

SMEs' Sustainability in Kailali and Kanchanpur District of Nepal

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Abstract

In peripheral border regions, Small and Medium Enterprises (SMEs) are an important source for employment creation, income generation and local economic development in Nepal. The present study analyses the factors which determine the sustainability of SMEs in the two districts, Kailali and Kanchanpur, of the Sudurpaschim Province, using a quantitative research approach. Primary data were gathered by means of a standardized questionnaire from 550 registered SMEs engaged in trade, manufacturing and services. Descriptive statistics as well as a multiple regression analysis were applied to investigate the effects of access to finance, managerial capabilities, market access, infrastructural conditions and support of the government on business sustainability. As a result, it was found out that the access to finance, managerial capabilities and the access to markets have significant positive effects on the sustainability of SMEs. In contrast, the poor quality of the infrastructure and the low effectiveness of the government's support represent major barriers to sustainable entrepreneurship in border districts. The findings emphasize the necessity of a combination of financial and digital literacy programs for SMEs and better access to adequate financial services, as well as targeted capacity-building activities designed specifically for the needs of SMEs located in peripheral border regions. Finally, the study concludes that to improve the long-term sustainability of SMEs in peripheral border regions of Nepal, governmental policies need to be developed that at the same time, aim to develop the human capital and eliminate structural limitations within the financial sector.

Keywords: Government Support, Infrastructure, Kailali, Kanchanpur, Market Access, Nepal, Sustainability

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ISSN (Print) :2467-9356, ISSN (Electronic) : 2795 - 1545
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1. Introduction

Small and Medium Enterprises (SMEs) form the backbone of most developing economies, playing a crucial role in employment generation, income creation, poverty reduction, and balanced regional development. In Nepal, SMEs are particularly important due to the country's limited industrial base, challenging geography, and strong reliance on small-scale entrepreneurial activities (Adhikari et al., 2016; Chaulagain, 2015). Despite their economic significance, the growth and long-term sustainability of SMEs remain major challenges, especially in peripheral and border regions where structural and institutional constraints are more pronounced.

Limited access to finance is widely recognized as one of the major barriers to SME growth and sustainability. High collateral requirements, information asymmetry, and rigid lending procedures often restrict SMEs' access to formal credit (Allen et al., 2016; Wise, 2013). Empirical studies from Nepal and other developing economies show that financial constraints negatively affect firm performance, investment capacity, and long-term survival (Adhikari et al., 2016; Eton et al., 2021; Garg et al., 2025). However, access to finance alone is insufficient if entrepreneurs lack the knowledge and skills required to effectively manage financial resources.

Consequently, financial literacy has emerged as an important determinant of SME performance and sustainability. Financially literate entrepreneurs are better able to maintain financial records, manage cash flows, evaluate funding options, and interact with financial institutions (Lusardi & Tufano, 2015; Lusardi, 2019). Studies across different countries have demonstrated a positive relationship between financial literacy and firm performance, with improved access to finance and stronger risk management acting as key mediating factors (Adomako et al., 2016; Robb & Robinson, 2014; Ye & Kulathunga, 2019). Financial literacy has also been shown to reduce risk aversion, enhance credit access, and promote innovation among SMEs in South Asia and Africa (Hock-Doepgen et al., 2021; Luan et al., 2023; Nippani et al., 2025).

These relationships can be explained through human capital theory, which sug-

gests that investments in education, training, and experience enhance individuals' productivity and decision-making ability (Becker, 1964). In the SME context, the education level, entrepreneurial experience, financial training, and digital literacy of owner-managers significantly influence financial literacy and business sustainability (Benedict et al., 2021; Christodoulou et al., 2024; Iwu et al., 2024). As financial services increasingly shift toward digital platforms, digital literacy has become essential for SMEs to effectively utilize digital banking, mobile payments, and fintech services (Agyekum et al., 2022; Bongomin et al., 2024; Thathsarani&Jianguo, 2022).

Although several studies in Nepal have examined SME sustainability by focusing on financial management practices, access to finance, and entrepreneurial capabilities (Chaulagain, 2015; Khadka et al., 2024; Shakya et al., 2024), most of these studies have concentrated on urban or relatively developed areas. As a result, limited attention has been given to SMEs operating in border and peripheral districts. Regions such as Kailali and Kanchanpur in Sudurpaschim Province face additional challenges, including weak infrastructure, limited market access, cross-border competition, and inconsistent implementation of government support programs. These challenges can increase financial exclusion and make it more difficult for SMEs to achieve long-term sustainability.

In addition, government support mechanisms, such as concessional loans, financial literacy initiatives, and SME development programs, often fail to achieve their intended outcomes because of limited outreach, low levels of awareness, and insufficient capacity-building components (Galami, 2025; Chowdhury, 2025). This situation highlights the importance of integrated approaches that combine improved access to finance with stronger human capacity development, particularly through financial and digital literacy training.

This study examines the determinants of SME sustainability in the Kailali and Kanchanpur districts of Nepal. By analyzing the roles of access to finance, managerial capability, market access, infrastructure, and government support, the study contributes empirical evidence from an under-researched border region. The findings are expected to provide valuable insights for policymakers, financial institutions, and development agencies seeking to design more effective strategies

to strengthen SME sustainability in Nepal's peripheral regions.

