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Configurational Thinking Approach

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Configurational Thinking Approach

In the present chapter, our investigative focus shifts towards a nuanced exploration of the determinants shaping the orchestration of a business service portfolio by applying fuzzy-set Qualitative Comparative Analysis (fsQCA). This methodology is renowned for its capacity to elucidate complex causal configurations within complex systems. Our methodological rationale for adopting fsQCA resides in its inherent suitability for accommodating the intricacies inherent in our research objectives. This allows us to create a deeper understanding and comprehension of the conditional interplays driving business service portfolio orchestration.

Drawing upon the same dataset previously subjected to the rigorous scrutiny of Partial Least Squares Structural Equation Modelling (PLS-SEM) in Chap. 3, our deliberate selection of fsQCA as the analytical tool is rooted in a deliberate intent to obtain complementary insights. This dual-method approach enables us to discern convergences and divergences between the findings obtained through the two distinct yet complementary methodologies. As such, we foster a comprehensive understanding of the multifaceted conditions underpinning the phenomenon under investigation. In essence, this chapter serves as a pivotal juncture wherein we harness the distinct attributes of fsQCA and

PLS-SEM to uncover a more holistic understanding of the complex interrelationships shaping business service portfolio orchestration. By synergistically leveraging the strengths of these methodologies, we aim to transcend the limitations of any single analytical approach and thereby advance a more robust comprehension of the multiple interdependent determinants. Consequently, we govern this pivotal facet of organisational dynamics, i.e. orchestration of business services portfolio.

5.1 Research Methodology

Literature shows only four studies specifically addressed business services configurations, of which two studies used qualitative research to explore seven antecedents to describe business services configurations (Schulz et al., 2009; Schulz & Brenner, 2010). The third and fourth study applied a quantitative approach and used cluster analysis to obtain business services configurations (Aksin & Mansini, 2008; Richter, 2021). The results of these four studies provide relevant insights and perspectives on business services configurations. However, the antecedents studied in those studies vary (e.g. service charges, external market view, contract form, centre concept, operational capabilities). Because of the inconsistent predictions and empirical results, enterprises are uncertain about how to understand the combination of antecedents that lead to the desired outcome, which is orchestration of business services portfolio. Therefore, we aim to fill this literature gap by examining the relationship between antecedents of and their combined effect on orchestration of business services portfolio through configurational thinking theory, fuzzy-set Qualitative Comparative Analysis (FsQCA: Ragin, 2008). This method is based on set theory and provides a mean to identify the combination of conditions that lead to the outcome of interest. For example, a successful business services implementation and its impact on, e.g. an enterprise's business model. The configurational thinking method is an emerging alternative to conventional methods, which enables not only to understand the complexity of organisational phenomena and causal complexity, but also to find pattern of combinations of multiple independent variables that together lead to a dependent variable (Fiss, 2011; Misangyi et al., 2017).

5.1.1 A Configurational Approach

Configuration thinking theories view phenomena as clusters of interconnected elements that must be simultaneously understood and viewed as a holistic and integrated pattern (El Sawy et al., 2010). Such theories consider the relationship between individual conditions (variables). Configuration theory is well suited as an inquiring approach to study the complexity of business services environments, such as mutual causality, fuzzy boundaries, and discontinuities (Meyer et al., 1993; Fiss, 2011). This method has been applied in various disciplines such as OM research (Mikalef et al., 2015). Miller (1981, p. 5) demonstrated that “instead of looking at a few variables or at linear associations among such variables, the focus should be on finding the frequency of the recurring clusters of attributes or *gestalts*”. Given the gap identified in the business services literature into account, it could be suggested that a more rigorous approach is required to examine the interdependencies of factors (conditions in terms of FsQCA) contributing to the orchestration of business services portfolio. By means of a more advanced data analysis method, more insights can be gained, which can explain the inconsistent findings in previous research (Legewie, 2013). As such, a more fine-grained approach such as fsQCA can be seen as one of the most appropriate methods to understand the causal complexity of the organisational phenomena (Rihoux & Ragin, 2009).

This methodological choice is inspired based on three objectives, (i) conjunction, which refers to the interdependency of multiple conditions leading to the same outcome (Schneider & Wagemann, 2012), (ii) equifinality, that refers to the possibility of multiple pathways (different causal recipes) leading to the same outcome (Fiss, 2011) and (iii) asymmetry, which means that conditions found to have a causal relationship in one configuration may be unrelated or even inversely related in another configuration (Meyer et al., 1993, p. 1178).

