



## Article

# Outsourcing for Sustainable Performance: Insights from Two Studies on Achieving Innovation through Information Technology and Business Process Outsourcing

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**Abstract:** (1) Background: To obtain sustainable performance through outsourcing, organizations must balance the inherent tension between pursuing cost-saving initiatives (i.e., efficiency) and pursuing innovative initiatives (e.g., developing new products). This study aims to explore this tension by exploring different ways that organizations can pursue both efficiency and innovativeness, through their IT outsourcing (ITO) and business process outsourcing (BPO). (2) Methods: This study utilizes a configurational approach in two inductive studies, both using qualitative comparative analysis (QCA). The first study qualitatively compares 27 firms currently doing ITO, while the second study compares 60 firms doing either ITO or BPO. (3) Results: Our findings suggest three configurations, or combination of conditions, that enable efficiency and innovation through ITO and BPO. For ITO, firms can use a *best-of-breed* or a *mediated multi-outsourcing* configuration to enable innovation; however, firms can only use a *direct multi-outsourcing* configuration to enable innovation through BPO. (4) Conclusions: The study is among the first to explore both ITO and BPO practices that enable innovation and efficiency simultaneously (sustainable performance). In contrast with prior studies, all three aforementioned configurations suggest that having detailed outsourcing contracts is a *necessary but not sufficient condition* for innovation through outsourcing.

**Keywords:** sustainable performance; IT outsourcing; business process outsourcing; configuration

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## 1. Introduction

In a global economy, modern organizations have increasingly used outsourcing as a strategy to reduce operational costs and leverage external capacities [1,2]. While widely successful when done right, the outsourcing strategy has its own challenges. First, there is the challenge of maintaining sustainable performance, when organizations have to balance the tensions between pursuing efficiency and innovation. Researchers have argued that due to the tendency to focus on efficiency and cost savings in outsourcing, firms that try to gain innovation through outsourcing often experience inherent tensions, dubbed the “innovation through outsourcing” paradox [3], with the clear implication that firms have to overcome the innovation–efficiency tensions to pursue sustainable performance through outsourcing. Second, there is the challenge of creating sustainable interorganizational relationships, when organizations have to balance the tensions coming from cost-driven outsourcing models with their suppliers [4]. Due to the focus on cost savings, organizations tend to create a “race to the bottom” situation, in which suppliers bid on the lowest service prices, while sacrificing long-term investments and meaningful partnerships. Facing this challenge, researchers have started to identify situations where organizations successfully

created win–win relationships with their suppliers, instead of the cut-throat cost-driven outsourcing culture [5,6].

Against this backdrop, this study focuses on the research question of “*what enables organizations to achieve sustainable performance through outsourcing?*” In our study, we specifically equate *sustainable performance* through outsourcing to firms being able to achieve both *innovation and efficiency* through outsourcing. To answer the research question, we scrutinize successful strategies behind organizations that were able to use IT outsourcing (ITO) and business process outsourcing (BPO) to balance the tension between efficiency and innovation, to pursue sustainable performance.

The study takes a configurational approach in two related studies. In the first study, we surveyed outsourcing managers from 27 firms that are currently doing ITO and conducted a qualitative comparative analysis (QCA), a type of inductive analysis that aims to explore complex causal paths rather than confirming causality [7]. A second study is then conducted with another set of 60 firms that are currently doing either ITO or BPO. The findings suggest that a *best-of-breed* [8] and a *mediated multi-sourcing* strategy [9] can be effective in enabling innovation through ITO. On the other hand, a *direct multi-sourcing* strategy [9] is effective in enabling innovation through BPO. Notably, across these three configurations, the combination of a flexible pricing model and detailed contracts emerges as a *necessary but not sufficient condition* for achieving innovation through outsourcing.

Our findings make the following three contributions to theory and practice: (1) to the best of our knowledge, this is the *first study* that provides empirical evidence on different ITO and BPO configurations that can lead to innovation; (2) while prior studies suspect detailed contracts as a culprit for killing innovation in outsourcing relationships, we show that detailed contracts are in fact necessary, but not sufficient, conditions for innovation. In other words, while elements of detailed contracts can hinder innovation [3], not using detailed contracts will certainly lead to the lack of innovation; (3) we show the possibility of a substitutive relationship between diversified suppliers and majority outsourcing, plus extendable contracts in the case of ITO, but the relationship is complementary in the case of BPO.

The rest of the study is organized as follows. We first provide a theoretical background on outsourcing and sustainable performance. Then, we explain how a configurational approach is appropriate to study this issue and suggest five factors for outsourcing configurations. We then use those factors to conduct our empirical study. The findings are presented, followed by a discussion of the theoretical and practical implications of the study.

## 2. Theoretical Background

### 2.1. IT Outsourcing and Sustainable Performance

Business organizations are increasingly embracing sustainability [10], which is achieved when organizations use resources in a manner that does not compromise the ability to sustain future development. At the same time, outsourcing has become a common practice, which traditionally has been motivated by cost savings and other short-term objectives [11–13] that overlooked future development. Seemingly, how organizations can pursue outsourcing for short-term gains while obtaining sustainability for long-term development are at odds with each other; yet, research on this important issue remains scarce [14,15].

