



Does causal analysis improve the understanding of entrepreneurial support for SME performance?

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Abstract

Is entrepreneurial support a performance enhancer for SMEs? The question of the link between support and performance has been raised in the context of developed countries. What about developing countries where support is an emerging process? This research aims to analyze entrepreneurial support and learn about its contribution to the performance of Cameroonian SMEs through the fsQCA (fuzzy set qualitative comparative analysis) method. This would allow us to explore a notion such as equifinality in the field of support. Based on the Subcontracting and Partnership Exchange (SPX), we selected six variables that influence the performance of 120 Cameroonian SMEs in the industrial sector. We demonstrate how the fsQCA completes the correlational methods and offers a finer understanding of the performance of the entrepreneurial support. We postulate that various combinations impact performance and that the interaction between certain combinations is necessary, but not sufficient to achieve performance. This analysis yields three configurations, with the particularity that the CSR program is an irrelevant condition contributing to poor SME performance. Furthermore, the study provides meaningful implications for entrepreneurs, managers, and entrepreneurial support indicating combinations of factors that lead to an increase in firm performance. The recommendations made aim to focus on supports deemed more effective. On a theoretical level, the use of fsQCA complements the knowledge derived from traditional analytical methods.

Keywords Entrepreneurship · SMEs · Entrepreneurial support · Performance · fsQCA

Introduction

This research is based on the literature on entrepreneurship and the currents of entrepreneurial support. The entrepreneurial support market in Cameroon is not new, but the structures established between the 1960s and 1985 vanished because of the 1990 economic crisis. According to Cameroon's National Institute of Statistics (NIS, 2009), SMEs account for 99.8%¹ of Cameroon's national economic fabric; in 2020, they will contribute 34% of gross domestic product and over 70% of job creation. Their contribution to the

economy is more than FCFA 3000 billion.² Overall, however, it appears that entrepreneurial support is an important factor in the sustainability of enterprises (Grossetti & Barthe, 2008). It allows entrepreneurs to assess the viability of the project or identify possible limitations (Hentic-Gilberto and Berger-Douce, 2017). In the design of a strategic plan, it helps to stem possible failure (Bonnardel et al., 2018), especially since mortality among SMEs is high before their fifth year (Ade et al., 2020; McGuinness et al., 2018). Given the challenges faced by SMEs, the Cameroonian government established the SPX with the assistance of its partners.³ A non-profit organization, in collaboration with the government, promotes and advances industrial subcontracting. The SPX's main objective is to provide local manufacturing firms with essential tools and services to improve their

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² <https://www.imf.org/external/french/np/seminars/2015/brazzaville/pdf/AfrilandFR.pdf>

³ To follow up on the partnership agreements between Cameroon and the United Nations Industrial Development Organization (UNIDO), Decree n°002/PM of February 15, 2012, institutes the SPX-Cam.

performance and practices, thereby accessing industrial subcontracting markets. As a result, the SPX acts as a strategic partner in supporting entrepreneurship.

Structures dedicated to supporting small- and medium-sized enterprises (SMEs) are proliferating, aiming to enhance SME competitiveness (Buigues & Marty, 2018; Pauwels et al., 2016). This expansion introduces new forms of support (Messeghem et al., 2020), prompting questions regarding the value added by such structures for entrepreneurial creation (Messeghem et al., 2013; Paturel & Maalel, 2016; Pouka Pouka & Nomo, 2022). Research, including that by Peyroux et al. (2019) and Pouka Pouka et al. (2019), underscores the significance of support in enhancing overall performance, employability, turnover, and productivity. For her part, Ondoua Biwolé (2019) emphasizes, based on the competency framework for coaches of Bakkali et al. (2010), that the effectiveness of coaches depends on the threshold value. Indeed, as the threshold value increases, the effectiveness of the carers decreases (Ondoua Biwolé, 2019).

Research on entrepreneurial support spans both developed and developing countries (Hichri et al., 2017), employing qualitative, quantitative, and configurational methods (Ragin, 1987). Recent studies have utilized the fuzzy-set qualitative comparative analysis (fsQCA) method to examine various entrepreneurial phenomena (Del Sarto et al., 2020; Huang et al., 2022; Kusa et al., 2021). Additionally, the survival and growth of support structures are analyzed through the lens of dynamic capacities (Maus & Sammut, 2017), as the success of incubators impacts their performance (Aerts et al., 2007), emphasizing the symbiotic relationship between sustainability, growth, and performance in a competitive environment.

