

PATHWAYS TO SME DEVELOPMENT IN HUE CITY'S TRADE AND SERVICE SECTORS: A CONFIGURATIONAL FSQCA APPROACH

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Abstract:

This study applies fuzzy-set Qualitative Comparative Analysis (fsQCA) to examine how internal capabilities and government support combine to foster SME development in the service and trade sectors of Hue City, Vietnam. Drawing on the Resource-Based View (RBV) and the Technology - Organization - Environment (TOE) framework, the study analyzes survey data from 158 SMEs. The findings identify two distinct configurational pathways associated with high performance. Government support emerges as a necessary condition, while access to finance and technological capability serve as complementary factors. Managerial capability and human capital, by contrast, function as substitutable resources across the identified configurations. Overall, the results highlight the asymmetric and configurational nature of SME performance, demonstrating that high performance can arise from different combinations of internal capabilities and external support.

Keywords: configurational approach, fsQCA, Resource-Based View, SME development, TOE framework

Các con đường phát triển doanh nghiệp nhỏ và vừa dịch vụ thương mại tại Huế: Tiếp cận fsQCA

Tóm tắt:

Nghiên cứu áp dụng phương pháp phân tích so sánh định tính tập mờ (fsQCA) nhằm đánh giá sự tương tác giữa các nguồn lực nội tại và hỗ trợ chính quyền đến sự phát triển của các doanh nghiệp nhỏ và vừa (SMEs) thương mại dịch vụ tại thành phố Huế, Việt Nam. Khung lý thuyết tích hợp từ quan điểm dựa trên nguồn lực (RBV) và khung Công nghệ - Tổ chức - Môi trường (TOE). Trên mẫu khảo sát 158 SMEs, kết quả chỉ ra hai cấu hình dẫn đến sự phát triển cao. Trong đó, hỗ trợ chính quyền là điều kiện nền tảng thiết yếu; tiếp cận tài chính và năng lực công nghệ luôn đồng hành hỗ trợ; năng lực quản lý và nguồn nhân lực có vai trò thay thế nhau. Nghiên cứu mở ra hàm ý chính sách và quản trị định hướng cấu hình phi tuyến tính.

Từ khóa: fsQCA, khung TOE, phát triển doanh nghiệp nhỏ và vừa, quan điểm dựa trên nguồn lực, tiếp cận cấu hình

1. Introduction

Small and medium-sized enterprises (SMEs) contribute to employment and competitiveness in emerging economies (Dahinine et al., 2023). In Vietnam, service and trading SMEs drive domestic consumption, tourism, and economic resilience (Tuan Vu, 2023; Thanh Van et al., 2021). In Hue City, the service sector is projected to contribute 53-54% of Gross Regional Domestic Product (GRDP) by 2025 (Thua Thien Hue Provincial People's Committee, 2021). Total retail sales are estimated to reach VND 90,000 billion, highlighting SMEs' strategic importance (Thua Thien Hue Provincial People's Committee, 2021).

Explaining SME development remains challenging as growth is shaped by complex interactions between internal capabilities and external environments (Fadahunsi, 2012; Wiklund et al., 2009). However, Vietnamese literature mostly relies on symmetric methods like regression and Structural Equation Modeling (SEM), estimating only net effects (Phuc Doang & Van Dai, 2023; Phuong et al., 2021; Nghi & Nam, 2011). These fail to capture how combinations of conditions jointly shape outcomes.

Configurational theory suggests that outcomes emerge from interdependent conditions, achieving equifinality through alternative pathways (Fiss, 2011; Woodside, 2013). This study adopts fuzzy-set Qualitative Comparative Analysis (fsQCA) to identify configurations for high SME development (Ragin, 2008; Schneider & Wagemann, 2012). Integrating the Technology-Organization-Environment (TOE) framework (Tornatzky & Fleischer, 1990) and the Resource-Based View (RBV) (Barney, 1991), we examine how internal resources and government support drive SME development in Hue City.

2. Research model and research methodology

2.1. Research propositions

In policy-driven economies, institutional support plays a critical role in facilitating resource utilization (Peng et al., 2008). In Hue City, government policies may be a necessary prerequisite for high performance:

Proposition 1: Government support may constitute a necessary enabling condition for high SME development in emerging economies.

Furthermore, firm development is shaped by multiple strategic pathways rather than a single determinant. We propose:

Proposition 2: No single condition is individually sufficient for high SME development. Instead, multiple configurations of conditions lead to similar outcomes.

