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IT Outsourcing Configuration: Case Research into Structural Attributes and Consequences

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ABSTRACT

Information technology outsourcing (ITO) research as a genre is presently in a relatively youthful state since it began last decade. As yet, there is no consistently adopted definition of what ITO is and little agreement over what forms it takes. This paper takes the concept of ITO configuration, the structural taxonomy of outsourcing arrangements, as a lens to examine major ITO contracts in seven large organizations. The study contributes insights gained from seven cases to better understand the complexity of the phenomenon and assist organizations in forming and managing their ITO arrangements. The primary contribution of this paper is its demonstration that outsourcing is more about complex choices than has ever been recognized in the prior literature, and that the configuration structures adopted offer explanations and insight into success and failure depending upon how the chosen configuration was managed by the client organization.

Keywords: IT Outsourcing, Configuration, Structural Taxonomy, Case Research

1 INTRODUCTION – THE PROBLEM

ITO (information technology outsourcing) research is plagued with a real issue over a common understanding of what ITO is and the forms it can take. Thus a range of studies place very different emphases and often exhibit contesting definitions (for example compare Loh and Venkatraman, (1992), Martinsons, (1993), Oh, (2005), Kern et al. (200a) Susarla et al. (2003), Dibbern, (2004), Fitzgerald and Willcocks, (1994) Kern, 1997), Apte et al. (1997), Hirschheim and Lacity, 2000). The forms outsourcing takes, whether ‘partnerships’ ‘value-added deals’, ‘equity holdings’ ‘joint venture’ or some such, have also been labeled in widely differing ways (compare for example Millar (1994), Klepper and Jones (1998), Lacity and Willcocks (1998), Currie (1998), Lee et al. (2004), Martinsons (1993), Hackney (1999) and Grover et al. (1996), Dibbern et al. (2004), Ang and Cummings (1997) and Lee et al. (2004). If nothing else, ITO research needs a common dictionary!

Further, explicitly intentional structural variants have also distinguished the ITO phenomenon under study. For example, Gallivan and Oh’s (1999) conclusion was there are more options than the traditional dyad (one buyer, one seller), supported by Cullen et al. (2001) finding that only 24% of Australian organizations have a dyadic arrangement, the rest outsourced to multiple suppliers under various forms of agreement. Nonetheless, recent studies, for example Lee et al. (2004) intentionally exclude all but a simple dyad from their research even though a multiple vendor approach was adopted by the first ITO case study, Kodak, in having IBM operate its data centers while DEC operated its telecommunication systems (Applegate and Montealegre, 1991).

As another example, consider the conflicting advice over long-term versus short-term contracts. Earl (1996) believes the uncertainty involving IT and the requirement to experiment in its application precludes having long-term contracts. Klepper and Jones (1998) argue that long-term contracts enable the supplier to learn about the organization and for the parties to establish mutual trust. Lacity and Willcocks (1998) found that short-term contracts yielded greater cost savings and Lee et al. (2004) found the reverse. However, all these studies assume a *single-term*, fixed-duration contracts, which have not been the norm for some time (Cullen et al. 2005). Another example of problematic classifications is categorization over the degree of outsourcing performed. Lacity and Willcocks (1998; 2001), Sambamurthy et al. (2001), and Stewart et al. (2002) suggest that “selective” is more successful than “total” outsourcing, the latter being where at least 80% of the IT budget is outsourced to a single supplier. However, Rouse et al. (2001) report that the probabilities for those engaged in selective outsourcing were statistically no different—for cost savings or for business flexibility, likewise, Lee et al. (2004)

All this exemplifies that ITO research remains quite exploratory and may benefit from framing the phenomenon such that continued research can begin to have common constructs. This is what we attempt in the study that follows.

2 THE STUDY

2.1 Research Question

In identifying the gaps in the ITO literature regarding ITO structures, the need for a classification scheme, or taxonomy, is evident. A recent study (Cullen et al 2005) was the first to propose a structural taxonomy, called “configuration”, as the set of possible alternatives and a common base for describing the type of outsourcing under study (briefly explained in section 2.2). That paper set out the classification scheme which reflects the few dimensions it takes to describe the structural ‘surface’ (Miller, 1996), in this case the ‘surface’ being an ITO deal. This paper uses that taxonomy to compare and contrast different outsourcing arrangements in seven case studies

The research question posed in this paper is: *Does the configuration taxonomy offer useful insight into success and issues with ITO?*

2.2 The Configuration Taxonomy

The configuration taxonomy used in this paper was derived from analysis of 49 ITO outsourcing projects (Cullen et al. 2005). Table 1 shows the seven attributes. In various papers, various prior researchers have discussed the importance of all seven attributes. With the exception of a recent papers by Lee et al. (2004) and Dibbern et al. (2004), none of these studies has drawn attention to the huge range of options available, nor their management consequences.

