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Explaining I.T. Outsourcing Purchasers' Dissatisfaction

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Abstract

Outsourcing of IT is a popular strategy, argued by proponents to deliver a range of benefits including cost savings, increased service quality, and strategic advantages. However, empirical evidence of the success of outsourcing is limited, and several recent studies have suggested widespread dissatisfaction exists amongst purchasers. This paper analyses one such study to determine predictors of outsourcing satisfaction (and dissatisfaction). The analysis reveals that, for purchasers, IT outsourcing satisfaction and perceived value (which are highly correlated) depend on whether strategic benefits are obtained, and on the technical service quality provided by vendors. Both in turn depend on whether expected cost savings are obtained. The implications of these findings for both vendors and purchasers are discussed.

Keywords: outsourcing benefits, outsourcing expectations, confirmatory factor analysis, model testing

1. Introduction

While organizations have used external vendors to supply information technology (IT) services since the first commercial implementations, one of the major changes to IT management practices since the late 80s has been the increasing adoption of “outsourcing”. According to Willcocks and Lacity (1998, p 3) outsourcing involves “handing over to a third party [the] management of IS/IT assets, resources and/or activities for required results”. A key difference between outsourcing and use of contract labor is that outsourcing involves the purchaser delegating the responsibility for “how” to produce definable outcomes to an external party, while retaining responsibility for specifying “what” is to be delivered. Instead of controlling the behavior of service staff directly, the purchaser controls performance through a contract or service agreement.

The growth of outsourcing has seen a fundamental change in the way information technology (IT) services are organized and delivered, with increasing reliance on external providers, now frequently located offshore. Managing outsourced IT service delivery has thus become a core competence for most IT-dependent organizations.

Given these changes it has come to be seen as almost axiomatic that outsourcing must be perceived as beneficial by purchaser firms – after all, why would organizations engage in this practice if it did not produce corporate benefits? However, there is a growing body of evidence collected by both consultants and researchers that significant numbers of outsourcing arrangements are indeed unsatisfactory (e.g. Gartner, 2002; Dunn and Bradstreet, 2002, Rouse & Corbitt, 2003; Aubert et al, 1999). Unfortunately, once an

organization has entered into an outsourcing arrangement, reversing the decision by re-insourcing the service is not easy, or affordable, so it is quite possible that a strategy that is widespread can still result in large-scale dissatisfaction.

In this paper, analysis of a survey of 197 IT outsourcing arrangements has been used to shed light on those factors that predict satisfactory outsourcing arrangements, and those most likely to be responsible when the arrangements proves unsatisfactory.

2. The Notion of Outsourcing “Success”

It is surprisingly difficult to obtain independent empirical evidence of the success or failure of IT outsourcing as a general strategy. This is because the large majority of academic studies have involved singular cases that may or may not be representative. However, the surveys that have been conducted suggest that the level of dissatisfaction is high. Lacity and Willcocks (1998) reported that of 33 outsourcing cases they had investigated, 9 (27%) did not achieve the expected cost savings, though this ratio does not predict success rates in the general population. In a later survey, Lacity and Willcock (2001) reported that only 53% of respondents obtained savings, with only 31% reporting “significant” savings. Saunders and Gebelt (1997) reported that only 13 (38%) of the cases they studied reported cost savings, the other cases either could (or would) not report savings, or failed to obtain savings. In a longitudinal study, Aubert et al. reported that 49% of respondents reported costs increased with outsourcing. Aubert et al. (2002) have thus described outsourcing as “risky business”.

Understanding the reasons for the lack of IT outsourcing success is problematic because the notion of “success” has not yet been agreed on in the academic literature. Since much of the argument for outsourcing is based on economic theory (particularly transaction cost economics) “reduced costs” (or “cost saving”) has frequently been used as a measure of success. However, this measure fails to recognize that reduced costs accompanied by reduction in services or quality are not necessarily valuable to an organization. Nor does it recognize that the organization may be seeking alternative benefits, such as greater business flexibility, or converting capital costs to expenses that may, in the short term, involve additional costs to the firm. So even when “reduced costs” are considered as the measure of IT outsourcing success, the issues of “over which term?” and “compared to what?” complicate matters.