5.1.2 Measurement Model, Sample Selection and Data Collection

To ensure the reliability of the measurement and to have a comprehensive list of measures, all survey items for each condition (factor) used in this study were selected from previously validated measures (see Sect. 4.1). A description of the sampling strategy is described in Sect. 5.2. To select the most appropriate enterprises, we used the same data set and corresponding criteria as discussed in Chap. 3 (quantitative study).

5.2 Analysis

5.2.1 Calibration

The first step is the calibration of the raw measurements into fuzzy membership scores ranging from 0 to 1, where 0 indicates fully out, or no set membership, and 1 indicates fully in or full set membership (Ragin, 2008). The entire set of the indicators were reflectively measured using five-points Likert scales. There are two common approaches for calibration, direct, and indirect calibration. In direct calibration, three anchors will be used to identify the degree of membership for each condition (Woodside, 2014). To calibrate these measures, three qualitative anchors were specified for the calibration. A fuzzy score = 0.95 was assigned for full membership, fuzzy score = 0.05 for full non-membership, and fuzzy score = 0.50 for cross-over point. As fsQCA is sensitive to analyse the cases with exact 0.50 score membership (Ragin, 2009), we followed the approach recommended by Fiss (2011) and Pappas et al. (2020), and added a constant value (i.e. 0.001) to cross-over values. However, this addition does not affect the results but guarantees that none of the cases is dropped in fsQCA.

5.2.2 Necessity and Sufficiency Analysis

The next stage is to conduct a necessity analysis to see if there are any conditions in the dataset that can be recognised as being required for the desired outcome to occur, i.e. orchestration of business services portfolio (measured with 4 items). This entails that the membership score of the outcome is consistently lower than the membership score of the causal condition under consideration. The consistency value will be used to see if a condition is necessary for the outcome to occur. A value higher than 0.90 indicates the existence of an important relationship (Schneider & Wagemann, 2012). The results of the analysis showed that all condition had the values below the threshold value (see Table 5.1). While this initial test offers useful insights, a sufficiency analysis which is the last step of fsQCA analysis needs to be performed to gain additional insights about the interdependencies between the antecedents of orchestration of business services portfolio. However, before running the sufficiency analysis, a truth table of 2^k rows was constructed, where k is the number of conditions, and each row indicates a possible combination.

5.2.3 Truth-table

After calibration and the necessity analysis the truth-table was constructed. As there are five conditions (i.e. modularised business processes, plural sourcing strategy, IS standardisation, customer orientation, and managing decision rights) leading to orchestration of business services

Table 5.1 Necessity Analysis (outcome condition = orchestration of business services portfolio)

Condition	Consistency	Coverage
Size of the enterprise	0.57 (0.48)	0.42 (0.48)
Modularised business processes	0.76 (0.70)	0.56 (0.56)
Plural sourcing strategy	0.74 (0.75)	0.59 (0.54)
IS standardisation	0.73 (0.67)	0.59 (0.59)
Customer orientation	0.74 (0.71)	0.55 (0.57)
Managing decision rights	0.74 (0.71)	0.58 (0.56)

Note: The value for the negation of a condition is shown in parentheses

portfolio, the truth-table will contain $2^5 = 32$ rows, one for each logically possible combination of five presence/absence conditions. Based on the recommendation provided by Ragin (2008), the consistency value of each row (configuration) should be 0.75 or higher. Consistency refers to the extent to which a combination of causal conditions in the constructed truth-table is sufficient to lead to the desired outcome. However, in our study, a more conservative approach was considered and the value of 0.85 was set for the consistency cut-off. A consistency value, according to Schneider and Wagemann (2012), is comparable to the significance level in traditional regression and correlational approaches. After construction of the truth-table, configurations that did not adhere to the cut-off rule were removed from further analysis. To ensure that the minimum number of empirical cases exist for the configuration assessment, a frequency cut-off point is established, and the recommended frequency threshold is 1, when the total number of cases in the analysis is relatively small (Ragin, 2008). However, a more conservative threshold must be selected when the total N is large (Ragin, 2009).