Despite existing research, there is a notable dearth of studies utilizing the fsQCA method to investigate the impact of entrepreneurial support on incubated companies, leading to a noticeable gap in academic literature. This study aims to bridge this gap by deepening our understanding of how entrepreneurial support affects SME performance. It specifically aims to pinpoint causal configurations linked to entrepreneurial support that positively influence SME performance and juxtapose these findings with those from studies using traditional linear methods. The study investigates support structure performance determinants using fsQCA, an increasingly employed method in entrepreneurship research (Kraus et al., 2018). This asymmetric analysis technique (Nagy et al., 2017; Pappas & Woodside, 2021; Prentice, 2020) facilitates a thorough examination of data complexity, providing insights into the nuances of entrepreneurial support.

We use this tool to reanalyze data from a prior study employing traditional symmetric analytical methods, specifically investigating the contribution of support structures to Cameroonian SME performance in the industrial sector by

Pouka Pouka and Nomo (2022).⁴ Their study on the impact of the Subcontracting and Partnership Exchange (SPX) on SME performance via multiple regression analysis reveals that only three programs (profiling, supplier development program, and management linkage) predict SME performance, with the link between SPX programs and performance only partially validated.

In specific contexts, predictions may prove inaccurate due to asymmetric relationships between variables (Khedhaouia & Cucchi, 2019; Kumar et al., 2022; Papatheodorou & Pappas, 2017). Furthermore, single causal factors are often insufficient for producing organizational outcomes of interest (Woodside, 2013). Recognizing the limitations of current variance-based techniques, it becomes imperative to reassess past findings using fsQCA, allowing for a holistic understanding of complex phenomena (El Sawy et al., 2010; Pappas, 2018). This method acknowledges equifinality and causal asymmetry, highlighting the multifaceted nature of outcomes (Fiss, 2007, 2011; Misangyi et al., 2017). Thus, the question arises:

What are the conditions under which SPX programs contribute or not to the performance of supported SMEs?

The fsQCA method, utilizing Boolean algebra, uncovers multiple non-linear causal combinations to understand SME support effectiveness. Its strength lies in highlighting the inadequacy of single causal factors to explain the complexities of entrepreneurial support.

This article aims to position itself theoretically within the world of support and its specificities, and to identify configurations leading to support structure performance, while also pinpointing those contributing the least. From a managerial perspective, it delineates a framework for support structures and emphasizes potential areas for improvement. It is within this framework that managers can find the type of support they need. Similarly, this research enables policy makers to identify and evaluate program effectiveness and make informed decisions about resource reallocation. The article is divided into four sections: the conceptual framework, a review of initial findings, methodological details, and presentation of results. The conclusion highlights limitations and suggests avenues for future research.

Conceptual framework

According to SPX-Cameroon (2019), there are six assistance programs to support SMEs in the industrial sector. Companies must join SPX to benefit from these services.

These programs are called “entrepreneurial support”. It is defined as a set of services, advice, resources, and

⁴ The data used in the current study are identical to those used in the present study.

support provided to entrepreneurs or project leaders with the aim of helping them develop, launch, or grow their business (Audretsch & Belitski, 2017; Bergman & McMullen, 2022). Entrepreneurial support encompasses various types of support, rendering the field highly competitive (Baraldi & Havenvid, 2016; Chabaud et al., 2010; Messeghem et al., 2013; Richomme-Huet & d'Andria, 2013; Theodoraki & Messeghem, 2015).

The diversity of entrepreneurial support implies that the fields covered make it a research area with a wide range of perspectives. "Support is presented as a practice of assistance to business creation based on a relationship that is established over time and is not punctual between an entrepreneur and an individual external to the creation project", write Cuzin and Fayolle (2004, p. 79). The mentor-entrepreneur relationship facilitates valuable knowledge transfer and skill development crucial for project realization (Autissier & Moutot, 2016). This collaborative dynamic allows for knowledge and expertise exchange, enabling co-construction of the relationship by all involved actors. Overall, entrepreneurial support appears as a set of institutions and tools designed to support the creation of businesses by entrepreneurs. It allows them to acquire the basics for their development.

Furthermore, support structures are evolving in an increasingly competitive dynamic environment (Teece et al., 1997), which forces them to adapt and stand out (Gabarret et al., 2016; Zahra et al., 2006) from a lean management managerial perspective (Bortolotti et al., 2015). It is in this context that the dynamic capacities that promote the adaptation of organizations in dynamic environments come into play, such as that of entrepreneurial support.

