

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

Floresito Dumagan Calub

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

I. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are widely recognized as engines of innovation, employment, and inclusive growth. Globally, they account for over 90% of businesses, generate around 40% of GDP, and provide more than 60% of total employment, positioning them at the center of sustainable development efforts and the achievement of SDGs 8 and 9. In developing economies such as the Philippines, MSMEs form the structural backbone of the economy, comprising 99.5% of registered firms and employing roughly 63% of the workforce. Yet, their GDP contribution remains disproportionately low at about 40%, revealing persistent productivity gaps and structural inefficiencies. Strengthening MSME performance is therefore not only a national priority but also a global development imperative.

Existing scholarship highlights both external and internal determinants of MSME performance. While many studies emphasize access to finance, infrastructure, and regulatory environments, growing evidence underscores the importance of firm-level characteristics such as enterprise size, operational experience, and owner education.

Larger firms tend to benefit from stronger resource bases and economies of scale; older enterprises accumulate learning and market credibility; and higher educational attainment enhances managerial capability and innovation adoption. These insights are grounded in the Resource-Based View (RBV) and Human Capital Theory (HCT), which collectively explain how tangible resources and managerial competencies interact to produce sustained competitive advantage.

Despite this robust body of literature, significant gaps remain. Much of the empirical evidence originates from metropolitan or institutionally strong regions, leaving secondary cities and peripheral economies underrepresented. In the Philippine context, research has largely focused on major urban centers, with limited quantitative examination of internal performance drivers in smaller cities where institutional support and market linkages are weaker. This imbalance constrains theoretical generalization and limits the development of context-sensitive policy interventions. There is a need for localized empirical analysis that tests how structural and human capital factors shape enterprise outcomes in resource-constrained environments.

This study addresses these gaps by examining the internal determinants of MSME performance in Bislig City, a developing secondary city in Mindanao. Using quantitative data from 236 enterprises, it analyzes how enterprise size, years of operation, and owner educational attainment influence sales growth and profitability. By extending RBV and HCT to a small-city emerging-market setting, the study contributes context-specific evidence to the global MSME literature. Its findings offer practical insights for policymakers and development institutions seeking to design targeted interventions that strengthen internal capabilities, promote inclusive enterprise growth, and enhance regional economic resilience.

II. LITERATURE REVIEW

Micro, Small, and Medium Enterprises (MSMEs) are vital engines of economic growth, employment, and innovation, accounting globally for about 60% of employment and 40% of GDP, and in the Philippines representing 99.5% of registered businesses and 63% of jobs, though contributing only around 40% to GDP—reflecting structural constraints in finance, market access, and managerial capacity.

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Literature identifies key internal determinants of MSME performance: enterprise size (resource capacity and economies of scale, consistent with the Resource-Based View), years of operation (organizational learning and resilience), and owner educational attainment (human capital enhancing decision-making and innovation, aligned with Human Capital Theory). While external barriers such as limited financing, regulatory burdens, and weak infrastructure persist—especially in secondary cities—evidence suggests that strengthening internal capabilities through scaling support, mentorship, and entrepreneurial education improves competitiveness. However, localized studies in small-city contexts like Bislig, Mindanao remain limited. This study addresses that gap by examining how size, experience, and education influence MSME sales growth and profitability, contributing context-specific insights to inform inclusive and sustainable enterprise development aligned with SDG 8 and SDG 9.

A. 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.

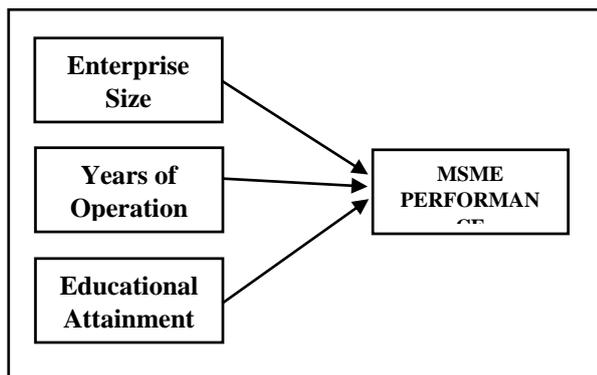


Fig. 1. Conceptual Model of MSME Performance Determinants

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.

B. Hypotheses Development

This study advances four hypotheses regarding the internal determinants of MSME performance. First, enterprise size is positively associated with performance, as larger firms possess greater resource capacity, market reach, and financial strength that enable higher sales growth and profitability. Second, years of operation are positively related to performance, given that organizational longevity fosters accumulated experience, process refinement, and stable customer relationships. Third, owner’s educational attainment is positively associated with performance, as higher education enhances strategic decision-making, financial management, and innovation adoption. Finally, the combined effects of enterprise size, tenure, and

education jointly predict MSME performance, suggesting that structural resources and human capital collectively exert a cumulative influence on business success.

III. METHODOLOGY

This study utilized a quantitative correlational design to examine the influence of enterprise size, years of operation, and owner’s educational attainment on the performance of MSMEs in Bislig City, Surigao del Sur. Using stratified proportional sampling based on DTI classifications, 236 registered MSME owners/managers with at least one year of operation participated in the survey. Data were gathered through a researcher-developed, expert-validated questionnaire with established reliability (Cronbach’s alpha: 0.80 for Sales Growth; 0.85 for Profitability) and were administered upon ethics clearance and DTI permission, ensuring informed consent and confidentiality. Descriptive statistics profiled the enterprises, while multiple linear regression analysis assessed the predictive effects of the independent variables on sales growth and profitability, with diagnostic tests confirming compliance with regression assumptions.