5.2.4 Solution Sets

In the final step of the fsQCA analysis (the sufficiency analysis), three solution sets of consistent and sufficient configurations of causal combinations are produced. By using the minimisation technique on truth-table results, the fsQCA analysis generates three types of solutions: (a) parsimonious, (b) intermediate, and (c) complex solutions. A solution refers to a combination of conditions supported by a high number of cases and is produced through a logical procedure known as the Quine-McCluskey minimisation technique (Ragin, 2008). While complex solutions include all possible configurations when logical operations are applied, parsimonious solutions include all possible configurations by applying all simplifying conditions without any evaluation of their plausibility (Delgosha et al., 2021; Rihoux & Ragin, 2009). In this research, complex solutions have been used to illustrate the results (Mendel & Korjani, 2012; Rihoux & Ragin, 2009; Delgosha et al., 2021). In each solution a condition is either a core condition or a peripheral condition

(Fiss, 2011), core conditions appear both in the parsimonious and intermediate solutions, and peripheral conditions appear only in the intermediate solutions. In this study, the fsQCA 3.0, and R 3.6.1 software with the QCA package version 3.5 were used.

5.3 Results

5.3.1 Illustration of the fsQCA Results

When reporting the results, the following notations will be used to illustrate the results in the tables. Black circles (●) indicate the presence of a condition, and blank circles (○) indicate its absence. Blank spaces indicate “do not care” or the causal condition may be either absent or present (Ragin & Fiss, 2008). Large circles present core conditions, and small circles present peripheral conditions. Additionally, in further analysis, the size of enterprises was used to gain a more thorough understanding of the data and how different configurations of conditions lead to orchestration of business services portfolio. When the size of the enterprises is included in the analysis, it is operationalised as a crisp variable, using black circles (●) to denote “large” enterprise and blank circles (○) to denote “small” enterprise.

5.3.2 Analysis of Sufficiency for Global Business Services Implementation

For orchestration of business services portfolio, when the size of the enterprises was not considered in the analysis, the fsQCA analysis generated seven solutions (see Table 5.2). Solution 1 indicates that the presence of IS standardisation (ISS) and customer orientation (CO), and the absence of plural sourcing strategy (PSS) together lead to the outcome of interest, i.e. orchestration of business services portfolio (OBSP). Regarding the raw coverage, this solution has the third highest value (0.397). Solution 2 indicates that the presence of ISS, and managing decision-rights (MDR), and the absence of PSS together lead to the

Table 5.2 Intermediate solutions, without size of the firms

Solution	MBP	PSS	ISS	CO	MDR	Raw Coverage	Unique Coverage	Consistency
1		○	●	●		0.397	0.005	0.810
2		○	●		●	0.374	0.006	0.851
3	●			○	●	0.370	0.009	0.976
4	●			●	○	0.631	0.009	0.937
5	○	●		○	○	0.305	0.007	0.864
6	○	●		●	●	0.610	0.008	0.983
7	●	○		●		0.381	0.003	0.965
Overall solution consistency			0.862					
Overall solution coverage			0.649					

Note: MBP = Modularised business processes; PSS = Plural sourcing strategy; ISS = IS standardisation; CO = Customer orientation; MDR = Managing decision rights

outcome of interest. In this solution, MDR is a core condition. Solution 3 indicates the presence of two conditions, MBP, MDR, and the absence of CO together lead to the OBSP. In this solution, MBP is a core condition. Solution 4 indicates that the presence of MBP and CO, and the absence of MDR lead to the outcome of interest. This solution has the highest raw coverage value amongst all seven configurations. Solution 5 indicates the presence of PSS and the absence of three conditions, MBP, CO and MDR combined lead to the occurrence of OBSP. Solution 6 indicates the presence of three conditions, PSS, CO, and MDR, and the absence of MBP lead to OBSP. This solution had the highest consistency value (0.983). Finally, solution 7 indicates the presence of MBP and CO, and the absence of PSS are sufficient conditions for the outcome to occur. Based on configuration of conditions in these seven solutions, it can be concluded that when the size of the enterprises is not considered in the analysis, the presence or the absence of four conditions: MBP, PSS, CO, and MDR play important role for the outcome to occur.