2. Empirical, Theoretical & Policy Review

Empirical studies have been conducted, both in developing and emerging economies, and these emphasize the central role of financial and managerial factors in shaping the performance and sustainability of SMEs. In the case of Nepal, Adhikari et al. (2016) point out limited access to finance, poor infrastructure and weak managerial capacity as the major constraints for SME growth. Similarly, Chaulagain (2015) and Khadka et al. (2024) note that low financial management practices and poor entrepreneurial skills are major contributing factors to poor firm performance and survival.

A lot of international evidence has identified financial literacy as a key to the sustainability of SMEs. Adomako et al. (2016) find that financial literacy improves firm performance mainly through the provision of ready availability of finance due to the fact that financially literate business owners are better able to prepare loan applications in order to gain financial access and have a better relationship with their lenders. Studies from South Asia and Africa also confirm that financially literate SME owners have better cash flow management, are less risk, and more growth oriented (Robb & Robinson, 2014; Luan et al., 2023; Nippani et al., 2025). In Sri Lanka and Ghana, access to finance has been found to mediate the relationship between financial literacy and SME performance, which provides a further argument for the importance of knowledge in translating into effective financial engagement (Ye & Kulathunga, 2019; Munyuki & Jonah, 2022).

Recent empirical research has also emphasized the growing importance of digital literacy for the sustainability of SMEs. With the growth of digital financial services, the SMEs having a higher level of digital and financial literacy are better placed to access banking services, mobile payments and fintech solutions (Agyekum et al., 2022; Bongomin et al., 2024; Thathsarani & Jianguo, 2022).

In addition, having entrepreneurial education, business experience, as well as participation in financial training programs, has been associated as an important antecedent of financial literacy and better firm outcomes (Benedict et al., 2021; Fallahshayan et al., 2022; Iwu et al., 2024).

Evidence from the border and peripheral areas of Nepal is still very limited despite these insights. Most of the studies are conducted in areas of central or urbanized areas, ignoring the peculiar structural problems of SMEs in districts such as Kailali and Kanchanpur, where infrastructural deficit, market access problems and cross-border competition are more acute. The theoretical base of SME sustainability in this study is mainly based on the Human Capital Theory (Becker, 1964).

The theory assumes that investments in education, training and experience boost the improvements of productivity and decision-making capability in individuals. In the SME context, owner managerial human capital (as manifested through education, financial literacy, managerial skills and digital competence) has a direct impact on firm performance and its long-term sustainability. Empirical research has supported this view and has shown that the level of owner education and experience is related to a higher level of financial decision-making and financial business decision results (Christodoulou et al., 2024; Kassa&Kegne, 2025). In addition, the resource-based view (RBV) provides some complementary results considering that intangible resources, such as knowledge, skills and managerial capability, can be used as sources of competitive advantage for SMEs. Financial literacy as well as managerial competency empower firms to use constrained resources in a more efficient way, as well as perform well in managing risks and reacting strategically to alterations in the market (Hock-Doepgen et al., 2021; Nik Azman et al., 2025).

From this point of view, access to finance is not only an externally available resource, but a capability that is dependent on the internal competencies of the firm. Risk attitude theory is another theory that has been used to explain the role of financial knowledge in entrepreneurs' behavior. A financially literate entrepreneur tends to adopt a balanced, calculated approach to risk-taking, which is key to innovation and long-term survival, especially in uncertain and volatile markets (Simon et al., 2000; KojoOseifuah, 2010).

This theoretical linkage evokes the mediating effect of 'financial risk attitude' between 'financial literacy' and the 'sustainability of SMEs'. From a policy perspective, Governments and development institutions have now come to realize

that SMEs can be considered as an engine of inclusive growth and an employment-generating sector. Policy measures, including SME financing schemes, concessional loan programs and financial inclusion strategies, are expected to improve access to credit and promote the development of enterprises in Nepal (Galami, 2025). The Nepal Rastra Bank has also emphasized financial literacy and digital financial inclusion as important pillars for the development of its financial sector. However, there is empirical evidence that policy effectiveness is usually limited due to the implementation gap, limited outreach and limited integration of capacity building components (Shakya et al., 2024; Chowdhury, 2025).

Many SMEs, especially in rural and border districts, have not been able to access formal financial systems because of their low level of financial literacy, lack of digital skills and stringent collateral requirements. International experiences have signaled that separate credit programs are not as effective as they should be without special financial education and managerial training (Lusardi, 2019; Wise, S. 2013). Policy frameworks of other developing economies are increasingly making demands for integrated approaches of access to finance, financial and digital literacy training, infrastructure development and market linkage support (Quarshie et al., 2025; Talip&Wasiuzzaman, 2024).

Such an approach is particularly relevant for the peripheral areas of Nepal, where underdevelopment is structural and needs to be addressed through a context-specific approach. In sum, the empirical and the theoretical literatures underline that SME sustainability is determined by a complex interaction of finance literacy, access to finance, managerial capability and institutional support. Policy interventions must therefore look beyond the provision of credit and attempt to build human capital and reduce the bias against it, particularly in border areas like Kailali and Kanchanpur.