According to Eisenhardt and Martin (2000), dynamic capabilities refer to an organization's ability to adapt its resources to adapt to market changes and to maintain a competitive advantage. Dynamic capabilities, considered as innovation capabilities, refer to the ability to detect, create, and seize opportunities, those enabling competitiveness to be maintained through the right combination of tangible and specific assets. They enable firms to scan the emerging needs of various stakeholders (Cepeda and Vera, 2007). In the same way, "The (dynamic) capabilities framework is an entrepreneurial approach that emphasizes the importance of (signature) business processes, both inside the firm and also in linking the firm to external partners", writes Teece (2014, p. 14). This definition is in line with the changes in entrepreneurial support and the new demands of entrepreneurs. In this sense and according to the theory of dynamic capabilities, certain capabilities trigger entrepreneurial processes that transform business models and increase the performance of organizations. The literature highlights the existence of many dynamic capacities (i.e., absorptive capacity, capacity to develop new

activities, capacity to make balanced use of resources, etc.) (Altintas, 2015; Bocquet & Mothe, 2015; Pezeshkan et al., 2016). Previously, Hackett and Dilts (2004) had shown the relevance of this theory for understanding the evolution of resources and competences in the coaching process. More recently, Maus and Sammut (2017) have identified these dynamic capabilities based on lean management. (Anand et al., 2009; Eisenhardt & Martin, 2000). Their presence is causal of their performance. In addition, as proposed by Dokou et al. (2016) and Dokou (2018), entrepreneurial coaching has the potential to be transferred as an acquired skill. It is then a mission of assistance, support, referral, orientation, and advice to SMEs (Pouka Pouka, 2018). Given the foregoing, support can be described as a collection of actions taken to offer the entrepreneur specific services required for the realization and sustainability of his or her project (Mas-Verdú et al., 2015; Pluchart, 2012; Pouka Pouka et al., 2019).

Performance, a multifaceted concept across management sciences, spans various dimensions (Issor, 2017), appearing in diverse fields with mutable forms. It encompasses financial and non-financial objectives and a broader vision of global performance (Berger-Douce, 2014; Bergeron, 2010; St-Pierre and Cadieux, 2011). Performance equates to value creation, representing the attainment of objectives or expected results (Chatterjee and Bhattacharjee, 2021; Ngongang, 2020).

Drawing from the Balanced Scorecard, Messeghem et al. (2018) propose a tool incorporating various performance indicators for entrepreneurial coaching, based on four constructs. Noguera et al. (2015) highlight several factors influencing coaching structure performance, emphasizing elements such as assistance quality, resource acquisition, simplicity of creation, and network-related turnover production. In the context of this study and concerning SPX programs, we align ourselves with the 3 F performance model (Paturel, 2000), applicable to SMEs and more generally to all organizations. Performance can be broken down into effectiveness, efficiency, and efficacy (Paturel & Maalel, 2016; Pouka Pouka et al., 2019). Similarly, performance could also be judged by the importance of business support in business sustainability is highlighted, and how it helps entrepreneurs assess the viability of their projects and mitigate potential risks.

Given the above, a conceptual model emerges.

Figure 1 indicates that a configuration-based approach involving multiple interconnected programs could impact SME performance, with interactions among these factors shaping their influence on firm performance. This conceptual framework, grounded in dynamic capabilities, particularly the various programs of the subcontracting exchange, evaluates their contribution to SME performance.

Fig. 1 Conceptual model

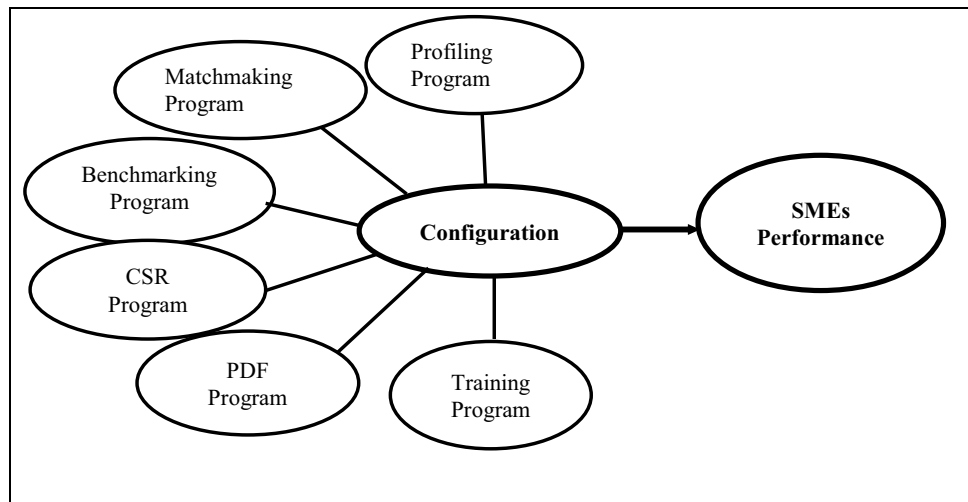


Table 1 Constructs and Cronbach’s alpha

Components	Constructs	No. of the items	α
Profiling	2	5	0.815
PDF	2	5	0.800
CSR	1	3	0.851
Matchmaking	2	8	0.824
Benchmarking	2	5	0.708
Training and advice	1	7	0.879

Source: Pouka Pouka and Nomo (2022)

Results of study 1

The variable measurements (programs) from the previous study were based on Likert-type scales. For instance, match-making programs utilized five-point Likert scales ranging from 1 (“none”) to 5 (“very high”). (Examples of items: How would you rate the impact of business networking on your productivity?) We adopted several constructs and 33 measurement items from study 1 to capture performance, with identical results. Table 1 displays the Cronbach alpha for each component.

