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Community extension MSME's entrepreneurial activities in relation to poverty reduction

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Introduction: Higher Education Institutions play a role in poverty reduction by implementing community extension programs focusing on capacity building and entrepreneurship training. Cebu Technological University programs offer these programs through various skills training to its targeted beneficiaries. This study aims to assess the community extension Micro-, Small and Medium-sized Enterprises (MSMEs) entrepreneurial activities concerning poverty reduction. The research participants are beneficiaries of community extension programs that primarily focus on capacity building and entrepreneurship training, and they eventually become entrepreneurs.

Method: Using a cross-sectional survey, 172 valid responses were analyzed, with entrepreneurship education (EE), budgeting financial literacy (BFL), access to credit facilities (ACF), and entrepreneurial performance (EP) as predictors of poverty reduction (PR). Results from Partial Least Squares - Structural Equation Modeling (PLS-SEM) generate insights from the seven hypothesized paths of the proposed model.

Results and discussion: Findings revealed that entrepreneurship education ($\beta = 0.258, p < 0.05$), budgeting financial literacy ($\beta = 0.147, p < 0.05$), and access to credit facilities ($\beta = 0.541, p < 0.001$) help reduce poverty. However, no significant relationship was found between entrepreneurial performance and poverty reduction ($\beta = 0.132, ns$) whose cause may be directly pointed to the pandemic's significant impact on MSME's entrepreneurial activities.

Conclusion: This study confirms the importance of entrepreneurship education, budgeting, financial literacy, and credit access in promoting entrepreneurial success and reducing poverty.

KEYWORDS

community extension, PLS-SEM (partial least squares - structural equation model), higher education institute, entrepreneurship, poverty reduction

Introduction

Poverty is a multifaceted issue with numerous interconnections. Innovative ways of finding solutions are required to lessen poverty's effect on people, society, and the environment (Moniruzzaman and Day, 2020). In order to better understand poverty and develop strategies to combat it, various economic, social, structural, capacity, and learning techniques have been used to date (Sofa and Wicks, 2017). A rural community in the Philippines, like fishermen and farmers, remains the poorest primary sector in the Philippines (PSA, 2018). Due to the fact that Filipino farmers are still considered to be poor, it's necessary to give them an additional source of income (Yamagishi et al., 2021). Higher poverty rates are associated with poor rural subsistence on fishing and farming, illiteracy, unemployment, and larger family sizes (Cerio, 2019; Siphesihle and Lelethu, 2020).

Higher education institutions (HEIs) in the Philippines play an important role in reducing poverty (Yulo Loyzaga et al., 2022). Universities and colleges carry out a variety of entrepreneurship training through community extension programs that are offered to assist aspiring entrepreneurs. Community extension communicates and transfers knowledge and technology to specific sectors and target clientele, specifically those not enrolled in formal degree programs and course offerings (Palmén et al., 2020). The target beneficiaries can improve production, community, institution, and quality of life while enhancing HEI academic and research programs (CHED CMO No. 08-S. 2010). A unique ecosystem of collaboration of HEIs with communities, businesses, and industries facilitates the transfer of knowledge and technology in specific developmental sectors that directly impact the lives of individuals, families, and communities (Vermesan and Friess, 2022). In this case, extension is defined as the systematic transfer of technology, innovation, or information generated by HEIs and its partner to seek solutions to specific developmental concerns (Declaro-Ruedas et al., 2022). It is a purpose-specific, target-specific, and need-specific program of action utilizing the best available data, science, and evidence from various disciplines to inform systematic approaches to developmental solutions (Krasadakis, 2020). Research, innovation, and extension in Philippine higher education must work contextually and purposefully (Hirsu et al., 2021). Knowledge generation in HEIs should enable us to (a) deepen our understanding of ourselves as a people and as a nation and discover practical evidence- and science-based answers that can address real-world social, economic, and environmental challenges of families and communities (CHED CMO No. 52-S. 2016). Extension services are government-run programs that offer learning opportunities that support producers' technical ability and expertise (Ullah et al., 2021). These programs had been implemented to reach out to the local people for more significant development (ElMassah and Mohieldin, 2020). They

influenced them to pursue a passion that maintains different aspects, especially employment, business, culture, norms, and values. Extension services are essential, and the best way to reach out to young people is through effective extension and advisory services (Ortiz-Crespo et al., 2021). Thus, it is possible to create extension programs that involve youths using participatory methodologies to provide input on program priorities (Ivanich et al., 2020).

In the Philippines, higher education institutions are thrust to strengthen university-community engagement through extension activities (Medina, 2018). For the aforementioned points to be taken seriously, it is important to keep in mind the following: (a) actions and decisions made in the form of a program have an impact on other people; (b) extension services planning is a coordinated effort that entails the identification, evaluation, and assessment of needs, issues, resources, priorities, and solutions; (c) while many other benefits, such as participant education, may result from the process, an extension services strategy is a matter that must be taken seriously. As a result, the function of extension programs continues to change. This technique facilitates an iterative, collaborative learning process where options are presented to users, who then modify them in response to local circumstances (Morrone, 2017; Villanueva et al., 2020).

