

Impact of Strategic Alignment on IT Outsourcing Success in a Complex Service Setting

Research-in-Progress

Byron Keating

School of Management
Faculty of Business, Government and Law
University of Canberra
byron.keating@canberra.edu.au

Shirley Gregor

Research School of Accounting and Business
Information Systems
College of Business and Economics
Australian National University
shirley.gregor@anu.edu.au

John Campbell

School of Information Systems and Accounting
Faculty of Business, Government and Law
University of Canberra
john.campbell@canberra.edu.au

ABSTRACT

Improved conceptual and methodological understanding of strategic alignment is essential for better IT outsourcing decisions. This research will investigate how strategically well aligned ITO investments can lead to improved performance and greater competitive advantage. The strategic alignment literature is dominated by a focus on strategy formulation at a single point in time. In contrast, little is known about how strategic alignment is enacted in the choices managers make over time, and in particular, as it applies to IT outsourcing decisions in complex service settings. To address this situation we: (1) develop a novel dynamic alignment model that links espoused and enacted strategies, (2) operationalize strategy as a set of strategic decisions around capabilities, and (3) apply a range of novel methods to measure the decisions managers make.

Keywords (Required)

IT outsourcing, strategic alignment, information system strategy, services

INTRODUCTION

Loh and Venkataram (1992, p. 9) provide one of the earliest and most widely used definitions of information technology outsourcing (ITO), stating that it represents “a significant contribution by external vendors in the physical and/or human resources associated with the entire or specific components of the IT infrastructure in the user organization.” From this definition, it can be seen that the scope of ITO is enormous. Over the past two decades, ITO has evolved from patterns of simple outsourcing that were premised on economic notions of specialization to complex integration of business and knowledge management processes via virtual infrastructure. Accordingly, there has been a corresponding shift from a conventional view of ITO as a tool for cost-cutting to a more strategic view that seeks to exploit ITO in order to create innovative value propositions (Willcocks and Craig 2009).

This project aims to examine the impact of strategic alignment on ITO success in a complex service setting. By *complex service setting*, we refer to the outsourcing of IT, wherein the demand for services is unpredictable and the nature and range of IT services required from suppliers is diverse. In order to facilitate this objective, we propose and will empirically test a two-stage ITO alignment model. This model represents a significant advance to our understanding theoretically, as well as our ability to explain and predict, in practice, the relative merit of strategically well-aligned ITO. A longitudinal empirical study will refine the model and examine how improved alignment impacts ITO success over time, while also taking into account various strategic motivations, ITO configurations, and operational contexts.

Our model is grounded on a *resource-based view* of the firm (Barney 1991), where ITO is undertaken to develop or access capabilities that are scarce, valuable, and difficult to imitate. The resource-based view of the firm is currently the dominant theoretical perspective in strategic management. The theory argues that capabilities are a critical determinant of firm performance (Aral and Weill 2007; Wernerfelt 1984) and that superior performance can be attributed to unique capabilities that enable organizations to perform activities more effectively than do their competitors (Amit and Schoemaker 1993). To this end, Cullen et al. (2008) report that firms typically outsource IT in order to access additional resources, but that realizing the strategic value of ITO requires firms to choose suppliers who possess the capabilities that enable them to create competitive advantage. This is particularly true in complex service settings where collaboration is often necessary to access the capabilities that are needed to innovate and create competitive advantage. Willcocks et al. (2006) identify twelve key supplier capabilities (leadership, business management, domain expertise, behavior management, sourcing, process improvement, technology exploitation, program management, customer development, planning/contracting, organizational design, and governance) that enable a buyer firm to build competitive competencies. However, what is missing from this work is a clear understanding of how these capabilities map onto and support different strategic motivations.