Recent research has argued that to obtain sustainable performance, organizations should move away from short-term, cost-focused models [16,17]. Empirical evidence supports this assertion as there is a growing trend in outsourcing practices in which clients and suppliers collaborate to achieve *innovation*, defined as using outsourcing deals to develop new products, invent new services, or open new markets [12,18]. This new focus on innovation, instead of cost-only models, allows both outsourcing clients and suppliers to overcome their self-interests and transforms the client–supplier relationship to a “win–win” partnership that can potentially achieve both efficiency and innovation, and allow both to obtain performance that sustains over time (i.e., sustainable performance).

Yet, moving away from cost-focused outsourcing models is not an easy task. In the traditional outsourcing model, clients mostly outsource to lower their operational costs [19] or gain access to capabilities that they do not have [20]. Their goal is to achieve *efficiency* by leveraging skills, knowledge, and capabilities of suppliers. However, this goal becomes an issue when firms seek to attain *sustainable performance through innovation*. Due to differences in incentives, suppliers can be reluctant to explore innovative solutions. Vitasek, Ledyard and Manrodt [4] explained that because suppliers' goal is to sell extra outsourcing services, when asked to be innovative, suppliers often look for solutions that actually expand their outsourcing services—ones that might have limited value to outsourcing clients' products or services. In addition, to achieve efficiency, clients often use detailed and specified contracts to safeguard against opportunistic behaviors. However, these well-intended and well-crafted contracts can take away the autonomy of the suppliers, making it harder for them to explore innovative solutions [3]. Taken together, the traditional outsourcing model encounters an inherent tension, due to the incentive misalignments between client and supplier, making it difficult to pursue both efficiency and innovation.

This innovation–efficiency tension is dubbed the “innovation through outsourcing paradox” [3]. Scholars have suggested several solutions, such as the following: a combination of contractual and relational governance [21], using organizational arrangements for structural and temporal ambidexterity [3], using multi-outsourcing practices [22], or using best-of-breed (co-opetitive) suppliers [23]. However, the number of empirical studies of this paradox remains modest [24,25], presenting a research opportunity for further exploration [18]. In this study, we take up recent suggestions in ITO literature [26] and use a configurational approach to empirically explore the paradox.

## 2.2. Configurational Approach to IT Outsourcing

The configurational approach examines how a constellation of factors can lead to specific organizational outcomes [26,27]. Unlike variance-based methods, which focus on the linear causality between a set of disaggregated independent variables and dependent variables, the configurational approach recognizes that causality is complex, in that outcomes emerge from the combination of multiple factors (*conjunction*), and researchers should aim to identify configurations of those factors that can lead to the same outcome [28–30]. In other words, while variance-based methods focus on *confirming* causal paths, configurational methods emphasize the *exploration* of possible causal paths. Subsequently, it is often praised for its ability to combine multiple theoretical perspectives in exploring complex causal relationships [26,30,31]. For our purpose, the configurational approach is an ideal approach because it allows us to examine how the dynamics among different factors can contribute to innovation and, eventually, sustainable performance. Appendix C provides more details on our approach.

We draw from the existing literature to identify five configuration factors for our study [3,21,25,32]. To be included, a factor needs to satisfy the following two criteria: (1) it must be grounded in extant theories, and (2) it must be supported by empirical studies. We acknowledge that there are other possible factors, and we encourage future researchers to extend our study using other factors. Table 1 provides a summary of our factors.

*Detailed contracts:* Research on innovation through outsourcing has identified detailed contracts as a key driver of the paradox [3]. In detailed contracts, clients specify detailed clauses for outsourcing services, such as service scope, service levels, performance measures, exit clauses, and penalties [33]. Compared to other contract types, such as generic contracts, loose contracts, or mixed contracts [31,34], detailed contracts offer clients a strong safeguard against opportunistic behaviors and have been shown to significantly impact outsourcing performance [21,35,36]. In addition, prior studies have examined the role of detailed contracts in structuring incentives and managing risks [37] and suggested methodologies to quantify outsourcing risk [38]. Others have found that having well-structured service-level agreements can significantly improve various aspects of relational governance in ITO relationships [39]. By nature, detailed contracts can be rigid and restrict flexibility, making

it difficult for suppliers to adjust to changes. This rigidity is particularly troublesome because to engage in innovative projects, suppliers need flexibility to engage in exploratory activities that are hard to specify in formal legal contracts [3]. Given those reasons, we include detailed contracts as one of the configuration factors to examine how they may or may not lead to innovation and sustainable performance.

*Fixed-pricing model:* To reduce the restrictiveness of detailed contracts, firms use different pricing models to increase flexibility in outsourcing arrangements, making them less vulnerable to vendor lock-in and more flexible to respond to environmental changes [40]. The following two pricing models are commonly used: a fixed-pricing model, in which a fixed amount is paid to suppliers in exchange for services, and a variable-pricing model, in which costs are calculated based on varied factors, such as time and materials used (T&M model) [41–43]. Recently, Oshri, Kotlarsky and Gerbasi [21] have shown that the pricing model, in combination with contract type, can moderate the effect of client–supplier relationship quality on innovation. We, thus, included the fixed-pricing model as the second configuration factor in our study.

