Resource and Human Capital Synergies as Determinants of MSME Growth: Evidence from Bislig City, Philippines

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) fuel local innovation and employment but continue to face growth constraints in emerging economies. This study examined how internal firm characteristics enterprise size, years of operation, and owner's educational attainment influence MSME performance in Bislig City, Philippines. Drawing on the Resource-Based View and Human Capital Theory, the research employed a quantitative correlational design using survey data from 236 MSME owners and managers. Multiple regression analysis revealed that enterprise size exerted the strongest influence on both sales' growth and profitability, followed by years of operation and educational attainment. The results confirmed that firm performance depends on how entrepreneurs mobilize resources and apply managerial competence to overcome market limitations. By situating the analysis in a small urban economy in Mindanao, the study extended existing theories to a new context and provided empirical evidence for localized MSME policy design. The findings highlight the need for education-driven capacity building, innovation training, and credit access programs to strengthen MSME resilience and contribution to Sustainable Development Goals 8 and 9.

Keywords: MSME Performance, Human Capital, Resource-Based View, Bislig City, Enterprise Growth, Sustainable Development
JEL Classifications: M1, M2, M41

1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) remain vital to the global economy as engines of innovation, employment, and inclusive growth. They account for more than 90% of all businesses worldwide, contribute about 40% of global GDP, and provide over 60% of total employment (United Nations, 2025; World Bank Document, 2019). By empowering local entrepreneurs and sustaining community-level industries, MSMEs advance United Nations Sustainable Development Goals (SDGs), particularly Goal 8 (Decent Work and Economic Growth) and Goal 9 (Industry, Innovation, and Infrastructure) (UN DESA, 2020). Strengthening MSME performance is therefore critical to achieving post-pandemic recovery, regional resilience, and long-term economic competitiveness in developing economies such as the Philippines.

In the Philippine economy, MSMEs form its structural backbone. They comprise 99.5% of registered establishments and employ around 63% of the workforce, yet their contribution to GDP remains relatively low at about 40% (MSME Value Chain Rapid Response Survey | United Nations Development Programme, 2020). This productivity gap underscores persistent challenges in managerial capability, financing, and technological adaptation. Over recent years, government programs promoting digital transformation, entrepreneurship training, and credit access have aimed to narrow this gap (Matsieli and Mutula, 2025). Despite these initiatives, many MSMEs continue to struggle to scale operations and sustain profitability, revealing that internal firm characteristics still largely determine business success. Understanding these internal drivers has thus become an essential research priority for MSME policy and practice.

The central problem of this study lies in the persistent underperformance of MSMEs in secondary Philippine cities, where limited capital, low innovation, and weak managerial competencies constrain enterprise growth. In Bislig City, MSMEs operate within competitive yet resource-scarce environments, facing operational inefficiencies, unstable sales, and constrained access to finance. Such weaknesses result in short business lifespans and low market penetration. Without a clearer understanding of the internal determinants of MSME performance, regional policymakers risk implementing support programs that fail to address the core sources of inefficiency and stagnation.

Global literature has thoroughly explored MSME performance, yet most research emphasizes external determinants such as policy, credit access, and infrastructure while paying limited attention to internal firm-level factors that directly shape growth outcomes (Agus et al., 2023; Gunawan, 2024). Empirical understanding of how enterprise size, years of operation, and owner's education interact to influence sales and profitability remains incomplete, particularly in developing-country settings (Amin and Islam, 2022). This lack of focus obscures the relative importance of managerial and organizational resources in sustaining enterprise competitiveness.

Evidence from emerging economies demonstrates that larger firms enjoy stronger financial resilience and operational efficiency (Hashmi et al., 2020), while older enterprises benefit from accumulated learning and market reputation (Matemilola et al., 2025). Likewise, educational attainment enhances managerial decision-making, innovation adoption, and financial control (Msuthwana, 2024; Kakili et al., 2025). These findings collectively support the Resource-Based View (RBV) and Human Capital Theory (HCT), both of which emphasize that firm success depends on how resources and human competencies are combined to generate sustained advantage. However, these theories have seldom been tested within the Philippine small-city context.

A major gap also exists in the geographical distribution of MSME research. Most Philippine and Southeast Asian studies focus on metropolitan centers such as Manila, Cebu, and Davao where institutional support and resource networks are comparatively strong. Peripheral cities and rural economies, where MSMEs operate under resource constraints and weak market linkages, remain under-represented. This imbalance limits theoretical generalization and restricts the design of locally responsive development strategies.