Following Seddon et al. (2007), we argue that the effectiveness of an ITO investment is closely linked to strategy, which they operationalize using Domberger's four strategic motivations for contracting (Domberger, 1998). Seddon et al.'s research found that these four strategic motivations (specialization, market demand, flexibility, and cost-savings) had a significant and differential impact on firm satisfaction with an ITO investment. That is, different strategic motivations accounted for different levels of satisfaction with an ITO investment. Furthermore, Henderson and Venkatraman (1993) add that forward-thinking firms have recognized that the capabilities required to realize strategic advantage seldom exist within a single firm, but rather are found within "a complex array of alliances and partnerships" (p. 482). In concert with these two views, we argue that superior ITO investments occur when the capabilities provided by a supplier are strategically aligned with the motivations of the outsourcing firm, and with the corporate and IT strategies of the firm and supplier. For completeness, and in recognition that "outsourcing involves a variety of choices that result in widely differing types and forms of [ITO] arrangements" (Willcocks et al. 2007, p. 247), we will also examine whether the proposed structural relationships vary according to the specific configuration of the ITO arrangement.

CONCEPTUAL FRAMEWORK

Although extensive research has been undertaken into the factors influencing ITO success, there is a recognized need for more research that specifically addresses the impact of strategic alignment (Lacity et al. 2008). Alignment, however, first demands that firms have well-conceived strategies and rigorous supporting processes. A key competence for achieving this goal is good people (Willcocks and Lacity 2008); on the buyer side, successful ITO requires senior management that has the vision and skills to create agile sourcing networks. On the supplier side, people should be both capable and honest about what can realistically be achieved.

Likewise, effective external alignment between buyers and suppliers requires the support of sound contracts and good relationship management. In this regard, Lacity et al. (2008) assert that, in situations where the demand for innovation is high and outcome certainty is low (i.e., complex service settings), there is a greater reliance on behavior-based strategies (i.e., relationship management) than on outcome-based contracts. Finally, it is important to note that any proposed ITO must make good strategic sense to the supplier. As such, the ITO must be internally aligned with the supplier's strategies and capabilities (Henderson and Venkatraman 1993), ensuring that they earn a reasonable profit to avoid the "winner's curse," which Kern et al. (2002) describe as occurring when suppliers are forced to deliver on an undesirable and unprofitable agreement. Other factors that may jeopardize the success of ITO projects include the politics of information sharing, intellectual property concerns, and the challenge of building effective long-term relationships over different stages of the ITO lifecycle (Willcocks et al. 2007; Cullen et al. 2005).

However, despite more than two decades of concerted research effort and a good understanding of the requirements for success, Lacity et al. (2008) report that approximately half of all ITO projects in complex service settings still fail. The main reason for the failure of these ITO projects, according to Lacity et al. remains a lack of strategic alignment. Lacity et al. also state that the vast majority of such projects fail because top management cannot effectively measure how an ITO investment fits within corporate and IT strategies, or whether a particular supplier fits well with their firm. In this sense, strategic alignment refers to the extent to which key decision-makers (both firms and suppliers) understand the priorities, goals, and objectives of an ITO investment, as well as their ability to enact this understanding through successful outsourcing decisions.

Although the practical and conceptual importance of strategic alignment to ITO is widely recognised (Lacity et al. 2008; Willcocks et al. 2007; Henderson and Venkatraman 1993), prior research has consistently found it to be challenging to

measure. Bergeron et al. (2004) assert that this difficulty has resulted in very few rigorous attempts to operationalize alignment or to demonstrate its effect on performance.

With this background in mind, we identify three significant theoretical and methodological gaps:

- Gap 1. Most scholarly inquiry directed towards strategic alignment has focused on the strategic planning process rather than the decisions that underpin alignment. Focusing on the actual decision-making process allows us to examine the way in which ITO strategy is actually enacted. This is important because prior work that has compared or cross-referenced espoused (written) plans is, at best, a surrogate or proxy for “true” alignment (Tallon et al. 2003).
- Gap 2. Researchers recognize that cross-sectional or static models are unrepresentative of the non-linear nature of strategy (Sabherwal et al. 2001) and the real-life complexity of decision making. In service settings, strategies are developed at multiple levels and in conjunction with suppliers. This study will examine the strategic decisions over time and the interaction between corporate and functional-level decisions.
- Gap 3. There is a problem with the measurement of strategic alignment; fundamental deficiencies exist in both the analytical tools used (Chan et al. 1997) and the different approaches adopted to conceptualize strategic alignment (Oh et al. 2007). Prior work, based largely on bivariate fit, has produced inconsistent results and is flawed because it implies that fit, as a whole, is reducible to a linear combination of parts.