However, to illustrate the potential contribution that FSQCA can make to research on entrepreneurial support

and the performance that follows, we are now using this tool to rely on data from a previous study that had used traditional symmetrical analytical methods.

A first study (Pouka and Nomo, 2022) that evaluated the SPX programs used a correlational analysis. The results of study 1 indicate that only three SPX programs predict SME performance (profiling, PDF, and managed operations) (Fig. 2).

Methodology

Research design and sampling

The sample comprises SPX-affiliated SMEs in the industrial sector, initially totaling 120 out of 650 enterprises in the SPX database. Following criteria selection, 100 SMEs were included in the final sample. Data collection for study 1 involved a questionnaire, yielding an 86% response rate with 86 usable responses from SME owner-managers and senior managers.

Table 2 provides details on SME and respondent characteristics.

Fuzzy quantitative comparative analysis

This study employs the fsQCA method, known for its capacity to address complex relationships, citing Ragin (2000) and

Fig. 2 Correlational analysis of SPX programs on performance (Pouka Pouka & Nomo, 2022)

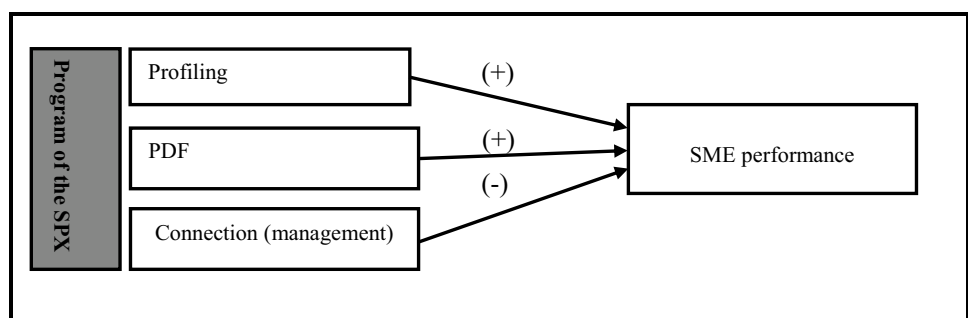


Table 2 The SPX SMEs

Respondent characteristics (n = 86)		Company characteristics (n = 86)	
Sex	Percentage	Type of company	Percentage
Women	26.7%	Very small enterprises (VSE)	29.4%
Men	73.3%	Small enterprises (SE)	62.4%
		Medium enterprises (ME)	8.2%
Age		Legal form	
Under 30	10.4%	LC	14%
Between 30 and 45 years old	43%	LLC	50%
Between 46 and 55 years old	32.6%	EURL	36%
56 years and over	14%	Creation date	
Position held		Less than 10 years of existence	77.4%
Chief executive officer	3.5%	10 years and more	32.6%
General manager	64%		
Finance/accounting director	15.1%	Sector of activity	
Marketing and sales director	8.1%	Construction and civil engineering	26.5%
Marketing and commercial director	9.3%	Engineering and industrial clean	20.9%
Schooling		Mechanical and electrical	17.4%
Primary	20.5%	Wood processing	15.7%
Secondary	31.2%	Agro-industries	13.5%
University	48.3%	Metrology	6%
Professional experience			
Less than 5 years	38.5%		
5 years and over	61.5%		

Source: Pouka Pouka and Nomo (2022)

Woodside (2010). Initially developed for smaller samples, fsQCA has expanded to larger ones (Cooper & Glaesser, 2016; Ragin, 2000; Rihoux & Ragin, 2008). With 86 SMEs, our study's sample size is apt for fsQCA (Ragin, 2009a). It utilizes unique terminology, as suggested by Vergne and Depeyre (2016), focusing on identifying combinations of conditions leading to performance (Woodside, 2013). The method acknowledges multiple paths to the same outcome and its strength lies in equifinality and causal asymmetry (Liu et al., 2017; Ragin, 1987; Rihoux et al., 2014).