Recent studies affirm that contextual factors significantly mediate the relationship between firm resources and performance. For instance, Ritonga et al. (2025) demonstrated that MSMEs in under-resourced regions depend more heavily on internal competencies than on external support systems. Similarly, Tadeo et al. (2023) found that educational attainment and operational experience compensate for weak institutional environments in small Philippine cities. These findings emphasize the need for localized empirical analysis in areas such as Bislig City, where MSME performance depends primarily on the interplay between resource capacity and managerial capability.

Bislig City, located in the Caraga Region of southern Mindanao, represents a developing urban economy characterized by diverse micro- and small-scale enterprises in services, trade, and manufacturing. Most MSMEs in the city are owner-managed, capital-constrained, and reliant on traditional marketing methods. Although local authorities promote entrepreneurship and innovation, infrastructure limitations and uneven access to financial programs hinder growth. Investigating Bislig's MSME sector thus offers an opportunity to contextualize MSME dynamics in a secondary-city environment and contribute evidence for regionally tailored policy interventions.

This study aims to examine the internal determinants of MSME performance in Bislig City. Specifically, it seeks to:
- Describe the profile of MSMEs in terms of enterprise size, years of operation, and owners' educational attainment
- Determine the relationship between these internal characteristics and MSME performance indicators (sales growth and profitability); and
- Identify which firm-level factors significantly predict performance outcomes. Through these objectives, the study quantifies how structural and human resources shape MSME competitiveness within a local economic framework.

The paper aims to empirically analyze how internal firm characteristics influence MSME performance in Bislig City, extending the application of RBV and HCT within an emerging-market setting. By integrating quantitative evidence from 236 local enterprises, the study bridges theoretical and practical gaps in MSME literature, providing a contextualized model of enterprise performance for secondary cities. The findings contribute to academic scholarship, inform local government and development-agency strategies, and support the broader national and global agenda of building resilient, inclusive, and innovative MSME ecosystems aligned with the United Nations SDGs.

2. LITERATURE REVIEW

2.1. Role of MSMEs in Economic Development
Micro, Small, and Medium Enterprises (MSMEs) are fundamental drivers of economic growth, job creation, and innovation, especially in developing countries. Globally, they account for nearly 60% of total employment and 40% of GDP, highlighting their central role in achieving inclusive and sustainable development (Saxena and Dhaka, 2025; World Bank Document, 2019). In the Philippine context, MSMEs represent 99.5% of all registered businesses and employ approximately 63% of the workforce, yet their contribution to GDP remains at only 40% (Labiaga and Campos, 2024). This performance gap indicates systemic challenges in financing, market access, and managerial capacity that hinder their growth potential.

At the global level, MSMEs are closely aligned with the United Nations Sustainable Development Goals (SDGs), particularly Goal 8 (Decent Work and Economic Growth) and Goal 9 (Industry, Innovation, and Infrastructure) (UN DESA, 2020). However, despite their centrality to development strategies, MSMEs in emerging economies continue to face barriers such

as limited access to finance, high regulatory costs, and low innovation adoption rates. These constraints often impede their capacity to scale and compete effectively, necessitating empirical studies that identify the firm-level factors influencing their performance.

2.2. Internal Determinants of MSME Performance
2.2.1. Enterprise size and resource capacity
Enterprise size has consistently emerged as a strong determinant of performance. Larger firms enjoy resource advantages that enable economies of scale, lower production costs, and enhanced market reach. According to Idogho et al. (2025), enterprise size positively influences profitability because larger businesses can secure financing more easily, negotiate better supplier terms, and absorb market shocks. Similarly, İbrahimcioğlu and Kitapçı (2025) reported that SMEs with substantial tangible and intangible resources perform better in volatile environments. In developing economies, firm size serves as a proxy for resource endowment, influencing both operational efficiency and strategic flexibility. These findings align with the Resource-Based View (RBV), which posits that performance depends on the possession and strategic deployment of valuable and inimitable resources (Barney, 2001). Within this study's context, enterprise size thus represents the organizational capacity that enables sustained sales growth and profitability among MSMEs in Bislig City.

2.2.2. Years of operation and organizational experience
The number of years an enterprise has been in operation is another critical determinant of performance. Longevity allows firms to refine internal processes, strengthen customer relationships, and build institutional credibility. (Santi, 2023) demonstrated that older firms often achieve better financial stability because of accumulated learning and adaptive management practices. The experience accumulated over time supports process optimization and market adaptation key attributes for survival in dynamic business environments. Conversely, younger enterprises, though agile, often struggle with resource limitations and lack of operational expertise. In the Philippine context, older MSMEs tend to exhibit greater resilience to market disruptions, suggesting that experience contributes to both efficiency and competitiveness (Tadeo et al., 2023).