In contrast to most studies in the strategic alignment research tradition, the attempt here is not to avoid the difficulty of measuring alignment; instead, we will uncover alignment by examining trade-offs in the capabilities required to support different strategic motivations and different ITO configurations. The use of discrete choice analysis to measure alignment in terms of profile deviation represents a valuable contribution to the study and measurement of alignment.

Addressing Gap 1: Reframing ITO in Terms of Strategic Alignment

The first stage of our modeling draws on the work of Henderson and Venkatraman (1993), which is the most widely cited approach to strategic alignment in IT (Chan et al. 2007). We extend their model to consider how traditional alignment, based on strategy formulation, impacts strategy implementation. This represents a significant contribution to the strategic alignment literature, as scholars have recently labored the point that “the process side of IT alignment has been under represented” (p. 14).

In a complex service setting, successful IT outsourcing requires the strategic alignment of priorities across all levels of the organisation, including corporate planning and IT specialists. Internal alignment is needed between corporate-level decisions about where a firm wishes to compete and the level of IT infrastructure and competencies required by the organisation to achieve its strategic objectives. Within this process, ITO requirements emerge to address the resulting gap between what the firm wants to achieve and what it is able to achieve.

At the supplier level, ITO service delivery is influenced by both internal and external alignment. Internal alignment is needed between the products and services provided, as well as between the IT capabilities and resources required to support the delivery of IT services. However, having the capabilities and resources to support ITO service delivery is meaningless unless the services provided are externally aligned with the needs of customers. In this sense, coherence between enacted strategies is enhanced when the ITO services that are provided by a supplier contribute to a firm’s competitive positioning and are complementary to a firm’s existing IT infrastructure. These concepts are illustrated in Figure 1.

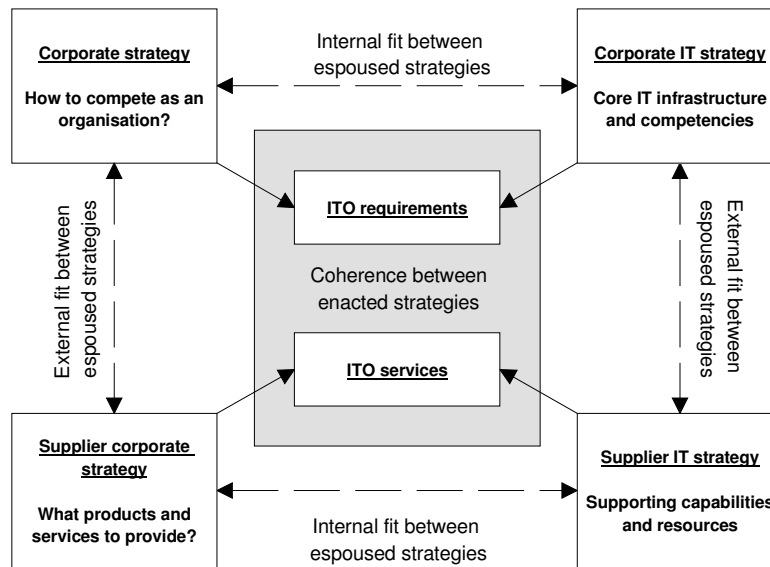


Figure 1: ITO alignment model (Stage 1). Adapted from Reynolds (2009).