A further problem with using reduced costs as the indicator of success for outsourcing is that initial “top of the head” estimates of cost savings are highly inaccurate. It has been established that proponents of outsourcing tend to focus on production cost savings while ignoring transaction costs (Ang and Straub, 1998), so any reported savings are unlikely to accurately reflect the true savings to the firm (i.e. verified production cost savings less additional transaction costs). Ang and Straub’s findings reflect the established “confirmation bias” where decision makers have been shown to tend to seek only information that confirms their existing beliefs (Nickerson, 1998). Audit studies suggest that only after all costs have been carefully captured and analyzed can a true picture of the cost outcomes be determined (Walker and Walker, 2000). In a detailed review of a series of Australian Government outsourcing contracts, Rouse & Corbitt (2003b)

illustrated that even with substantial resources devoted to building costs projections, several high profile contracts were based on flawed business cases, and were, according to the Federal Auditor, never likely to result in the predicted cost savings. Judging whether or not costs have been “saved” also depends in part on complex accounting rules (Walker and Walker, 2000) and the costs of establishing the financial outcomes of outsourcing are themselves substantial (Rouse & Corbitt, 2003b). Another source of inaccuracy is that initial estimates tend to reflect the (production) cost savings that were *projected* at the time the organization entered into the arrangement, rather than the verified production costs (less transaction costs) *actually* incurred Rouse & Corbitt, 2003b). The net effect is that the initial cost “savings” reported are likely to give an inaccurately positive view of the financial benefits of outsourcing, and may not correspond with perceived success in the longer term.

Two other potential outsourcing success measures have been used in the literature. The first is an overall measure of “satisfaction” with the outsourcing arrangement. This has been used by Lacity and Wilcocks in their later studies (Lacity and Willcocks, 2001) and by Grover et al. (1996) and Saunders and Gebelt (1997). This measure has the advantage that it captures a global evaluation of all benefits and downsides of the strategy. The final potential measure is the IT outsourcing success scale developed by Grover et al. (1996). This is discussed below.

2.1 The Grover et al. Scale

While the Grover et al. scale has been used by several IT researchers, confirmatory factor analysis has revealed several psychometric problems, including the fact that the loadings of items have varied from the authors’ predictions (Rouse, 2002), and that the scale has not proved unidimensional (Rouse et al. 2001, Lee et al, 2004). Consequently its reported reliability (alpha), which depends on the measure being unidimensional, is potentially misleading. In fact, the authors themselves argue that the scale represents four dimensions or constructs: technical, economic, and strategic benefits, and overall satisfaction.

The Grover et al. scale mixes reflective and formative indicators, and the danger with this approach is that important differences amongst the indicators are lost in the global measure. The scale does not include a measure of “reduced costs”, even though Lacity et al. (1995) have argued this is the major goal sought by purchasers from outsourcing IT. Instead the scale includes items associated with economic benefits such as “control of expenses” and “enhanced economies of scale” – either HR or financial. Presumably the authors believed these would eventually lead to economic benefits for the purchaser, though scale economies accrue to the vendor rather than the purchaser, unless the vendor passes them on in the form of lower fees.

Given the problems with the original scale (which was based on only one sample), additional research is required on the psychometric properties of the items, and the relationships between the different facets of outsourcing success. As a side benefit, such analyses can shed light on why a significant proportion of firms outsourcing their IT do not report high levels of success. This is the goal of this paper.

3. Theoretical Model

Outsourcing is argued to have the potential to produce a large number of benefits in addition to (sometimes instead of) cost savings. These include enhanced business flexibility: access to skills; or to new or better technologies; increased capacity to concentrate on core business; enhanced managerial control; and financial restructuring benefits (such as converting capital to operating expenses). On the other hand, the strategy is also argued to have the potential to lead to a number of negative outcomes. The most likely of these is a failure to reap the expected cost savings or other benefits sought, though other risks include loss of control over IT services; dependence on the vendor; reduced IT capabilities; reduced organizational flexibility; loss of organizational knowledge; increased costs; and reduced, rather than enhanced, capacity to concentrate on core business (Earl, 1996; Aubert et al, 1998; Rouse, 2002). There is an implicit trade off between some benefits and costs –vendors expect to be paid for services provided (although they also frequently suggest that their overall costs will be lower than in-house costs) so the notion of “value for money” also needs to be included in any success measure.