*Extendable contracts:* This factor is concerned with contract duration, wherein clients can choose to have a single term contract with no renewable option, an evergreen contract with no expiration clause, or an extendable contract based on performance assessment [31]. When a contract has an extendable option, clients can control the risk level from incomplete contracts, allow flexible adaptation to environmental changes [40,44], motivate continuous improvements from suppliers out of fear of possible termination [45], and incentivize suppliers to make relationship-specific investments for a longer-term relationship [46]. According to transaction cost economics and agency theory, extendable contracts also enable long-term outsourcing relationships and align economic incentives between clients and suppliers. Consequently, they enable temporal ambidexterity, when firms alternate between pursuing efficiency and innovation over time [3]. Thus, we included extendable contracts as the third configuration factor in our study.

*Majority outsourcing:* In outsourcing arrangements, clients can outsource IT services at various levels, ranging from majority (more than 80%) outsourcing to selective (between 20–80%) outsourcing of their IT services [31,33,47]. Within the ITO literature, outsourcing level is one of the fundamental factors that constitutes an ITO arrangement [47]. It is directly related to IT performance [48] and the ability to adapt to changes and develop competitive advantages [33]. For example, using a majority outsourcing model, Microsoft determined what it wanted holistically, while leaving the delivery to suppliers, enabling them to pursue innovative projects that benefit both parties [4]. Thus, we posit that outsourcing level is an important factor to consider in an outsourcing configuration.

*Diversified suppliers:* This factor reflects the number of suppliers in an outsourcing portfolio and whether clients choose to outsource using one supplier, a few prime contractors who sub-contract to others (mediated or guardian supplier), or direct outsourcing to multiple and diversified suppliers [9,31,47]. Combinations of both the outsourcing level (majority versus selective outsourcing) and supplier strategy have been shown to directly impact outsourcing performance, as well as the flexibility and dynamics of outsourcing relationships [4,5,8,31,33,49,50]. Together, the two factors reflect important trade-offs. On one hand, outsourcing a majority of services to a sole supplier or a small number of suppliers can develop shared knowledge, culture, and routines that greatly increase the efficiency of outsourcing relationships [51], or enhance trust and long-term sustainable relationships to innovate [52]; however, it increases the risks of vendor lock-in and opportunistic behaviors [9,22,49]. On the other hand, outsourcing a selective number of services to multiple suppliers can foster vendor competition and increase flexibility and adaptability [9,22], but it also increases coordination costs [47,53]. Other hybrid options are also available, but ultimately, clients would have to determine the level of control and risks inherently embedded in their choices of *how much* to outsource and *to whom*. Such decisions would directly impact how clients manage the outsourcing portfolio and handle the innovation–efficiency

tensions. Taken together, we include these two factors in our study, as a reflection of how a firm manages capabilities gained from outsourcing.

**Table 1.** Configuration Factors in Our Study.

Factors	Definitions	Justifications	Empirical Evidence
Detailed Contracts	Whether the outsourcing contracts include detailed and specified clauses (as opposed to generic, off-the-shelf contracts)	A key driver for innovation–efficiency tensions; moderating the client–supplier relationship quality	[21,31,35,36,54,55]
Fixed-Pricing Model	Whether the outsourcing contract uses a fixed-cost model (as opposed to variable cost model (T&M))	Determining risk level in outsourcing relationship; providing incentives for pursuing innovation or efficiency in outsourcing	[31,40–42,56–58]
Extendable Contracts	Whether the outsourcing contract can be renewed	Enabling long-term commitment and flexibility, enhancing the client–supplier relationship quality which impacts the pursuit of innovation–efficiency	[31,40,44,59,60]
Majority Outsourcing	Whether the client outsources a majority of its services (more than 80%)	Reflecting the strategic objectives of how much to outsource and for what purpose (innovation and/or efficiency)	[4,5,9,31,33,49]
Diversified Suppliers	Whether the client uses multiple and diversified suppliers	Determining control and risk level in an outsourcing portfolio; directly influencing how a firm handles the innovation–efficiency tensions	[4,5,9,31,33,49,50]

### 3. Materials and Methods

To examine the factors that enable organizations to achieve sustainable performance (i.e., both innovation and efficiency) through outsourcing, we adopt a multi-study approach. This allows us to triangulate our findings in multiple contexts, thus strengthening the findings. In the first study, we focus on organizations that obtained sustainable performance through ITO, while in the second study, we extend the first study and examine organizations that obtained sustainable performance through both ITO and BPO. The findings for the first study have been previously reported (citation omitted for review), and this study reports the findings from cross-examination of both studies. Figure 1 provides a visualization of our research process.

#### 3.1. Study 1 Data Collection and Analysis

In the first study, we explored factors that enable organizations to gain both innovation and efficiency through ITO. The data were collected through a cross-sectional survey, which is a recommended approach to study configurations across a medium to large sample size [26]. Our survey questions were developed toward a qualitative comparative analysis (QCA) [61,62] (see Appendix C for more details of our method.) The questions in the first study were developed following survey development principles [63] and through multiple rounds of feedback (pretest with outsourcing researchers, pilot test with practitioners, and actual test with target subjects). The questions were then reviewed by one outsourcing expert before they were used. The survey questions are included in Appendix A.