Firms may also choose alternative resource alignments based on sector-specific needs. We argue:

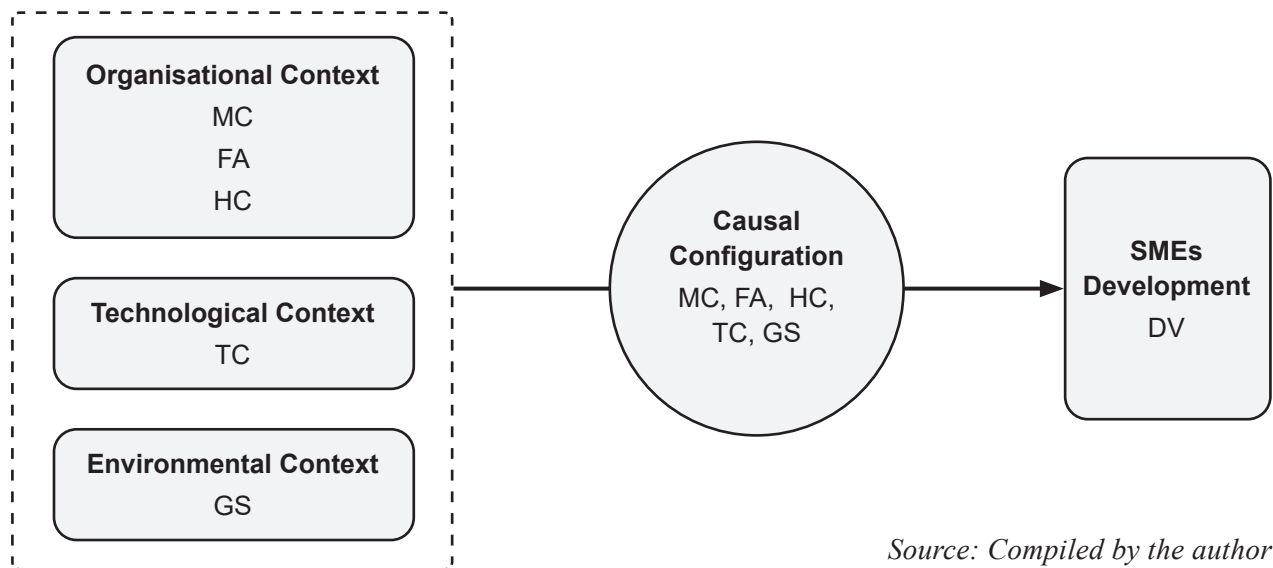
Proposition 3: High SME development may emerge through alternative configurational pathways where different combinations of resources are associated with similar outcomes, and internal resource combinations may substitute for one another under supportive external conditions.

2.2. Proposed research model

We categorize conditions into three dimensions: Organizational Context (O) including Managerial Capability (MC), Human Capital (HC), and Financial Access (FA); Technological Context (T) including Technological Capability (TC); and Environmental Context (E) including Government Support (GS) from local authorities. The outcome of interest is high SME development (DV).

2.3. Research methodology

Measurement Scales and Indicators: Construct scales were adapted from literature below (Table 1) and measured using five-point Likert scales. One item (DV2) was removed from the SME development scale due to low correlation (<0.30), raising its alpha to 0.610, which is acceptable in exploratory research (Hair et al., 2019; Nunnally & Bernstein, 1994). Other constructs exceeded the 0.70 threshold (Table 1).

Figure 1. Conceptual framework based on TOE and configurational perspective*Source: Compiled by the author***Table 1. Measurement Items and Scale Reliability**

Construct	Number of Items	Supporting Sources	Cronbach's Alpha
MC	4	Lan Anh (2021); Tuan Vu (2023); Kusa et al. (2021); Srimulyani et al. (2023); Zhang et al. (2024)	0.771
FA	4	Mai Huong et al. (2022); Lan Anh (2021); Tuan Vu (2023)	0.692
HC	4	Lan Anh (2021); Mai Huong et al. (2022); Tuan Vu (2023); Zhang et al. (2024)	0.757
TC	4	Lan Anh (2021); Mai Huong et al. (2022); Tuan Vu (2023); Zhang et al. (2024)	0.720
GS	4	Lan Anh (2021); Mai Huong et al. (2022); Tuan Vu (2023)	0.718
DV	3	Lan Anh (2021); Tuan Vu (2023); Venkatraman & Ramanujam (1987)	0.610

Source: Compiled by the authors

Sampling and Data Collection: The target population comprises 3,371 service and trading SMEs in Hue City. In 2024, a survey was conducted using Paper-and-Pencil Interviewing (PAPI), yielding 158 valid responses. This sample is appropriate for fsQCA as it represents the configurational property space of $2^5 = 32$ combinations, avoiding logical remainders (Fiss, 2011; Ragin, 2008).