The raw coverage values in these seven solutions were between 0.305 and 0.631. The consistency values (the extent to which a given combination is a sufficient condition for the outcome), was above 0.81 for all configurations, which is higher than the cut-off value of 0.75 (Ragin,

Table 5.3 Solutions and their corresponding cases

Solution	Cases (enterprises under study)
S1: ~PSS_F*ISS_F*CO_F	51, 29, 97, 93, 5, 57, 61, 82
S2: ~PSS_F*ISS_F*MDR_F	65, 29, 97, 31, 81, 5, 57, 61, 82
S3: MPB_F*~CO_F*MDR_F	98, 31, 81, 86, 102, 4, 22
S4: MPB_F*CO_F*~MDR_F	15, 50, 93, 6, 59, 10, 11, 26, 115
S5: PSS_F*~MPB_F*~CO_F*~MDR_F	39, 46, 66, 45
S6: PSS_F*~MPB_F*CO_F*MDR_F	3, 103, 89, 105
S7: ~PSS_F*MPB_F*CO_F	15, 50, 67, 119, 93, 5, 57, 61, 82

Note: Tilde shows the absence of conditions

2008). Finally, the overall solution consistency is 0.862 and the overall solution coverage (the proportion of cases in terms of fuzzy membership value that can be described by at least one configuration in a solution set) is 0.649, indicating that these seven solutions cover almost nearly 65% of the cases. Table 5.3 shows detailed information about the configurations and the cases that belong to a particular solution. It should be noted that a case can be part of more than one solution.

Aksin and Mansini (2008) and (Knol et al., 2014), have found that the size of an enterprise has an impact on implementing business services. As such, the *size of enterprises* (small enterprises = < 10.000 fte and large enterprises > 10.000 fte), was included as a separate condition in the analysis. Interestingly, the findings revealed different configurations compared to the findings without the enterprise size. The fsQCA findings generated seven solutions (see Table 5.4) and in six solutions, the size of the enterprises plays an important role.

Solution 1 indicates that the presence of modularised business processes (MBP), plural sourcing strategy (PSS), IS standardisation (ISS), and the absence of managing decision rights (MDR) lead to the outcome of interest, orchestration of business services portfolio (OBSP). This solution applies only to small enterprises. In this solution, MBP is a core condition. Solution 2 indicates the presence of customer orientation (CO) and the absence of three conditions, MBP, PSS and ISS combined lead to the OBSP. This solution applies to large enterprises. Solution 3 which is applicable only to large enterprises indicates four conditions: namely, MBP, PSS, ISS and MDR lead to OBSP. Solution 4 indicates the presence of MBP, ISS, CO, and MDR for large-size enterprises lead to

Table 5.4 Intermediate solutions, with size of the firms

Solution	SIZ	MBP	PSS	ISS	CO	MDR	Raw Coverage	Unique Coverage	Consistency
1	○	●	●	●		○	0.158	0.005	0.881
2	●	○	○	○	●		0.284	0.036	0.834
3	●	●	●	●		●	0.303	0.015	0.823
4	●	●		●	●	●	0.315	0.017	0.803
5		●	●	○	●	●	0.333	0.041	0.904
6	○	○	●	○	○	●	0.118	0.025	0.899
7	●	●	●	●	●		0.306	0.002	0.844
Overall solution consistency				0.877					
Overall solution coverage				0.617					

Note: SIZ = Size; Note: MBP = Modularised business processes; OBSP = Orchestration of business services portfolio; ISS = IS standardisation; CO = Customer orientation; MDR = Managing decision rights; Size (Small = ○; Large = ●)

OBSP. Solution 5 indicates the presence of four conditions, MBP, PSS, CO, and MDR, and the absence of ISS lead to OBSP, this solution applies to both small- and large-size enterprises. This configuration has the highest values both for consistency (0.904) and for coverage (0.333). Solution 6 indicates the absence of four conditions, MBP, ISS, CO, and MDR, and the presence of PSS lead to OBSP. This solution is applicable only for small-size enterprises. Finally, solution seven indicates that the presence of MBP, PSS, ISS, and CO lead to OBSP for large-size enterprises. In this solution, MBP is a core condition. All in all, it can be concluded that the enterprise size plays a role in configurations leading to OBSP. In addition, we noticed that multiple causal conditions lead to the same outcome (OBSP). In other words, the use of fsQCA enabled us to account for equifinality when the same outcome results from different conditions (or their combinations), which provides complementary explanations and additional understanding for mixed or non-results derived from correlational methods. Moreover, the use of configurational thinking method enabled us to account for asymmetric relations across interdependent conditions. In other words, we were able to account for asymmetric relations between conditions (antecedents) and outcomes when the conditions (and their reasoning) for the presence of an outcome may differ from its absence.