3. Conceptual Framework

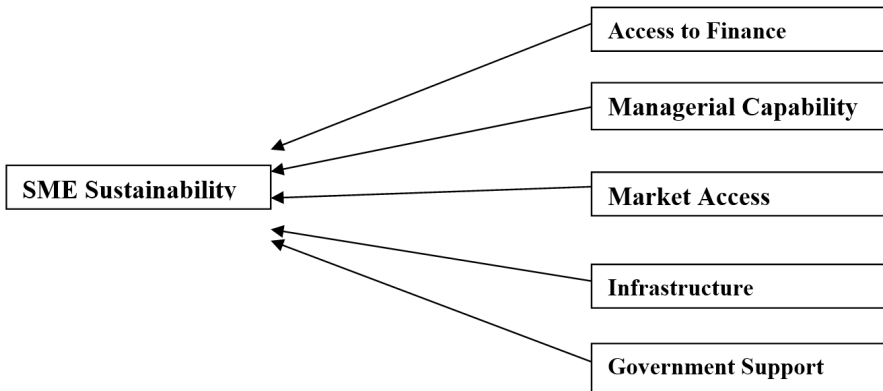


Figure 1. Conceptual Research Model

The conceptual framework of this study is developed to explain the important factors determining the sustainability of Small and Medium Enterprise (SME) in the border districts of Kailali and Kanchanpur in Nepal. Drawing on Human Capital Theory (Becker, 1964), the Resource-Based View and previous empirical evidence, the framework shows how firm-level capabilities and external support mechanisms interact and affect the SME sustainability. At the center of the framework, there is SME sustainability, which is the dependent variable and reflects the ability of the firm to survive, be profitable and grow over time. Sustainability is affected by internal and external factors that determine operational efficiency, financial stability, and competitive performance.

- i. **Access to finance** is considered to be an important determinant of SME sustainability. Adequate and appropriate access to formal credit enables SMEs to invest in productive assets, manage working capital and to overcome economic shocks. However, access to finance is often restricted in the border and peripheral areas due to high collateral requirements, information asymmetry and weak financial infrastructure. Consistent with previous studies, access to finance is likely to have a positive effect on SME sustainability.

- ii. Managerial capability** is an internal firm-level resource of owners encompassing their education, business experience, financial literacy, and decision-making skills. The strong managerial capability facilitates better planning, allocation of resources and risk management, which results in better firm performance and long-term survival. Human Capital Theory is the idea that better-equipped owner-managers have the capacity to turn resources into sustainable outcomes.
- iii. Market access** is also included as another crucial explanatory variable, especially in the border districts. SMEs that have improved access to local and cross-border markets are more likely to increase sales, diversify customers and have stable revenues. Limited market information, poor connectivity and strong competition from cross-border firms can undermine sustainability if not properly addressed.
- iv. Infrastructure** is a supporting role but is important in the framework. Physical infrastructure such as transportation, electricity, communication and digital connectivity, plays a role in the efficiency of production, costs and access to markets and financial services. Inadequate infrastructure in the peripheral regions is expected to have a negative effect on the sustainability of SMEs.
- v. Support from the government** is another external institutional factor in the framework. Policies which relate to financing of SMEs, training programs, tax incentives and business development services geared to strengthen enterprise sustainability. However, the efficacy of government support is dependent on awareness as well as accessibility and alignment with local needs. When done effectively, government support is expected to have a positive impact on the sustainability of SMEs.

The conceptual framework, therefore, proposes that access to finance, managerial capability, market access, infrastructure, and government support have direct and significant effects on SME sustainability. The framework acknowledges that these factors are interrelated and jointly determine the long-term viability of

SMEs in border regions.

Overall, this framework provides a structured basis for empirical investigation by linking theory and prior evidence to the specific context of SMEs in Kailali and Kanchanpur. It guides the formulation of hypotheses and the selection of variables for quantitative analysis, with the ultimate aim of informing targeted policy interventions to enhance SME sustainability in Nepal's peripheral regions.

Hypotheses Development

Based on the conceptual framework and existing empirical and theoretical literature, this study develops the following hypotheses to examine the determinants of SME sustainability in Kailali and Kanchanpur districts of Nepal.

H1: Access to finance has a significant positive effect on SME sustainability.

H2: Managerial capability has a significant positive effect on SME sustainability.

H3: Market access has a significant positive effect on SME sustainability.

H4: Infrastructure development has a significant positive effect on SME sustainability.

H5: Government support has a significant positive effect on SME sustainability.

4. Methodology

The target population of this study comprises registered SME owners and managers actively engaged in trade, manufacturing, and service sectors in Kailali and Kanchanpur districts of Sudurpaschim Province, Nepal. A stratified random sampling technique was used to ensure proportional representation of business sectors and geographic locations, resulting in a sample of 550 respondents, which is sufficient for reliable analysis. Data were collected through a structured questionnaire covering business characteristics, access to finance, managerial practices, market conditions, infrastructure, and government support. The questionnaire included multiple-choice and five-point Likert scale items (1 = Strongly Disagree/Very Poor to 5 = Strongly Agree/Very Good).

Data were processed and analyzed using SPSS version 25. Descriptive statistics summarized respondents' demographic and business characteristics, while multiple regression analysis tested the hypothesized relationships between independent

variables and SME sustainability. Independent variables were measured using validated scales from previous studies: access to finance (Beck et al., 2008; Allen et al., 2021), managerial capability (Becker, 1964; Adomako et al., 2016), market access, infrastructure, and government support (Galami, 2025; Chowdhury, 2025). The dependent variable, SME sustainability, reflects firm survival, profitability, growth potential, and operational stability.

