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¿Mejora la educación financiera la inclusión financiera y la toma de decisiones de los propietarios de pymes, lo que se traduce en mejores resultados de rendimiento?

Does Financial Literacy Improve SME Owners' Financial Inclusion and Decision-Making, Leading to Better Performance Outcomes?

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Resumen

Las pequeñas empresas (PYME) desempeñan un papel fundamental en la generación de empleo, la reducción de la pobreza y el crecimiento económico. Su éxito suele verse limitado por la falta de conocimientos financieros, prácticas inadecuadas en la toma de decisiones y un acceso restringido a los servicios financieros formales. La alfabetización financiera se ha identificado como un factor importante que puede mejorar el desempeño empresarial y la inclusión en los sistemas financieros. Este estudio investiga el papel de la alfabetización financiera en la mejora de la inclusión financiera y el desempeño empresarial entre los propietarios de PYME, centrándose en la interacción entre la alfabetización financiera, la toma de decisiones de los propietarios y el acceso a la financiación. Se adoptó un diseño de investigación correlacional con datos transversales de 137 países, excluyendo 21 por falta de datos. La alfabetización financiera se midió mediante el conocimiento de los procedimientos de calificación crediticia y la comprensión de los sistemas financieros, mientras que la toma de decisiones de los propietarios se evaluó mediante el Índice de Prácticas de Gestión del Banco Mundial. El mejor desempeño empresarial se evaluó a través de la alcanzabilidad de los objetivos de producción. El estudio utilizó la regresión de mínimos cuadrados para examinar las relaciones entre la alfabetización financiera (AF), la toma de decisiones de los propietarios (TDP), la inclusión financiera (IF) y su interacción con el desempeño empresarial (DEM), controlando la heterocedasticidad y la multicolinealidad. El análisis indica que la alfabetización financiera (0,855) y la toma de decisiones de los propietarios (0,68) influyen de manera significativa y positiva en el DEE. La inclusión financiera por sí sola no tiene un efecto significativo. Cabe destacar que la interacción entre la alfabetización financiera y la toma de decisiones (0,07) mejora significativamente los resultados de desempeño, y la interacción de la alfabetización financiera con la inclusión financiera (0,002) también afecta positivamente al DEE. La alfabetización financiera y la toma de decisiones estructurada son factores clave para el desempeño de las PYME, mientras que el acceso a los servicios financieros por sí solo es insuficiente. Los efectos sinérgicos entre la alfabetización financiera y la toma de decisiones, así como la inclusión financiera, mejoran sustancialmente los resultados empresariales, lo que subraya la necesidad de políticas y programas que fortalezcan la educación financiera y las capacidades gerenciales de los propietarios de PYME.

Palabras clave: Generación de empleo, inclusión financiera, educación financiera, pequeñas empresas.

Does Financial Literacy Improve SME Owners' Financial Inclusion and Decision-Making, Leading to Better Performance Outcomes?

Abstract

Small-scale enterprises (SSEs) play an important role in employment generation, poverty alleviation and economic growth. SSEs' success is often limited by financial knowledge, inadequate decision-making practices, and restricted access to formal financial services. Financial literacy has been identified as an important factor that can enhance business performance and inclusion in financial systems. This study investigates the role of financial literacy in improving financial inclusion and business performance among SME owners, focusing on the interaction between financial literacy, owners' decision-making, and access to finance. A correlational research design was adopted on cross-sectional data from 137 countries, excluding 21 countries due to unavailable data. Financial literacy was proxied by knowledge of loan qualification procedures and understanding of the financial systems, while owners' decision-making was measured using the World Bank Management Practice Index. Better performance outcome (BPO) was assessed through the achievability of production targets. The study used the Least Squares regression to examine relationships among financial literacy (FL), owners' decision-making (ODM), financial inclusion (FIN), and how they interact with BPO, controlling for heteroskedasticity and multicollinearity. The analysis indicates that financial literacy (0.855) and owners' decision-making (0.68) significantly and positively influence BPO. Financial inclusion alone does not have a significant effect. Notably, the interaction between financial literacy and decision-making (0.07) significantly enhances performance outcomes, and the interaction of financial literacy with financial inclusion (0.002) also positively affects BPO. Financial literacy and structured decision-making are critical drivers of SME performance, while access to financial services alone is insufficient. Synergistic effects between financial literacy and both decision-making and financial inclusion substantially enhance business outcomes, highlighting the need for policies and programs that strengthen financial education a and managerial capabilities among SME owners.