2.2.3. Human capital and entrepreneurial education
Human capital plays a decisive role in MSME performance. Owners' education and skills influence how effectively they manage resources, adopt innovations, and respond to competition. According to the Human Capital Theory of Becker (1964) cited in the study of Grugulis (2024), education enhances productivity by improving analytical, managerial, and decision-making capacities. Empirical evidence strongly supports this linkage. Liu et al. (2024) observed that entrepreneurs with higher education levels adopt modern business practices and display greater adaptability to change. Likewise, Liwawo et al. (2025) confirmed that innovation mediates the relationship between human capital and SME performance in Ethiopia, underscoring education's indirect role in enhancing competitiveness. In emerging markets, where external support mechanisms remain weak, managerial competence often compensates for institutional deficiencies. Therefore, educational

attainment becomes a key predictor of MSME success in resource-constrained settings such as Bislig City.

2.3. External Constraints Affecting MSME Growth
While internal factors such as size, experience, and education strongly influence performance, external constraints also limit MSME growth. Access to finance remains the top barrier globally and regionally (Kumarasamy et al., 2024). High collateral requirements and asymmetric information often prevent small firms from securing affordable credit. Additionally, bureaucratic obstacles, including complex registration processes, taxation, and licensing requirements, disproportionately burden small entrepreneurs (Harrison et al., 2022). Limited market linkages and infrastructure deficits further exacerbate their challenges, particularly in secondary cities like Bislig, where enterprises rely on local markets and informal networks for survival.

Policy studies reveal that targeted interventions such as entrepreneurship training, digitalization programs, and financial inclusion initiatives improve MSME performance. In Indonesia, government support combining financial and non-financial assistance had significant positive effects on business growth (Arie, 2022). Similar initiatives have shown promise in the Philippines, where capacity-building and innovation programs help micro-enterprises transition toward formalization and scalability (Canare et al., 2017).

2.4 Theoretical Perspectives
2.4.1. Resource-based view (RBV)
The RBV asserts that firms achieve superior performance when they effectively acquire and deploy unique resources that are valuable, rare, inimitable, and non-substitutable (Barney, 2001). For MSMEs, these resources include financial capital, infrastructure, human skills, and reputation. Larger enterprises, by virtue of their scale, typically have greater capacity to accumulate and exploit such resources, leading to higher performance outcomes.

2.4.2. Human capital theory (HCT)
The HCT emphasizes that education, experience, and training increase individuals' productivity and the firm's overall efficiency (Becker, 1964). Within MSMEs, the owner's educational background influences strategic decision-making, innovation capability, and adaptability. Entrepreneurs who invest in continuous learning are better equipped to utilize limited resources and manage organizational risks effectively. Integrating RBV and HCT provides a dual framework for understanding MSME performance. While RBV explains what resources firms need, HCT clarifies how managerial competencies enable their effective use. Together, they form a comprehensive model linking internal characteristics to enterprise outcomes.

2.5. Research gaps and contextual contribution
Despite extensive global research on MSMEs, significant gaps remain in localized empirical studies, especially in peripheral and small-city contexts such as Bislig, Mindanao. Most Philippine MSME studies focus on metropolitan areas, leaving the dynamics of smaller urban economies underexplored. Bislig's economic

structure dominated by microenterprises presents a unique context for examining how internal firm characteristics shape performance under limited institutional support.

This study addresses that gap by empirically testing the effects of enterprise size, operational longevity, and educational attainment on MSME sales growth and profitability. In doing so, it contributes localized evidence to the broader discourse on MSME competitiveness and sustainable development. The results can guide policymakers in designing targeted interventions to strengthen MSME resilience and align with SDG 8 and SDG 9.
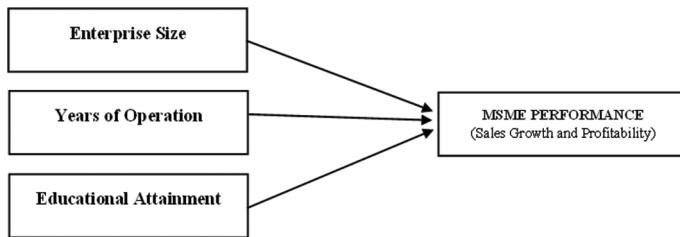
2.6. Conceptual Framework
The conceptual framework (Figure 1) illustrates how three business-profile variables enterprise size, years of operation, and owner's educational attainment serve as independent variables that influence MSME performance, measured through sales growth and profitability.