Measurement

The first step in fsQCA analysis is to calibrate the conditions and the outcome into fuzzy sets with values that can be measured on a continuous scale [0–1], indicating the level of membership in the variable under consideration. Therefore, based on their in-depth knowledge of the cases, researchers can either calibrate directly (by setting the membership levels of the fuzzy sets) or indirectly (by qualitatively assessing the cases and determining a new scale of the original variables) (Liu et al., 2017). The calibration procedure for categorical and continuous data is direct (Ragin, 2009a). Fiss (2011), Garcia-Castro and Francoeur (2016), and Coduras et al. (2016) suggest that to assess the degree of membership

for each condition, three values are considered: the threshold of complete membership (value 1), the threshold of complete non-membership (value 0), and the inflection point (value 0.5).

In this study, considering that our variables are ordinal categorical variables, the thresholds (Table 3) are calculated from percentiles (full membership = upper quintile, inflection point = median, nonmembers = lower quintile) as recommended (Dul, 2016; Glaesser & Cooper, 2014).

- The profiling program identify the technical and financial capacities, human skills, and needs of the company (four modules = upper quintile, three or two modules = median, and zero or one module = lower quintile).
- A benchmarking program is a tool for benchmarking the results and practices of a company with those of other companies of the same size and characteristics (identical practices = upper, average practices = median, weak practices = lower).
- A PDF program is the reinforcement of skills and capacities according to the requirements of the clients (processes = upper, management = median, no reinforcement = low).
- A training and consultancy program enables SMEs to acquire certain knowledge, for example, in the fields of

Table 3 Calibration

		Statistics							
		Profiling	Benchmarking	PDF	CSR	Matchmaking	Training	Performance	
Centiles	20	2.0	1.6	2.6	2.0	3.0	3.0	2.0	
	50	3.0	2.4	3.3	2.0	3.6	3.6	2.6	
	80	3.4	3.0	3.8	3.0	4.0	4.1	3.0	

Sources: our analysis

management (external experts = upper, without external experts = median, no training and consultancy = low).

- A matchmaking program is a network process, i.e., a coupling between the clients and the subcontracting SMEs (three or more matches = upper, one or two matches = median, no match = low).
- CSR program is compliance with the principle of sustainable development according to the requirements of the clients (strict monitoring of client requirements = upper, moderate monitoring = median, no monitoring = low).

Examination of essential and adequate conditions

To avoid overvaluing a solution, the study aims to determine necessary and sufficient conditions. Necessity is determined by consistency, with a threshold of 0.90 (Ragin, 2006; Schneider, 2018; Schneider and Wagemann, 2010). Sufficiency requires that all cases exhibiting a condition also exhibit the outcome (Schneider and Wagemann, 2012). However, some cases may show the outcome without the condition. Analysis indicates that no conditions reached the necessary consistency level of 0.85 for SME performance (Table 4). Thus, no necessary conditions were identified.

The second step involves using the fsQCA software to create a truth table with 2 k rows, with each row representing a potential combination and k being the number of predictor elements. Next, boolean reduction is carried out. The truth table-derived configurations are minimized using algorithms. By defining consistency and frequency, this reduction is accomplished (Hsiao et al., 2016; Ragin, 2009a, b).

Prior research has identified consistency as the extent to which configurations correspond to the desired result (Fiss, 2011; Woodside, 2013). Its cutoff value ranges from 0.75 to 0.95. Contrarily, frequency refers to the number of observations for each combination and is equal to 1 or 2 (Kraus et al., 2018; Pappas et al., 2020). In this study, the consistency threshold is 0.80 and the frequency threshold is 2. Therefore, all configurations with a lower frequency were removed from further analysis. The complex, parsimonious, and intermediate solutions were calculated using the fsQCA software (Pappas, 2018). From the results of the

parsimonious and intermediate solutions, we have the following results in Table 5.

Presentation of results

Each solution is defined by at least three cases (Ragin, 2006). The presence of a condition is indicated by black circles (●), while crossed-out circles (⊗) indicate the absence of a condition (Ragin, 2009b). Large circles (prime implicants) characterize the central elements of a configuration, peripheral elements are defined by small circles, and empty spaces indicate an “irrelevant” situation (i.e., the condition score, whether high or low, is unimportant in that configuration regarding the outcome). In this case, the causal condition may be present or absent (Fiss, 2011; Mikalef et al., 2015; Misangyi & Acharya, 2014; Sawy et al., 2010).

The two configurations are first order equifinal, which means that their central conditions are different. There are some interesting permutations in these configurations (i.e., the permutation of matchmaking program and profiling program between the two configurations, or the appearance of training program as absence of a central condition in the second configuration). The requirement level of the solution (consistency threshold or global consistency) is nearly equal to the recommended level, 0.76 versus 0.75. This solution affects only 43% of the SMEs in our sample, according to the overall coverage of 0.429. In hypothesis testing, the coverage rate is critical. If it is low, it influences the external validity of our model. This means that only a few examples explain the outcome variable. As a result, greater caution is required when interpreting the results.