Keywords: Employment generation, Financial inclusion, Financial literacy, Small-scale enterprises.

Introduction

SSE are a major component that drives economic growth, job creation, and poverty reduction; these micro-enterprises play an essential role as drivers of productivity, fair growth, and social inclusion at the national level and in regions [1], [2]. Over 90 percent of all formal businesses worldwide, nearly 99% in Latin American countries contribute more than 60% to formal employment and still face challenges such as relatively short life cycles, low productivity relative to large corporations, persistent financing problems despite their key role that drives the productive activity around the world [4], [5]. In the US and UK, SMEs generate 62 percent of all jobs in each country, contribute over half (44% and 48%, respectively) of annual GDP; SMEs in upper-middle-income countries such as Singapore and Japan create approximately three-quarters of employment and at least one-half to two-thirds of their economies' gross domestic product [6], [7]. In Malaysia alone, the contribution of these small-scale enterprises is immense: contributing up to 37.4% toward GDP and 47.8 percent to jobs in support of its economy. SMEs play an even larger role across Africa where they represent more than 92 percent of businesses in Ghana and Kenya while generating as much as 80 percent of gross domestic product (GDP) and employment, with up to 52 percent of the GDP and 61 percent of the jobs coming from these enterprises [8].

They contribute to reducing unemployment rates and fostering industrial growth in developing economies. Thus, financial literacy has become a significant determinant of SSEs' sustainability due to its impact on their profitability by enhancing financial decisions (what they should do), financing choices (how much they can get) and money management (keeping what is available for them) [9], [10]. Therefore, the acquisition of training and education is essential so that SSE owners make correct financial decision and increase inclusiveness and sustainable development [11]. Financial literacy refers to a person's ability to manage economic information and ideas related to debt, saving and investment, pension and other factors which enhance their quality of life.

In developing economies, they help to diminish the unemployment levels, and the advancement of industries. The study showed that financial literacy acts as a key factor in the financial sustainability of SSEs by improving financial decisions, financing options, and money management for maintaining and increasing SSEs' profitability [9]. Financial literacy among SSE owners results in effective decision-making and proper behavior financially as well as working towards better financing and better profitability [10]. Acquisition of training and education is important for SSE owners in order to make correct financial decisions hence enhancing inclusiveness and sustainable development. As [14] noted, financial literacy is the capability to handle economic information and ideas such as debt, saving and investment, pension, and other factors which improve financial quality of life. Propelled by the liberalization of financial markets and development of new products, financial knowledge has been deemed as crucial in the establishment of sustainable, efficient, and stable SSEs in developing nations.

Financial literacy of the owner is one factor influencing small-business success: Studies confirm that SME owners with some degree of financial literacy commit fewer errors than those who are not financially literate (see [14], [12]). Financially-literate business owners manage their money better and access resources needed for growth, including evaluating services to control cash flows and reducing expenses while saving more, increasing organizational performance, and making optimal investments ([12]). However, research has shown that many SMEs lack both the knowledge and accessibility of financial training to prevent them from expanding.

Therefore, although previous literature focused on topics such as financial literacy (e.g., [12]), financial inclusion (e.g. [15]) and the relationship between them with BPO for firms, no prior research has examined owners' decision making as a critical factor that could lead to superior business performance outcomes (BPO). This study is different from previous studies in terms of quantifying owner's decisions using World Bank Management Practice Index ([16]).
This study fills these gaps by examining how FL and CDM are related to each other: FL and Financial Inclusion (FL FIN) affect BPO Collecting this data from 137 countries across the world. The findings show that financial literacy enhances business outcomes not only through improved financial management but also by fostering structured decision-making frameworks among SME owners. Interestingly, while access to finance is beneficial for improving performance, it does not significantly enhance individual performance when used in isolation. The study found that financial literacy moderates and reinforces the relationship between decision-making, financial inclusion, and SME performance.

Literature Review

Several scholars have validated this relationship between financial literacy and companies [17]. OECD defines financial literacy as "a set of knowledge, skills, attitudes, and practices that enables people to make effective decisions about financial products and services based on understanding their features". In the context of Sen's development theory [12], it can help individuals or business owners understand where they are financially so that better choices result in greater autonomy.