The Cebu Technological University facilitates sustainable development in poor communities through extension services. CTU community extensions were made possible through the strong linkage between Cebu Technological University and the Local Government Unit. Ngaka and Zwane (2018) stressed that partnerships are indispensable in extension services. Similarly, partnerships can help reinforce, support, and even renovate individual partners, resulting in higher program quality, more well organized resource use, and better alignment of goals and programs (Weiss et al., 2010; Campos-Silva et al., 2021). As a result, several community extension services were successfully conducted with all support from the University Extension Services Office and the partner institution (Gutter et al., 2020; Antwi-Agyei and Stringer, 2021).

Most of CTU's extension services programs were designed to help the community to fight poverty (e.g., FEU community extension services 2020, Building Your Community Resources for Local Entrepreneurs 2021, and Creating Entrepreneurial Communities Conference 2022.). These programs were focused mainly on capacity building and entrepreneurship training. On the one hand, capacity building is the process whereby relevant stakeholders and organizations unleash, support, generate, acclimate and maintain capacity over time, usually to promise sustainable growth and improve the lives of the stakeholders (Jones et al., 2020; Loss et al., 2020; Casado-Asensio et al., 2022). It requires acquiring specific skills and developing opportunities to put the skills to prolific use (Issa et al., 2010; Harley et al., 2020; Ng et al., 2021). Full implementation of a well-designed capacity-building program ensures a sustainable extension service

delivery system where extension workers can operate in the expected commercial economy (Issa, 2013; Costa and Andreas, 2020). On the other hand, the goal of entrepreneurship programs for low-income self-employed people is to enhance their livelihood rather than promote cutting-edge innovation and business growth (Cho et al., 2016; George et al., 2021). Maziriri and Chivandi (2020) and Babajide et al. (2021) averred that entrepreneurship programs have variables that include entrepreneurship education, budget financial literacy, access to credit facilities, and entrepreneurial performance.

As an HEI, CTU's role in poverty reduction through entrepreneurship is carried out through its community extension programs that focus mainly on capacity building and entrepreneurship training, which offer various skills training to the beneficiaries. This paper evaluates the entrepreneurial activities of the community extension program by examining the variables that include entrepreneurship education, budget financial literacy, access to credit facilities, and entrepreneurial performance. Evaluating the effectiveness and sustainability of these programs that mainly assist the beneficiaries with becoming entrepreneurs impacts whether they should be forwarded, corrected, or terminated (Rahmat and Izudin, 2018).

The rest of the paper is organized into four sections: Section Literature review and hypothesis development presents the conceptual model and the hypotheses. Section Methods describes the methodological procedures. Section Data analysis and results reports the result of the PLS-SEM analysis. Section Discussions presents the discussion of the findings, while Section Recommendations provides concluding remarks, limitations, and some recommendations.

Literature review and hypothesis development

Entrepreneurship education and entrepreneurial performance

According to Manyaka-Boshielo (2019), entrepreneurship education (EE) is defined as 'the skills and knowledge that individuals acquire through investment in schooling, on-the-job training, and other types of experience. While Mabenge et al. (2020) stated the ability of innovation to drive every firm activity, such as cost reduction, revenue growth, and aggressiveness, is referred to as entrepreneurial performance. The relationship between entrepreneurship education and entrepreneurial performance must be clarified. Van der Sluis et al. (2008) contend that investing in the education of imminent business visionaries results in greater entrepreneurial performance. The human capital idea affirms that previously acquired knowledge is crucial for academic execution. Coad et al. (2022) further point out that education enhances the performance of the entrepreneur in several areas, including

business survival, firm development, and the association's entry into speculation. Based on the cases above, this theory is put forth:

H1: Entrepreneurship education positively and significantly impacts the entrepreneurial performance of MSMEs.

Budgeting financial literacy and entrepreneurial performance

The capacity of managers to successfully manage money when making financial decisions is referred to as financial literacy (Marcolin and Abraham, 2006). According to Ripain et al. (2017), MSMEs play a crucial role in the economic development of many nations, and their performance and expansion have come to the attention of a number of stakeholders, including the government, policymakers, and financial institutions. The element of financial management is one of the most frequently mentioned success aspects of MSME, per Salikin et al. (2014). In Uasin Gishu County, Chepngetich (2016) observed a relationship between financial literacy and MSMEs' entrepreneurial success and discovered that financial literacy significantly impacted MSME performance. Further, Ibor et al. (2017) discovered that financial services had a favorable and significant impact on the functioning and expansion of MSMEs. Access to financial services is beneficial for MSMEs and other vulnerable and underprivileged businesses. According to Ratnawati (2020), financial inclusion has a direct and indirect impact on MSMEs' performance through the use of financial intermediation and capital access. As a result, we can speculate:

H2: Budgeting financial literacy positively affects the entrepreneurial performance of the community extension MSMEs

Access to credit facilities and entrepreneurial performance

Kurgat et al. (2017) and Stubbs et al. (2021) defined a credit facility as an agreement with a bank or other credit institutions that enables a person or organization to borrow money when needed. Chege's (2014) and Maziriri and Chivandi (2020) investigation of the impact of credit facilities on the development of the 100 best MSMEs in Kenya found that access to credit facilities has a significant effect on the development of these enterprises. Therefore, the execution of an entrepreneurial venture relies on the entrepreneur's access to finance (Amouri et al., 2021). Enhancing the poor's access to financial services empowers them to develop beneficial resources and improve their profitability and potential for manageable jobs (Maziriri

and Chivandi, 2020; Setiawan et al., 2020; Tisdell et al., 2020). When an MSME has access to credit facilities, it enhances the execution of its entrepreneurial endeavors (Madan, 2020). As such, the following hypothesis can be formulated

H3: Access to credit facilities positively affects the entrepreneurial performance of the community extension MSME.

Entrepreneurial education and poverty reduction

For low-income individuals who want to start and grow their individual firms, entrepreneurship education can be helpful in delivering fundamental understanding, capabilities, and attitudes (Santos et al., 2019). Therefore, entrepreneurship provides reduced people a way out of poverty and an opportunity to enhance their society, create jobs, engage in self-employment, reduce crime, sustain their families, and realize other public welfare (Morris et al., 2020). Particularly during economic downturns (Lewis and Lee, 2020). Small-scale individual innovation and entrepreneurship have emerged as crucial elements in the fight to eradicate poverty following decades of large-scale state planning failure (Prideaux et al., 2020). Research in financial economics (Schwert, 2021) and applied economics and entrepreneurship. Karimi and Makreet (2020) recently affirmed the significance of entrepreneurship in the engagement of “bottom of the pyramid” consumers and the sensible decisions they may make regarding products and consumer welfare (Mehera and Ordonez-Ponce, 2021). As such, we can hypothesize:

H4: Entrepreneurship education positively affects poverty reduction

Budgeting financial literacy and poverty reduction

Presented the method of developing a financial plan that projects future expenditures and income is known as budgeting (Warue and Wanjira, 2013; Moshashai et al., 2020; Srithongrung et al., 2021). On the one hand, Ayhan (2019), Sharif and Naghavi (2020), Pu et al. (2021) defined financial literacy as the information, services, and capability to direct increasingly multifaceted economic marketplaces. It is thought to give customers the power to make wise financial decisions. Additionally, Maziriri et al. (2018), Singla and Mallik (2021), Anshika and Singla (2022) emphasized that MSMEs' performance is significantly impacted by their lack of financial literacy regarding budgeting. Managers of rural MSMEs must become financially literate, specifically in budgeting (Gosal and Kamase, 2021). Thus, many Filipinos are

suffering outward economic uncertainty from the deficiency of financial literacy, hindering their ability to survive during the pandemic. Therefore, we hypothesize that:

H5: Budgeting Financial Literacy positively affects poverty reduction

Access to credit facilities and poverty reduction

Tasos et al. (2020) saw poverty as a universal fact that no one can deny; it was also recognized as the greatest catastrophic economic and social crisis mankind has encountered from its inception. This problem has made it difficult for most people to achieve their goals, such as receiving an education, earning money, starting businesses, or even finding a job. It takes a lot of effort to overcome poverty in many ways, depending on how an individual deals with all the situations. On the other hand, the governmental and private sectors have developed programs and advantages that could assist the Philippines in transcending poverty, such as expanding credit access. Implicating a credit facility, according to Chen et al. (2022), is a type of loan issued in the context of a business or corporate financing. It enables the borrowing company to borrow money over a longer time rather than reapplying for a loan each time it requires funds; in effect, a credit facility enables a company to take out an umbrella loan to generate capital over a longer period of time. Gichuki et al. (2014) stated that the high cost of payback, stringent collateral requirements, people's unwillingness to act as guarantors, expensive credit facility processing charges, and short repayment terms were prohibiting micro and small businesses from obtaining credit. As a result, it is recommended that financial institutions establish more flexible, affordable, and appealing terms for financing micro and small businesses. Water, electricity, and food are critical resources for regional social and economic development, according to Pan et al. (2022). They can be used as indicators or methods for measuring sustainable development goals to get finance, and the results can aid in the coordination of resource management and hence the reduction of poverty. The credit facilities will undoubtedly assist an individual in overcoming the challenge of poverty. Thus, we hypothesize that:

H6: Access to credit facilities positively affects poverty reduction

Entrepreneurial performance and poverty reduction

Micro, Small, and Medium Enterprises (MSMEs) contribute significantly to income generation, employment creation, poverty reduction, and income inequality reduction (Marwa,