The regression model is specified as:

$$\text{SME Sustainability} = \beta_0 + \beta_1\text{AF} + \beta_2\text{MC} + \beta_3\text{MA} + \beta_4\text{INF} + \beta_5\text{GS} + e$$

Where,

AF = Access to Finance,

MC = Managerial Capability,

MA = Market Access,

INF= Infrastructure,

GS = Government Support,

β_0 =constant,

β_1 – β_5 = coefficients, and;

e= error term.

5. Data Analysis

i. Demographic Information regarding SME Features and Business Profile

The demographic analysis provides important insights into the characteristics of SMEs and business profiles in Kailali and Kanchanpur districts. Male entrepreneurs dominate the sample at 62.36%, reflecting traditional gender patterns in the business ownership industry in border regions, with female entrepreneurs accounting for 37.64%. The middle age group of entrepreneurs, aged 31-40 years, is the largest at 44.55%, representing mature business leadership, followed by those aged 25-30 at 26.18%, entrepreneurs aged 41-50 at 21.82%, and those above 50 years at 7.45%. In terms of education, graduates lead at 48.73%, highlighting the rising educational qualifications of SME owners in peripheral regions, followed by undergraduates at 29.45%, and school-level education at 21.82%. Most respondents have between 5 and 10 years of business experience at 46.18%, while

29.46% have over 10 years of experience, and 24.36% possess 2 to 5 years of experience, indicating an overall operational maturity among SMEs in the border region.

Geographically, the sample distribution was spread across the major municipalities situated in both the districts with Dhangadhi Sub-Metropolitan City having the highest concentration of 26.36%, which was followed by Bhimdatta Municipality (24.00%), Tikapur Municipality (14.18%), Bedkot Municipality (11.09%), Lamkichuha Municipality (9.82%), Ghodaghodi Municipality (6.37%), Punarbas Municipality (5.09%) and Shuklaphanta Municipality (3.09%). This distribution is indicative of the commercial importance of the large urban areas of both border districts. Business owners were 85.09% represented at sole proprietorships and 14.91% typical of partnerships in peripheral regions, which are small-scale enterprises. Concerning the size of the business, small business enterprises prevailed (59.27%), and medium business enterprises also followed (40.73%), which shows the small-scale entrepreneurial ecosystem.

Enterprise types were varied with retail/kiranapasal (17.82%), agriculture and allied industries (15.45%), hardware and construction industries (12.18%), beauty parlor/salon (9.82%), manufacturing/metal industries (9.45%), meat products/fresh house (8.73%), hotels and restaurants (8.18%), fancy/tailoring/cosmetics (7.82%), transport services (6.36%) and others (4.19%). This diversity reflects the multi-faceted nature of the economic activities prevalent among the border districts where cross-border trade, agricultural production and provision of services are interrelated. Finally, the greater part of SMEs (58.91%) interacted with formal financing, sometimes implying careful but corrective methods of credit utilization, while 23.64% had access to credit often, and 17.45% rarely accessed formal credit. This pattern highlights persistent barriers to regular credit use and serves as a clue to differences in the level of financial inclusion among SMEs in the border region, pointing to the need for special interventions for facilitating access to sustainable financing mechanisms.

Table 1: Demographic Profile of SME Respondents in Kailali and Kanchanpur Districts

Profile of Entrepreneurs	Category	Number	Percentage (%)
Gender	Male	343	62.36
	Female	207	37.64
	Total	550	100
Age Group	25–30	144	26.18
	31–40	245	44.55
	41–50	120	21.82
	Above 50	41	7.45
	Total	550	100
Educational Qualification	School Level	120	21.82
	Undergraduate	162	29.45
	Graduate	268	48.73
	Total	550	100
Business Experience	2–5 Years	134	24.36
	5–10 Years	254	46.18
	Above 10 Years	162	29.46
	Total	550	100
Region / Area (Municipalities)	Kailali District		
	Dhangadhi Sub-Metropolitan	145	26.36
	Tikapur Municipality	78	14.18
	Lamkichuha Municipality	54	9.82
	Ghodaghodi Municipality	35	6.37
	Kanchanpur District		
	Bhimdatta Municipality	132	24.00
	Bedkot Municipality	61	11.09
	Punarbans Municipality	28	5.09
	Shuklaphata Municipality	17	3.09
	Total	550	100
Form of Business Ownership	Sole Proprietorship	468	85.09

Profile of Entrepreneurs	Category	Number	Percentage (%)
	Partnership	82	14.91
	Total	550	100
Size of Business	Small	326	59.27
	Medium	224	40.73
	Total	550	100
Types of Enterprise	Retail / Grocery Store	98	17.82
	Agriculture & Allied	85	15.45
	Hardware & Construction	67	12.18
	Beauty Parlor / Salon	54	9.82
	Manufacturing Industries	52	9.45
	Meat Products / Fresh House	48	8.73
	Hotels & Restaurants	45	8.18
	Fancy / Tailoring / Cosmetics	43	7.82
	Transport Services	35	6.36
	Other Services	23	4.19
	Total	550	100
Financing Frequency	Frequently	130	23.64
	Occasionally	324	58.91
	Rarely	96	17.45
	Total	550	100

ii. SME Sustainability Determinants: Reliability and Behavioral Insights

• Access to Finance

The outcomes on access to finance show that SMEs of Kailali and Kanchanpur districts are facing serious constraints in accessing sufficient credit for business operation and growth. The highest mean score ($M = 4.18$) implies that the respondents are very concerned with the difficulty in getting enough capital to expand

the business, and many of the respondents were frustrated with the stringent collateral requirements imposed by financial institutions ($M = 4.05$). This tendency to resort to the use of informal sources of credit because of formal finance constraints ($M = 3.91$) further solidifies this barrier. Lower levels of satisfaction in terms of the timelines for loan approval ($M = 3.58$) and adequacy of government support programs ($M = 3.42$) indicate a moderate level of dissatisfaction with the existing financial infrastructure. These results highlight the fact that it is a major constraint in SME sustainability in border regions due to the lack of access to finance which is in line with previous studies that have indicated the topic of financial exclusion in peripheral areas of Nepal.