A number of studies have found a positive relationship between SME performance outcomes such as revenue, profitability and growth with financial literacy: for example, findings from Ghana indicate higher levels among owner-managers leads to superior results [11], while research on Indonesian MSMEs suggests it was positively associated with firm-level measures through access finance and risk management practices [22]. As more services become digitalized, a second dimension of this is the development of financial literacy in terms of its intersection with technological knowledge or "digital fluency" (24), ([26]), which means that high levels of both would allow SMEs to reduce cash flow costs as well transactional expenses through mobile money and online banking platforms.

Financial literacy has also been found to be moderated by entrepreneurial competencies, meaning owners who have higher financial literacy are more likely to exhibit better business outcomes if they possess stronger decision-making capabilities [27]. Empirical evidence from regional studies supports these relationships: in Nigeria [28] reported that increased levels of owner-managers' knowledge about finance resulted into enhanced SME performance; [29] reporting on firms across Southeast Asia found financial literacy to explain up to a quarter (25%) variance of firm-level measures. While this has been an area with some progress in terms of measurement approaches, gaps still exist due largely because the instruments used often rely upon self-reported metrics or lack validated tools for measuring knowledge about finance and behavior related specifically within entrepreneurship context as well digital financial literacy.

Recent literature has increasingly emphasized the multidimensional nature of financial literacy, particularly in relation to SME sustainability and long-term growth. Financial literacy is not limited to basic financial knowledge but extends to the ability to interpret financial information, manage risks, and make strategic investment decisions. Studies have shown that SMEs with higher levels of financial literacy demonstrate improved financial management practices, leading to enhanced profitability and resilience in competitive markets [25], [37]. Moreover, the integration of financial literacy into business operations has been linked to better cash flow management and reduced likelihood of financial distress. These findings suggest that financial literacy plays a critical role in strengthening SMEs' adaptive capacity, especially in volatile economic environments where informed decision-making is essential for survival and growth.

Another important strand of literature focuses on the relationship between financial literacy and access to finance. Financially literate SME owners are more likely to understand financial products and meet lending requirements, thereby improving their chances of obtaining external financing. Empirical studies confirm that financial literacy significantly influences access to credit and financial services, particularly in developing economies [10], [5]. This relationship is crucial because access to finance remains one of the major constraints faced by SMEs globally. Additionally, financial literacy enhances the ability of business owners to evaluate financing options and select the most appropriate sources of capital. As a result, financially literate SMEs are better positioned to invest in growth opportunities and expand their operations, ultimately contributing to improved performance outcomes.

The growing role of digital technologies has further expanded the scope of financial literacy to include digital financial competencies. Digital financial literacy enables SME owners to utilize fintech solutions such as mobile banking, online payments, and digital lending platforms, which can significantly reduce transaction costs and improve efficiency. Evidence suggests that the adoption of digital financial tools is positively associated with SME performance and financial inclusion [20], [23]. Furthermore, digitalization facilitates greater transparency and accessibility in financial transactions, allowing SMEs to better manage their financial activities. However, the benefits of digital finance can only be fully realized when SME owners possess the necessary digital and financial skills, highlighting the importance of integrating digital literacy into financial education programs.

In addition to financial literacy, firm-level characteristics and external support systems also play a significant role in shaping SME performance. Studies indicate that management accounting practices, entrepreneurial orientation, and institutional support mechanisms contribute to improved business outcomes [8], [1]. SMEs that adopt structured financial and managerial practices are more likely to achieve higher efficiency and competitiveness. Furthermore, the role of SMEs in economic development, particularly in terms of employment generation and poverty reduction, has been widely documented [3], [4]. This underscores the importance of strengthening SMEs through targeted interventions that combine financial literacy, managerial training, and access to resources. Consequently, a holistic approach that integrates these elements is essential for enhancing SME performance and ensuring sustainable economic development.

The available evidence suggests policy implications: 1) to develop integrated programs (combining traditional aspects with governance training that strengthens decision-making capacity); 2) tailoring interventions in light of the business contexts including behavioral dimensions; 3) integrating digitally enabled components into such initiatives can lead better SME performance, resilience and growth outcomes for entrepreneurial economy over time.