IV. RESULTS

A. 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).

TABLE I. NATURE OF THE BUSINESS

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

Regarding business longevity, 39% of MSMEs had operated for five years or more, while 17% were in their first two 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.

TABLE II. BUSINESS EXISTENCE

Years of Operation	Micro Enterprise s (f)	Micro Enterprise s (%)	Small Enterprise s (f)	Small Enterprise s (%)	Medium Enterprise s (f)	Medium Enterprise s (%)	Overall (f)	Overall (%)

						s (%)		
1 to <2 years	30	15.95	9	27.71	0	0.0	39	17
2 to <3 years	26	13.82	1	2.86	0	0.0	27	11
3 to <4 years	45	23.93	1	2.86	0	0.0	46	19
4 to <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

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

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.

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.

B. 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 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.

TABLE III. 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
5+ years	58	30.81	20	57.14	13	100.0	91	39

TABLE IV. 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

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

C. 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.

TABLE V. 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	2.30	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	2.30	Moderately Agree	2.62	Agree	3.0	Agree	2.62	Agree
5. Business achieved return on investment expectations	2.22	Moderately Agree	2.59	Agree	3.0	Agree	2.55	Agree
6. Cost efficiency improved over the last 3 years	2.26	Moderately Agree	2.54	Agree	2.96	Agree	2.54	Agree
TOTAL	2.27	Moderately Agree	2.59	Agree	3.02	Agree	2.59	Agree

*Legend: 3.26 – 4.0 Strongly Agree 2.51 – 3.25 Agree 1.76 – 2.5 – Moderately Agree 1.0 – 1.75 Disagree

D. 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.

E. Regression Results for Sales Growth

TABLE VI. MULTIPLE REGRESSION RESULTS FOR MSME SALES GROWTH

Predictor	Unstandardized B	Standard Error	Standardized β	t	p	VI F
(Constant)	1.12	0.18	—	6.22	<.01	—
Enterprise Size	0.48	0.05	0.56	9.60	<.01	1.22
Years of Operation	0.09	0.03	0.18	3.12	.02	1.14
Educational Attainment	0.07	0.02	0.17	3.45	.01	1.19
Model Summary	R² = 0.42, Adjusted R² = 0.41, F(3,232) = 55.8, p < .001					

The model explained 41% of the variance in MSME sales growth (Adjusted R² = 0.41). Among the predictors, enterprise size exerted the strongest effect ($\beta = 0.56, p < .001$), confirming that larger firms exhibit higher sales expansion compared to micro-enterprises. Years of operation ($\beta = 0.18, p = .002$) and educational attainment ($\beta = 0.17, p = .001$) 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.

F. Regression Results for Profitability

TABLE VI. MULTIPLE REGRESSION RESULTS FOR MSME PROFITABILITY (N = 236)

Predictor	Unstandardized B	Standard Error	Standardized β	t	p	VI F
(Constant)	1.07	0.17	—	6.29	<.01	—
Enterprise Size	0.51	0.05	0.58	10.10	<.01	1.23
Years of Operation	0.11	0.03	0.21	3.78	<.01	1.15
Educational Attainment	0.09	0.03	0.19	3.29	.01	1.18

Model Summary	R² = 0.45, Adjusted R² = 0.44, F(3,232) = 62.4, p < .001					
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As shown in table 7, the predictors collectively explained 44% of the variance in profitability (Adjusted R² = 0.44). Similar to sales growth, enterprise size was the dominant predictor ($\beta = 0.58, p < .001$), followed by years of operation ($\beta = 0.21, p < .001$) and education ($\beta = 0.19, p = .001$). 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.

V. 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).

Enterprise size emerged as the strongest predictor of both sales growth and profitability ($\beta = 0.56-0.58$), highlighting the critical role of scale in accessing resources, reducing costs, and expanding markets. Years of operation showed moderate but significant effects ($\beta = 0.18-0.21$), indicating that experience enhances stability and operational efficiency, though it is insufficient without growth in scale and human capital. Owner educational attainment also significantly influenced performance ($\beta = 0.17-0.19$), demonstrating that managerial knowledge strengthens decision-making, innovation, and financial discipline. Integrating Resource-Based View (RBV) and Human Capital Theory (HCT), the findings support a dual-capability perspective: structural resources (size) create potential, while human capital (education and experience) converts that potential into performance. In Bislig’s largely micro-enterprise context, internal capabilities explain a substantial portion of performance differences, suggesting that policies should prioritize enterprise scaling, mentorship for younger firms, and entrepreneurial education to foster inclusive and sustainable MSME growth.

VI. CONCLUSIONS

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.

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.

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He earned a Bachelor of Science in Commerce with a major in Management Accounting from the University of San Jose-Recoletos in Cebu City. He completed his Master of Public Administration degree from Surigao del Sur State University. He acquired Doctor of Public Administration units at the University of Mindanao in Davao City. He completed the academic requirements for Doctor of Management major in Organizational Development at Fr. Saturnino Urios University, Butuan City. He finished his doctorate degree in Business Administration at the University of San Jose-Recoletos, Cebu City. He received course certificates from various universities and colleges throughout the globe, including High-Performance Collaboration: Leadership, Teamwork and Negotiation; and Leadership Communication for Maximum Impact at the Kellogg School of Management, Northwestern University, Chicago, Illinois, USA, Negotiation Fundamentals, International and Cross-Cultural Negotiation by ESSEC Business School, Europe.

He was the former Assistant Dean of the College of Business and Management, the former IGP Head of the Main Campus, and the former Department Chair of Business Management and Governance. He was a banker and entrepreneur before taking on important responsibilities in the College of Business and Management's Financial Management and Marketing Management programs.