Table 4 Analysis of necessary and sufficient conditions

Conditions	Consistency	Coverage
Benchmarking	0.672692	0.632815
PDF	0.711949	0.670395
Matchmaking	0.594524	0.625657
Training and advice	0.499139	0.479332
Profiling	0.585571	0.604299
CSR	0.070248	0.585366

Sources: our analysis

Table 5 Configurations for small and medium enterprises’ performance

Configuration elements	Performance	
	Perf 1	Perf 2
Benchmarking program	●	●
PDF program	●	●
Matchmaking program	●	
Training program		⊗
Profiling program		●
CSR program		
Gross coverage	0.345	0.297
Single coverage	0.132	0.084
Consistency	0.761	0.867
Global coverage	0.429	
Global consistency	0.763	

Legend ● : presence of a central condition ● : peripheral of one presence
 ⊗ : absence of a central condition ⊗ : absence of a peripheral condition
 Empty : non-relevant condition

The first configuration (Perf1) has two central conditions and one peripheral condition. (Perf 1) shows the baseline state of a very low PDF program plus the high baseline state of the benchmarking program and the matchmaking program. As a result of the PDF, SMEs that have been benchmarked, connected with contractors, and had their skills and capacities strengthened will perform better.

In the second configuration (Perf2), there are three central conditions and one peripheral condition. In this case, whether the support structure offers the training program or not, the performance then arises if the SMEs are diagnosed, profiled, and their capacities strengthened as required by the contractors.

In comparison to the first configuration, Perf2 includes as a core condition the absence (i.e., negation) of a training program. The benchmarking program is pushed to the sidelines,

while the PDF program becomes central, and the linking program replaces the profiling program.

Causal asymmetry: configurations for the absence of environmental practices

According to some researchers, a double analysis is required. This is the “principle of causal asymmetry” (Berg-Schlosser et al., 2009; Ragin, 2009a, b). In Table 6, we can see the different configurations with conditions leading to the lack of performance of SMEs.

The conditions that lead to success may differ from those that lead to failure. There are three conditions that present first-order equifinality when it comes to the absence of performance. For the first configuration (NPerf1), there are three conditions that must be met for performance to be

Table 6 Configurations of nonperformance of SMEs

	~ Performance		
Configuration items	NPerf 1	NPerf 2	NPerf 3
Program benchmarking	⊗	⊗	⊗
PDF program		⊗	
Matchmaking program	⊗		
Training program			●
Profiling program	⊗		●
CSR program			
Gross coverage	0.385	0.332	0.268
Single coverage	0.108	0.030	0.037
Consistency	0.890	0.874	0.855
Global coverage	0.487		
Global consistency	0.870		

Legend ● : presence of a central condition ● : peripheral of a condition presence
 ⊗ : absence of a central condition ⊗ : absence of a peripheral condition
 Empty : a non-relevant condition

achieved. There is a central condition (the benchmarking program) as well as two peripheral conditions (the profiling program and the linking program). We note that there are two central conditions (the benchmarking program and the PDF program) for the second configuration (NPerf2), the absence of which results in the absence of performance. Finally, the third configuration (NPerf3) contains two central conditions, one of which is absent (the benchmarking program) and the other is present (the training program), and a peripheral condition that is present (the profiling program). The training program is detrimental to performance. Generally, one could expect greater entrepreneur performance when the number of trainings increases.

The CSR program is irrelevant to the lack of performance, and one condition appears to be required for the lack

of performance. This is the benchmarking program, which is the analysis’s central condition (absence). The proposed solution to the lack of performance has a total coverage of 0.487. As a result, the three proposed solutions cover 48.7% of the results that result in non-performance. The conditions that lead to nonperformance are nearly identical to those that lead to performance.

Discussion

The fsQCA causal analysis revealed five configurations indicating equifinality. In this study, two configurations result in performance, and three configurations result in no

performance. In all configurations, one condition is irrelevant (the CSR program). The findings indicate that some SPX programs improve the performance of the supported SMEs. Indeed, the SPX, through several of its programs, aims to optimize the capacities of its member SMEs so that they can acquire management and organizational skills.