Each arrow represents a hypothesized positive relationship grounded in RBV and HCT logic. The framework recognizes that these internal characteristics may interrelate—for example, more educated entrepreneurs are often capable of growing their firms faster—but each contributes independently to performance outcomes.

2.7. Hypotheses Development
- H_1: Enterprise size is positively associated with MSME performance
  Larger firms have more resources, broader markets, and stronger financial capacity, enabling them to achieve higher sales growth and profitability than micro-enterprises.
- H_2: Years of operation are positively associated with MSME performance
  Older enterprises benefit from accumulated experience, refined processes, and stable customer bases, leading to superior operational and financial outcomes.
- H_3: Owner's educational attainment is positively associated with MSME performance
  Entrepreneurs with higher education exhibit better strategic planning, financial literacy, and innovation adoption, resulting in greater business growth and profitability.
- H_4: The combined business-profile characteristics (size, tenure, and education) jointly predict MSME performance
  A composite of resource abundance and human capital exerts a cumulative effect on firm success, suggesting that internal factors collectively explain a significant portion of performance variance.

Figure 1: Conceptual model of MSME performance determinants

3. METHODOLOGY

3.1. Research Design
This study employed a quantitative correlational design to assess how enterprise size, years of operation, and owner's educational attainment determine the performance of micro, small, and medium enterprises (MSMEs) in Bislig City, Surigao del Sur. By using multiple regression analysis, the study quantified the independent contributions of each predictor variable to key outcomes sales growth and profitability thereby enabling robust hypothesis testing and generalizability of findings. Correlational designs are widely accepted in entrepreneurship research when the objective is to examine relationships among organizational characteristics and firm performance (Abdelwahed et al., 2023).

3.2. Research Locale
The geographic focus of the study, Bislig City, serves as an important commercial and entrepreneurship hub in the Caraga Region, hosting a diversified MSME sector across services, trade, manufacturing, and agro-processing. This locale presents a representative context of emerging secondary cities in the Philippines, where internal organizational capabilities often play a more decisive role than external institutional support.

3.3. Research Respondents
Respondents included owners and/or managers of registered MSMEs within Bislig City. The study employed stratified proportional sampling based on the classification of micro, small, and medium enterprises identified by the Department of Trade and Industry (DTI). In total, 236 respondents completed the survey, a sample size sufficient for multiple regression analysis given guidelines in recent entrepreneurship research (Scheaf et al., 2023). Participating firms had operated for at least one year and maintained sales and profitability records, ensuring that respondents possessed the requisite business longevity and data reliability.

3.4. Research Instrument
The primary data collection instrument was a researcher-developed questionnaire structured in three sections: (1) enterprise profile (size, years of operation, owner education), (2) performance indicators (sales growth and profitability), and (3) organizational and operational characteristics relevant to MSME management. The instrument underwent content validation by three subject-matter experts in entrepreneurship and business measurement to ensure clarity, face validity, and contextual relevance. A pilot test with 30 MSMEs in the Caraga Region established instrument reliability, yielding Cronbach's alpha coefficients of 0.80 for the Sales Growth scale and 0.85 for the Profitability scale these values exceed the accepted reliability threshold of 0.70, demonstrating satisfactory internal consistency.

3.5. Data Gathering Procedure
Upon securing approval from the NEMSU Research Ethics Committee and formal permission from the DTI-Bislig Field Office, the questionnaires were administered personally to ensure high response quality and completeness; informed consent procedures protected confidentiality and voluntary participation.

Completed instruments were collected within two weeks, screened for missing data or outliers, and encoded into SPSS for analysis.

3.6. Data Analysis

Data analysis followed a two-stage approach. First, descriptive statistics (frequencies, percentages, means, standard deviations) described the sample's enterprise profile and performance levels. Second, inferential analysis employed multiple linear regression to examine the predictive power of enterprise size, years of operation, and owner education on MSME performance outcomes. The regression models reported R^2, adjusted R^2, F-statistics, t-values, and p-values to assess explanatory strength and hypothesis testing. Diagnostic checks confirmed normal distribution of residuals, linearity of relationships, homoscedasticity, and absence of multicollinearity (VIF values below 2), aligning with best practices in MSME performance research (Veiga, 2024).

4. RESULTS

4.1. Profile of MSMEs in Bislig City

A total of 236 MSMEs participated in the study. Most enterprises were classified as micro (188 or 80%), followed by small (35 or 15%) and medium (13 or 5%). This distribution mirrors the national MSME landscape and indicates that Bislig City's business structure is dominated by small-scale enterprises with limited capitalization and workforce capacity. The concentration of microenterprises reflects a local economy characterized by informal operations and constrained access to finance and markets (Table 1).