Perhaps the most useful insights come from two bodies of research in the reference disciplines of economics and marketing: transaction cost economics (TCE) and services marketing theory. The former sees the decision to outsource in terms of the relative costs of alternative strategies. TCE’s contribution (cf. Williamson, 1979; 1981) was to recognize that market-based cost savings depend on two forms of costs: *production costs* (the costs of actually delivering the IT services) and market-related *transaction costs* (the additional costs associated with finding, negotiating with, and managing the work of a vendor). TCE predicts that while production costs will often be reduced by outsourcing (provided there are a sufficient number of vendors competing in the marketplace), transaction costs will usually rise with outsourcing, sometimes substantially (Ang and Straub, 1998). “Cost savings” will only result if the decreased production costs are passed onto the purchaser, and are not outweighed by the purchaser’s additional transaction costs.

Services marketing theory is more concerned with the notions of service quality, customer value and customer satisfaction, and their relationship with repeat purchase. An important services marketing proposition, known as the “disconfirmation hypothesis” (Oliver, 1980), argues that when services (such as outsourcing) are judged by consumers (or in the case of outsourcing, organizational decision makers); the decision maker compares the experiences of the services against his/her expectations. Where this is positive, perceptions of quality and value will be positive, but where expectations are not met, and a “gap” exists, service quality, and customer value perceptions will be reduced. The gap will then be reflected in the level of customer satisfaction. There is debate in the marketing literature about whether direct measures of the expectation-experience gaps are needed, as there is evidence that this introduces psychometric problems, and simple evaluative scores are argued to be more reliable measures of the gap (Cronin and Taylor, 1994). Such measures still reflect the underlying disconfirmation hypothesis.

These two bodies of theory have been combined in the theoretical model shown in Figure 1. This illustrates that satisfaction with an IT outsourcing arrangement will depend on perceptions of overall value for money, a step left out by Grover et al. (1996), who described satisfaction as a summative evaluation of the tangible and intangible benefits that outsourcing would accrue to the purchaser firm. In the marketing literature, on the other hand, it is generally acknowledged that satisfaction is determined by the net perceptions of value (i.e. all benefits less all “sacrifices”, or downsides).

Satisfaction in turn depends on three types of benefits being achieved: The first benefit cluster is “technical service quality” which in service quality literature (Gronroos, 1984) relates to the quality of the services the provider is contracted to supply. The use of the term technical does not relate to technology. Service quality literature differentiates technical service quality from “functional” service quality that is the way services are delivered, however organizational decision makers may not have firsthand experience of service delivery, so functional quality has been excluded from the model in Figure 1.

In the IT outsourcing domain technical service quality would embrace both the technology and skills supplied by the vendor and would be reflected in the services and performance criteria described in the service level agreement that normally accompanies an outsourcing arrangement. This dimension is a more general conception than the “technology benefits” identified by Grover et al. (1996).