The survey was distributed by two large organizations to their members. The first organization was the International Association of Outsourcing Professionals (IAOP), whose membership includes ITO professionals in large multi-billion-dollar companies with more than 10,000 employees. The IAOP sent out the survey in several attempts between November 2016 and February 2017, resulting in 31 responses. The second organization that distributed the survey was a Northeastern US university. In April 2017, the university sent the survey to its alumni who worked in IT fields, resulting in 34 responses from ITO professionals in companies with fewer than 10,000 employees. After accounting for



incomplete responses, we retained 27 responses for analysis. While we do not know the exact response rate, we estimate it at about 1%.

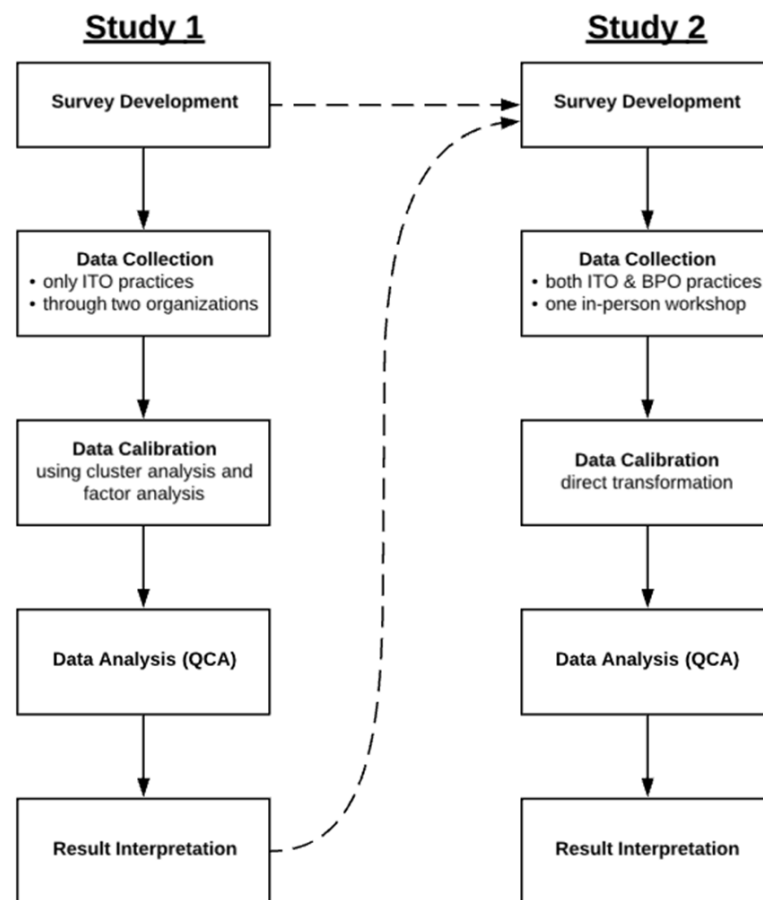


Figure 1. Research Process.

Next, we conducted a QCA using the software fsQCA 3.0 [64] following the steps specified by Liu, et al. [65]. The details of the analysis are below:

*Step 1: calibrate the data.* We first transformed the multiple-scale questions into a single dimension that is more suitable for QCA. The outcome variable was transformed into a composite variable using factor analysis. Additionally, because questions for configuration factors used qualitative and non-scale questions, they were transformed into a single dimension using cluster analysis. The cluster analyses used Ward's method with squared Euclidean distance [66]. In the next step, the variables were transformed into QCA measures as follows.

- ITO outcome—innovation: we converted the composite variable using a value of 1–4–7 threshold that indicates the level of innovativeness a firm can gain through ITO. Specifically, firms with a value of 7 have full membership of innovativeness (i.e., value of 1) while firms with a value of 1 have full non-membership (i.e., value of 0).
- Configuration factor 1—majority outsourcing: value of 1 if firms outsource all of their IT functions in four categories (IT application, operations, management, and support) while value of 0 indicates firms only outsource IT applications and operations (selective outsourcing).
- Configuration factor 2—diversified suppliers: value of 1 if firms outsource through multiple ITO suppliers while value of 0 indicates firms use a wide range of suppliers from one supplier to a pool of on-call suppliers (flexible suppliers).
- Configuration factor 3—fixed-pricing model: value of 1 if firms pay a fixed amount for outsourcing contracts while value of 0 indicates firms use a wide range of pricing

models such as fixed amount, per transaction, or mark-up on actual costs (flexible pricing model).

- Configuration factor 4—extendable contracts: value of 1 if firms allow their suppliers to extend ITO contracts while value of 0 indicates firms have a time limit for their ITO contracts (fixed-term contracts).
- Configuration factor 5—detailed contracts: value of 1 if firms use customized contracts instead of generic contracts while value of 0 indicates firms use various contract types with various degrees of detail.

*Step 2: construct the truth table.* Next, we constructed a truth table with all the logically possible configurations; then we used a coverage cut-off point of 1 case and consistency cut-off point of 0.8 to retain important and plausible configurations [62,65].

*Step 3: obtain the solution sets.* In set-theoretic analysis, the following three solution sets are possible: complex, parsimonious, and intermediate. Following prior studies [62,65], we used the intermediate solution as it provides the most interpretable configurations.

*Step 4: interpret and evaluate the solutions.* Using solution sets, we identified core and peripheral factors in our solutions. Core factors are those that appear in both the parsimonious and intermediate solutions, thus indicating a strong causal relationship with outcomes [67]. The final configurations were discussed among authors to make sense of them using the existing ITO literature.