The internal and external fit between the corporate and IT strategies of a firm and its supplier is viewed as influencing the coherence of the ITO services provided by the supplier with the ITO requirements (represented in Figure 1 by the shaded grey box). Scholars have previously measured coherence in terms of relatedness (Rumelt 1974) and as consistency among a set of strategies (Venkatraman 1989). In this research, we frame coherence in terms of a firm's satisfaction with the supplier-provided ITO services. This approach is consistent with the broader services literature, wherein satisfaction is viewed as a critical outcome measure for evaluating the quality and relevance of the service delivery process. We follow Dabholkar et al. (1996) in defining ITO satisfaction as the extent to which a firm's expectations have been met or exceeded by a supplier's ITO services.

Addressing Gap 2: Modeling Contingent Effects

The second stage of our modelling builds on work that was undertaken by Seddon et al. (2007), who examined the ability of Domberger's contracting theory to explain how different ITO motivations (i.e., the desired benefits to be obtained from outsourcing) influence ITO satisfaction (i.e., coherence). We extend their work by considering the contingent effects of both internal and external fit on ITO satisfaction arising from a firm's preference for specialisation, market discipline, flexibility, or cost savings. Recognising the importance of context dependencies, as well as the reality that ITO investments can differ significantly among firms, our model also introduces controls to capture differences in the structure and maturity of an ITO relationship. Drawing on the ITO configuration work of Cullen et al. (2005), we examine the impact of seven factors that have previously been used to classify and describe ITO investments: scope, exclusivity of arrangement, budget proportion, pricing framework, arrangement duration, asset ownership, and relationship type. We illustrate these relationships graphically in Figure 2.

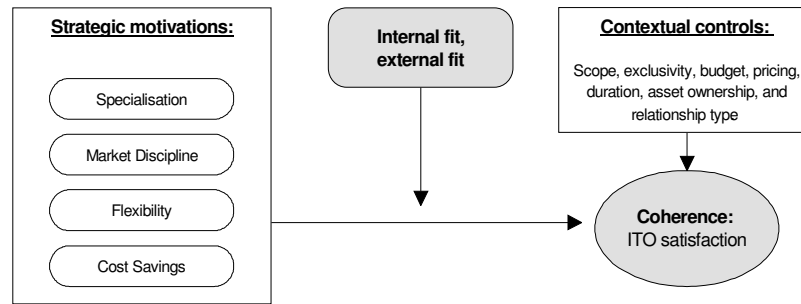


Figure 2 – ITO alignment model (Stage 2)

This program of work represents a significant contribution to ITO literature, and it is the first attempt to simultaneously measure how three important concepts—motivation, strategic alignment, and context—interact to influence ITO success. The four generic motivations also allow us to examine the espoused shift from a conventional view of ITO to a more strategic view. Each of the motivations can be expressed in terms of the required level of collaboration and innovation. For example, firms desiring “flexibility” from their ITO investments (i.e., the ability to quickly change the scale and scope of operations in response to market forces) would be more common in service settings that are characterised by higher relative levels of uncertainty and innovation. Not surprisingly, this level of flexibility would require a higher relative level of collaboration with suppliers in order to facilitate the agility needed to respond to this uncertainty. As this example illustrates, the selection of the service context for this study is critical as it must provide sufficient diversity in the range of ITO undertaken to allow for an examination of all four strategic motivations.

Addressing Gap 3: Innovative Approach

To investigate our two-stage ITO alignment model, we need methods that allow us to model the complex decision-making trade-offs that underpin ITO investments. Buckley et al. (2007) have shown that discrete choice analysis (DCA) can be highly effective in understanding complex managerial decision making. Their study of foreign direct investment location choices reveals that managers follow rational rules when developing their “consideration sets,” but are less well-aligned when it comes to “actual” investment choices; it is conceivable that similar differences exist in the way ITO investments are made.

This program of work will use DCA to investigate the ITO alignment in terms of profile deviation, as suggested by Bergeron et al. (2001). The DCA method allows scholars to conceptualize individual choices as a process of decision states in which a manager compares alternative choice options and makes a decision that involves trade-offs between the components of those options. The result of this process is a “choice outcome” that can be decomposed based on an underlying experimental design that estimates the utility (i.e., value) of each option within the choice task. Recent advances in design theory and the mathematical models supporting DCA (i.e., conditional logit model) have resulted in very efficient models that minimize the cognitive demands on respondents to obtain robust estimates of preference that are extremely accurate at predicting future behavior. While discrete choice methods and their related mathematical models have a rich history in the fields of economics, psychology, physics, and chemistry, they are still very new to the IS literature. For instance, a search of the top IS journals (i.e., *MISQ*, *ISR*, *JMIS*, and *I&M*) identified only three papers that have utilized DCA over the past decade.