Table 1: Configuration Attributes

Attribute	Facet or Option	Description
[1] Scope Grouping	Service Scope	Logical work segmentation
	Recipient Scope	Business groups specifically identified to receive, or specifically excluded from, services
	Geographic Scope	Physical locations that receive the service
[2] Supplier Grouping	Sole Supplier	Single service provider that provides all outsourced services, no subcontracting
	Prime Contractor	Head service provider subcontracts work but is accountable for all outsourced services
	Best of Breed	Multiple suppliers, each providing unique services, as well as overlapping services
	Panel (of preferred suppliers)	Multiple service providers providing similar services under continuous competition
[3] Financial Scale	Relative	The % of operating spend represented by the outsourcing portfolio
	Absolute	The per annum value of the outsourcing portfolio
[4] Pricing Framework	Lump Sum/ Fixed Price	Lump sum price over specified parameters
	Unit-based	Price per specific transaction unit
	Cost-based	Actual costs plus a percentage mark up or fixed management fee
[5] Duration	Single Term	Fixed one term deals
	Rollover Terms	Fixed initial term with options to extend. Extension can be automatic (parties must agree not to extend) or on notice (extension must be agreed or contract terminates)
	Evergreen Term	No defined contract expiry date, either party can invoke various termination rights
[6] Resource Ownership	Infrastructure	Supplier/s provides asset and facilities
	Onsite	Supplier/s provides labor and assets
	Service & facility	Supplier/s provides facilities and labor
	Asset Buy-in	Supplier/s provides assets only
	Facility host	Supplier/s provides facility only
	Labor	Supplier/s provides workforce and/or management only
	Total outsourcing	All resources are provided by supplier/s
[7] Commercial Relationship	Arms-length	Independent parties for which the relationship is solely transactional
	Value add	Independent parties with a combination of arms-length contract/s and shared business initiatives
	Co-sourced	Independent parties providing a mix of service labor and assets, with integrated end accountability
	Equity	Related entities providing services to one another or through a combined entity

Each configuration attribute represents a category of structural choices an organization is faced with in every ITO deal, for which there are 26 total choices. The choices within each category are not necessarily mutually exclusive. For example, a single deal can employ all three

price frameworks – some work may be under a fixed lump sum, some may be under a unit price, and other charges billed under a cost/+ arrangement. Likewise with resource ownership – some services may be labor only, others total outsourcing. Nonetheless, each of the 26 choices within the seven attributes has different advantages, disadvantages, and unique management issues discussed in depth in Cullen et al. (2005).

By identifying attributes of ITO structural configuration, then exploring their interaction and unique management requirements, it is possible to go beyond the approach of one variable at a time criticized by Miller (1996). One can begin to identify the need for organizing the arrangement and management of many variables.