To test the robustness of our findings, we have conducted the analyses using different calibration results (e.g., different cluster membership, different calibrations), and the results remain the same.

### 3.2. Study 2 Data Collection and Analysis

Based on the findings of study 1, we conducted another study to triangulate our findings and to extend the research contexts (see Figure 1). Specifically, while study 1 only focused on ITO, study 2 examined both ITO and BPO practices. Based on insights learned from study 1, we simplified the survey instrument for study 2 to utilize mostly binary questions rather than variance-focused questions (see Appendix B). The survey was then distributed by one of the authors *in person* to a 2018 IAOP workshop in a Midwest city in the US. There were about 100 participants in the workshop, and we received 73 responses. After screening for firms with innovation and cost savings outcomes and for firms with either ITO or BPO, we retained 60 responses for analysis. Out of these companies, 41 firms were doing ITO, 41 firms were doing BPO, and 22 firms were doing both. These companies have an average size of 60,000 employees and an average of 14 years of outsourcing experience; they operate across 17 industries.

We conducted a QCA analysis on the two groups of firms (41 firms doing ITO and 41 firms doing BPO). This allowed us to compare the two groups to identify differences. We also conducted the analysis on the 22 firms doing both ITO and BPO but the results did not meet the threshold set by prior literature [62]. Similar to study 1, we followed the four steps of analysis as outlined by prior studies [65]. The specific calibration of the data for study 2 is as follows.

- ITO outcome—innovation: value of 1 when the company has had innovative initiatives through outsourcing (e.g., new products, services, or markets).
- Configuration factor 1—majority outsourcing: value of 1 if the company has more than 80% of its activities/services outsourced.
- Configuration factor 2—diversified suppliers: value of 1 if the company has multiple outsourcing suppliers.
- Configuration factor 3—fixed pricing: value of 1 if the company pays a fixed amount for outsourcing contracts. If a company uses both fixed pricing and a variable pricing model [43], it has a value of 0.5.
- Configuration factor 4—extendable contracts: value of 1 if the company allows rollover outsourcing contracts (i.e., extendable contracts).

- Configuration factor 5—detailed contracts: value of 1 if the company uses customized contracts instead of generic contracts; if a company uses both generic and detailed customized contracts, it has a value of 0.5.

Similarly, we also conducted a robustness test in study 2 by analyzing data with different calibrations (e.g., items with a value of 0.5 are converted to a value of 1). The results mostly remained the same, with only one new solution emerging that represented one firm.

### 3.3. Post-Analysis

To enrich our interpretation of the results, for each configuration that we identified, we searched through our data and found firms within each configuration and collected further contextual data using a mixture of approaches, as follows: searching ITO news related to the firm if we knew the firm's identity, reflecting on demographic information of the firm, and asking follow-up questions about what is required for innovation. These post-analyses allowed us to construct richer descriptions of those firms and draw stronger inferences about their outsourcing practices.

## 4. Results

In the following sections, we report the findings from both studies. Following conventional notations, we use black circles (●) to indicate the presence of a factor and open circles (⊗) to indicate the absence of a factor. Large circles represent core factors, while small circles represent peripheral factors. Core factors signify a strong causal relationship with outcomes and will be used primarily in describing the configurations [67].

### 4.1. Study 1 Findings

Table 2 shows the ITO configurations that lead to innovation. The configuration has a high consistency value of 0.95 but a low coverage value of 0.05. This indicates that there are only a small number of firms (1 or 2 out of 27) that were successfully gaining both innovation and efficiency through this ITO configuration. In this configuration, firms only outsource a selective set of IT functions to a diversified group of suppliers. The contracts are often detailed, fixed term, with flexible pricing models. Thus, we name this pattern a *best-of-breed* strategy, to describe the tendency of these firms to choose the best ITO suppliers for their specific IT needs. They do so by using fixed-term contracts, using a flexible pricing model as a basis for evaluation of suppliers, and possibly terminating the contracts in case of opportunistic behaviors from suppliers (Harris et al. 1998). This combination makes innovation through outsourcing possible because it allows firms to leverage the capability and knowledge from a large pool of suppliers for specific needs, thus, lowering coordination costs (e.g., avoiding frequent searches for new suppliers). Importantly, because the majority of outsourcing and diversified suppliers are core factors, it can be interpreted that this strategy allows firms to focus on specialized talents and skills, rather than cost savings. Additionally, the fixed-term contracts and flexible pricing models allow firms to evaluate contracts on performance or outcome, which can encourage innovative solutions from ITO suppliers [4,6].

**Table 2.** ITO Configuration that Leads to Innovation (Study 1).

Majority Outsourcing	Diversified Suppliers	Fixed Pricing	Extendable Contracts	Detailed Contracts	Raw Coverage	Unique Coverage	Consistency	Solution Coverage	Solution Consistency
⊗	●	⊗	⊗	●	0.05	0.05	0.95	0.05	0.95

Black circles (●): the presence of a factor; open circles (⊗): the absence of a factor. Large circles represent core factors, while small circles represent peripheral factors.

In our data, the firm that has this configuration is a technology company with over 5000 employees and revenue over USD 100 million. The company has outsourced only its IT application development and support for over 10 years, to only five outsourcing suppliers.