We employ a novel combination of DCA-related methods. Conscious of the challenges that are associated with response rates, we utilize a ranked-order approach that requires respondents to provide a complete ordering of available choices (as opposed to simply choosing the “best” option) within a choice task. This innovative approach has the dual advantage of increasing the statistical accuracy of the aggregate-level predictions, while also providing sufficient data for the estimation of individual-level models. Drawing on prior research in environmental economics, we also include a status quo option in our design to allow for investigation of the factors that might encourage a respondent to abandon implicit preferences. This indirectly provides a proxy for assessing the influence of individual-level heterogeneity on decision making. Last, we will utilize latent class modeling (or finite mixture modeling) and fixed-effects regression models to examine the extent to which group-level differences account for preference variation over time.

The approach proposed in this research will have important practical implications, including enabling Australian organizations to identify areas for improvement in order to maximize the value of their ITO investments, and enhancing analytical methods that allow us to more accurately measure the decision-making processes that precede ITO success. This work is essential as it will contribute to a reduction in the failure rate of complex ITO investments.

APPROACH AND METHOD

For the purposes of our study, strategic alignment is viewed as a multidimensional concept that requires agreement between the level of required innovation and collaboration, as represented by different strategic motivations at both the corporate and operational levels, and the capabilities required by the firm from its suppliers to realize strategic objectives. By addressing strategic alignment at multiple levels, this program of work acknowledges the inherent trade-offs that underpin the planning and execution of ITO investment decisions in a complex service setting. Although it has been acknowledged that organizations rarely lack the resources to realize strategic alignment, they do lack the management vision to see it as important. They also lack the administrative tools to measure and manage it (Prahalad et al. 1990 p. 86). This is particularly true of ITO because such investment decisions are usually context dependent, require an irreversible commitment of resources (at least until the next planning or investment cycle), and inevitably involve political trade-offs.

A significant contribution of this work is that we address these challenges by reframing ITO success in terms of dynamic decision-making processes that are antecedent to actual decisions. To promote realism, we investigate these issues within the logistics services setting while simultaneously controlling for the heterogeneity that is introduced by various organizational motives and different ITO configurations. Importantly, we operationalize this work over time and in two different countries—Australia and China. This final comparison is important because it will benchmark Australian ITO practices in the area of logistics against those of China, an internationally recognized leader in the area of logistics and a country with a rapidly emerging IT services sector.

The choice of logistics as the operational context for this research is particularly relevant because logistics service providers are not chosen solely on the basis of their physical distribution capacity, but also with regard to their IT capabilities. Evolving in response to an increasingly commoditized transport industry, third-party logistics (3PL) providers have invested heavily in IT in an effort to provide innovative and responsive services to their customers. The “State of Logistics Outsourcing Report” (Langley 2009) reveals that more than 88% of 3PL customers also outsource some part of their IT to their logistics partners. The report identifies at least 15 core IT services that are of critical importance to 3PL customers, ranging from highly innovative and collaborative services, such as customer order management, to simple visibility and tracking tools. In line with prior discussion, it is this diversity of services and products that makes the logistics context ideal for operationalizing the four strategic motivations and supporting capabilities.

However, Langley (2009) warns that, despite significant investments in IT by 3PLs, a gap remains between the IT capabilities required and the satisfaction of firms whose services are provided by 3PLs. We contend that better aligned ITO investments are needed; and to this end, Langley (2009) reports that more than two-thirds of 3PL customers indicated that their internal IT alignment is either weak or could be better (69%). A similar proportion (61%) of 3PL providers felt that their own internal alignment, and consequently the ITO services they provide to their customers, was in need of improvement.

