, Luang Prabang City, Luang Prabang Province) stated: "…Some international customers who first came to buy our products many years ago still return to place orders for resale in their own markets …Some customers also request specific designs and then promote and sell the products online..."

Taken together, these findings show that the Lao–China Railway has reshaped economic opportunity structures by expanding market reach, transforming demand dynamics, and strengthening connections with wider market and distribution networks. However, these expanded opportunities have not produced uniform benefits across community enterprises. Their ability to access and respond to emerging opportunities varies considerably according to their existing capabilities, providing the basis for the analysis of opportunity conversion in the following section.

3.2 The findings to examine how capability differentiation shapes divergent economics outcomes among community enterprises

The findings presented in Section 3.1 show that the Lao–China Railway has expanded economic opportunity structures, but these opportunities have not translated into the same outcomes for all community enterprises. Enterprises differ considerably in their ability to recognize, access, and respond to emerging opportunities. The findings therefore suggest that enterprise capabilities play an important role in shaping how expanded opportunities are converted into economic outcomes. As a result, enterprises operating under broadly similar structural conditions may follow different development trajectories.

3.2.1 Enterprise Capabilities as an Interdependent System

The findings indicate that enterprise capabilities do not function as isolated assets; rather, they form a tightly coupled system. Four major capability areas were identified: (1) technological and production capability, (2) financial capability, (3) market and adaptive capability, and (4) institutional and network capability. These

capabilities are closely interrelated, and a deficiency in one area can create a systemic bottleneck that constrains development across other capability areas. For example, limited financial capability may restrict technological investment in processing machinery, which can subsequently compromise quality control and production capacity, thereby limiting access to higher-value markets. Similarly, limited market knowledge or weak institutional networks can reduce an enterprise's ability to identify and access emerging opportunities. In contrast, enterprises with stronger and more balanced capabilities were generally better positioned to respond to changing market conditions.

Ms. Suay (pseudonym, head of a processed food enterprise group, Vang Vieng District, Vientiane Province) stated: "...We would like to have our own fish grinding machine because it would help reduce production costs and improve the quality and consistency of the processing... We also want to improve product quality to meet proper standards. If the products are not tasty or clean, customers will not return to buy them again..."

Mr. Pradit (pseudonym, head of a weaving and handicrafts group, Luang Prabang City, Luang Prabang Province) stated: "…Initially, we secured a bank loan to invest in machinery, which streamlined and scaled our production. This was augmented by business planning workshops and state support programs that helped us translate theoretical knowledge into a viable, expanding enterprise…"

Mr. Saifa (pseudonym, head of a processed food enterprise group, La District, Oudomxay Province) stated: "…We received training in business plan development, and there were also support programs from Thailand. After learning various techniques and approaches, we were able to further develop and expand our products…"

3.2.2 Opportunity–Capability Interaction

The interaction between external opportunity structures and internal enterprise capabilities operates as an organizational filter, shaping how community enterprises recognize, access, and convert emerging opportunities into economic outcomes. In relation to market expansion, enterprises with stronger market capabilities and wider business networks were generally better able to reach customers beyond their local areas. For example, some enterprises benefited from intergenerational digital skills by leveraging younger family members for social media marketing, enabling them to promote products and reach potential customers beyond their local markets. By contrast, enterprises with weaker market connections and limited digital capabilities often remained dependent on traditional local markets despite improved transportation connectivity.

A similar pattern was observed in response to changing demand dynamics. Enterprises with greater adaptive capability were better able to adjust production processes, product quality, design, and packaging to meet the expectations of tourists and new customer groups. Enterprises with more limited capabilities, however, faced greater difficulties responding to changing market requirements. These constraints also affected participation in wider market and distribution networks, particularly when enterprises lacked the production capacity, market knowledge, or institutional connections required to access them.

Ms. Suay (pseudonym, head of a processed food enterprise group, Vang Vieng District, Vientiane Province) stated: "...My daughter helps upload and promote the products on Facebook... and there are also people who help write advertising content for us..."