Table 5.5 Solutions and their corresponding cases

Solution	Cases (Enterprises under study)
S1: ~Size_F*PSS_F*MPB_F*ISS_F*~MDR_F	13, 60, 64, 26, 115
S2: Size_F*~PSS_F*~MPB_F*~ISS_F*CO_F	96, 117, 30, 49, 62, 78
S3: Size_F*PSS_F*MPB_F*ISS_F*MDR_F	4, 22, 1, 20, 34, 40, 68, 72, 84, 85, 87, 88, 109, 110, 116, 120
S4: Size_F*MPB_F*ISS_F*CO_F*MDR_F	5, 61, 82, 1, 20, 34, 40, 68, 72, 84, 85, 87, 88, 109, 110, 116, 120
S5: PSS_F*MPB_F*~ISS_F*CO_F*MDR_F	19, 48, 63, 12, 27
S6: ~Size_F*PSS_F*~MPB_F*~ISS_F*~CO_F*~MDR_F	39, 46
S7: Size_F*PSS_F*MPB_F*ISS_F*CO_F	1, 10, 11, 20, 34, 40, 68, 72, 84, 85, 87, 88, 109, 110, 116, 120

Note: Tilde shows the absence of conditions

The raw coverage is between 0.118 and 0.333 and the consistency values in all seven solutions are equal or above (0.803) recommended threshold. The overall solution consistency is 0.877, and the overall solution coverage is 0.617, indicating that these seven solutions explain almost 62% of the cases (sample). As expected, modularised business processes and plural sourcing strategy are important conditions for the outcome OBSP. The presence of these conditions is observed in several solutions. Table 5.5 shows information about the configurations and the cases that correspond to a particular solution.

5.4 Discussion

This research shows that different configurations (combination of causal conditions) lead to OBSP, supporting their contingent nature. The findings demonstrate that all business services conditions (e.g. modularised business processes, customer orientation, and IS standardisation) in addition to plural sourcing strategy are perceived to be essential for orchestration of business services portfolio, and that the interdependencies among these conditions (antecedents) is paramount. By applying fsQCA three objectives are obtained. First, the fsQCA results showed that there can be different configurations that lead to the same outcome (in this research

OBSP), this phenomenon is known as *equifinality*. Second, as fsQCA looks for the effect of combinations of conditions (present or absent), the results showed that each configuration can contain different combinations of causal conditions (asymmetric relations). Third, based on a calibration process, the importance of the authors theoretical or substantive knowledge was emphasised. As such, domain knowledge is required to carefully transform the empirical data into measures of set membership. For instance, by adding a control variable such as enterprise size. These three objectives allow the authors to claim that the fsQCA is especially useful for explaining complex phenomena like business services and how to orchestrate it in plural sourcing context, and how different conditions (antecedents) and control variables such as size of the enterprises produce different impacts. Next, we discuss the theoretical and practical implications of the results.

5.5 Theoretical Implications

This research shows that antecedents influencing orchestration of business services portfolio depends on the various business services configurations, which provide evidence to use context-aware research approaches. More specifically, continuously adapting a modularised business processes based on customer orientation and IS standardisation is essential. As such, business services should not be viewed as static arrangements but rather as dynamic arrangements since the effect of combinations of conditions may change. Based on the results of this research, three key implications were identified.

First, the premise of prior research was to identify individual antecedents of orchestration of business services, studying the direct relationship between them (e.g. Niehaves & Krause, 2010; Richter & Brühl, 2017). Since the combination of distinct conditions builds multiple configurations of orchestration of business services, this research confirms that previous research methods like qualitative studies (Schulz et al., 2009), and cluster analysis (Akin & Mansini, 2008) may not be appropriate to provide a comprehensive view in how conditions combined lead to the outcome of interest. As far as we are aware, this is one of the first studies on

plural sourcing strategy context that uses an fsQCA analysis and provides evidence to determine business services configurations. As such sufficient, yet complementary, evidence is provided to support the premise that alternative combinations of conditions might be equally beneficial in achieving business services orchestration. Importantly, when determining business services orchestration, not only the antecedents of business services should be viewed. We also must consider the role that plural sourcing strategy plays to identify relevant solutions. The findings of this research go beyond the use of traditional regression analysis and cluster analysis as the fsQCA results identified how different conditions work together and lead to the outcome of interest. By means of a more advanced data analysis method, it can be assumed that fsQCA is a prerequisite to determine configurations leading to orchestration of business services portfolio.