2014; Sriary and Nyoman, 2020). Small businesses, according to Matchaba-Hove et al. (2015), have an important role in improving development, progress, and vitality, as well as lowering unemployment and poverty. Similarly, Sarkar and Kumar, 2011; Egere et al., 2022 emphasized its importance in improving the socioeconomic conditions of the poor, creating job opportunities, allowing for greater exploitation of local raw materials and other resources, and boosting the country's economic progress. According to Sokoto and Abdullahi (2013), the potential of any organization to generate employment is critical in reducing the incidence of poverty among economic agents. Additionally, Yasa Kerti et al. (2013); Orji et al. (2022) conclude that improvements in MSME performance have a significant and fundamental impact on poverty reduction. The greater the change in MSME performance, the more significant the poverty reduction. Therefore, we can hypothesize,

H7: Entrepreneurial performance of the community extension MSME positively affects poverty reduction.

Methods

Research model

This paper adopted and modified the structural model of Maziriri and Chivandi (2020) of the key predictors that stimulate the entrepreneurial performance of small and medium enterprises (SMEs) and poverty. The aim of this study is to assess the community extension beneficiaries turned entrepreneurs and their entrepreneurial activities concerning poverty reduction during and after a crisis (e.g., health crisis, economic crisis due to calamities). Particularly, the effects of entrepreneurship education, budget financial literacy, access to credit facilities, and entrepreneurial performance in alleviating poverty. The structural equation model is shown in Figure 1.

Sampling and data collection

The measurement items of each construct in this study were adopted from measures in prior works (see Appendix A). Entrepreneurial education (EE) has 13 measurement items, entrepreneurial performance (EP) has ten, poverty reduction has ten, access to credit facility has eight, and budgeting financial literacy has eight. The data were gathered through face-to-face questionnaire completion. The survey was distributed to around 200 participants for 4 weeks. There were 187 responses collected. The 15 responses had non-interactive responses and were subsequently removed. Of 187, only 172 were valid and used for the final analysis.

Instruments

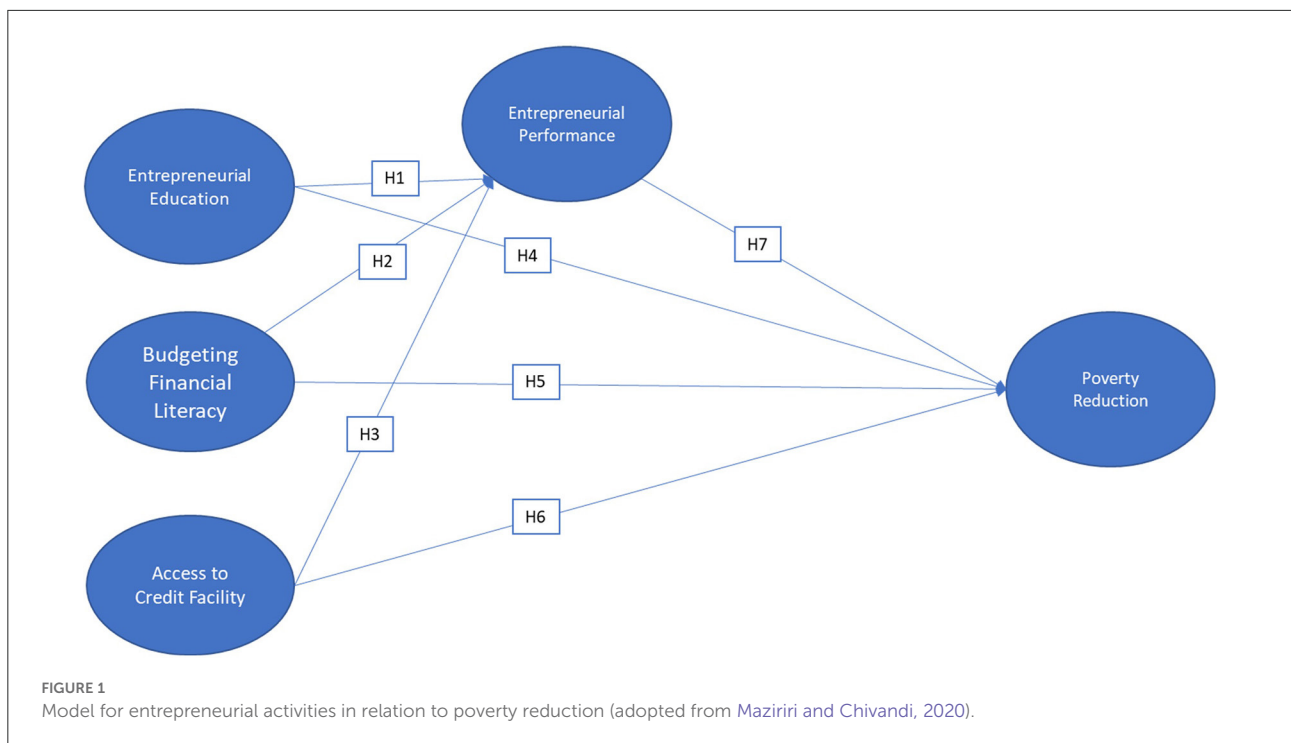
This study used a modified survey questionnaire to collect the necessary data. The questionnaire was divided into 3 sections. The first part includes questions such as the respondents' age, gender, special skills and community extension program. Second, the assessment of entrepreneurship education (Mwiya, 2014) and performance (Sariwulan et al., 2020), budgeting financial literacy (Siekei et al., 2013), access to credit facilities (Kurgat et al., 2017), and poverty reduction (Duclos and Tiberti, 2016) were gathered.