Analytical Approach: fsQCA: This study uses fsQCA to examine complex, asymmetric and equifinal relationships (Ragin, 2008). First, raw Likert scores are calibrated with anchors: full membership (4.5), crossover point (3.001), and full non-membership (1.5). Second, we assess necessary conditions using a consistency threshold of 0.90 (Schneider & Wagemann, 2012). Third, we conduct sufficiency analysis with a frequency threshold of 5 and a consistency threshold of 0.80 (Fiss, 2011).

3. Results and discussion

3.1. Results

Calibration: Following Ragin (2008), composite scores for each construct were calculated by averaging

the corresponding measurement items. Given the satisfactory reliability and validity established in the preceding analysis, this aggregation approach was considered appropriate. The resulting raw scores, measured on five-point Likert scales, were then calibrated into fuzzy-set membership scores using the direct calibration method. This procedure transforms interval-scale variables into membership scores ranging from 0 (full non-membership) to 1 (full membership), thereby enabling set-theoretic analysis while preserving the substantive meaning of the constructs. Descriptive statistics and calibration anchors fall within the specified thresholds (Table 2).

Table 2. Descriptive Statistics and Calibration Anchors

Construct	Code	Mean	Std. Dev.	Min	Max	Full Non-membership	Crossover Point	Full Membership
MC	FS_MC	3.86	0.685	2.00	5.00	1.5	3.001	4.5
FA	FS_FA	3.91	0.661	2.00	5.00	1.5	3.001	4.5
HC	FS_HC	3.78	0.770	2.00	5.00	1.5	3.001	4.5
TC	FS_TC	3.93	0.683	2.00	5.00	1.5	3.001	4.5
GS	FS_GS	3.89	0.696	2.00	5.00	1.5	3.001	4.5
DV	FS_DV	3.89	0.645	2.00	5.00	1.5	3.001	4.5

Source: Compiled by the authors

Analysis of Necessary Conditions: Following the calibration of raw data into fuzzy-set membership scores, the next step involves assessing whether any individual causal condition constitutes a necessary condition for the outcome (SME Development). Before examining sufficient configurations through truth table analysis, fsQCA requires an assessment of necessity. According to Ragin (2008), a condition is considered necessary when its consistency exceeds the commonly accepted threshold of 0.90, indicating that the outcome is largely a subset of the condition. The results of the necessity analysis for both the presence and absence (~) of the causal conditions are presented in Table 3.

Table 3. Analysis of Necessary Conditions for High SME Development

Causal Conditions	Consistency	Coverage
FS_MC	0.881265	0.889705
FS_FA	0.892095	0.889073
FS_HC	0.852648	0.901087
FS_TC	0.891383	0.885295
FS_GS	0.903557	0.905490
Absence of conditions (~)		
~FS_MC	0.240316	0.929664
~FS_FA	0.229407	0.934020
~FS_HC	0.288221	0.951959
~FS_TC	0.227115	0.937969
~FS_GS	0.230725	0.933256

Source: Compiled by the authors

As shown in Table 3, Government Support (FS_GS) is the only necessary condition for high SME development (consistency = 0.904, coverage = 0.905), supporting Proposition 1. This indicates local institutional support is a vital enabler present across most high-performing cases. While Financial Access (FS_FA, 0.892) and Technological Capability (FS_TC, 0.891) show high consistency, they fall below the conservative 0.90 threshold, meaning they are important but not individually necessary. Conversely, the absence (~) of all conditions yields low consistency (0.227-0.288), reflecting fsQCA's asymmetric logic. Overall, these findings show that internal resources alone are insufficient without local policy support. Since no other single condition is necessary, the outcome is likely driven by configurations of factors, justifying the subsequent sufficiency analysis.

Analysis of Sufficient Configurations (Truth Table Analysis): Truth table analysis identifies two equifinal configurations associated with high SME development (Table 4), supporting Proposition 2 (solution consistency = 0.946, coverage = 0.759). Solution 1 (Managerial Capability–Driven Pathway), FS_MC * FS_FA * FS_TC * FS_GS (coverage = 0.729, consistency = 0.958), shows that strong managerial capability combined with financial access, technological capability, and government support is sufficient, while human capital (FS_HC) is a 'don't care' condition. Solution 2 (Human Capital–Driven Pathway), FS_HC * FS_FA * FS_TC * FS_GS (coverage = 0.714, consistency = 0.948), shows that a skilled workforce combined with financial access, technological capability, and government support is sufficient. This pathway is highly relevant for service-oriented SMEs (Srimulyani et al., 2023). Across both pathways, Financial Access, Technological Capability, and Government Support are consistently present.