Second, by investigating business services configurations based on salient conditions within a context of a larger number of cases (Richter & Brühl, 2017, p. 10), this paper contributes to business services research. When including the size of the enterprises as a separate condition (see Table 5.4), the results indicate that modularised business processes, PSS and ISS are perceived to be a dominant condition due to their presence or absence in all solutions. This finding supports previous research of Ulbrich and Schulz (2014), who showed that business services portfolio is a severe management challenge when implementing IT oriented business services. In addition, the role of customer orientation (CO) and managing decision rights (MDR) varies when comparing the fsQCA solutions with and without the enterprise size. This can be explained as an enterprise having to identify customers' demand and their governing mechanism first before building a business services portfolio (Janssen & Joha, 2006). Thus, both conditions can be considered as resource integrators of value creation, providing standardised services with no or a limited degree of customisation. These new insights go beyond the findings of Richter and Brühl (2017) and Richter (2021), on global business services literature.

Third, addressing IS standardisation (ISS), it can be noticed that this condition is present in two of seven solutions (see Table 5.2). This is consistent with literature (Aksin & Mansini, 2008; El Sawy et al., 2010;

Miskon et al., 2012) in which IS standardisation is identified as an important element. Interestingly, when the size of enterprises was included in the analysis (see Table 5.4), the presence of this condition increases to four out of seven configurations. However, this outcome was not expected as previous service operations research underpinned the importance of IS standardisation. An explanation can be found in the way this research was structured as well as the applied approach, i.e. the fsQCA. It appears that, when the size of the enterprises is not considered in the analysis, the limited role of ISS is compensated by an increase of plural sourcing strategy, customer orientation, and managing decision rights.

5.6 Practical Implications

This study has two practical implications for enterprises and practitioners. First, seven distinctive solutions (see Table 5.4) were found when the enterprise size is considered. The results of this research reveal that antecedents that influence business services orchestration are dependent on the business services configuration. Consequently, insights in business services configurations are important for managers to know which antecedents contribute to orchestration of business services portfolio specifically. When enterprises pay more attention to IS standardised services, they decrease the level of “service customisation” and as such, maximise business services efficiency. Second, the findings suggest that an enterprise’s executive management should pay a close attention to invest in establishing a business services organisation, which continuously improves business services, customer management and the governance mechanism to maintain their relationships with customers. Even though the type of business services organisation may vary, the findings suggest that regular evaluations regarding changing customer needs (e.g. customer orientation) allow executive management to adopt business services as they are in the position to foster organisational responsiveness.

5.7 Conclusions

Given the prevalence of the variety of business services and the potential benefits associated with the internal and external resource management, determining different configurations leading to orchestration of business services remains a critical issue for enterprises' competitiveness. Based on a unique dataset that includes 121 international private companies and public administrations firms from different geographies with different sizes, we enhance our comprehension of the antecedents of OBSP by employing the configurational thinking approach (fsQCA), offering a complementary perspective to our analysis conducted in Chap. 3 using the PLS-SEM method. The new insights shed light on combined effect and interdependencies of business services conditions. The results of this research enable to better understand the causal complexity and interdependencies and combined effects between five essential business services conditions (e.g. modularised business processes, IS standardisation, managing decision rights, customer orientation, and plural sourcing strategy). Because fsQCA is case-oriented and set-theoretic in nature, it is an appropriate method for exploring and identifying important causal relationships between business services conditions and its orchestration. When considering the enterprise size, in total, seven solutions were identified providing support for the equifinality principle. An essential finding of the current research is that orchestration of business services does not mainly rely on a single well-developed resource (e.g. IS standardisation).

There is no academic study, to the best of the authors' knowledge, that examines orchestration of business services based on salient conditions using a configurational thinking approach. Compared to most of the academic research, this study provides relatively novel insights by means of applying fsQCA and its impact on an enterprise's business model.

References

- Aksin, Z., & Mansini, A. (2008). Successful strategies for internal outsourcing and offshoring of business services: An empirical investigation. *Journal of Operations Management*, 26(2), 239–256.