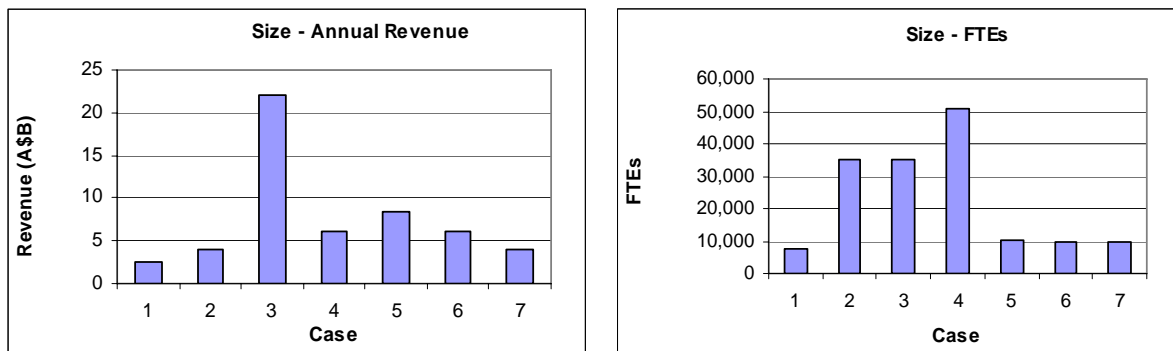
2.3 Research Method

Case research was chosen as the method because the phenomenon is broad and complex, because the research was intended to be holistic in-depth investigation, and because organizational context was deemed very important – all characteristics for which case research has been deemed useful (Dubé and Paré, 2003). Case research has been established as well suited for information systems research, where the interest is organizational issues as opposed to technical issues (Benbasat et al. 1987).

The cases were chosen for theoretical sampling, accordingly no deliberate sampling plan was designed other than to invite large IT-using firms from Australia to participate. Seven of 14 invited organizations agreed to participate. These organizations represented five different industries: Communications and transport services (1), Conglomerate of multiple industries (2), Manufacturing (1), Mining (1), and State-based government department (2).

The size of the operations ranged from \$US 2 billion to \$22 billion in per annum revenue and from 7,800 to 51,000 employees (Figure 1).

Figure 1: Organization Size



The seven contracts that make up the cases were signed in the years 1999 to 2003. Financially, the contracts represented \$261 million in total annual spend, with an average value of \$37 million per annum. The contracts represented 15% to 80% of the organization's total ICT (information communication and technology) spend and 40% to 100% of the total outsourcing spend. The duration of the contracts was between one and nine years. Scope ranged from the ongoing supply of hundreds of body-shop application coders to whole-of-IT deals. The geographic coverage ranged from state-based deals to global operations. All were either 1st generation (first time outsourced) to 2nd generation (with a handover from the previous supplier to a new one).

The evidence collected in the cases involved multiple data collection methods including questionnaires, interviews, and archival sources. In each firm, detailed semi-structured interviews were conducted with the both the CIO and the top contract manager responsible for the contract at the firm's headquarters to limit the reliance on a single source of evidence. Digitally recorded and transcribed interviews of two to four hours each were conducted based on a nine-page questionnaire, developed from three prior surveys (Cullen, 1994:1997; Cullen et

al., 2001). Before use, the questionnaire for the cases was pilot-tested with a former CIO to ensure completeness and ease of response. In addition, documentation was sighted such as contracts, correspondence, bids, and performance evaluations. Field notes were kept as a “stream-of-consciousness” commentary during the interviews (Van Maanen, 1985). These were triangulated with the completed questionnaire forms and the interview transcriptions.

2.4 Configuration of the Cases

Table 2 summarizes the ITO configuration for the largest current ITO deal within the seven organizations.

Table 2: ITO Configuration of the Largest Deal

Case		1 MAN1	2 SERV1	3 MIN1	4 GOV1	5 GOV2	6 CON1	7 CON2
1. Scope Grouping	Service	Whole of IT	Apps development	Whole of IT	Note book mgmt	Single app development	All IT except networks & apps	Data center facility, equip, & ops
	Recipient	Parent and subsidiaries	Parent, all units & subsidiaries	All units, all spin offs	All schools	Parent	Parent and subsidiaries	Parent, subsidiaries optional
	Geographic	National	National	Global	State	State	National	National
2. Supplier Grouping		Sole	Best of Breed	Prime	Prime	Sole	Sole	Sole
3. Financial Scale	Relative	80%	15%	33%	26%	Not tracked	23%	25%
	Absolute	\$40M	\$30M	\$133M	\$31M	\$1M	\$16M	\$10M
4. Pricing Framework		Fixed	Unit	Hybrid	Unit	Fixed	Fixed	Fixed
5. Contract Duration (years)		Fixed (5)	Fixed (5)	Rollover (7+1+1)	Rollover (3+3)	Fixed (1)	Rollover (6+ TBD)	Rollover (3+2)
6. Resource ownership		Supplier - all	Supplier - labor	Supplier - all	Supplier - labor	Supplier - labor	Supplier - all	Supplier - all
7. Commercial Relationship		Arms length	Co-sourcing	Value add	Arms length	Co-sourcing	Value add	Arms length

3 CONFIGURATION INSIGHTS FROM THE CASES

3.1 Case 1 (MAN1)

MAN1 (Case 1) is a national diversified manufacturer of packing products with nearly 8,000 staff. It is one of the world's largest packaging companies, with annual sales of around US\$7 billion and 242 plants in 40 countries. Manufacturing firms have long ago outsourced sub-assembly and finished products (Klepper and Jones, 1998). Thus, outsourcing the entire shop to one supplier made sense to MAN1, to enable it to focus on its core business. It never considered alternatives. In 2001, after a competitive tendering process, a contract was awarded to a service provider, for which MAN1 would be its first Australian client.