Regarding business longevity, 39% of MSMEs had operated for five years or more, while 17% were in their first 2 years (Table 2). The data show a dual pattern: a substantial number of start-ups coexist with a core group of long-standing firms. All medium enterprises and most small firms had operated for at least five years, suggesting that business survival and growth are closely linked. In contrast, younger firms were predominantly micro-sized, implying that many remain at subsistence levels or exit before achieving scale.

In terms of educational attainment, nearly half (49%) of the owners or managers were college graduates, while 32% had some college education. Only 10.6% completed high school, and 1.7% reached only elementary education. Vocational and technical graduates accounted for 6.8% (Table 3). The data reveals a relatively educated entrepreneurial base. However, educational attainment strongly correlates with firm size: 85% of medium-enterprise owners and 69% of small-enterprise owners held college degrees, compared with 43% of micro-enterprise owners. This pattern suggests that higher education is associated with business expansion and sustainability.

Overall, Bislig's MSME sector is characterized by a predominance of microenterprises, moderate business longevity, and an owner base with relatively high educational attainment. These characteristics provide a foundation for analyzing how internal factors such as size, experience, and education affect enterprise performance.

4.2. Performance of MSMEs: Sales Growth

Sales growth was assessed using six indicators related to sales expansion, customer acquisition, and market reach (Table 4). The overall mean score across MSMEs was 2.55 on a four-point Likert scale, corresponding to the "Agree" category. This indicates that most entrepreneurs perceived moderate sales growth over the past three years. When analyzed by enterprise size, results showed a clear gradient: Micro enterprises: mean = 2.16 (Moderately Agree); Small enterprises: mean = 2.54 (Agree); Medium enterprises: mean = 2.96 (Agree).

Medium enterprises consistently reported higher sales performance, while microenterprises registered slower growth. The stepwise improvement from micro to small to medium suggests that larger

Table 1: Nature of the business

Nature of business	Frequency	Percentage
Micro	188	80
Small	35	15
Medium	13	6
Total	236	100

Table 2: Business existence

Years of operation	Micro enterprises (f)	Micro enterprises (%)	Small enterprises (f)	Small enterprises (%)	Medium enterprises (f)	Medium enterprises (%)	Overall (f)	Overall (%)
1-<2 years	30	15.95	9	27.71	0	0.0	39	17
2-<3 years	26	13.82	1	2.86	0	0.0	27	11
3-<4 years	45	23.93	1	2.86	0	0.0	46	19
4-<5 years	29	15.42	4	11.43	0	0.0	33	14
5+years	58	30.81	20	57.14	13	100.0	91	39

Table 3: Educational attainment

Educational attainment	Micro enterprises (f)	Micro enterprises (%)	Small enterprises (f)	Small enterprises (%)	Medium enterprises (f)	Medium enterprises (%)	Overall (f)	Overall (%)
Elementary	4	2.12	0	0.0	0	0.0	4	1.69
Secondary	24	12.76	1	2.85	0	0.0	25	10.59
College Undergraduate	73	38.82	2	5.71	0	0.0	75	31.77
College Graduate	81	43.08	24	68.57	11	84.61	116	49.15
Vocational	6	3.19	8	22.85	2	15.38	16	6.77

Table 4: Performance of MSME's as to sales growth

Indicator	Micro mean	Micro rating	Small mean	Small rating	Medium mean	Medium rating	Overall mean	Overall rating
1. Sales increased over the last 3 years	2.16	Moderately Agree	2.65	Agree	3.15	Agree	2.61	Agree
2. Opened more outlets in the last 3 years	2.09	Moderately Agree	2.34	Moderately Agree	2.69	Agree	2.32	Moderately Agree
3. Increase in number of clients/customers	2.14	Moderately Agree	2.65	Agree	3.15	Agree	2.65	Agree
4. Increase in new suppliers	2.14	Moderately Agree	2.6	Agree	2.92	Agree	2.55	Agree
5. Increase in number of deliveries	2.24	Moderately Agree	2.4	Moderately Agree	2.84	Agree	2.49	Moderately Agree
6. Met sales expectations	2.21	Moderately Agree	2.62	Agree	3.0	Agree	2.61	Agree
TOTAL	2.16	Moderately Agree	2.54	Agree	2.96	Agree	2.55	Agree

*3.26-4.0 – Strongly Agree, 2.51-3.2 – Agree, 1.76-2.5 – Moderately Agree, 1.0-1.75 – Disagree