- Delgosha, M. S., Saheb, T., & Hajiheydari, N. (2021). Modelling the asymmetrical relationships between digitalization and sustainable competitiveness: A cross-country configurational analysis. *Information Systems Frontiers*, 23, 1317–1337.
- El Sawy, O. A., Malhotra, A., Park, Y., & Pavlou, P. A. (2010). Research commentary—Seeking the configurations of digital ecodynamics: It takes three to Tango. *Information Systems Research*, 21(4), 835–848.
- Fiss, P. C. (2011). Building better causal theories: A fuzzy set approach to typologies in organisation research. *Academy of Management Journal*, 54(2), 393–420.
- Janssen, M., & Joha, A. (2006). Motives for establishing shared service centers in public administrations. *International Journal of Information Management*, 26(2), 102–115.
- Knol, A., Janssen, M., & Sol, H. (2014). A taxonomy of management challenges for developing shared services arrangements. *European Management Journal*, 32(1), 91–103.
- Legewie, N. (2013). An introduction to applied data analysis with qualitative comparative analysis. In Forum Qualitative Sozialforschung/Forum. *Qualitative Social Research*, 14(3), 1–45.
- Mendel, J. M., & Korjani, M. M. (2012). Charles Ragin's fuzzy set qualitative comparative analysis (fsQCA) used for linguistic summarizations. *Information Science*, 202, 1–23.
- Meyer, A. D., Tsui, A. S., & Hinings, C. R. (1993). Configurational approaches to organisational analysis. *Academy of Management Journal*, 36(6), 175–1195.
- Mikalef, P., Pateli, A., Batenburg, R. S., & Wetering, R.v.d. (2015). Purchasing alignment under multiple contingencies: A configuration theory approach. *Industrial Management & Data Systems*, 115(4), 625–645.
- Miller, D. (1981). Toward a new contingency approach: The search for organizational gestalts. *Journal of Management Studies*, 18(1), 1–26.
- Misangyi, V. F., Greckhamer, T., Furnari, S., Fiss, P. C., Crilly, D., & Aguilera, R. V. (2017). Embracing causal complexity: The emergence of a neo-configurational perspective. *Journal of Management*, 43(1), 255–282.
- Miskon, S., Bandara, W., Gable, G., & Fiel, E. (2012). Success factors for ICT shared services in the higher education sector. *Journal of Information Technology Research*, 5(3), 1–24.
- Niehaves, B., & Krause, A. (2010). Shared Service strategies in local government: A multiple case study exploration. *Transforming Government. People, Process and Policy*, 4(3), 266–279.

- Pappas, I. O., Papavlasopoulou, S., Mikalef, P., & Giannakos, M. N. (2020). Identifying the combinations of motivations and emotions for creating satisfied users in SNSs: An fsQCA approach. *International Journal of Information Management*, 53, 102128.
- Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy set and beyond*. University of Chicago Press.
- Ragin, C. C. (2009). Qualitative comparative analysis using fuzzy sets (fsQCA). In B. Rihoux & C. C. Ragin (Eds.), *Applied social research methods: Configurational comparative methods: Qualitative comparative analysis (QCA) and related techniques*, 51 (pp. 87–122). SAGE Publications, Inc.
- Ragin, C. C., & Fiss, P. (2008). Net effects versus configurations: An empirical demonstration. In C. C. Ragin (Ed.), *Redesigning social inquiry: Fuzzy sets and beyond* (pp. 190–212). University of Chicago Press.
- Richter, P. (2021). Shared services: Configurations, dynamics and performance. *Baltic Journal of Management*, 16(4), 501–518.
- Richter, P. C., & Brühl, R. (2017). Shared service centre research: A review of the past, present, and future. *European Management Journal*, 35(3), 26–38.
- Rihoux, B., & Ragin, C. C. (2009). *Configurational comparative methods: Qualitative Comparative Analysis (QCA) and related techniques*. Sage Publications.
- Schneider, C. Q., & Wagemann, C. (2012). *Set-theoretic methods for the social sciences: A guide to qualitative comparative analysis*. Cambridge University Press.
- Schulz, V., & Brenner, W. (2010). Characteristics of shared service centres. *Transforming Government. People, Process and Policy*, 4(3), 210–219.
- Schulz, V., Hochstein, A., Uebernickel, F., & Brenner, W. (2009). Categorization of shared service centers: Insights from the IT services industry. In *13th Pacific Asia Conference on Information Systems: IT Services in a Global Environment*, PACIS 2009.
- Ulbrich, F., & Schulz, V. (2014). Seven challenges management must overcome when implementing IT-shared services. *Strategic Outsourcing: An International Journal*, 7(2), 94–106.
- Woodside, A. G. (2014). Embrace-perform-model: Complexity theory, contrarian case analysis, and multiple realities. *Journal of Business Research*, 67(12), 2495–2503.