Stage 1: Qualitative Fieldwork

Task 1: Focus Groups

Using the four strategic motivations of Domberger (1998) and twelve key ITO capabilities identified by Willcocks et al. (2006) as starting points, this task will involve a series of focus groups that will examine the conceptualisation and relevance of these motivations and capabilities within a sample of C-level managers with corporate and operational level responsibility for ITO decisions. Eight separate focus groups will be held (four in Melbourne and four in Sydney) with senior general and IT managers from both client and supplier firms that have been recently involved in the outsourcing of IT services to a 3PL. Each focus group will consist of 5 to 10 key decision-makers in the relevant area. Recruitment of participants will be undertaken with the assistance of The Logistics Institute–Asia Pacific.

We have specifically decided against using organisation-centric focus groups in the belief that the synergy among respondents with similar functional responsibilities will generate better insights into the relevance and importance of the various strategic motivations, as well as the capabilities required to support these motivations at different organisational levels. Drawing on the dominant alignment perspectives of Henderson and Venkataram (1993), and based on the findings of our pilot work, we would expect to see client CEOs prioritise “specialisation” and the competitive potential derived from

ITO; supplier CEOs to prioritise “cost savings” and service level agreements; client CIOs to prioritise “flexibility” and the transformational potential of ITO; and supplier CIOs prioritise “market discipline” and strategy execution.

Task 2: Expert Panel

Upon the completion of Task 1, we will bring together an expert panel of leading international experts in the area of strategic alignment and ITO. The purpose of this panel will be to validate the constructs to be used in the quantitative fieldwork (Stage 2). Our approach is consistent with the work of Rossiter (2002), who advocates the use of a qualified sample of experts to validate the conceptual domain and definition of complex constructs. Based on Rust and Cooil’s (1994 p. 8) procedures for establishing the reliability of qualitative data, we will ask our panel of seven experts to assess the capability definitions according to three components: the domain of the construct, the construct definition, and whether the proposed sample would clearly distinguish between these capabilities in the same manner. Having confirmed the validity of the capability constructs, we will repeat the process to ensure that our labelling and description of the identified strategic motivations is also appropriate. This will then provide justification for mapping the capabilities onto the generic strategies.

Task 3: Mapping Exercise

We will arrange a mutually beneficial time at the conclusion of Task 1 to conduct a mapping exercise with participants from the focus group. The participants will be sent the mapping template via fax or email, depending on their preference, and a follow-up telephone call will be made in order to guide them through the mapping process. The mapping exercise will be based on a simplified version of the quality function deployment (QFD) decision-making process. The QFD process assists managers in systematically designing new product strategies based on customer and technical priorities. In this project, we will concentrate on the mapping of supplier capabilities to the four strategic motivations.

Stage 2: Quantitative Fieldwork

Task 4: Discrete Choice Analysis

The quantitative data will be collected via an Internet-based survey with two sections. The first section will require respondents to answer a number of questions that will be used to create a profile of their organisation and to identify their particular strategic motivation. The identified motivation will then determine which version of the survey is presented to the respondent. In line with the four strategic motivations that have been previously discussed, four versions of the survey will be used. In each version, the respondent will be presented with three choices, where one option will represent the status quo option based on their identified motivation preference, and the other two options will vary based on an underlying experimental design. The respondents will be asked to answer three related questions: (1) If all three options were available, which one would you choose? (2) Of the remaining two options, which would you choose? And (3) If you were given the option of choosing one of the three options available or none, which would you choose? In line with contingency valuation practices (Bishop et al. 1983), and in addition to the choice-related questions, we will also ask respondents to allocate a percentage of their annual budget to each choice option. When combined with the information provided in the first part of the survey about their annual IT/ITO budget and the findings from the ranked-order conditional logit model, we can not only estimate the importance of each capability in relation to the particular strategic motivation but also determine what the respondents would be willing to pay to obtain them.