H1: Financial literacy has no significant influences SME better performance outcomes
H2: SME owners' decision- no significant influences SME better performance outcomes
H3: Financial inclusion no significant influences SME better performance outcomes
H4: Financial literacy has no significant moderating effect on decision-making, financial inclusion and SME better performance outcomes

Methodology

The study utilized a correlational design; it was considered suitable because the researcher can test relationship between two or more variables. Regression technique was implored to analyses the data gotten from world bank. The study focused using cross-sectional data from World Bank that captured 137 countries with the exception of Yemen, Republic of Yemen; Uruguay; Israel; Italy; Latvia; Liberia; Germany; Greece; Gambia; Estonia; Ethiopia; Finland; Bulgaria; Czech Republic; Croatia; Central African Republic; Burkina Faso; Burundi; Antigua and Barbuda; Austria; Bahamas; Barbados due to unavailability of data. This study, therefore, uses limited financial knowledge and the understanding of loan qualification procedures as proxies for financial literacy among business owners.

Essentially, financial literacy is knowledge of how formal financial milieus work, and this entails grasp of concepts, procedures and instruments that define the realm. For SMEs, these include elements such as understanding the loan terms and conditions, the requirements to meet for loan approvals, and the steps to take in the application process. Anyone with a rudimentary knowledge of these procedures is in a stronger position to approach formal financial institutions with increased likelihood of accessing loans. This approach has been supported by prior research suggesting that enhancing financial literacy would lead to a lessening of financial constraints and thus improved credit access [12], [17]. Hence the use of this proxy is practical in the sense that it captures a measure of financial literacy concerning the performance and management of financial portfolios.

Ina addition, World Bank management practice index from was used to measure Owners' decision-making. [39] shows that there is connection between efficiency and management practices across companies in the world. Their study demonstrates that better management practices, as measured by the index, are positively correlated with performance improvements such as higher output, profitability and firm growth. The better performance outcome is measured using score on achievability of production; measuring better performance outcomes through a score on the achievability of production is a well-supported approach, as it provides a clear metric for evaluating a firm's operational effectiveness and goal-setting capabilities. This is a resource-focused measure that indicates the degree to which production targets are being met, which demonstrates the effectiveness of resource, process, and strategy alignment. [16] found that SMEs that achieve their production goals demonstrate effective resource allocation and execution and therefore found this to be a valid performance indicator. This measure gives the level of social inclusion that business owners have in the financial sector where they can perform most of the key financial activities such as saving, borrowing and making payments.

More so, the category of owners aged 15+ is prescribed, as it characterizes the population engaged in economic activities, which is the working-age population. [15] back this metric up, arguing that the availability of an account naturally correlates with FI and determines capabilities of individuals and SMEs in risk and investment management, as well as growth. Census sampling technique was used since the whole population of the target group is included thus avoiding possibility of a biased sample. This approach is most useful when the population is not too large and when the research wants to get as much information as possible from each unit, to avoid missing out on variations or distinct characteristics. The study adopted the positivism paradigm because the study is a quantitative study. The used is:

$$BPO_t = \beta_0 + \beta_1 FL_t + \beta_2 ODM_t + \beta_3 FIN_t + \beta_4 (FL_t \times ODM_t) + \beta_5 (FL_t \times FIN_t) + E_{it}$$

Where: BPO = Better Performance Outcome, FL = Financial Literacy, ODM = Owners' Decision Making, FIN = Financial Inclusion, Eit = Error term, 0 = Constant coefficient and t = Time

Result Discussion

Figure 1 provides the differential status of ODM (Overall Development Measure), BP (Basic Provisions), and FL (Financial Literacy) by global regions. East Asia & Pacific and Europe & Central Asia have the highest levels of development and provisions, whereas South Asia and Sub-Saharan Africa have the least provisions and the lowest level of financial literacy across all the regions.

The descriptive statistics provide insights into the variables examined in the study, along with their measurements and implications. Better Performance Outcome (BPO), measured as the nature of production achievement results, has a mean value of 0.468, indicating that SMEs perform moderately well in achieving their production goals on average. This suggests that some SMEs perform well while others underperform or are not as efficient as other SMEs on average. The standard deviation of 0.124 is low which means that there is a little fluctuation on the performance outcome which shows that operational firm performance is fairly stable. The range from minimum of 0.145 to maximum of 0.716 states that some SMEs have much higher outcomes than others, probably because of better management of the resources and effective processes. The skewness (-0.208) indicates that a slightly higher percentage of SMEs obtain higher performance levels, perhaps because more competitive SMEs possess strong production processes [27], [40]. The kurtosis is at 2.956, which is not greater than 3 implies BPO an effective measure of the success of operations.