Benchmarking allows the company to improve itself to be more efficient (St-Pierre and Delisle, 2006) and, consequently, to achieve better results in a practical and efficient way and to compete with other SMEs (Charoensukmongkol, 2016; Shamsuddin et al., 2020). Of the lot, entrepreneurship and benchmarking skills have significant effects on innovation performance (Darmo et al., 2021). Regarding PDF program, the survival and performance of entrepreneurial firms can be improved through capacity building (Lawal et al., 2018). As for program profiling, which is an assessment of the strengths and weaknesses of the firm, allows the firm to realign its resources and redesign its architecture as suggested by Teece (2018) about the transformational/reconfigurational capacity related to a firm's value-capture abilities. Finally, business networking is an activity that can provide SMEs with additional resources that they would not otherwise have (Guercini & Ranfagni, 2016; Hughes et al., 2019) which in turn enhance a venture's chances of success and leads to business growth (Ferguson et al., 2016; Ritter and Gemünden, 2003; Venkataraman and Van de Ven, 1998). Seen in this light, the matchmaking program enables SPX member companies to strengthen and improve their dynamic capabilities in a competitive business environment in the sense of Hedvall et al. (2019), and Teece (2018). The same applies to technical and technological skills related to managerial innovation, which is a strategic intention that builds competitive advantages (Gomez, 2016). The result is consistent with the work of Pouka Pouka (2018) and Pouka Pouka and Nomo (2022). However, our analysis shows that several paths are possible to lead to performance. Results from fsQCA (asymmetric) reinforced the symmetric findings (multiple regressions).

In study 1, the factor analysis inserted the benchmarking program into the profiling program and thus constituted a single factor, whereas the fsQCA shows that these programs are quite distinct. The fuzzy set method revealed that the SPX programs that are internal resources of this support organization are not static in the sense of dynamic capability theory. In fact, in addition to demonstrating that the PDF and profiling programs are required to induce performance, other variables (programs) obscured by linearity are also important in driving SME performance. If the links between variables in research are asymmetric (Kumar et al., 2022), they will not yield the same results using traditional methods of analysis. Thus, the performance predictions made in study 1 using multiple regressions could be inaccurate as specified by Khedhaouria and Cucchi (2019), Papatheodorou and Pappas (2017), and Pappas and Woodside (2021).

Indeed, contrary to study 1, in which part of the match-making program (connection-management) has a negative relationship with performance, with the fsQCA, the match-making program is a causal condition for the performance of the companies supported. Based on the definition given for the matching program, firstly, the literature on entrepreneurship emphasizes the importance of the network in the development of an entrepreneurial project (Bantham et al., 2003; Johnson & Sohi, 2003; Theodoraki & Messeghem, 2015; Rothaermel & Deeds, 2006; Wernerfelt, 1984). This is true given that networks are fundamental to providing the necessary resources and developing the skills of entrepreneurs (Degeorge, 2017), skills that allow them to acquire and use resources from the external environment (Barney et al., 2001; Sa et al., 2012). Secondly, according to Guéneau et al. (2022), interconnections are a causal condition for high entrepreneurial dynamics levels and rates. These results are in the same direction as ours because the matchmaking program is an interconnection between principals and contractors; this leads to the exchange of shared knowledge through formal and informal relationships (Caimo and Lomi, 2015).

Similarly, the training program had no influence on business performance; the results show that this variable leads to non-performance. These results corroborate those of previous studies that indicate entrepreneurship training is significantly and negatively correlated with firm performance (Abd Razak et al., 2012; Fairlie et al., 2015; Zin & Ibrahim, 2020). This could be due to the inadequacy of the training programs offered, which may fail to meet different demands. Indeed, the profiling program specifies the needs of the company, but in our study, the combination of these two programs leads to non-performance. Consequently, the needs have been poorly analysed, in which case the training is inadequate, or the SPX is not sufficiently equipped to administer this program.

This observation runs counter to the theoretical development that claims that assistance via advice is recognized as the service generating the most added value (Mian, 1997; Scillitoe and Chakrabarti, 2010). The same goes for the shared perception that support structures are performance tools in the sense of Austin (1970). This finding is undoubtedly a reminder that entrepreneurial support can generate drifts (Dubard Barbosa and Duquenne, 2016). These authors underline three drifts, among which is the withdrawal of the entrepreneur in the face of the expertise of the guide, which seems to be the case with the training program. There is a need to increase the number of personalized supports offers, given the very different expectations of entrepreneurs.

In the same vein, some authors argue that academic and/or practical training programs, outside of university courses are crucial for the creation and management of a business (Antonovica et al., 2023). However, entrepreneurial coaching does not automatically lead to the survival or success of the enterprise. At this point, our results are mixed. Indeed,

according to Krauss (2016, p. 126), “neither excellent training nor careful selection nor a good accompaniment of novice entrepreneurs seems to be enough to reduce the phenomenon of entrepreneurial failure”.

Moreover, we observe the negative influence of the training program. This demonstrates that this service is not relevant when it is mismatched with the needs of project leaders. There is a need to increase the number of personalized supports offers, given the very different expectations of entrepreneurs. This is what makes them unique (Hentic-Giliberto & Berger-Douce, 2017). The five configurations found in this study argue in favor of this personalization of entrepreneurial support. The challenge in this study is therefore to enable a better match between the support structures and the services offered to the project leaders by adapting to their profiles.