Their contracts are detailed with fixed terms. This allows the firm to have flexibility while ensuring that the firm is using the most suitable suppliers for their IT needs.

#### 4.2. Study 2 Findings

In study 2, we duplicate study 1 on a set of firms doing ITO and BPO, as this allows us to discern the differences between the two practices. As can be seen from Table 3, there is one ITO configuration that leads to innovations with coverage of 0.05, while the consistency is 1, above the threshold of 0.75, as suggested by Ragin [62]. This configuration accounts for two firms in our sample. In this configuration, firms purposefully outsource a majority of their IT services to only a small number of suppliers (as indicated by the absence of core factor “diversified suppliers”), while using a flexible pricing model and detailed extendable contracts across the suppliers.

**Table 3.** ITO Configuration that Leads to Innovation (Study 2).

Majority Outsourcing	Diversified Suppliers	Fixed Pricing	Extendable Contracts	Detailed Contracts	Raw Coverage	Unique Coverage	Consistency	Solution Coverage	Solution Consistency
●	⊗	⊗	●	●	0.05	0.05	1	0.05	1

Black circles (●): the presence of a factor; open circles (⊗): the absence of a factor. Large circles represent core factors, while small circles represent peripheral factors.

In our sample, one example of companies with this configuration is a large food and beverage company, with over 10,000 employees and four years of ITO experience. Given that the company is a large enterprise with relatively little ITO experience, this configuration is similar to cases in which large enterprises outsource most of their IT services to a number of mega-suppliers, who sub-contract to other suppliers. For example, IBM and EDS served as the mega-suppliers for ABN AMRO and Royal Dutch Shell, respectively [9]. This is called a *mediated multi-sourcing* model [9,22], in which firms rely on the expertise of a small group of suppliers, who act as prime contractors (or guardian suppliers) to coordinate across sub-contractors. Typically, each supplier will be assigned an area of responsibility to reduce supplier competition and foster some level of cooperation. As such, detailed and extendable contracts and variable-pricing models are necessary to give mediating suppliers the necessary flexibility in selecting suppliers that are appropriate for the needed tasks. In the context of strategic innovation, these mediators act as the innovation coordinators, procuring and directing a number of sub-contractors to fulfill the clients’ needs, be it for new developments or cost savings. This is further substantiated when the exemplary company indicated that innovations require leadership champions and investments from both the client and suppliers. In other words, the suppliers become strategic partners that make relationship-specific investments in pursuing innovation projects with the client.

For firms that are doing BPO, there is one configuration that leads to innovation (Table 4). The configuration has a coverage of 0.16 and a consistency of 0.75, above the threshold [62]. This configuration accounts for six firms in our sample. In this configuration, firms outsource a majority of their IT functions to a diversified group of suppliers. The contracts are often detailed and extendable, using flexible pricing models.

**Table 4.** BPO Configuration that Leads to Innovation (Study 2).

Majority Outsourcing	Diversified Suppliers	Fixed Pricing	Extendable Contracts	Detailed Contracts	Raw Coverage	Unique Coverage	Consistency	Solution Coverage	Solution Consistency
●	●	⊗	●	●	0.16	0.16	0.75	0.16	1

Black circles (●): the presence of a factor; open circles (⊗): the absence of a factor. Large circles represent core factors, while small circles represent peripheral factors.

One exemplary firm with this configuration is a technology company with over 20,000 employees, 8 years of outsourcing experience, and working with over 20 suppliers. Given the description, we term this configuration a *direct multi-outsourcing* strategy [9],

in which firms contracted specific vendors for specific functions. In the case of BPO, this strategy works because the business processes that can be outsourced are vastly different by nature (e.g., human resources, accounting, customer service). Thus, it is not possible to find a supplier that can offer high quality services across different functional areas. As a result, firms need to establish contracts with multiple suppliers and leverage their specific knowledge and capabilities to gain innovation and efficiency. Further examination of the responses from the exemplary firm indicates that they highly valued new structure and clear objectives in outsourcing relationships. This showed that for this strategy to work, the firm needed to work closely and directly with each supplier to make sure both parties had clear understandings of the expected performance.

## 5. Discussion

This study applies the configurational approach [7,61,62,67] to empirically examine the different outsourcing configurations that may lead to sustainable performance (i.e., gaining both innovation and cost savings through outsourcing). Two studies were conducted to examine both ITO and BPO practices. Our findings suggest that there are three configurations that relate to innovation outcomes (Table 5). To the best of our knowledge, our study is the *first study* that identifies both ITO and BPO configurations related to innovation outcomes. Prior studies have only looked at ITO configurations [68]. Based on our findings, we suggest the following:

**Table 5.** Summary of Findings.

Configurations	Context
Best-of-breed outsourcing: limited outsourcing model with detailed contracts and diversified suppliers	IT Outsourcing
Mediated multi-outsourcing: using a small number of suppliers as prime contractors to outsource a majority of IT services	IT Outsourcing
Direct multi-outsourcing: tapping capabilities from multiple suppliers for a majority of business services	Business Process Outsourcing

**Proposition 1.** *A best-of-breed outsourcing or a mediated multi-outsourcing model can enable innovation through IT outsourcing; however, only a direct multi-outsourcing model can enable innovation through business process outsourcing.*