Participants

A total of 172 community extension beneficiaries turned into micro-, small and medium sized entrepreneurs (56 males and 116 females). They were trained in different community extension programs; specifically, 46.02% attended Bread and Pastry, 17.44% had computer training, 15.12% detergent production, 14.53% was trained in both Coco water treated bottled milkfish in Spanish style with Rosemary Production and Coco water treated bottled milkfish sardines. Another 14.53% were trained in Virgin Coconut oil and Coconut water treated pork tocino production. Other training attended by at most 10% of the respondents were as follows; Kamias-based dishwashing liquid, rug making, t-shirt/mug printing, commercial cooking, sewing, cosmetology, and massage. The participants came from different municipalities in the Province of Cebu, Central Visayas Region. 6.40% of the participating entrepreneurs have below 40 hours of entrepreneurial education. 9.88% had 41–80 hours, 28.49% had 81–120 hours, while the majority of respondents, 54.65%, had 121 hours and above entrepreneurial education. All respondents volunteered to participate and were assured that their answers would be kept strictly confidential. The profile of the participants is reflected in Table 1.

Data analysis and results

This study utilized partial least-squared structural equation modeling (PLS-SEM) to determine the causal relationships between the investigated variables. PLS-SEM is a statistical technique that has become a potent method for examining correlations between variables, even in the presence of non-normality (Chinomona and Surujlal, 2012). Data were fed into Smart PLS software to ensure the internal consistency of the items within each section. Smart PLS statistical software estimates the parameters of the structural model and assesses the psychometric qualities of the measurement model. All survey questions required a forced response in order to guarantee that all responses were comprehensive and contained



all necessary information. Furthermore, suspicious response patterns were deleted.

Measurement model assessment

The PLS analysis allows parallel testing of the outer measurement model and the inner structural model and the presence of reflective and formative latent variables (Fornell and Bookstein, 1982). Since the proposed model in this study includes reflective measures, the first criterion in evaluating the model is to examine the measures' reliability and validity (Hair Jr et al., 2017). Based on the measurement model assessment result, all indicators were convergent and reliable, as shown in Table 2, where the factor loading for each item is greater than 0.70 (Henseler et al., 2009). Factor loadings less than 0.7 were removed (Chin, 1998). Nineteen item indicators (i.e., ACF2, ACF3, ACF4, ACF8, BFL1, BFL2, BFL3, EE1, EE2, EE3, EE4, EP1, EP3, EP9, PR1, PR2, PR3, PR4, and PR6) were removed after calculations through the SmartPLS algorithm until all the item indicators reached the threshold value of 0.70. There were 30 measurement indicators that remained for the final analysis. All measures for each construct were valid. With Average Variance Extracted (AVE) statistics greater than the threshold value of 0.5, all constructs have appropriate convergent validity (Fornell and Larcker, 1981), ranging from 0.609 to 0.768. Furthermore, the measurement items were all reliable, with all the constructs garnered above the Cronbach's alpha (α) threshold value of 0.60, which is considered of

acceptable reliability and an acceptable index (Nunnally, 1994; Ursachi et al., 2015) and composite reliability (CR) threshold value of 0.70 (Hair Jr et al., 2017). The Cronbach's alpha ranges from 0.893 to 0.927, while the CR values range from 0.895 to 0.932. These results indicate high-reliability values. Table 2 provides a summary of the measurement model results.

The correlations of the measures of potential overlapping variables are used to assess the degree to which the measurement items measure distinctively among constructs (Hair Jr et al., 2014). The square root of AVE was calculated to ensure discriminant validity. The AVE of the constructs was found to support discriminant validity because it is greater than the squared correlation of each latent variable (Fornell and Larcker, 1981). Table 3 holds the square roots of the AVE, while non-bolded values represent the intercorrelation value between constructs. All off-diagonal values are less than the square roots of AVE, indicating that Fornell and Larcker's condition is satisfied. Overall, the measurement model's reliability and validity tests were met. All items used in this study to measure constructs are valid and fit to estimate parameters in the structural model.