Table 2: Access to Finance

Access to Finance	Mean	SD
Difficulty accessing sufficient capital for business expansion	4.18	0.74
Stringent collateral requirements by financial institutions	4.05	0.70
Reliance on informal credit sources	3.91	0.76
Dissatisfaction with loan approval timelines	3.58	0.72
Inadequacy of government financing support programs	3.42	0.68

- **Managerial Capability**

The analysis of managerial capability shows that SME owners have moderate to strong entrepreneurial competencies with deficiencies in specialized areas of financial and technical knowledge. With a mean score of 4.12, the results showed that the highest mean score shows that entrepreneurs have good business decision-making skills on the basis of their experience. Respondents also showed good capability in dealing with day-to-day operations ($M = 3.96$) and adaptation to changes in the market ($M = 3.84$). However, poor ratings on the practices for financial record keeping ($M = 3.52$) and access to business training programs ($M = 3.31$) imply areas for capacity building interventions. Limited digital literacy for modern business management ($M = 3.19$) has further identified the need for technology-oriented skills development. These results suggest that although border-region SME owners have a practical level of business acumen, an improvement in formal managerial skills through more purposeful training could make an

important contribution to sustainable results.

Table 3: Managerial Capability

Managerial Capabilit	Mean	SD
Strong business decision-making based on experience	4.12	0.72
Capability in managing daily business operations	3.96	0.69
Ability to adapt to market changes	3.84	0.73
Financial record-keeping practices	3.52	0.70
Access to business training programs	3.31	0.75
Digital literacy for modern business management	3.19	0.72

- **Market Access**

The results of data analysis on market access demonstrate that SMEs encounter a number of opportunities as well as challenges in terms of access to customers in the border districts. The maximum mean score $M=4.08$ is an indication that proximity to cross-border markets is providing considerable business benefits, as the strategic location of Kailali and Kanchanpur. Entrepreneurs also showed a moderate level of success in maintaining stable customer relationships ($M = 3.87$), and reaching the local market ($M = 3.75$). However, low scores for the ability to expand into new markets ($M = 3.46$) and effectiveness of marketing strategies ($M = 3.29$) indicate the limitations in the market diversification. Competition from the Indian businesses across the border ($M = 3.91$) came out as a significant obstacle. These findings highlight that despite the opportunities that border location provides in terms of markets, SMEs need support in terms of marketing capabilities and competitive positioning in order to take full advantage of their location advantages in terms of sustainable growth.

Table 4: Market Access

Market Access	Mean	SD
Proximity to cross-border markets provides business advantage	4.08	0.72
Competition from Indian businesses across the border	3.91	0.74
Maintaining stable customer relationships	3.87	0.69
Access to local markets	3.75	0.71

Ability to expand into new markets	3.46	0.73
Effectiveness of marketing strategies	3.29	0.70

- **Infrastructure**

In the infrastructure, there are major deficits that limit the operation and growth of SMEs in border districts. The highest mean score ($M = 4.21$) is associated with unreliable electricity supply, which makes business continuity seriously in question, and is a critical issue for manufacturing and service enterprises. Poor road connectivity to markets and suppliers ($M = 4.03$) came out as another major constraint which hindered the efficiency of the supply chain. Limited access to high-speed internet and digital infrastructure ($M = 3.89$), which hinders the use of modern-day business technologies. Lower scores for inadequate transportation facilities ($M = 3.67$), and poor communication networks ($M = 3.52$) are further exacerbating operational difficulties. These results highlight the fact of infrastructure deficit in peripheral areas, which is a major obstacle for the sustainability of SMEs due to the increasing operational cost, limited access to markets, and technology use, as has been highlighted for broader development issues in the border areas of Nepal.

Table 5: Infrastructure

Infrastructure	Mean	SD
Unreliable electricity supply affects business continuity	4.21	0.73
Poor road connectivity to markets and suppliers	4.03	0.71
Limited access to high-speed internet and digital infrastructure	3.89	0.75
Inadequate transportation facilities	3.67	0.70
Poor communication networks	3.52	0.68

- **Government Support**

The results regarding government support indicate minimal effectiveness and limited awareness of SME development programs in border districts. Although the highest mean score ($M = 3.95$) was recorded, it does not necessarily indicate a high level of utilization of government SME financing schemes, as awareness

of these schemes remains only moderate. Respondents also expressed dissatisfaction with the implementation of government support programs ($M = 3.68$) and reported limited access to subsidized credit facilities ($M = 3.54$). Lower scores for participation in government-sponsored training programs ($M = 3.32$) and the effectiveness of tax incentives for SMEs ($M = 3.18$) further suggest weak policy outreach and limited impact. The lowest score, related to the responsiveness of government agencies to SME concerns ($M = 2.91$), highlights a significant gap in the institutional support mechanism. These findings suggest that although government policies exist, gaps in implementation, limited awareness, and poor coordination prevent SMEs in peripheral regions from benefiting effectively. Therefore, improved delivery mechanisms and more targeted interventions are necessary.