As a result of poor performance and extensive disputes, the contract was terminated early in 2003 and a new service provider brought in. The supplier's poor performance was driven by lack of experience and financial losses. The service scope was whole-of-IT [1]¹, financial scale [3] was 80% of the ICT budget, and resource ownership [6] moved all resources to the single supplier [2]. These three configuration attributes, in particular for the first

¹ The numbers in square brackets [...] correspond to the seven configuration attributes.

generation (first-time outsourcing), necessitates a diligent supplier selection and management program. But MAN1 did not understand the risks of the attributes chosen and how to manage them. They picked a new, and inevitably unviable, supplier without the necessary experience, as well as without installing their own requisite governance and safety guards. The fixed price nature of the deal [4] resulted in the supplier being unable to cover costs, let alone make a profit, thus suffering from the Winner's Curse (Kern et al., 2002). This, coupled with the supplier's inability to attract any other clients, caused its demise. The arms-length relationship [7] caused it to be too far-gone before the parties began being honest with one another. Duration [5] was irrelevant; it was terminated well before expiry.

The same configuration for the second-generation deal experienced far superior results. This time MAN1 knew that having that particular combination of configuration attributes required careful planning, selection, and management. It had two teams of lawyers, used scenario and behavior testing to select the service provider, as well as extensive viability assessments, and put in place an experienced management team.

3.2 Case 2 (SERV1)

SERV1 (Case 2) is a government-owned business enterprise of 35,000 staff providing the postal, logistics, retailing, and financial services. It outsources 35% of its total ICT spend. The particular contract used in the case was for applications development, implementation, and support [1] comprises 43% of the outsourcing spend [3]. It always adopts a multiple supplier approach [2] to its portfolio configuration. This deal was no different in that two suppliers were given the work. Basically, in 2000, the CIO made a "take it or leave it" offer to two of its 28 incumbent application developers. *"Give me as much labor as I need for a fixed hourly rate of 10% more than what it costs me now in-house."* They both grabbed it.

In terms of configuration, the deal should have worked well. The financial scale [3] and duration [5] made it attractive to the suppliers, who leapt at the offer. Rationalizing from 28 to two best of breed suppliers [2] was anticipated to provide economies of scale and knowledge as well as maintain competition. Limiting the service scope [1] to only applications development, as well as the financial scale [3] to 15% of the ICT budget, also limited the risk of failure causing significant harm. The co-sourcing approach [7] was designed so that the three parties would become seamless – particularly since SERV1 required both the suppliers to work as one for each development. This being a pure labor contract [6] meant that, in the event of failure, switching costs were not a significant barrier to terminating the agreement. SERV1 had good outcomes across the board according to the CIO. However, other stakeholders had another story.

In this case, the co-sourcing approach [7] did not lead to the seamless service delivery SERV1 envisioned; it led to accountability confusion. SERV1's staff believed the suppliers were to provide development as well as project management methodologies and leadership; the suppliers understood they were to provide only "bodies" to follow the directions of SERV1. The vacuum created has yet to be solved. Things were also inadequate from the business units' perspectives (recipient scope [1]). The units, accustomed to playing any of the 28 prior suppliers off against each other in the form of a panel, were forced to use the two. They looked upon this as IT trying to run the business, and where possible, subverted the agreements and used other suppliers. This, and other events, led to a coup by the business units and the CIO being terminated.

3.3 Case 3 (MIN1)

MIN1 (Case 3) is the world's largest diversified resources company with some 35,000 employees working in more than 100 operations in approximately 20 countries. The major businesses are in aluminum, coal, copper, ferro-alloys, iron ore and titanium minerals, as well as substantial interests in oil, gas, liquefied natural gas, nickel, diamonds, and silver.

The Board of this major global resources firm issued a directive to all management, *"Get out of anything not core business, and get cash sales for LOBs (lines of business)"*. As a

result, MIN1 sold their wholly owned IT subsidiary to a supplier, and in return, the supplier received a long-term deal for all IT services across the globe.