In Table 3, the research model fitness demonstrates an acceptable fit with a Standardized Root Mean Square Residual (SRMR) value of 0.077 and a common acceptable fit value of 0.08. The Normed Fit Index (NFI) value is 0.696, reflecting a moderate acceptable value with the threshold of $NFI < 0.90$. The NFI generates values ranging from 0 to 1. The closer the NFI is to one, the better the fit. In general, NFI values greater than 0.9 imply an excellent fit.

TABLE 1 Profile of the respondents.

Category	n	%
Age (in years)		
Below 20	4	2.33
21–35	73	42.44
36–45	51	29.65
46–55 years old	26	15.12
56 and above	18	10.47
Sex		
Male	56	32.56
Female	116	67.44
Num. of hours of entrepreneurial Educ.		
Below 40 hours	11	6.4
41–80 hours	17	9.88
81–120 hours	49	28.49
121 and above	94	54.65
Skills training attended		
Bread and pastry	74	43.02
Computer	30	17.44
VCO based liquid handwash/detergent	26	15.12
Coco water treated bottled milkfish in Spanish style w/Rosemary	25	14.53
Coco water treated bottled milkfish sardines	25	14.53
Coconut water-treated pork tocino	25	14.53
Virgin coconut oil	25	14.53
Kamias based	18	10.47
Dishwashing liquid		
Rug making	18	10.47
T-shirt/mug printing	17	9.88
Commercial cooking	12	6.98
Sewing	11	6.4
Cosmetology	10	5.81
Massage	7	4.07

TABLE 2 Measurement model assessment results.

Items	Loadings	AVE	Cronbach α	CR
ACF1	0.806	0.768	0.898	0.9
ACF5	0.893			
ACF6	0.91			
ACF7	0.893			
BFL4	0.778	0.723	0.906	0.926
BFL5	0.889			
BFL6	0.837			
BFL7	0.87			
BFL8	0.872			
EE5	0.813	0.633	0.927	0.932
EE6	0.793			
EE7	0.707			
EE8	0.832			
EE9	0.855			
EE10	0.722			
EE11	0.798			
EE12	0.799			
EE13	0.828			
EP2	0.769	0.609	0.893	0.895
EP4	0.816			
EP5	0.782			
EP6	0.793			
EP7	0.767			
EP8	0.787			
EP10	0.749			
PR5	0.767	0.704	0.894	0.896
PR7	0.854			
PR8	0.848			
PR9	0.857			
PR10	0.866			

α , Cronbach's alpha; CR, composite reliability; AVE, average variance extracted; ACF, access to credit facility; BLT, budgeting financial literacy; EE, entrepreneurial education; EP, entrepreneurial performance; PR, poverty reduction.

Structural model

The influence of the independent variables on the dependent variable is tested using a structural model (Hair Jr et al., 2014). When using PLS-SEM, the three main factors used to assess the structural model are the strength of the path coefficients, R^2 values (prediction power), and f^2 (effect size) (Hair Jr et al., 2017). The path coefficients of the structural model indicate that the six hypotheses are supported (H1, H2, H3, H4, H5, H6), and only one is not supported (H7). The results are summarized in Table 4 (Figure 2). The acceptable values of 0.75, 0.50, and 0.25 correspond to significant, moderate, and modest levels of prediction accuracy, respectively (Henseler et al., 2009; Hair Jr et al., 2014). The coefficient of determination (R^2) in this study provides the predictive accuracy of the structural model, as indicated in Figure 2. PR is explained to have the

highest variance with a value of 0.763 (76%), while EP has a value of 0.635 (63.5%). Thus, the R^2 criterion is met, and the predictive ability of the structured model is considered moderately high.

The effect sizes (f^2) were estimated using the SmartPLS algorithm, indicative of a minor, medium, or substantial effect on the link between exogenous and endogenous constructs with f^2 values of 0.02, 0.15, and 0.35, respectively (Hair Jr et al., 2017). A value less than 0.02 indicates that exogenous constructs do not affect endogenous constructs. The f^2 results show that ACF substantially affects EP ($f^2 = 0.444$), and ACF substantially affects PR ($f^2 = 0.434$). Furthermore, EP has a small effect on PR ($f^2 = 0.026$). These results, as indicated in Table 5, are consistent with the other findings in this study.

TABLE 3 Fornell and Larcker results.

	ACF	BFL	EE	EP	PR
ACF	0.876				
BFL	0.159	0.85			
EE	0.683	0.075	0.795		
EP	0.772	0.243	0.633	0.781	
PR	0.842	0.246	0.7	0.748	0.839

Square root of AVE is shown on the diagonal of the matrix in bold; inter-construct correlation is shown off the diagonal.

TABLE 4 Path coefficient results.