Limitations, pathways, and conclusion

The limitations of our study are intrinsic to the method of analysis about the nature of our sample: only one support structure was analysed, which does not allow the generalization of our results. In addition, we worked with 120 SMEs provided by the SPX, whereas the latter has more than 700 SMEs in its database. A counterfactual study, in which we would have measured performance before and after SPX support, would have had the merit of informing us about the real performance of SMEs. In addition, as mentioned above, performance can take many forms, so depending on how other researchers understand performance, it is possible that they will come up with results that differ from ours.

Our paper offers significant insights for practitioners, particularly in enhancing SME performance through support structures such as SPX programs. While some SPX programs bolster performance, others necessitate adjustment or elimination due to their inefficacy and associated costs. This study aids the SPX management committee in discerning crucial support practices and their significance compared to marginal ones. Additionally, it urges all support structures to reconfigure internal processes to foster knowledge acquisition, sharing, and utilization among supported companies, aligning with findings on the importance of dynamic capabilities and strategic orientations (Sarkar et al., 2016). Furthermore, this research aids public authorities in making well-informed decisions regarding program funding, thereby enhancing support for SMEs and avoiding redundant or ineffective programs (Pouka Pouka et al., 2019). More specifically, this study helps decision-makers reduce the rate of entrepreneurial failure by identifying the most effective programs. It allows resources to be allocated to these programs. The results obtained will be used to make these decisions and optimize the activities selected.

Our research provides theoretical implications within academia, contributing to the understanding of entrepreneurial support’s impact on SME performance. By employing fsQCA, we complement traditional analytical methods (Pappas & Woodside, 2021), enriching knowledge in this evolving field. Additionally, scholars should continue exploring the causal conditions of SME performance through corporate coaching, as studies indicate its significant role in sustaining businesses (Rosado-Cubero et al., 2023; Rukmana et al., 2023). Uncoached enterprises tend to exhibit lower performance levels (Chrisman & McMullan, 2004; Grossetti & Barthe, 2008). Through the application of fsQCA, this study aims to enhance the understanding of mechanisms essential for supporting SMEs effectively.

Entrepreneurial theory underscores the multifaceted objectives of entrepreneurial actors, ranging from personal well-being to profit and reputation (Bruyat & Julien, 2001; Shane & Venkataraman, 2000). Hence, fsQCA analysis holds relevance both methodologically and practically. Methodologically, it diverges from traditional methods by accommodating various combinations of interdependent factors in predicting entrepreneurial outcomes. Practically, it advocates for personalized support structures that acknowledge the heterogeneity of entrepreneurs (St-jean & Duhamel, 2014). Additionally, the nascent state of entrepreneurial support in Cameroon necessitates contextual sensitivity to avoid ineffective transposition of practices from different regions. Ultimately, the findings will drive discussions on optimizing entrepreneurial support benefits.

The main conclusion is that the configurational method reveals aspects that linearity obscures. According to the findings of study 1, only a few programs influence the performance of the coached SMEs. In contrast, this study demonstrates that other SPX programs also help SME performance. Because of the causal asymmetry, this research was also able to identify the configurations of conditions that lead to poor performance. This analysis yields three configurations, with the peculiarity that the CSR program is an irrelevant condition contributing to SMEs’ poor performance. Finally, we have seen that certain programs were necessary to induce the performance of SMEs. However, because of equifinality, it is not necessary that all their conditions are met simultaneously to achieve performance.

This study confirms the findings of Pouka Pouka and Nomo (2022) study regarding the significant role of certain mentoring programs on SME performance. However, the results indicate different combinations in which programs are more or less important. The fsQCA leads to specific results, for example, about training. While linear methods show that training and consulting have a positive impact on SME performance (Panagiotakopoulos, 2020), in our study, they have the opposite effect. The fsQCA method indicates that the number and nature of training courses is a condition

of SME performance. The five configurations of our research argue in favor of personalization and many training courses. The use of fsQCA brings greater finesse to the analysis and highlights factors of understanding that may be invisible when using traditional linear analysis. In other words, in addressing the question of this research, we demonstrate that there are numerous combined effects of conditions that lead to performance in SMEs. This provides support organizations and public policymakers the opportunity to recognize different pathways to success and achievement. Entrepreneurship policies ought to consider the broad spectrum of entrepreneurial varieties (Audretsch et al., 2022). Therefore, simply following these pathways can better assist, regulate, and support SMEs without seeking to standardize them.

Author contribution All authors contributed to the study conception and design. Material preparation, data collection, and analysis were performed by Marie Romuald Pouka Pouka and Viviane Ondoua Biwolé. The first draft of the manuscript was written by Marie Romuald Pouka Pouka, and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Data availability The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Conflict of interest The authors declare no competing interests.

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