Table 6: Government Support

Government Support	Mean	SD
Awareness of government SME financing schemes	3.95	0.72
Dissatisfaction with implementation of support programs	3.68	0.74
Limited access to subsidized credit facilities	3.54	0.71
Participation in government-sponsored training programs	3.32	0.70
Effectiveness of tax incentives for SMEs	3.18	0.73
Responsiveness of government agencies to SME concerns	2.91	0.69

iii. SME Sustainability

Despite facing multiple constraints, SMEs in Kailali and Kanchanpur districts demonstrated moderate sustainability outcomes, though with considerable room for improvement. The highest mean score ($M = 3.64$) indicates that businesses maintain reasonable profitability levels, suggesting operational viability despite challenges. Entrepreneurs reported moderate confidence in long-term business survival ($M = 3.48$) and ability to manage operational costs ($M = 3.35$). However, lower scores for capacity to invest in business expansion ($M = 3.12$), adoption of new technologies ($M = 2.95$), and revenue growth trends ($M = 2.87$) reflect significant constraints on growth and modernization. The lowest score for employment generation capacity ($M = 2.73$) highlights limited ability to create jobs, a critical development concern. These results suggest that while many SMEs survive,

structural constraints—particularly limited finance, weak infrastructure, and inadequate managerial capacity—prevent them from achieving robust growth and contributing optimally to regional economic development.

Table 7: SME Sustainability

SME Sustainability	Mean	SD
Maintaining reasonable profitability levels	3.64	0.76
Confidence in long-term business survival	3.48	0.74
Ability to manage operational costs	3.35	0.72
Capacity to invest in business expansion	3.12	0.78
Adoption of new technologies	2.95	0.75
Revenue growth trends	2.87	0.73
Employment generation capacity	2.73	0.71

iv. Correlation Analysis

The correlation analysis indicates significant relationships among the key determinants of SME sustainability in the Kailali and Kanchanpur districts. Access to finance shows strong positive correlations with managerial capability ($r = .687$, $p < 0.01$) and market access ($r = .645$, $p < 0.01$), suggesting that financially supported SMEs tend to have stronger managerial competencies and wider market opportunities. It is also moderately correlated with infrastructure ($r = .598$, $p < 0.01$), indicating that businesses located in areas with better infrastructure are more likely to obtain formal financing. However, its correlation with government support is relatively weaker ($r = .512$, $p < 0.01$), implying moderate effectiveness of government interventions.

Managerial capability is strongly correlated with market access ($r = .723$, $p < 0.01$), highlighting that skilled entrepreneurs are better able to identify and utilize

market opportunities. It also shows a positive relationship with infrastructure ($r = .634, p < 0.01$) and government support ($r = .548, p < 0.01$), indicating that managerial skills help businesses navigate infrastructural and institutional challenges.

Market access has a strong correlation with infrastructure ($r = .712, p < 0.01$), emphasizing the importance of physical connectivity for reaching customers and suppliers, particularly in border regions. Infrastructure is also moderately correlated with government support ($r = .623, p < 0.01$), suggesting that public investments partially address SME operational constraints.

Regarding sustainability, access to finance has the strongest correlation ($r = .728, p < 0.01$), followed by managerial capability ($r = .695, p < 0.01$) and market access ($r = .672, p < 0.01$). Infrastructure shows a moderate relationship ($r = .618, p < 0.01$), while government support has the weakest yet significant correlation ($r = .487, p < 0.01$). These findings highlight the need for integrated policy interventions to support SME sustainability in border regions.

Table 8: Correlation Matrix

Variables	AF	MC	MA	INF	GS	SS
AF	1					
MC	0.687**	1				
MA	0.645**	0.723**	1			
INF	0.598**	0.634**	0.712**	1		
GS	0.512**	0.548**	0.587**	0.623**	1	
SS	0.728**	0.695**	0.672**	0.618**	0.487**	1

N = 550 for all variables.

** Correlation is significant at the 0.01 level (2-tailed).

v. Regression Analysis

Multiple regression analysis was conducted to determine the combined effect of access to finance, managerial capability, market access, infrastructure, and government support on the sustainability of SMEs in the Kailali and Kanchanpur districts. The regression model demonstrated high explanatory power ($R^2 = 0.742$), indicating that 74.2% of the variance in SME sustainability is explained by the five independent variables. The adjusted R^2 value (0.739) further confirms the strength of the model. Additionally, the F-statistic ($F = 312.456$, $p < 0.001$) indicates that the overall model is statistically significant.

The results reveal that access to finance has the most significant positive effect on SME sustainability ($\beta = 0.312$, $t = 8.945$, $p < 0.001$), confirming that improved access to credit greatly enhances the chances of business survival and growth. Managerial capability shows the second-highest effect ($\beta = 0.276$, $t = 7.821$, $p < 0.001$), indicating that entrepreneurial competencies are a crucial factor in achieving sustainable outcomes. Market access also plays an important role in sustainability ($\beta = 0.234$, $t = 6.543$, $p < 0.001$), particularly in border regions, highlighting the importance of customer reach and competitive positioning.