Mr. Udom (pseudonym, commerce department official, Oudomxay Province) stated: "…Access to online markets is still a bottleneck …Many are not yet equipped to fully leverage these digital platforms…"

3.2.3 Divergent Development Pathways

The interaction between expanded opportunity structures and differences in enterprise capabilities was associated with three distinct development pathways among the community enterprises: (1) expansion-oriented enterprises pursuing dynamic upgrading, (2) survival-oriented enterprises primarily maintaining existing operations, and (3) stagnation-prone enterprises facing persistent capability constraints and potential capability traps.

* Expansion-Oriented Pathway: Enterprises following this pathway possessed relatively strong and balanced capabilities across production, finance, markets, and institutional networks. They were generally more proactive in improving products, expanding market

access, and developing connections with wider market and distribution networks, reflecting a process of enterprise upgrading. These capabilities enabled them to convert emerging opportunities into business expansion and more sustained economic gains.

* Survival-Oriented Pathway: Enterprises in this pathway attempted to respond to emerging opportunities but continued to face capability limitations, particularly in market access, management, financial resources, or adaptive capacity. Their responses therefore focused primarily on maintaining existing operations (status quo) rather than pursuing substantial expansion. Although they were able to access some new opportunities, capability constraints limited their ability to convert these opportunities into broader and more sustained development.

* Stagnation-Prone Pathway: Enterprises following this pathway faced multiple and persistent capability constraints that limited their ability to respond to changing market conditions. Many continued to rely on traditional production and market practices and experienced increasing difficulty competing with larger or lower-cost producers. In several cases, these interconnected constraints contributed to a capability trap, in which limited resources restricted the ability to strengthen enterprise capabilities, while weak capabilities in turn reduced the ability to capture emerging economic opportunities.

Ms. Mali (pseudonym, head of a textile and handicraft center, Luang Prabang City, Luang Prabang Province) stated: "…Cheap, factory-made imports are flooding the market. It is becoming increasingly difficult for our traditional crafts to compete…"

Mr. Chaiwat (pseudonym, head of an ODOP center, Xay District, Oudomxay Province) stated: "…We utilize Facebook, but logistics still rely on fragmented personal connections. A formalized delivery ecosystem is still absent…"

4. Discussion

The findings show that the Lao–China Railway has expanded economic opportunities for community enterprises, but these opportunities have not automatically translated into better or more equal economic outcomes. Rather than functioning as a direct driver of enterprise growth, the railway has reshaped the economic environment in which enterprises operate by improving connectivity, widening market access, increasing tourism-related demand, and strengthening connections with broader market networks. This pattern can be interpreted through the broader concept of opportunity structures discussed by Merton (1938) and Small and Newman (2001), in which structural conditions shape the range of opportunities available to actors. It is also consistent with Lin's (2012) New Structural Economics perspective, which emphasizes the role of infrastructure in creating enabling conditions for economic development. From this perspective, infrastructure expands the space of economic possibilities, while the extent to which those possibilities generate benefits depends on the capacity of local actors to respond.

The findings further suggest that the economic effects of the railway developed gradually rather than immediately after it became operational. As transport connectivity improved and economic activity along the corridor increased, new market and tourism opportunities became more visible and accessible to local enterprises. This supports Donaldson's (2018) argument that transportation infrastructure can reshape patterns of market interaction and economic connectivity over time. However, enterprises operating within the same broader railway corridor did not benefit equally. Their outcomes varied according to their resources, adaptive capabilities, and readiness to respond to changing market conditions. Similar patterns have been reported in studies of Belt and Road Initiative Infrastructure, which indicate that infrastructure benefits depend partly on local capabilities, institutional readiness, and complementary policy support (Maliszewska & van der Mensbrugghe, 2019; World Bank, 2020b). Infrastructure development should therefore be understood primarily as an opportunity-generating condition rather than as a guarantee of equal economic gains.