Table 4. Sufficient Configurations for High SME Development

Causal Conditions	Solution 1 (S1)	Solution 2 (S2)
FS_MC	•	
FS_HC		•
FS_FA	•	•
FS_TC	•	•
FS_GS	•	•
Performance Metrics		
Raw Coverage	0.729	0.714
Unique Coverage	0.045	0.029
Consistency	0.958	0.948
Overall Solution Consistency	0.946	
Overall Solution Coverage	0.759	

Source: Compiled by the authors

The fsQCA results reveal that local development depends heavily on resource configurations rather than isolated factors. While local government support is a necessary foundation, high performance is achieved through two different pathways. Specifically, firms can either combine strong managerial capabilities with financial and technological resources (Solution 1), or rely on a skilled workforce under the same financial and technological conditions (Solution 2). This substitution between management and human capital highlights the non-linear nature of SME growth, which is analyzed in detail in the next section.

3.2. Discussion

3.2.1. Government support as an enabling condition

The findings highlight the role of Government Support (FS_GS) in facilitating SME development. Rather than serving only as a contextual factor, government support appears to shape how effectively firms utilize internal resources. This interpretation is consistent with the Institution-Based View (IBV), which emphasizes the influence of institutional environments on firm behavior and performance (Peng et al., 2008).

Although the Resource-Based View (RBV) identifies internal capabilities as a source of competitive advantage (Barney, 1991), the present findings suggest that such capabilities are more likely to translate into SME development when supported by favorable institutional conditions. This interpretation is consistent with previous studies in developing economies, which emphasize the complementary importance of internal resources and external institutional support for SME development (Bouazza et al., 2015; Mai Huong et al., 2022).

3.2.2. Multiple pathways to SME development

The identification of two distinct configurations associated with high SME development supports the concept of equifinality, whereby firms may achieve similar outcomes through different combinations of conditions (Fiss, 2011).

The first pathway is characterized by strong managerial capability combined with financial access, technological capability, and government support, implying that strong managerial coordination may compensate for uneven workforce quality by facilitating the integration of financial and technological resources which is consistent with prior research (Lan Anh et al., 2021).

The second pathway is centered on human capital as the primary internal driver of development. In this configuration, employee capability becomes particularly relevant when combined with financial resources, technological capability, and supportive institutional condition which are relevant for service-oriented SMEs, where employee competence and service quality are closely linked to firm outcomes. Similar findings have been reported in Vietnam (Tuan Vu, 2023) and Indonesia (Srimulyani et al., 2023).

Hence, SMEs do not necessarily need to excel across all organizational dimensions simultaneously. Instead, firms may achieve high SME development by leveraging different internal strengths under supportive external conditions.

3.2.3. The joint role of finance and technology

Across both configurations, Financial Access (FS_FA) and Technological Capability (FS_TC) are consistently present, suggesting that these conditions function as complementary conditions in SME development. This finding aligns with the TOE framework (Tornatzky & Fleischer, 1990), which emphasizes the interaction between technological, organizational, and environmental conditions.

The findings also indicate that the contribution of technological capability is closely associated with firms' financial capacity. Technological upgrading and digital adoption often depend on adequate financial resources.

In the context of Hue City, where SMEs often operate on a relatively small scale and face increasing digitalization pressures, the combination of financial access and technological capability appears especially important. Financial resources support investments in digital systems, while technological capability may help firms expand market reach beyond local demand.

4. Conclusion and implications

4.1. Conclusion

This study investigated how internal resources and institutional conditions influence SME development in Hue City's service and trade sectors using a configurational approach.

The findings indicate that local government support emerges as a necessary condition for high SME development, suggesting that firm development in this context is closely associated with the institutional environment. In addition, the analysis identifies two alternative configurations associated with high SME development: one centered on managerial capability and another centered on human capital. Both configurations require the combined presence of financial access and technological capability, highlighting the complementary role of financial and technological resources.

4.2. Implications

From a practical perspective, the findings provide several implications for policymakers and SME managers in Hue City.

For policymakers, the results emphasize the importance of government support in facilitating SME development. Continued efforts to improve administrative procedures, support digital transformation, and expand financial support programs may help create more favorable conditions for SME growth.

For SME managers, the findings suggest that there is no single pathway to high SME development. Firms may pursue different development strategies depending on their internal strengths. SMEs with strong managerial capability may benefit from focusing on the coordination of financial and technological resources, whereas firms with strong human capital may rely more heavily on employee capability and service quality ■

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