The deal was essentially configured for maximum sale price, hence the full service, geographic and recipient scope [1], sole supplier [2], large financial scale [3], long duration [5], and total transfer of all resources [6]. The only change from the previous generation was the move from an 'equity relationship' to a 'value-add' one [7]. Management of the entirety of the configuration, while not easy, was conducted well as the client was experienced in all the attributes.

However, the parties faced a major upheaval when the company was reorganized and split off into separate businesses a year after the contract was signed. Changing the recipient scope [1] to cover the now independent companies under the old contract has become the primary focus of the contract management work. Furthermore, due to inconsistent global capabilities and quality of the supplier coupled with varying organizational requirements of each region, the contract is now renegotiated every day somewhere in the world evolving, in effect, into 50 different geographically based contracts. Due to the focus on operational issues, all initial strategic and innovation goals have been reserved for another day.

3.4 Case 4 (GOV1)

GOV1 (Case 4) is responsible for education in the state and has 51,000 employees. The Department has been outsourcing for some time, tending to use multiple suppliers [2] based on regional capabilities [2]. It typically has 30 contracts in place at any given time covering approximately 60% of its IT budget [3], but has 120 firms and 300 technicians "on the books" from which to choose [2]. Worth noting, in this case, is that the CIO came from a senior role in a major supplier. His experience led to the underlying principle that *"you should never outsource knowledge as it is the bridge between business and technology...if you outsource that, the connection is broken."* Accordingly, GOV1 will bring in best-of-breed expertise as required, but has a focus with regard to outsourcing on out-tasking – *"doers only"* [1]. This "out-tasking" paradigm also has driven both to outsourcing only the labor component of the Resource Ownership configuration [6], without consideration for other options.

The case contract is GOV1's only sole supplier arrangement [2] and it concerns the purchase, installation, and support (helpdesk, maintenance, and warranties of 40,000 notebook [1] over three years [5]. It was the largest of its kind in the country (unnamed for refereeing purposes) when signed in 2001. The deal was configured as a sole supplier [2], statewide contract [1] to gain economies of scale, but the service scope [1] excluded maintenance to give regional suppliers the benefit from such work. The unit price [4] was fixed per notebook, for budgeting ease.

GOV1 received value for money far beyond their expectations, and they expected that the rollover extension would result in another price decrease. However, due to the limited service scope [1], support to the users was to be provided in-house. This was unplanned, and so GOV1's IT people were forced to reactively support the technology adoption process, and not the strategic activities they had hoped, and GOV1 has not been able to evolve the expertise of users.

3.5 Case 5 (GOV2)

GOV 2 (Case 5) is the state's largest Government department and employs over 12,000 people directly and over 80,000 people indirectly through organizations such as hospitals and aged care facilities, ambulance services and community service agencies. GOV2 outsources only 10% of its IT shop [3] and has 225 contracts in place [2] covering applications development and support, as well as systems integration, strategic planning and training [1]. It outsources only where it does not have the capability or the resources. GOV2 chose to create panels of pre-qualified suppliers and has also set in place a rule that all suppliers must be chosen from those panels. So, based on that decision, the Supplier Grouping configuration [2] has been predetermined as a panel.

The particular development project used for the case was for the development of new technology to enable the analysis of lab results and fast recall of food and products [1] and was a one-year deal [5]. Everything GOV2 had wanted to achieve was done beyond their expectations. Success was due to a combination of two configuration factors, co-sourcing [7], and fixed price [4]. Co-sourcing created an attitude of “*we were proactive; we wanted the supplier to succeed*”, and the supplier’s staff were co-located at the GOV2’s facilities and direct open communications and frequent meetings were the norm.

The fixed price nature of the deal put all risk of cost overruns on the supplier. Unlike MAN1, whose supplier could not afford those overruns, this supplier could – and did. The supplier’s ingestion of the substantial overruns, and the resultant successfully developed application, has been rewarded. They are now GOV2’s top supplier.