FL hence had a mean of 0.253 which was very low indicating that business owners were not financially literate concerning financial knowledge and loan qualification processes. This low average points to the fact that majority of the business owners do not have the required financial knowledge to enable them manage the complex financial systems so as to secure more finances. Furthermore, the standard deviation of the responses is 0.191 which indicates moderate variability meaning this is a confirmable notion taking into consideration that this is a sample of the population that might have considerable or almost no knowledge in finance. It ranges from 0.002 to 0.741 indicating a variation of financial literacy in the sample and might be due to educational attainment, income, or experience in the financial system. The positive skewness of 0.68 also implies that the majority of the sampled business owners are financially illiterate. This highlights the huge gap that financial education programs should fill for enhancing the level of financial literacy and fostering the SMEs financial choices and access.

Owners' Decision Making (ODM) has a mean value of 0.506 based on the World Bank Management Practice Index, indicating that business owners present moderate levels of decision-making practices. It therefore implies that most of the owners put in place reasonable managerial measures. The standard deviation of 0.083 means uniformity in their decision-making practices. The range of minimum of 0.283 to maximum of 0.686 implies that while some owners have made sound decisions, others are below average Management Practice Index.

Financial Inclusion (FIN) which is the percentage of SMEs that could save, borrow or pay using formal sector financial services is 0.509; the bar is moderate, indicating moderate FIN amongst the SMEs under the study. This is a sign that on an average, SMEs can obtain financial services; however there are some needs that are yet to be fulfilled. The standard deviation of 0.291 highlights the large variance and suggests that although there are SMEs that have relatively low barriers to financial systems, there are others that experience high levels of barriers. This range, 0.030 to 0.99, supports this difference and identifies issues such as low levels of access to financial infrastructure or trust in financial organizations. This is slightly evidence (Kurtosis=0.158, right of zero). Its kurtosis (1.829) is below the arbitrary cut-off of 3, meaning that it is not as peaked and is therefore more widely spread in inclusion level. They emphasize the need for policies and programs that increase access to financial services. The correlation matrix shows the relationship between the variables, but there is only a weak relationship between financial literacy and performance, as evidenced by the small positive connection of 0.044 between BPO and FL which highlights the importance of management decisions and practices to increase performance, and the strength of this correlation implies that the ability of the business owners to make good decisions based on organized and effective management techniques is a key indicator of their success. This result bolsters Bloom et al. [39] claims that better management boosts a company's development and productivity. This suggests that actions aimed at improving decision-making skills may have the greatest impact on improving SME performance.

The BPO and FIN coefficients of 0.078 indicate a very weak positive correlation between improved performance results and financial inclusion. Their theory suggests that strong performance is not always correlated with financial system integration, even though they find a slight correlation between SME performance and their access to fundamental financial services including loans, savings accounts, and payment systems. The multicollinearity diagnostic test was conducted using the Variance Inflation Factor (VIF) which is highlighted in table 3 below. The estimated VIF values for Financial Literacy (FL), Financial Inclusion (FIN), and Owners' Decision-Making (ODM) are 1.003, 1.000, and 1.001 respectively, which is further from 1 and shows a very small VIF value and hence a very low level of multicollinearity among the independent variables. Also important to note is that the mean of VIF is 1.012 thus indicating that there is little problem of multicollinearity in this dataset. The findings show that these independent variables are sufficiently different and appropriate for use in the regression analysis without the results being invalidated.

The results of the Shapiro-Wilk normality test are indicated in Table 4 with the purpose of knowing whether the given data adhere to the normality hypotheses. The main use of this test is to check whether or not the data in a sample follow a normal distribution. To overcome this, the analysis of normality was performed on residuals as Ghasemi and Zahediasl (2012) suggested. However, the acquired P-value was larger than 0.05 at a 5% significance level hence rejecting the null hypothesis. Therefore, based on the results of the analysis it can be stated that residuals are normalized confirming the validity of using linear regression model and offering evidence that OLS assumptions have been met.