Our findings also suggest three implications to the extant literature. First, across both studies, the combination of detailed contracts and flexible pricing models (i.e., negated fixed-pricing models) consistently appear in all three configurations. This observation suggests that they are necessary (but not sufficient) conditions for sustainable performance through outsourcing. This finding contrasts with prior studies, which often suspect detailed contracts as the culprit for the lack of innovation through outsourcing [3,21]. Our findings suggest that having detailed contracts is a “necessary evil” for innovation, and firms must use other flexible options (e.g., pricing) to minimize the shortcomings of detailed contract to outsourcing practice. Examples of what should be considered in detailed contracts are KPIs, such as customer level satisfaction, service quality, conflict resolution, or communication methods. Overall, we suggest the following:

**Proposition 2.** *Having a detailed outsourcing contract is a necessary but not sufficient condition for a firm to gain both efficiency and innovation through outsourcing.*

Second, comparing Tables 2 and 3, the difference between the two configurations for ITO are the opposite absence and presence of the following three factors: majority outsourcing, diversified suppliers, and extendable contracts. This observation suggests the possibility of a *substitutive* relationship between diversified suppliers and “majority

outsourcing plus extendable contracts” for innovation. Compared to prior studies, this finding confirms a trend observed in the outsourcing literature that short-term cost reduction is counter-productive, and renewable contracts allow sustained relationships for sustainable performance [4,6]. Our substitutive relationships can be interpreted in such a way that firms can either outsource to multiple suppliers and select the best in class (best-of-breed in Table 2), or firms can outsource with renewable contracts (that are evaluated based on performance or outcome) to encourage innovation (Table 3). Thus, we suggest the following:

**Proposition 3.** *To gain innovation through IT outsourcing, firms can substitute between having diversified suppliers and using a majority outsourcing model with extendable contracts.*

Finally, when comparing configurations for ITO (Tables 2 and 3) versus BPO (Table 4), such a substitutive relationship does not exist. All three factors were present (diversified suppliers, majority outsourcing, and extendable contracts) in Table 4. This observation suggests a possible *complementary* relationship between diversified suppliers and “majority outsourcing plus extendable contracts”. This relationship is novel and has not been observed by prior studies. We posit that the reason comes from the fundamental differences between ITO and BPO. ITO deals more with IT artifacts that are easier to manage remotely (e.g., IT infrastructure, services), thus, does not require a tight relationship with suppliers. As a result, firms can substitute having a long-term relationship (through extendable contracts) with selectively using suppliers that best fit for their specific needs (best-of-breed). On the other hand, BPO is more complex than ITO because it deals with many social aspects of a company (e.g., policies, processes, culture, staff), which can benefit more from in-person interactions, similar to the need for social competencies in sustainable facility management [69]. Consequently, this requires firms to build a good long-term relationship with their BPO suppliers, in order to make meaningful changes to organizational operations. That means firms will need to complement the outsourcing governance (e.g., extendable contracts, majority outsourcing) with diversified suppliers to nurture a good relationship with suppliers. We suggest the following:

**Proposition 4.** *To gain innovation through business process outsourcing, firms must complement having diversified suppliers and using a majority outsourcing model with extendable contracts.*

Our findings also provide important implications for managers, as they suggest three practical ways to organize ITO and BPO arrangements for sustainable performance. However, like others, our study is not without limitations. First, our configurational approach examined a medium-sized sample, thus, we do not aim for generalization with our findings. Rather, our aim is *analytic generalization* [70], by adding insights to the extant literature. Second, we only scrutinized a handful of configurational factors, as suggested by the outsourcing literature. Future studies are encouraged to consider other factors to validate our conjectures here. Lastly, we encourage others to duplicate our study to test how the findings hold in other contexts (e.g., non-US companies). It is possible that different socio-economic environments in other countries will have an impact on how firms choose to pursue innovation.

## 6. Conclusions

This study aims to explore the tension between pursuing efficiency and innovation through outsourcing, and our study is among the *first* to identify both ITO and BPO configurations that can lead to innovation, eventually enabling sustainable performance. The strength of the study is in our use of a configurational approach to qualitatively identify combinations of factors (configurations) that lead to innovation through outsourcing. We recommend future studies expand our study to scrutinize other factors in different countries, to understand how organizations can achieve sustainable performance through outsourcing.

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### Appendix A. Survey Instrument for Study 1

Dependent Variable: Innovation through Outsourcing [21]

Please rate the following statements about the degree of innovation achieved through IT outsourcing in your organization:

1. We have enhanced our existing products and/or services by working with our ITO suppliers.
2. We have introduced our new products and/or services by working with our ITO suppliers.
3. We frequently utilize new opportunities in new markets by working with our ITO suppliers.
4. Our organization is exploring opportunities to use new distribution channels to deliver products and services by working with our ITO suppliers.

Independent Variable: Detailed Contracts [31]

Reflect on ITO contracts in your company. How often does your organization have the following types of contract with your ITO suppliers?

1. Generic contracts
2. Detailed contracts
3. Loose contracts
4. Mixed contracts
5. Strategic partnership

Independent Variable: Fixed-Pricing Model [31]

What method does your organization primarily use to calculate payment for ITO contracts?