Table 5: Performance of MSME's as to profitability

Indicator	Micro mean	Micro rating	Small mean	Small rating	Medium mean	Medium rating	Overall mean	Overall rating
1. The business generated profit in each of the last 3 years	2.24	Moderately Agree	2.71	Agree	3.15	Agree	2.6	Agree
2. Net profit margin increased over the last 3 years	2.3	Moderately Agree	2.69	Agree	3.0	Agree	2.62	Agree
3. Business met annual targeted net profits	2.29	Moderately Agree	2.74	Agree	3.08	Agree	2.63	Agree
4. Net income increased in the last 3 years	2.3	Moderately Agree	2.71	Agree	3.0	Agree	2.62	Agree
5. Business achieved return on investment expectations	2.22	Moderately Agree	2.69	Agree	3.0	Agree	2.55	Agree
6. Cost efficiency improved over the last 3 years	2.26	Moderately Agree	2.66	Agree	2.92	Agree	2.54	Agree
TOTAL	2.27	Moderately Agree	2.7	Agree	3.02	Agree	2.59	Agree

*3.26-4.0 – Strongly Agree, 2.51-3.25 – Agree, 1.76-2.5 – Moderately Agree, 1.0-1.75 – Disagree

Table 6: Multiple regression results for MSME sales growth

Predictor	Unstandardized B	Standard error	Standardized β	t	p	VIF
(Constant)	1.12	0.18	—	6.22	<0.001	—
Enterprise Size	0.48	0.05	0.56	9.60	<0.001	1.22
Years of Operation	0.09	0.03	0.18	3.12	0.002	1.14
Educational Attainment	0.07	0.02	0.17	3.45	0.001	1.19
Model Summary	R^2=0.42, Adjusted R^2=0.41, $F_{(3,232)}$=55.8, P<0.001					

Table 7: Multiple regression results for MSME profitability (n=236)

Predictor	Unstandardized B	Standard Error	Standardized β	t	P	VIF
(Constant)	1.07	0.17	—	6.29	<0.001	—
Enterprise Size	0.51	0.05	0.58	10.10	<0.001	1.23
Years of Operation	0.11	0.03	0.21	3.78	<0.001	1.15
Educational Attainment	0.09	0.03	0.19	3.29	0.001	1.18
Model Summary	R^2=0.45, Adjusted R^2=0.44, $F_{(3,232)}$=62.4, P<0.001					

enterprises have more capacity to increase sales, possibly due to wider distribution networks, higher working capital, and stronger market presence. These findings preliminarily indicate a positive association between enterprise size and sales growth, which was validated through regression analysis.

4.3. Performance of MSMEs: Profitability

Profitability was evaluated through six indicators measuring sustained profits, net margin increases, and cost efficiency (Table 5). The overall mean score was 2.59 ("Agree"), reflecting generally favorable but varied profit experiences across the sample. Disaggregated by size, the results followed the same pattern as sales growth: Micro enterprises: mean = 2.19 (Moderately Agree); Small enterprises: mean = 2.70 (Agree); Medium enterprises: mean = 3.02 (Agree).

Medium enterprises reported the strongest profitability, with mean values exceeding 3.0, while microenterprises remained near the midpoint of the scale. The 0.8-point difference between micro and medium firms highlights substantial variation in financial performance. The results suggest that firm size and longevity influence profit sustainability firms with greater resources, accumulated experience, and managerial capacity to achieve higher profitability.

4.4. Multiple Regression Analysis of MSME Performance

To determine the predictive strength of MSME profile variables on performance, two separate multiple linear regression analyses were conducted using Enterprise Size, Years of Operation, and Educational Attainment as independent variables. The

dependent variables were Sales Growth and Profitability, both measured through validated Likert-scale indices ($\alpha = 0.80$ and 0.85, respectively). Preliminary diagnostics confirmed that all assumptions for linear regression were satisfied. The data met normality, linearity, and homoscedasticity requirements. Multicollinearity was not a concern as all Variance Inflation Factor (VIF) values were below 2.0 and tolerance values exceeded 0.50, indicating acceptable independence among predictors. The data is presented in Table 6.

4.5. Regression Results for Sales Growth

The model explained 41% of the variance in MSME sales growth (Adjusted $R^2 = 0.41$). Among the predictors, enterprise size exerted the strongest effect ($\beta = 0.56$, $P < 0.001$), confirming that larger firms exhibit higher sales expansion compared to micro-enterprises. Years of operation ($\beta = 0.18$, $P = 0.002$) and educational attainment ($\beta = 0.17$, $P = 0.001$) also contributed positively, suggesting that business maturity and managerial competence are associated with improved sales performance. These findings affirm the Resource-Based and Human Capital perspectives that internal firm resources and experience underpin sales growth potential.