	β	<i>t</i> values	<i>p</i> -values	Decision
ACF -> EP	0.573	5.588	0.000***	Supported
ACF -> PR	0.541	6.455	0.000***	Supported
BFL -> EP	0.171	1.992	0.046**	Supported
BFL -> PR	0.147	1.964	0.049**	Supported
EE -> EP	0.253	2.599	0.009**	Supported
EE -> PR	0.258	3.176	0.002**	Supported
EP -> PR	0.132	1.386	0.166 ^{ns}	Not Supported

****p* < 0.001; ***p* < 0.05; *ns*, not significant.

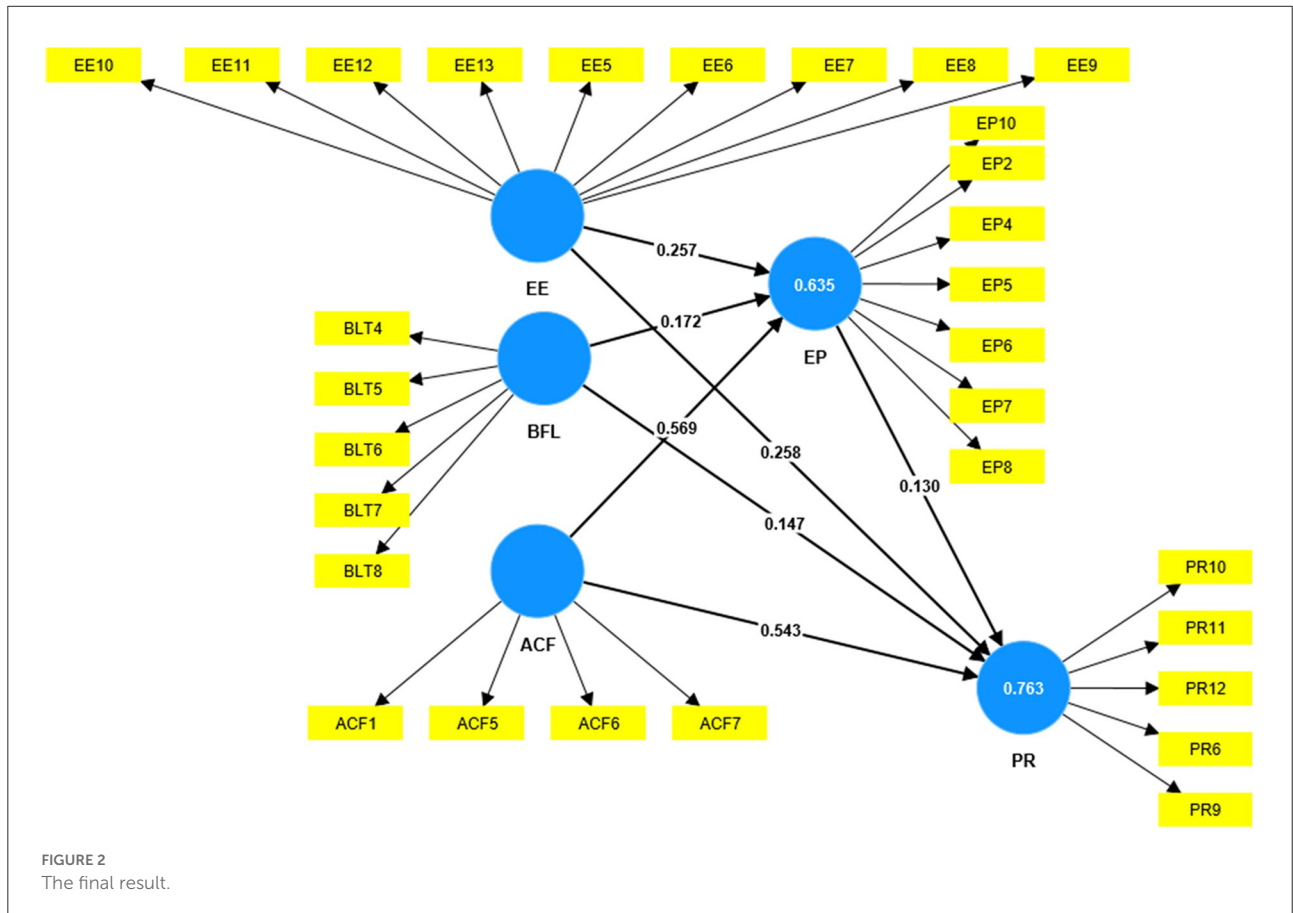


TABLE 5 Effect size results.

	ACF	BFL	EE	EP	PR
ACF				0.444	0.434
BFL				0.076	0.08
EE				0.093	0.132
EP					0.026
PR					

Discussion

This section presents the salient features of the PLS-SEM analysis and how these results can be applied to the current discussions of Community Extension MSME's entrepreneurial activities in relation to poverty reduction. The flow followed the discussions from the antecedent variables toward the model and how it affects entrepreneurial performance and poverty reduction.