This unevenness is evident across the three dimensions of opportunity-structure transformation identified in the study: the spatial expansion of markets, transformation of demand dynamics, and increasing

integration into regional market and distribution networks. Improved connectivity reduced geographical barriers and enabled some enterprises to reach wider groups of customers. At the same time, growth in tourism and cross-border mobility increased demand for higher product quality, improved packaging, stronger branding, and greater responsiveness to customer preferences. Connections with wider market and distribution networks also expanded, but participation remained uneven because many enterprises continued to face difficulties in meeting product standards, increasing production capacity, and developing commercial relationships. Although these patterns do not necessarily indicate full integration into formal regional value chains, they are consistent with Gereffi et al. (2005) in showing that participation in wider markets depends not only on physical connectivity but also on productive capabilities and network relationships. The findings also support Suvakunta's (2025) observation that the Lao–China Railway has strengthened regional economic connectivity and tourism-related interaction within the Greater Mekong Subregion. Greater regional connectivity, however, does not necessarily result in equal enterprise-level participation.

Beyond these external changes, the findings show that enterprise capabilities play a central role in determining how emerging opportunities are recognized, accessed, and converted into economic outcomes. Sen's (1999) Capability Approach provides a broader conceptual insight into this process by emphasizing that the existence of opportunities does not itself guarantee meaningful outcomes; actors must possess the capacity to convert available opportunities into valued achievements. When considered alongside Lin's (2012) New Structural Economics, this perspective suggests that infrastructure provides an external enabling condition, while enterprise capabilities influence whether and how emerging opportunities are translated into economic outcomes. At the enterprise level, the present study identifies four interrelated capability areas: technological and production capability, financial capability, market and adaptive capability, and institutional and network capability. These capabilities operate as an interconnected system rather than as isolated resources. For example, limited financial capability may restrict investment in production technology, which can affect product quality and reduce access to higher-value markets. Similarly, weak market or institutional capabilities can limit an enterprise's ability to identify and capture new opportunities. This pattern is consistent with Barney's (1991) Resource-Based View and recent SME studies emphasizing organizational adaptation, digital readiness, and capability development (Abd Rashid et al., 2025; González-Varona et al., 2021).

The interaction between changing opportunity structures and enterprise capabilities can therefore be understood as an Opportunity–Capability Interaction. Infrastructure expands the range of possible opportunities, but enterprises differ in their capacity to recognize, access, and convert those opportunities into economic gains. This helps explain why enterprises exposed to broadly similar structural changes can experience markedly different outcomes. Enterprises with stronger and more balanced capabilities were better positioned to adapt products, expand market access, and strengthen commercial networks, whereas enterprises with more limited capabilities were able to capture only part of the opportunities available to them. The findings therefore shift the explanation of uneven outcomes away from infrastructure exposure alone toward the interaction between external opportunities and internal enterprise capabilities.

A further contribution of the study is the identification of a potential capability trap. Some enterprises remained dependent on low-value or traditional production and market practices despite the expansion of economic opportunities around them. Limited technological, financial, market, and network capabilities restricted their ability to upgrade production, improve product quality, reach higher-value markets, and generate additional resources for reinvestment. These constraints could become self-reinforcing: weak capabilities limited the ability to capture better opportunities, while limited economic gains reduced the resources available for further capability development. This suggests that infrastructure expansion without complementary enterprise capability development may reinforce existing economic disparities among community enterprises. This pattern is consistent with Harvey's (2006) discussion of uneven development, in which actors operating within similar structural environments may follow different development trajectories.

These differences are reflected in the three development pathways identified in the study: expansion-oriented, survival-oriented, and stagnation-prone. The distinction among these pathways is not simply whether enterprises were exposed to railway-related economic change, since they operated within the same broader corridor. Rather, the pathways reflect different capacities to convert expanded opportunity structures into enterprise-level outcomes. Enterprises with stronger and more balanced capabilities were better able to improve products, reach new markets, and develop wider networks, resulting in an expansion-oriented pathway. Enterprises with partial capabilities could respond to some opportunities but remained focused mainly on maintaining existing operations, producing a survival-oriented pathway. Enterprises facing persistent and interconnected capability constraints had greater difficulty adapting and were more likely to follow a stagnation-prone pathway or become caught in a capability trap.