4.6. Regression Results for Profitability

As shown in Table 7, the predictors collectively explained 44% of the variance in profitability (Adjusted $R^2 = 0.44$). Similar to sales growth, enterprise size was the dominant predictor ($\beta = 0.58$, $P < 0.001$), followed by years of operation ($\beta = 0.21$, $P < 0.001$) and education ($\beta = 0.19$, $P = 0.001$). The findings indicate that larger and longer-established MSMEs managed by more educated owners tend to achieve higher profit margins and financial stability. The positive coefficients across all variables reinforce the notion that resource endowment and managerial expertise jointly drive financial success.

5. DISCUSSION

This study set out to examine how internal firm characteristics enterprise size, years of operation, and owner's educational attainment shape MSME performance in Bislig City, a small urban economy in the southern Philippines. The results reveal a consistent pattern: larger, older, and more educated enterprises outperform their smaller and less experienced counterparts in both sales growth and profitability. These findings affirm the central proposition of the Resource-Based View (RBV) and Human Capital Theory (HCT): that firm resources and managerial capabilities jointly determine competitive advantage and performance outcomes (Barney, 2001; Becker, 1964).

5.1. Enterprise Size and Structural Capacity

Enterprise size emerged as the strongest predictor in both regression models ($\beta = 0.56$ for sales growth; $\beta = 0.58$ for profitability). This dominance underscores the importance of scale in enabling enterprises to mobilize resources, reduce per-unit costs, and expand market reach. Larger firms benefit from accumulated assets, established supplier relationships, and greater access to finance all classic sources of advantage highlighted in RBV literature (Barney, 2001). Recent studies corroborate this finding in emerging economies. For example, Fuadri et al. (2023) show

that SMEs with stronger resource bases more effectively respond to environmental uncertainty, achieving higher performance. In the Philippine context, the World Bank Document (2021) emphasizes that MSMEs lag significantly behind large firms in productivity because they lack scale and resource capacity.

In Bislig's context, where most firms are micro-enterprises, these results signal structural inequalities in resource distribution. The performance gap between micro and medium enterprises reflects not only differences in managerial sophistication but also disparities in capital availability and market access. This supports the findings from a Philippine study on enterprise upgrading, which identified that micro-enterprises often remain stagnant due to limited resources and managerial capacity (Alonzo et al., 2025). Thus, policy interventions should target firm-scale upgrading and resource access to help micro-enterprises transition to higher performance tiers.

5.2. Years of Operation and Learning Effects

Years of operation exhibited moderate but statistically significant effects ($\beta = 0.18$-0.21), confirming that experience contributes to both stability and growth. Longevity allows firms to refine operations, build customer loyalty, and establish credibility with suppliers and creditors. This finding aligns with international evidence showing that firm age is positively associated with performance via process refinement and market knowledge (Mallinguh et al., 2020).

In the Philippine setting, the upgrading model study revealed that survival and growth are strongly linked to how enterprises accumulate experience and resources over time (Alonzo et al., 2025). In Bislig, all medium-sized firms fall within this mature category, reinforcing the idea that longevity is a prerequisite for scaling. Nonetheless, the relatively lower effect size suggests that experience alone is insufficient without the concurrent growth of scale and human capital. This nuance underscores the interdependence of the three determinants rather than a singular pathway to performance.

5.3. Educational Attainment and Human Capital Quality

Educational attainment of the owner or manager significantly predicted both sales growth ($\beta = 0.17$) and profitability ($\beta = 0.19$). Entrepreneurs with higher education are better positioned to analyze markets, adopt technologies, and apply financial discipline traits that HCT identifies as critical components of productivity (Becker, 1964). Empirical research supports this: Hogendoorn et al. (2019) found that top-manager human capital significantly enhanced SME productivity via marketing innovation in Tanzania; (Nguyen et al., 2024) similarly found human capital improved foreign market performance. A review of human capital and SME performance also confirms the positive linkage between owner education/experience and firm outcomes (Musthafa et al., 2024). In Bislig, where 81% of MSME owners have at least some college educations, education acts as a differentiating factor that amplifies the benefits of firm size and experience. The synergy between RBV and HCT thus becomes clear: material resources (scale) provide potential, but human capital (education) converts that

potential into performance. This synergy suggests that investment in entrepreneurial education and managerial training can multiply the impact of financial or infrastructural support.