1. A fixed amount for a project
2. Charge a price per a specific transaction unit
3. Actual cost plus markup or management fee
4. Other

Independent Variable: Extendable Contracts [31]

Reflect on ITO contracts in your company, how often does your organization use the following types of ITO contract?

1. Single term contracts
2. Rollover contracts
3. Evergreen, in perpetuity
4. Other

Independent Variable: Majority Outsourcing [31]

Please pick the option that best describes the level of outsourcing for each of the following IT functions in your organization:

1. Applications development
2. Application deployment
3. Application support and maintenance
4. Operations of mainframe and servers
5. Operations of data networks (LAN/WAN)

6. Operations of database and data storage
7. Operations of Desktop
8. Operations of voice networks
9. Management function: IT procurement
10. Management function: IT strategy advisory
11. Management function: system integration
12. Support function: disaster recovery and backup
13. Support function: security
14. Support function: help desk support
15. Support function: IT training

Independent Variable: Diversified Suppliers [31]

How much (percentage of) IT outsourcing is currently provided by the following type of supplier (in terms of outsourcing spend)? Total must sum up to 100.

1. One supplier without any subcontracting
2. One supplier that subcontracts
3. Multiple suppliers
4. Pool of suppliers "on call"
5. Other

### Appendix B. Survey Instrument for Study 2

The survey contains screening questions (e.g., on the type of outsourcing done) and demographic questions (e.g., firm size). They are omitted here for brevity.

1. What has your company accomplished through outsourcing? (Choose all that apply)
  - a. Cost reduction (e.g., reduced expenses, increased economies of scale). If possible, estimate % cost reduction\_\_\_\_\_
  - b. Enhanced core competencies (e.g., access to talents, focus on core business)
  - c. Innovative initiatives (e.g., new products, services, or markets)
2. Consider your primary area of outsourcing:

Do you outsource more than 80% of the activities/services?	Yes	No
Do you contract with multiple outsourcing suppliers?	Yes How many? __	No
Do you usually pay a fixed amount for your outsourcing contracts?	Yes	No
Do you allow outsourcing contracts to rollover?	Yes	No
Do you use generic off-the-shelf contracts or do you customize contracts for outsourcing suppliers?	Generic	Customized

### Appendix C. Qualitative Comparative Analysis Methodology

Qualitative Comparative Analysis (QCA) is a set-theoretic configurational analytic technique that aims to identify combinations of factors (configurations) that can lead to the same outcomes [7,65,67]. The technique is characterized as follows: (1) It is often used as a qualitative case comparison technique to identify patterns across a population of cases, in which each case can be a nation, an organization, or an individual [61,62]; (2) It assumes heterogenous causation, in which different combinations of factors can lead to the same outcome (*equifinality*) [7]; (3) It recognizes *asymmetric causality*, meaning the causal paths to the absence of an outcome is not the mirror opposite of causal paths to the presence of the outcome [7,67]. QCA has been suggested as an alternative method to the dominant variance-based methods in social sciences to understand complex causality in organizational phenomena [7,26,30,65,67].



To account for asymmetric causation, QCA uses Boolean sets as the basis of the analysis [65]. For instance, when analyzing an innovation outcome, an econometrics method can posit the following:

$$\text{Innovation} = \beta_0 + \beta_1 \times X + \beta_2 \times Y + \beta_3 \times Z + \varepsilon$$

On the other hand, a QCA method can posit the following:

$$\text{Innovation} = (X \text{ and no } Y \text{ and } Z) \text{ or } (X \text{ and } Y \text{ and no } Z)$$

In this instance, QCA recognizes the following two possible paths to an innovation outcome: either with X, no Y, and Z, or with X, Y, and no Z. Thus, it recognizes that no Y (or the absence of Y) can have a meaningful contribution to the outcome (*asymmetric causality*). In addition, the presence of X in both paths indicates that X is an important factor to the outcome, a *necessary but not sufficient* condition for the outcome to occur.

Because of the Boolean sets, QCA will require calibration of the data to a set membership for further analysis. In the instance above, assuming variable X is collected using a 1–5 Likert scale measure through a survey, the variable X can be calibrated as follows: value of 1 (full membership) is assigned to answers of 5 in the survey, value of 0.7 is assigned to answers of 4, value of 0.4 is assigned to answers of 3, value of 0.2 is assigned to answers of 2, and value of 0 (full non-membership) is assigned to answers of 1 (adapted from Liu, Mezei, Kostakos and Li [65]). The values in the calibration process are determined using a theory-driven understanding of the researchers and, as a result, can be susceptible to subjective bias. While this can be a limitation of the method, it also enables researchers to appropriately adjust the values that make theoretical sense to the collected data. Nevertheless, it is often recommended that researchers try different calibration values for a robustness test [65].

Fortunately, some QCA software has streamlined the data calibration process and made it easier for researchers to quickly run the analysis on different calibration values (e.g., fs/QCA software [64]). For an interval scale variable, researchers simply specify the following three values: the value for the full membership, the value for the full non-membership, and the value for the cross-over point in the set. In the example above, the three values will be 5, 3, and 1. For constructs with multiple questions in the scale, the answers can be first transformed into composite factor scores, before being transformed into a set. Other methods to transform multiple questions into one dimensional factors are also possible (e.g., cluster analysis).

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