Taken together, these findings support an opportunity-led transformation perspective. The Lao–China Railway has reshaped the economic environment by expanding market reach, transforming demand dynamics, and strengthening connections with wider market and distribution networks. However, infrastructure-induced opportunities do not translate uniformly into enterprise development. Their outcomes depend on the interaction between expanded opportunity structures and the capabilities required to convert those opportunities into economic gains. By integrating Lin's (2012) emphasis on infrastructure as an enabling condition with Sen's (1999) emphasis on the capability to convert opportunities into valued outcomes, the study provides an explanatory basis for understanding why similar infrastructure investments can produce divergent enterprise-level development outcomes. Opportunity-led transformation therefore refers to a process in which infrastructure enlarges the range of economic possibilities, while differences in enterprise capabilities shape whether those possibilities lead to expansion, survival, or stagnation. This perspective helps explain why similar structural changes can produce divergent development outcomes among community enterprises.

5. Conclusion

This study examined how the Lao–China Railway has reshaped the economic environment of community enterprises under the ODOP program. This study concludes that transportation infrastructure acts as a necessary but insufficient condition for inclusive rural development. Rather, the railway has reshaped economic opportunity structures through the spatial expansion of markets, transformation of demand dynamics, and stronger connections with regional market and distribution networks. The study proposes the concept of opportunity-led transformation, which suggests that infrastructure development expands the range of economic possibilities rather than directly determining enterprise-level outcomes.

The findings further identify an Opportunity–Capability Interaction, in which differences in enterprise capabilities shape how emerging opportunities are recognized, accessed, and converted into economic outcomes. This interaction contributes to three divergent development pathways: expansion-oriented, survival-oriented, and stagnation-prone. Enterprises with stronger and more balanced capabilities were better positioned to convert emerging opportunities into business expansion, whereas those with partial or persistent capability constraints were more likely to focus on survival or experience stagnation. The study also identifies a capability trap, in which limited resources restrict capability development, while weak capabilities in turn reduce the ability of enterprises to capture emerging opportunities.

The study contributes to addressing the knowledge gap in three main ways. First, it advances opportunity-led transformation as a framework for understanding how infrastructure development can expand economic opportunities without producing uniform development outcomes. Second, it identifies the Opportunity–Capability Interaction as an explanatory mechanism linking changing opportunity structures with divergent enterprise outcomes. Third, it identifies three

development pathways and the capability trap as patterns through which differences in enterprise capabilities shape the conversion of emerging opportunities into economic outcomes.

From a policy perspective, policymakers in Lao PDR and across Belt and Road corridors must transition from an "infrastructure-centric" policy paradigm to a "capability-synchronized" development framework. Infrastructure investment should therefore be accompanied by measures that strengthen enterprise capabilities, including access to finance, technological upgrading, market and digital capabilities, and institutional and network support. Such measures can improve the ability of community enterprises to recognize, access, and convert infrastructure-induced opportunities into more meaningful and sustained economic gains. Future research could examine the proposed framework in other parts of the Greater Mekong Subregion and employ comparative, mixed-methods, or longitudinal designs to investigate how enterprise capabilities and development pathways evolve over time under changing regional economic conditions.