Based on the analysis, the results show that BPO is statistically significant with a chi-square value greater than 4.75 and a p-value of 0.0293, which is lower than the preferred 0.05 level. This means that, the null hypothesis stating that the relationship between the variables is not causally related can be rejected as the probability of finding such a deviation by chance is highly unlikely.

The regression output provides a detailed analysis of the relationships between Better Performance Outcome (BPO) and the independent variables: The study employed robust Ordinary Least Square to take care of heteroskedasticity. The major independent decision variables that were used in this study include: Financial Literacy (FL), Owners' Decision-Making (ODM), Financial Inclusion (FIN), and the interaction terms between financial literacy and the owners' decision-making (FL_ODM) and between Financial literacy and Financial Inclusion (FL_FIN). In summary, the values obtained for both models show that they have good explanatory power while employing indicators with acceptable levels of reliability; moreover, the model judging overall BPO has a relatively high R-squared of 0.726, which means that 72.6% of the variation within the data is explained by the variable in question. The F-test of the analysis of variance stands at 38.448 while the corresponding p-value is 0.000, which makes the overall model significant hence the conclusion that the variables included have a great ability to explain the variation that is in the data.

The coefficient for FL is 0.855 and the p-value is 0.006 which indicates the FL is statistically significant at 1 level of significance. This means that financial education has a significant and positive influence on BPO." The role of financial literacy in lifting BPO is significant and clearly measured by the statistical tool, whereby each unit increase in financial literacy is associated with 0.855 units of BPO ceteris paribus. The 95% confidence interval (0.253 to 1.457) confirms the robustness of this result. Therefore, the null hypothesis that financial literacy does not influence better performance results is tested and rejected. This research finding underlines the relevance of financial literacy since it helps the owners and managers to improve their performance levels in their businesses and make better decisions [18], [34].

The coefficient for ODM is 0.68 with the p-value of 0.027, thus we reject the null at 5% level of significance. This implies that enhancement of decision-making in business owners' results in the enhancement of performance. In detail, the study's estimation shows that for every one unit change in ODM, there is a bidirectional relationship with BPO when all others are held constant, with an estimated value of 0.68. This conclusion is also confirmed by the 95% confidence interval ranging from 0.079 to 1.281. Therefore the null hypothesis implying that ODM has no influence in leading to better performance outcomes is invalid. This result underscores the importance of the structure of the management practices and their quality decision-making process that are instrumental in enhancing the achievement of the production targets and SMEs success.

The beta estimate for FIN is 0.0000375 and the p-value of 0.164 shows that the relationship between financial inclusion and BPO is insignificant according to the conventional tests. The calculated absolute 95% confidence interval also exclude zero and therefore there is no statistical significance. Therefore, considering the information provided in the analysis, the null hypothesis that financial inclusion does not have a positive impact on better performance outcomes can be considered valid. It supports the notion that though financial services are useful, the presence of performances may not necessarily be attributed to them, unless a number of other conditions such as financial literacy or decision making skills are present.

The coefficient for the combination of owners and FL is 0.07 with a p-value of 0.000, thus is significant at 1% level. The implication of this result is that the interaction between financial literacy and decision-making increases BPO more than the isolated effects of each variable. The interaction reveals that the positive effect of financial literacy for BPO is moderated by decision-making ability [15]. Therefore, it can be concluded that the null hypothesis with respect to this interaction effect can be rejected concluding that there are positive synergistic impacts of these two factors.

The correlation between financial literacy and level of financial inclusion stands at 0.002 and a p value of 0.005, its significance being at a 1% level of probability. This means that when financial literacy is employed alongside financial inclusion it helps in enhancing the performance outcome [12], [32]. Positive coefficient indicates that financial literacy helps the business owners to better manage the existing and avail the services from the financial sector for better business results. The null hypothesis for this interaction effect is thus dismissed and thereby highlighting the significance of the match between financial literacy and financial services.