3.6 Case 6 (CON1)

CON1 (Case 6) operates with 10,000 staff in the health industry with pharmaceutical manufacturing operations around the globe, pharmacy wholesaling, and national diagnostic services. In 2003, it divested its hospitals operations, but continued to run medical centers. CON1 frequently buys and sells businesses. In 2001, it had three suppliers [2] providing similar IT services to three of its major businesses [1]. It believed this was uneconomical and selected the most “culturally aligned” incumbent since it wanted a value-add commercial relationship [7]. Most importantly, CON1 wanted consolidation and stability, hence the choice of a large-scope [1], sole supplier [2] configuration. It went with a six-year deal [5] to get the right financial outcome.

The flagship issue came in the third year of the contract. CON1’s structure was radically different – centralized rather than decentralized, capital intensive rather than resource intensive, operating in highly regulated industries requiring greater control, and only 10,000 staff remained from the 50,000 that existed at the onset. The fixed price [4] and longer initial duration [5] has prevented the scaling down necessary. After this contract ends, the CIO believes that backsourcing will be required due to the changes in the business, and also believes that the financial scale will not be attractive enough “get the right price”.

3.7 Case 7 (CON2)

CON2 (Case 7) employs 10,000 people in 40 countries. It operates four distinct businesses: mining services (explosives), fertilizer manufacturing, chemicals manufacturing, and consumer products manufacturing and marketing. The push for outsourcing was to get rid of non-core businesses. IT was considered non-core, thus all the data center resources [1] were sold and contracted back.

Like MIN1, configuration was designed for the highest purchase price – sole supplier [2], full scope [1], with all the resources transferring to the supplier [6]. Only one final offer was received for the sale, although many offers came in to provide the services, but it came with a high service fee. This was the supplier’s first client in the country (hence the offer for the data center because they required the infrastructure).

Unfortunately, CON2 took the offer but never received the cash payment for the data center – the purpose of the deal. CON2 was simply too distracted trying to manage the transition. To get the payment, CON2 had to sign up for the two-year extension [5]. Once ‘free’, the incumbent was removed and the second generation was reconfigured to a best of breed with three suppliers [2], as well as bringing ownership of server assets in-house [6]. Doing so resulted in a 70% cost saving.

4 CROSS-CASE ANALYSIS

The diversity of the ITO portfolios and the major ITO deals in the seven test cases was striking. Each case used different configuration attribute options, each had different results, and all were managed differently. The key was understanding and managing the chosen attributes well.

Scope Grouping [1] worked in some aspects and did not in other aspects for all cases except MAN1, for which all the attributes were poorly implemented and managed. SERV1's limited service scope minimized risk, but the full recipient scope without the commensurate buy-in from the recipients curtailed the envisioned benefits. GOV1's limitation of the scope of the deal, without understanding the full scope required resulted in GOV1's abdication of the user support and education. This support is now consuming all of the IT resources planned for strategic initiatives. MIN1's full recipient scope has caused the deal to be in constant renegotiation as each recipient tailors the deal to its needs. There are now effectively 50 contracts as opposed to one, albeit all with the same supplier.

Supplier Grouping [2] was the same in that it worked in some aspects and did not in other aspects for all cases (except MAN1, whose sole supplier went bankrupt). For example, the best of breed worked for SERV1 in locking in a price and reducing the number of suppliers, but worked against SERV1 in implementation, as the business recipients wanted a panel to engage in continuous competition. MIN1 had a sole supplier, but with 50 different geographically based contracts, it has not been able to achieve the seamless global service delivery it had wanted from the supplier due to inconsistent capabilities of the supplier coupled with varying organizational requirements of each region. Nonetheless, economies and some standardization have been achieved where possible. CON1's move from a best of breed to a sole supplier has enabled consistency and stability; however, CON1 was forced to have to train the sole supplier in service operations for months when it became apparent that the supplier did not have the required expertise.

Financial scale [3] helped all the cases get the prices they wanted, but worked against them where the relative scale was large and poorly managed. MAN1's CIO managed only disputes for nearly a year as most of the relative spend was with the failing supplier. CON2 will be forced into insourcing in the next generation as its financial scale has fallen dramatically while its needs have become more specialized.

The **Pricing Framework** [4] worked for some cases and not for other cases. For example, the fixed price worked very well for GOV2 and resulted in disaster for MAN1, the difference being the degree to which the service provider could run at a loss. GOV1's unit pricing worked very well (price per notebook), but SERV1's price per hour ran into problems with a lack of understanding about what the supplier's staff would be bringing besides labor as the client wanted methodology as well.