Infrastructure has a moderate positive impact ($\beta = 0.189$, $t = 5.234$, $p < 0.001$), suggesting that improved physical connectivity and utilities facilitate business operations and growth. However, government support has the weakest impact ($\beta = 0.098$, $t = 2.876$, $p < 0.001$), implying that government policy interventions have a relatively limited direct effect on improving the sustainability of SMEs. The relatively low coefficient for government support, despite its statistical significance, suggests gaps in implementation and highlights the need for more effective delivery mechanisms.

Overall, these results support all five research hypotheses (H1–H5), confirming that access to finance, managerial capability, market access, infrastructure, and government support all positively influence the sustainability of SMEs, although with varying levels of impact.

Table 9: Regression Coefficients

Predictor	BStd. Error		Beta (β)	tSig.	
(Constant)	0.487	0.156	-	3.122	0.002
Access to Finance	0.342	0.038	0.312	8.945	0.000
Managerial Capability	0.298	0.038	0.276	7.821	0.000
Market Access	0.256	0.039	0.234	6.543	0.000
Infrastructure	0.205	0.039	0.189	5.234	0.000
Government Support	0.103	0.036	0.098	2.876	0.004

Dependent variable: SME Sustainability

6. Result and Discussion

The results of this research provide meaningful insights into the factors influencing the sustainability of SMEs in the border districts of Kailali and Kanchanpur in Nepal. The findings confirm that access to finance, managerial capability, market access, infrastructure, and government support all have significant impacts on the sustainability of SMEs, although to varying degrees. These results are consistent with the resource-based view and human capital theory (Becker, 1964), which emphasize that both internal capabilities and external resources are important for firm performance and long-term survival.

Access to finance emerged as the most important determinant of SME sustainability ($\beta = 0.312$, $p < 0.001$), which is consistent with the extensive literature identifying financial constraints as a major barrier to the growth of SMEs in developing economies (Adhikari et al., 2016; Allen et al., 2016; Wise, 2013). The strong impact of financial access indicates that the availability of finance enables SMEs to invest in productive assets, manage working capital effectively, and enhance resilience against economic shocks. However, the descriptive results suggest the presence of persistent barriers such as strict collateral requirements, lengthy loan approval processes, and dependence on informal credit sources. These issues reflect systemic weaknesses in Nepal's financial system that disproportionately affect peripheral regions of the country.

Managerial capability demonstrated the second-strongest impact on sustainability ($\beta = 0.276$, $p < 0.001$), supporting human capital theory, which suggests that the education, experience, and skills of owner-managers directly influence firm outcomes (Christodoulou et al., 2024; Kassa&Kegne, 2025). Although entrepreneurs in the border regions possess practical business experience, the descriptive results reveal gaps in financial literacy, digital skills, and access to formal training programs. This suggests that sustainability-focused capacity-building interventions combining financial education and digital literacy could play a critical role in improving sustainability outcomes, consistent with recent evidence from South Asian contexts (Ye &Kulathunga, 2019; Shakya et al., 2024).

Market access also made a significant contribution to sustainability ($\beta = 0.234$, $p < 0.001$), reflecting the strategic importance of the border districts' proximity to cross-border trade opportunities. However, SMEs face several challenges, including intense competition from Indian businesses, limited marketing capabilities, and a lack of market diversification. These findings highlight that geographic advantages alone are not sufficient without complementary support in marketing strategies and competitive positioning, especially given the unique dynamics of border-region commerce.

Infrastructure showed a significant positive effect ($\beta = 0.189$, $p < 0.001$), confirming that physical constraints remain a major barrier to SME operations in peripheral regions. The descriptive results reveal serious concerns regarding unreliable electricity supply, poor road connectivity, and limited digital infrastructure. These limitations increase operational costs and restrict SMEs' ability to access markets and adopt new technologies. This finding aligns with the broader development literature, which emphasizes infrastructure as a fundamental requirement for inclusive economic growth in Nepal's border regions.

Government support had the smallest effect ($\beta = 0.098$, $p < 0.01$), although it remained statistically significant. This finding indicates substantial implementation gaps between policy intentions and actual impact at the ground level. Similar conclusions have been drawn in recent research highlighting limited outreach, low awareness, and weak coordination within SME support programs (Galami, 2025; Chowdhury, 2025). Although the government operates several support schemes,

their impact appears limited due to bureaucratic procedures, inadequate capacity-building components, and insufficient responsiveness to the needs of SMEs in peripheral areas. This suggests a strong need for improved delivery mechanisms and more targeted interventions, including the integration of financial literacy programs with credit provision.

The strong explanatory power of the regression model ($R^2 = 0.742$) indicates that the five determinants explain a large proportion of the variance in SME sustainability, thereby validating the conceptual framework. Furthermore, the strong interrelationships among the independent variables suggest that SME sustainability requires integrated policy approaches that address multiple constraints simultaneously rather than isolated interventions.

Overall, these findings highlight that improving the sustainability of SMEs in Nepal's border districts requires comprehensive policy reforms. Such reforms should focus on improving financial access, providing targeted capacity-building initiatives, strengthening infrastructure development, and enhancing the effectiveness of government support programs tailored to the specific challenges faced by SMEs in peripheral regions.