The result of this research confirms that FL and ODM have essential impacts on enhancing the BPO of SMEs. Similarly, with a coefficient of 0.855 and $p < 0.05$, financial literacy was statistically positive and significant to the BPO model. This finding aligns with research by [17], [15], [21] that concluded financial literacy teaches a person to budget, control cash flow, and make decisions that can contribute to a company's success. This result will theoretically lend to Dugan (2003) personal finance education, which is based on the idea that individuals should be provided with the knowledge and skills to make more informed decisions about their financial well-being. Similarly, the owner decision variable was also significant and positive at 0.68 $P<0.027$. This finding is consistent with past studies [17], [21] who argued that structured decision making leads to enhanced SME performance through efficient allocation of resources.

There was no significant correlation between BPO and FIN, which implies that although financial services are important, their effects on performance are conditioned by other factors, or enablers such as financial literacy. This research corroborates the argument raised by [11], who argue that even if financial services reach place-bound populations, the outcome will not be better financial well-being if the population does not have the knowledge and skills to look for appropriate services. The results of this research corroborate the study by Kalapriya, which concluded that the effectiveness of using financial services to enhance SME performance decreases when financial literacy is low [17], [11], [22]. This is also consistent with a development framework that posits that increasing financial literacy enhances the freedom and capacity of individuals to make the correct business and financial choices leading to improved business and financial performance [24], [29].

The findings of this study provide strong evidence for rejecting H1, which states that financial literacy has no significant influence on SME better performance outcomes. The regression results indicate a positive and statistically significant relationship between financial literacy and performance, suggesting that SMEs with higher financial knowledge are better positioned to allocate resources efficiently and achieve production goals. This aligns with prior studies emphasizing that financial literacy enhances decision-making, financial planning, and access to financial services [12], [18]. Furthermore, empirical evidence suggests that financially literate business owners are more capable of navigating complex financial systems and improving firm outcomes [27], [28]. Thus, financial literacy remains a critical determinant of SME performance across different economic contexts.

The results also lead to the rejection of H2, confirming that SME owners' decision-making significantly influences better performance outcomes. The positive and significant coefficient for owners' decision-making indicates that structured management practices and informed decisions contribute to improved operational efficiency and goal attainment. This finding is consistent with previous research showing that effective managerial practices enhance firm productivity and growth [16], [8]. Additionally, decision-making capabilities enable business owners to optimize resource utilization and respond to changing market conditions, thereby strengthening performance outcomes. Studies have also emphasized that entrepreneurial competencies and strategic thinking are essential for SME success [29], [21]. Therefore, owners' decision-making plays a vital role in shaping business performance.

Unlike financial literacy and decision-making, the study fails to reject H3, indicating that financial inclusion has no significant influence on SME better performance outcomes. Although financial inclusion provides access to essential financial services such as savings, credit, and payments, its direct impact on performance appears limited in this context. This finding supports earlier studies which argue that access to financial services alone does not guarantee improved firm performance without the necessary financial knowledge and skills [11], [22]. Moreover, while financial inclusion may facilitate business operations, its effectiveness depends on how well these services are utilized by SME owners. Therefore, financial inclusion should be complemented with financial literacy to produce meaningful performance improvements.

The results contradict H4, as financial literacy demonstrates a significant moderating effect on the relationship between decision-making, financial inclusion, and SME performance outcomes. The interaction terms reveal that financial literacy strengthens the positive impact of both decision-making and financial inclusion on performance. This implies that financially literate business owners are better able to leverage managerial skills and financial services to enhance firm outcomes. Supporting evidence suggests that financial literacy improves the ability to utilize financial resources effectively and make informed strategic decisions [12], [32]. Additionally, studies highlight that the combined effect of financial knowledge and access to financial services leads to improved SME performance [24], [21]. Hence, financial literacy plays a synergistic role in driving business success.

The study demonstrates that financial literacy and owners' decision-making are key drivers of SME performance, while financial inclusion alone is insufficient to produce significant outcomes. The rejection of H1, H2, and H4, alongside the acceptance of H3, highlights the importance of capability-based factors over mere access to financial systems. These findings are consistent with existing literature emphasizing that knowledge and managerial competence are essential for translating financial access into tangible performance gains [17], [21]. Furthermore, the interaction effects confirm that financial literacy enhances the effectiveness of other determinants of performance. Therefore, policies aimed at improving SME performance should prioritize financial education and managerial skill development alongside expanding financial inclusion initiatives.