The survey will be conducted face-to-face (using an online interface) with a paired sample of respondents who represent a buyer-supplier of outsourced IT. The population for the survey will be large Australian and Chinese service firms that currently outsource IT to a 3PL provider. A randomly selected sample frame of 300 paired organisations will form the sample population for each survey. The questionnaire will then be developed, with telephone calls placed to each organisation inviting them to participate and arranging a time to meet and conduct the survey. This sample size has been selected to ensure that there will be sufficient responses to permit subsequent statistical analysis. Recruitment of participants will be undertaken with the assistance of The Logistics Institute–Asia Pacific, which conducts a major survey of 3PL trends and has a database of key 3PL providers and their customers across the Asia-Pacific region (including Australia).

In line with the above discussion, we will measure internal and external fit based on profile consistency. To do this, we will first examine whether the parameter estimates vary among respondents as a function of their strategic motivation for different ITO investments. However, in order to do this, we first need to ensure that the differences in the associated model parameters are not the result of systematic variance (i.e., scale factor equivalence). Using the procedures outlined by Swait and Louviere (1993), we will identify a base model, then estimate a multiplier for each of the other models in relation to the base model. We will then test whether the parameters are statistically different across the four strategic motivation models using multi-group analysis.

Task 5: Contingency Analysis

While the analysis and comparison of the four DCA models will provide some insight into how capabilities align with ITO success for different strategic motivations, if we are to examine the contextual factors driving ITO success, we will need to introduce additional information to model and analyse heterogeneity. One way of doing so is to overlay a latent class (finite mixture) model on top of the original logit model to capture some of the unexplained variance in ITO satisfaction (i.e., coherence). By introducing contextual controls we can observe how context influences the interaction among the strategic motivations, strategic alignment, and ITO satisfaction. The analysis will result in the identification of segment-level solutions that will provide a much more detailed picture of the requirements for ITO success.

Task 6: Replication and Cross-National Study

Tasks 6 and 7 will be repeated in Australia and China in Year 3. The Australian replication is important because it will allow us to examine how our model varies over time and, accordingly, to capture the dynamic nature of strategic decision making in relation to ITO. The replication will also allow us to examine the situation under which an espoused shift from a conventional view (i.e., cost savings) of ITO to a more strategic view of ITO occurs. The replication in China is also significant in this regard, as it will allow us to conduct a single-point-in-time comparison between two markets that are expected to have very different ITO profiles. Due to the relative diversity of the Australian economy vis-à-vis China, and in particular, the maturity of Australia's tertiary sector, we anticipate finding that Australian firms place a greater emphasis on collaboration and innovation. Alternatively, it may be that any observed differences are actually the result of cultural distance and documented differences in how business is conducted in different countries (Hofstede 2001; Kriz and Keating 2010). Because there is no clear theoretical basis for the selection of one explanation over the other, we will treat this as an empirical question to be resolved in the course of our research.

The output from this analysis, along with situational data that captures changes in the respondent firm's operating environment, will be used as input in a fixed-effects regression model in order to measure changes over time and across countries. Particular attention will be given during the modeling phase to capture the non-linear relationships that are expected to result between our model constructs; this will include extending the general partial least-squares algorithm to account for different data distributional forms.

CONCLUSION

This program of research aims to improve theoretical understanding of strategic alignment in IT outsourcing in complex service environments. Nothing affects the ultimate success or failure of an organization more crucially than the quality of decisions made at various levels of management. In particular, IT strategy and the ability to leverage expensive ITO investments is critical to organizational success and viability. Recent studies by the Standish Group show that 20% of ITO initiatives fail, and an additional 50% are unable to meet their original objectives. High-profile examples of such failures include the paralysis of Australia's ports in 2005, the Westpac CS90 project in Australia, and the London Stock Exchange's overseas "Taurus" project. To date, the response has been to conduct a "triage" on these projects via stronger IT governance, reporting, and audit controls. However, this work does little to help executives make better ITO investment decisions that align with the business strategy and generate the desired result. Understanding the factors that lead to highly creative and innovative ideas and concepts, as well as the conditions that lead to effective ITO, are critical for organizational performance.

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