Policy Recommendations

- **Improve Access to Finance:** Financial institutions should establish alternative credit evaluation systems that rely on cash flow analysis, business performance indicators, and group lending models rather than traditional collateral requirements. The government should also strengthen credit guarantee schemes, particularly for SMEs in border regions, to mitigate lenders' risks and enable these businesses to access formal credit facilities. Establishing special financing windows for SMEs with simplified procedures and reduced interest rates could further address the critical challenges related to finance.
- **Empower Managerial Capacity:** Financial and digital literacy should be incorporated into integrated training programs implemented through collaboration among financial institutions, local governments, and business associations. These programs should focus on practical skills such as financial record-keeping, adoption of digital banking, business planning,

and market analysis. The use of mobile training units and local resource centers could help expand outreach in remote municipalities where access to formal training opportunities is limited.

- **Enhance Market Access:** Governments and development agencies should activate market linkage programs that connect SMEs in border regions to larger supply chains and export markets. Business development centers should be established in major municipalities to provide marketing services, product development support, and competitive intelligence. Special attention should also be given to leveraging cross-border trade opportunities by reducing customs barriers and simplifying trade procedures.
- **Accelerate Infrastructure Development:** Investing in reliable power supply, improved road connectivity, and digital infrastructure is essential to reduce operational costs and facilitate the adoption of modern technologies. Public–private partnerships can play an important role in improving infrastructure in major commercial hubs. High-speed internet connectivity would support the adoption of online financial services and expand market reach for businesses in border regions.
- **Strengthen Government Support:** Policy implementation needs stronger coordination between central and local governments. Application procedures for support programs should be simplified, awareness among entrepreneurs should be increased, and effective feedback mechanisms should be established. Integrating financial literacy and business training components into all SME support programs would significantly enhance their impact. Furthermore, regular monitoring and evaluation systems should be implemented to assess program coverage and performance, ensuring equitable access across municipalities and among different types of enterprises within border districts.

Future Research and Limitations

This study focuses only on registered SMEs in the Kailali and Kanchanpur districts and therefore may not represent the experiences of informal enterprises or SMEs in other peripheral regions of Nepal. The cross-sectional research de-

sign also limits the ability to establish causal relationships and does not capture changes in SME sustainability over time. In addition, the use of self-reported data collected through structured questionnaires may introduce response bias, as perceptions of access to finance, managerial capability, and government support may differ from objective conditions. The study also examines a limited number of determinants and does not consider other potentially important factors such as innovation capacity, social capital, entrepreneurial networks, or cultural influences on business sustainability in border regions.

Future research could adopt longitudinal designs to better understand the long-term performance of SMEs and the causal relationships between key determinants and sustainability outcomes. Comparative studies across different peripheral districts, or between border and non-border regions, could provide deeper insights into context-specific challenges. Mixed-method approaches combining quantitative analysis with qualitative case studies may also help capture the experiences of SME owners more effectively. Further research should also explore the role of digital financial services, fintech, and mobile banking in improving financial inclusion, as well as gender-related constraints, the impact of government support programs, cross-border trade dynamics, and the interaction between informal and formal financing sources in promoting SME sustainability in Nepal.

Conclusion

This study has investigated the determinants of the sustainability of SME in the border districts of Kailali and Kanchanpur in Nepal, which has given empirical evidence about the critical factors affecting the survival and growth of businesses in the peripheral areas. The results validate the view that access to finance, managerial capability, market access, infrastructure and government support all play an important role in SME sustainability, with access to finance being considered the most critical determinant of all. The results highlight the fact that border region SMEs are bound by multiple constraint factors such as stringent collateral requirements, poor managerial skills, poor infrastructure and poor implementation of government support programs, all of which limit their growth potential and contribution to regional economic development.

The high explanatory power of the regression model ($R^2 = 0.742$) shows that these five determinants jointly explain large variance of SME sustainability out-

comes. The fact that these factors are interrelated as indicated by significant inter-correlations implies the need for integrated policy interventions rather than separate programs. While border districts are strategic in terms of the opportunities for cross-border trade, accessing them will not be possible to the full advantage of SMEs because of the fundamental constraints in access to finances, human capital development and physical infrastructure. policy implication is obvious: sustainability of SMEs in peripheral areas of Nepal needs to be improved by holistic reforms involving better financial inclusion programs, targeted capacity development programs, faster infrastructure development and more effective implementation of government support schemes. Financial institutions need to develop other ways to assess credit besides the conventional lending on collateral. Integrated financial and digital literacy initiatives are required to build managerial capacities and assist SMEs to make effective use of available resources. Infrastructure investments in electricity, connectivity and digital systems are fundamental to reducing the cost of operations and technology adoption.

Government support programs need to be re-engineered with better delivery mechanisms, awareness campaigns and feedback systems to ensure the program reaches everyone equally and makes a difference. The relatively weak effect of government support in the current study suggests large implementation gaps that make policy ineffective. Addressing these gaps means institutional capacity building, better coordination between agencies and linking training components with financial support programs. By presenting empirical evidence from the border districts in Nepal, this research makes an important contribution to the emerging literature discussing the sustainability of SMEs in peripheral areas in developing economies.

The findings provide important insights for policy makers, financial institutions, development agencies and business support organizations that are interested in designing context-specific interventions that improve the sustainability of SMEs and more inclusive regional development. Ultimately, developing the SME ecosystem in the border districts is important not only for local economic prosperity, but also for realizing the greater objectives of Nepal, such as balanced development in different regions, employment generation and poverty reduction in the underserved peripheral regions.

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