The findings of this study highlight the need for policymakers to prioritize financial literacy programs as a central component of SME development strategies. Given the significant positive impact of financial literacy on performance outcomes, governments and development institutions should invest in structured financial education initiatives targeting SME owners. Such programs should focus on practical knowledge, including loan application processes, budgeting, and cash flow management. Prior studies emphasize that financial literacy enhances financial decision-making and access to finance, ultimately improving firm performance [12], [18]. In addition, integrating financial literacy into national entrepreneurship policies can help bridge knowledge gaps and empower business owners to navigate financial systems more effectively, thereby fostering sustainable SME growth.

In addition to financial education, there is a strong need to strengthen managerial and decision-making capabilities among SME owners. The significant role of owners' decision-making in driving performance suggests that policies should incorporate management training and capacity-building initiatives. Governments and private sector stakeholders can develop mentorship programs, workshops, and advisory services to enhance strategic planning and operational efficiency. Evidence shows that structured management practices and sound decision-making contribute to improved productivity and firm growth [16], [8]. By equipping SME owners with better decision-making tools and frameworks, policymakers can enhance resource allocation efficiency and improve the overall competitiveness of SMEs in both domestic and international markets.

Although financial inclusion remains an important policy objective, the findings suggest that expanding access to financial services alone is insufficient to improve SME performance. Policymakers should therefore adopt a more integrated approach that combines financial inclusion with financial literacy initiatives. While access to financial services such as credit and savings accounts is necessary, its effectiveness depends on the user's ability to utilize these services efficiently [11], [22]. This implies that financial institutions and regulators should design inclusive financial products alongside educational support to ensure proper usage. Such a dual approach can maximize the developmental impact of financial inclusion policies and ensure that SMEs derive tangible benefits from financial system participation.

The significant moderating role of financial literacy suggests that policies should emphasize the complementary relationship between knowledge and access to financial services. Financial literacy enhances the ability of SME owners to leverage financial inclusion and managerial practices for improved performance outcomes. Therefore, policymakers should design integrated frameworks that simultaneously promote financial education, access to finance, and managerial development. Empirical evidence supports the idea that financial literacy strengthens the effectiveness of financial inclusion and decision-making processes [24], [32]. This integrated approach can create a more enabling environment for SMEs, where business owners are not only able to access resources but also utilize them strategically for growth and sustainability.

Furthermore, there is a need for targeted interventions that address regional and demographic disparities in financial literacy and SME performance. The descriptive analysis indicates variations in financial literacy levels across regions, particularly in developing economies. Policymakers should therefore implement context-specific programs tailored to the unique needs of SMEs in different regions. For instance, digital financial literacy initiatives can be promoted in areas with growing technological adoption, as digital tools play an increasing role in financial management [26], [23]. Such targeted interventions can help reduce inequality in financial knowledge and improve SME performance outcomes across diverse economic environments.

Finally, collaboration between public institutions, financial organizations, and educational bodies is essential for the effective implementation of SME development policies. Governments should partner with banks, fintech firms, and training institutions to deliver comprehensive support systems for SME owners. These collaborations can facilitate access to financial services, provide training opportunities, and promote innovation in SME operations. Studies indicate that the combined effect of financial knowledge, access to finance, and technological adoption significantly enhances SME performance [21], [20]. By fostering multi-stakeholder partnerships, policymakers can create a holistic ecosystem that supports SME growth, resilience, and long-term economic development.

Conclusions

The results show a positive impact on BPO from ODM and FL in terms of improving the overall outcome for SMEs; it provides them with information to manage financial resources which allows owners (decision makers) make decisions about business outcomes that maintain structured approaches by managers. The interaction effects suggest that financial literacy not only amplifies but also facilitates other factors such as magnifying effect on decision-making and access in terms of improving the BPO, thus confirming SME solvency concerns and profitability about their importance for stability or long-term growth especially where regions are developing underdeveloped ones. Legislators should join this financial literacy movement by arranging more practical training sessions that provide risk assessment, cash flow management and budgeting which enable MLs as well as the owners of other SMEs make better decisions about resource allocation. Even more significantly is an attempt to ensure that those who own or run small businesses take a structured approach through coaching/training/consultation aimed at improving financial modelling (and thus strategic) capacity, with easy access for all public ministries and private sectors departments responsible in creating policies around the same thing while ensuring that educational department makes its contributions available. In addition theoretical approaches which stress the interdependence of these three constructs need to be deepened further.

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