5.4. Integrating RBV and HCT: A Dual-Capability Perspective

The convergence of results across variables points to a dual-capability model of MSME performance. RBV explains what resources enable growth tangible assets, networks, and scale while HCT explains how these resources are effectively deployed through knowledge, experience, and decision-making skill. Together, they provide a robust explanation for why larger, older, and better-educated enterprises outperform others even under similar external conditions. This integration advances MSME scholarship by extending both theories to a peripheral-city context, where environmental volatility is high and institutional support limited. The evidence from Bislig City supports the argument that internal capabilities can partially compensate for external constraints. Firms that accumulate both physical capital (size) and intellectual capital (education, experience) demonstrate resilience even in resource-scarce environments. Such insight contributes to the global literature by localizing theory: it shows that capability accumulation not geography alone determines whether MSMEs in secondary cities can sustain growth (Susilawati, 2024).

5.6. Comparative and Policy Implications

Cross-context comparisons reinforce that the determinants of MSME performance are globally consistent but locally contingent. In more developed economies, firm performance differences are often explained by high-technology adoption and innovation systems; in emerging economies like the Philippines, internal capacities play a more decisive role given weaker institutional environment (World Bank Document, 2021). From a policy standpoint, three insights stand out:

- Scale matters: Enterprise-size disparities directly translate into unequal performance. Scaling-up programs and credit facilitation should prioritize micro-enterprises with growth potential.
- Experience compounds: Older firms model best practices and survival pathways. Institutionalizing peer-learning and mentorship mechanisms may help younger firms internalize these lessons.
- Education catalyzes growth: Enhancing entrepreneurial education through universities and local government units can strengthen managerial competencies, especially among micro-entrepreneurs.

These implications align with SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation and Infrastructure) by promoting inclusive, dynamic enterprise growth via internal capability development.

5.7. Theoretical and Empirical Contribution

Empirically, the study fills a geographical gap in MSME research by providing quantitative evidence from a small-city context in Mindanao a region rarely represented in performance studies. Theoretically, it demonstrates that RBV and HCT remain valid and complementary frameworks even in under-resourced settings. By showing that internal capabilities explain roughly 40-45% of MSME performance variance in this context, the study reinforces the argument that endogenous firm-level factors, rather than external market conditions alone, drive enterprise success. Future research should explore moderating and mediating variables such as innovation behavior, digital adoption, and network linkages to refine the explanatory model. Longitudinal and mixed-method approaches could further clarify causality and adaptive strategies among resilient firms.

In summary, the discussion affirms that MSME performance in Bislig City is shaped by the combined influence of resource scale, operational experience, and managerial education. The results extend established theories to a localized Philippine context, demonstrating that the pathway to enterprise success in emerging economies lies in building both structural and human capital capacities. Strengthening these twin pillars will be essential for transforming micro-enterprises into engines of inclusive and sustainable regional development.

6. CONCLUSION

This study demonstrated that enterprise size, years of operation, and owner's educational attainment significantly and positively influenced MSME performance in Bislig City, Philippines. Using multiple regression analysis on data from 236 enterprises, the research confirmed that larger, older, and better-educated firms achieved stronger sales growth and profitability. These findings validated the Resource-Based View and Human Capital Theory, showing that tangible assets, operational experience, and managerial competence collectively drive competitive advantage even in resource-constrained settings. By applying these theories within a secondary Philippine city, the study expanded existing literature and provided new empirical evidence from Mindanao, where MSME research remains limited. The results underscored that enterprise resilience depends not only on external market forces but primarily on how firms develop and utilize internal resources. These insights highlight the need for education-driven capacity-building, financial inclusion, and targeted support programs to enhance MSME scalability and long-term sustainability.

However, the study faced several limitations. Its cross-sectional design restricted causal interpretation between firm characteristics and performance outcomes, while reliance on self-reported data introduced potential response bias. Moreover, the focus on internal determinants excluded external variables such as market dynamics, policy interventions, and digital adoption, which could further explain enterprise growth. Future research should adopt longitudinal or mixed-method approaches to examine how innovation, technological readiness, and entrepreneurial orientation mediate the relationship between internal capabilities and firm success. Despite these constraints, this study advanced MSME scholarship by demonstrating that the synergy between resource capacity and human capital serves as the foundation for inclusive and sustainable enterprise development in emerging economies.

7. INSTITUTIONAL REVIEW BOARD STATEMENT

The North Eastern Mindanao State University Ethics Committee granted approval for this research, which adhered to all ethical standards and protocols established by the committee. Prior to participation, all respondents provided written informed consent. Participants voluntarily supplied the research data and consented to its use in this study. Involvement was entirely voluntary, and all responses were gathered with anonymity protection.

8. ACKNOWLEDGMENT

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