It can be seen in Table 4 that Entrepreneurial performance directly impacts entrepreneurship education ($\beta = 0.253$), budgeting financial literacy ($\beta = 0.171$), and Access to credit facilities ($\beta = 0.573$). The results of the hypothesis testing are congruent with the findings of Green et al. (2006). For example, if the expansion of the business is due to the application of transferred technology, it helps to seek better business opportunities. Further, if the entrepreneurial performance encourages business start-ups, then the level of budgeting skill is relevant to the business ventures. Similarly, if the entrepreneurial performance creates something to take advantage of the creative needs, it can improve the level of income in the business. It can be noted that entrepreneurial performance directly impacts entrepreneurship education, budgeting financial literacy, and access to credit facilities. Thus, if entrepreneurial performance can control the business and motivate the businessmen and entrepreneurs who show low interest in the business, they would tend to pursue business because they believe it can improve the standard of living and have a potential unlimited income.

The PLS-SEM analysis discloses that entrepreneurship education ($\beta = 0.258$), budgeting financial literacy ($\beta = 0.147$) and access to credit facilities ($\beta = 0.541$) directly impacts poverty reduction. Further, this collaborates with the study of Sokoto and Abdullahi (2013), Pan et al. (2022). For instance, if food scarcity has been reduced, it empowers me to strive for a better standard of living. Moreover, if the family members are sent to school, they will acquire skills in profit planning, business financing, and cash flow management. Additionally, if the family can buy additional appliances, then access to credit facilities is empowered to own property.

The path coefficient reflected in Table 4 shows that the EP to PR ($\beta = 0.132$) were not supported. Since the advent of the coronavirus, COVID-19 has generated one of the most urgent crises at the global level in recent times; with the steepest downgrades in economic growth among all global recessions, there is no significant relationship between entrepreneurial performance and poverty reduction (Parnell et al., 2020; Ratten, 2020; Crupi et al., 2022). It has a negative impact on aspiring entrepreneurs, particularly those from developing nations where government help is restricted (Nasar et al., 2019). Authorities' lockdowns and movement control orders are the most significant elements influencing entrepreneurial activity (Nasar et al., 2019; Ionescu-Somers and Tarnawa, 2020; Perveen et al., 2022). The epidemic has also resulted in low demand and market stagnation, making it more difficult for entrepreneurs to continue their start-up projects. The business environment has heightened the dread of failure, with maximal risks of ceasing or reducing entrepreneurial activities (Nasar et al., 2019). The fear factor was highlighted as an essential indication restricting potential and embryonic entrepreneurs' entrepreneurial activities (Li, 2011; Morgan and Sisak, 2016). Because the economic implications would continue longer, the entrepreneurial activity would decline regardless of whether they were located in a developed or developing country (Nasar et al., 2022). Entrepreneurs have suffered greatly due to COVID-19's social distancing rules and other altered corporate operating processes (Nasar et al., 2022). Entrepreneurs encounter complex challenges to preserve their standing because they use opportunities to address problems and develop goods that help society (Williams et al., 2017).

Recommendations

Based on the research findings, the following claims are made: Credit finance promotes development by allowing MSMEs to engage in profitable ventures that frequently necessitate large capital investments. As a result, financial lending institutions should consider lowering collateral requirements to make it easier for MSMEs to access and promote their activities. Furthermore, in order to make good financial decisions, MSMEs must acquire financial literacy skills, specifically budgeting financial literacy. On the other hand, entrepreneurial education strives to provide expertise, entrepreneurship skills, and inspiration among entrepreneurs; consequently, aspiring entrepreneurs should take. Also, MSME entrepreneurs should be given education and assistance in times of calamities, natural disasters, and global pandemics since they are vital in the economy's recovery. Finally, MSMEs should be given proper attention by allocating additional resources to the sector, particularly in the aftermath of the COVID-19 outbreak.

Conclusion and limitation of the study

The objective of this study was to look into the effects of entrepreneurship education, budgeting, and financial literacy, and access to credit on entrepreneurial performance and poverty reduction. The study confirms the importance of entrepreneurship education, budgeting, financial literacy, and credit access in promoting entrepreneurial success and reducing poverty. Entrepreneurial performance was found to have a greater impact on poverty reduction than entrepreneurship education and access to credit facilities. A strong correlation was also established between budgeting financial literacy and entrepreneurial performance. Except for hypothesis 7, which was positive but insignificant, the findings confirm all of the stated assumptions. The implications of the findings and future research goals were highlighted. However, this study has some limitations that must be considered. This used the cross-sectional research design; specifically, the sample population of the community extension beneficiaries turned into micro-small-medium entrepreneurs and the data was collected during the start of the economic recovery caused by the COVID-19 pandemic. Overall, this study will contribute to the existing knowledge in entrepreneurship and small business management. In academia, this study context is currently under-researched and under-appreciated.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation

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and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fsoc.2022.1038006/full#supplementary-material>

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