6. Conflict of Interest

We certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

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8. References

Abd Rashid, A., Hanif, A., Mohamad Shukri, N. H., & Žugić, D. (2025). Bridging the digital divide in ASEAN: Insights from Vietnam, Philippines, Laos, Cambodia, and Indonesia. *Open Research Europe, 5*, Article 220. https://doi.org/10.12688/openreseurope.20260.1

ASEAN. (2010). *SME development policies in ASEAN countries: Lao PDR*. https://www.asean.org/wp-content/uploads/images/archive/documents/SME%20Development%20Policies%20in%204%20ASEAN%20Countries%20-%20Lao%20PDR.pdf

Asian Development Bank. (2012). *Lao People's Democratic Republic: Transport sector assessment, strategy, and road map*. https://www.adb.org/documents/lao-peoples-democratic-republic-transport-sector-assessment-strategy-and-road-map

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Department of Small and Medium Enterprise Promotion. (2026). *ODOP and community enterprise database* [Internal database]. Ministry of Industry and Commerce, Lao PDR.

Donaldson, D. (2018). Railroads of the Raj: Estimating the impact of transportation infrastructure. *American Economic Review, 108*(4–5), 899–934. https://doi.org/10.1257/aer.20101199

Gereffi, G., Humphrey, J., & Sturgeon, T. (2005). The governance of global value chains. *Review of International Political Economy, 12*(1), 78–104. https://doi.org/10.1080/09692290500049805

González-Varona, J. M., López-Paredes, A., Poza, D., & Acebes, F. (2021). Building and development of an organizational competence for digital transformation in SMEs. *Journal of Industrial Engineering and Management, 14*(1), 15–24. https://doi.org/10.3926/jiem.3279

Harvey, D. (2006). *Spaces of global capitalism: Towards a theory of uneven geographical development*. Verso.

Keobounphanh, C., Li, K., & Inayoshi, N. (2023, January 12). *Railways help landlocked Laos embark a journey beyond borders*. ASEAN+3 Macroeconomic Research Office. https://amro-asia.org/railways-help-landlocked-laos-embark-a-journey-beyond-borders/

Lin, J. Y. (2012). *New structural economics: A framework for rethinking development and policy*. World Bank. https://openknowledge.worldbank.org/entities/publication/d43bcbb3-4470-55c8-9d28-f36de538ad2a

Maliszewska, M., & van der Mensbrugghe, D. (2019). *The Belt and Road Initiative: Economic, poverty and environmental impacts* (Policy Research Working Paper No. 8814). World Bank. https://doi.org/10.1596/1813-9450-8814

Merton, R. K. (1938). Social structure and anomie. *American Sociological Review, 3*(5), 672–682. https://doi.org/10.2307/2084686

National Development and Reform Commission. (2022, November 15). *China–Laos railway*. Belt and Road Portal. https://eng.yidaiyilu.gov.cn/p/290503.html

Organisation for Economic Co-operation and Development. (2019). *Strengthening SMEs and entrepreneurship for productivity and inclusive growth: OECD 2018 Ministerial Conference on SMEs*. OECD Publishing. https://doi.org/10.1787/c19b6f97-en

Sen, A. (1999). *Development as freedom*. Oxford University Press.

Small, M. L., & Newman, K. (2001). Urban poverty after the truly disadvantaged: The rediscovery of the family, the neighborhood, and culture. *Annual Review of Sociology, 27*, 23–45. https://doi.org/10.1146/annurev.soc.27.1.23

Suvakunta, P. (2025). Ten years of China's Belt and Road Initiative: The case of the China-Laos-Thailand high-speed railway project. *Connexion: Journal of Humanities and Social Sciences, 14*(2), 177–195. https://so05.tci-thaijo.org/index.php/MFUconnexion/article/view/283455

VietAsia Travel. (2022, April 26). *Laos-China Railway from Vientiane to Kunming*. https://vietasiatravel.com/destinations/laos/laoschina-railway-from-vientiane-to-kunming-g389.html

World Bank. (2020a). *Transforming Lao PDR from a land-locked to a land-linked economy*. https://www.worldbank.org/en/country/lao/publication/transforming-lao-pdr-from-a-land-locked-to-a-land-linked-economy

World Bank. (2020b). *World development report 2020: Trading for development in the age of global value chains*. https://doi.org/10.1596/978-1-4648-1457-0

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.