Duration [5] for many worked well at the onset in getting a good price, but worked against CON1 and CON2 when the businesses changed and neither had a way out of the contract. No organization, however, now advocates a long fixed-term contract.

Resource Ownership [6] was differentiated by management— the first generation supplier-owned resources in MAN1 and CON2 were badly managed, but the same options were chosen for the second generation, managed well, and had superior results. In the cases where the supplier provided predominately labor, SERV1 and GOV2, very different results occurred depending on how the client managed the co-location. GOV2 wanted the service provider to succeed and dedicated a relationship-orientated project manager. SERV1 expected the service provider to bring much more than the labor it purchased (management and methodology as well), and the mismanaged expectation gap resulted in the parties blaming one another for the inevitable accountability conflicts.

The **Commercial Relationship** [7] again was differentiated by management. Co-sourcing worked for GOV1 and not GOV2 due to the management of the option chosen and whether the parties truly worked as a single team or not. The extreme nature arms-length of MAN1 prevented the parties from discussing the extent of the supplier's losses until the losses were beyond repair. GOV1's arms-length allowed the service provider to focus and deliver

exceptionally well. The value-add component of both MIN1 and CON1 never materialized because operational problems besieged all strategic initiatives, but is certainly an explicit goal for the next generation as both intend to perform due diligence over any future service providers' operational and strategic capabilities, rather than assume either inherently exist.

5 CONCLUSION AND FUTURE RESEARCH

It is a mistake to treat all ITO arrangements as instances of the same phenomenon as outsourcing involves a variety of choices that result in widely differing types and forms of arrangements. ITO has moved from being a relatively straightforward concept to one that is a complex aggregation of multiple options and permutations. As a result, extant literature takes up disparate views as to what ITO actually is and labels various forms of ITO in widely variant manners making research difficult to compare, and findings inconsistent or in conflict. As outsourcing seems likely to continue to be a research genre within the IT literature, it needs to be understood in a larger context so that studies can be more readily compared to one another, and inconsistent findings explained. This study uses an ITO configuration taxonomy to understand ITO in all its complexity and to enable comparison of very different outsourcing arrangements under a general construct.

Future research possibilities are numerous and varied. First, given the inevitable demand for prescriptions as to the 'best ways' of configuring ITO arrangements, it will be interesting to see other researchers explore possible additions to the taxonomy and whether particular combinations of configuration options are associated with desirable outcomes. This suggests there are no easy answers. No case had the same overall configuration. The mix of intent, the context for which the deal is being configured, and how well the deal is actually resourced and managed, invariably combine in unique ways, making each total configuration specific to its circumstances. In addition, Lee et al. (2004) recognized, in their study on configuration fit, that disparate structures might result in different, yet equally desirable outcomes. What seems to be critical, therefore, is for a management to have clarity regarding the configuration attributes and how they fit together to meet their specific needs given the prevailing context and resources that can be applied.

Miller (1996) portrayed 'fit' as "the fit amongst elements as evidenced by the degree to which strategy, structure, and systems complement one another". Using this for ITO configuration fit, it could be described as "the degree strategy, configuration, and management systems complement one another". So, if an organization wants a high purchase price for a data center, the configuration is typically designed to achieve that goal (large scope, scale, long duration, full resource ownership by supplier, etc) to complement that strategy. The management system needs to then be designed to fit the configuration. It is particularly the fit between all the configuration attributes chosen and the management thereof that may lead to success or failure.

It is imperative that organizations recognize the importance of congruence amongst their outsourcing decisions and the need to make such decisions with full understanding of the choices available and the unique management challenges each present— not just for the current deals, but for future generations of those deals and the ITO portfolio as a whole.

None of the case organizations were found to understand the totality of the choices, nor the impact of decisions made on other choices. Each organization considering outsourcing, or embarking on its next generation, faces 26 configuration choices for each outsourcing deal. Given this number and possible permutations, it is no wonder that advice regarding successful outsourcing is in constant conflict.

The paper's contributions are its demonstration that outsourcing is more about complex choices than has ever been recognized in the prior literature, and that ITO configuration structures offer explanations and insight into success and failure depending upon how the chose configuration was managed by the client organization. It establishes that the taxonomy is indeed useful to compare and contrast different outsourcing arrangements and that all attributes

interact in such a way that individual attributes taken in isolation cannot offer sound explanations of this complex phenomenon or prescriptions of success.

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