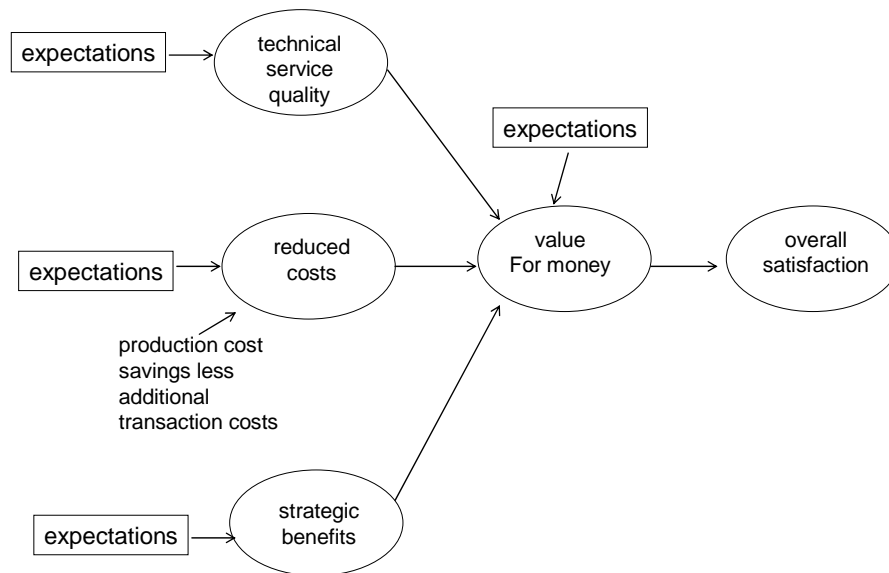


Figure 1: Theoretical Predictors of Purchasers' IT Outsourcing Satisfaction

The second benefit cluster (reduced costs) relates to cost savings compared with the costs of providing services in-house. This dimension reflects the major economic argument for outsourcing – that in the longer term the organization will reduce IT costs if it outsources

its IT services (Lacity and Willcocks, 2001). The third benefit cluster relates to the strategic benefits often sought from IT outsourcing. These include increased IT competence (or capability), increased business flexibility, and being able to concentrate more on core business as a result of outsourcing IT services.

In Figure 1, these benefits are hypothesized to predict the overall evaluation of the relative costs and benefits of the strategy to the purchaser firm (value for money) and through this overall IT outsourcing satisfaction. As with service technical quality, perceptions of reduced costs, strategic benefits, and value for money would depend on purchaser expectations. These expectations are often fuelled by pronouncements in the press and trade literature, most of which come directly, or indirectly from outsourcing vendors.

4. Method

The data used to test this model was obtained from a mailed survey of 1000 of Australia's 1500 largest public and private sector organizations, based on revenue (or in the case of government agencies, size of budget and numbers employed). The population from which the sample was obtained was derived from public listings (such as those published annually by "Business Review Weekly" and "MIS Magazine") as well as government publications. The key informant was the IT Director or CIO. Two hundred and forty responses were received, for a response rate of 24%, with responses representative of the population in terms of size of organization and sector (private and public). Of these, 197 provided evaluations of their outsourcing experiences, though some did not respond to all items used in this analysis (discussed below). Approximately half the respondents were from the private sector, the rest from the public and not-for-profit sectors.

4.1 Measures and Analyses

Respondents were asked a number of questions about the benefits sought from outsourcing IT, their outsourcing experiences, and their judgments about the outcomes. Included in the survey were the original Grover et al. outsourcing success items, plus additional items related to value for money and satisfaction with vendor performance. Other items were based on earlier surveys conducted by Willcocks and Fitzgerald (1994). In total 30 items related to outsourcing benefits and outcomes were included in the analysis. Nine of these were adapted from the Grover et al. scale, augmented by two additional measures of outsourcing satisfaction using the same item structure (see Table 1). Analytical techniques used included multiple regression, exploratory factor analysis (using SPSS 12) and structural equation modeling (using AMOS 5). Following analysis of the survey, two focus groups were conducted with 16 decision makers (IT Directors, senior line managers, contract managers and account executives) from both vendor and client organizations seeking their comments on, and possible explanations for, the results.

Exploratory and confirmatory factor analysis were used to discern the structure underlying the various benefits reported for outsourcing, and to test the unidimensionality of the Grover et al. scale. Because of missing data, this was carried out on between 146 and 197 of the 240 responses, as cases were excluded from the different analyses when relevant items were not completed. Exploratory factor analysis of the non-Grover et al.

items revealed that there were two underlying dimensions: a general “technical service quality” dimension (as predicted in Figure 1) and a “financial benefits” dimension (corresponding to the “reduced cost” dimension in Figure 1). However a large number of non-responses to the financial items (leaving only 76 complete cases) led to the researchers deciding to use a single item measure of “reduced costs” – the marker variable for the financial factor – as a surrogate measure for the dimension. The single item had a response of n=177, and enabled 146 cases to be used for the full structural equation model.

The Grover et al. scale is a mixture of reflective and formative indicators, and as would be expected in that case, CFA failed to confirm its unidimensionality. Further CFA revealed that the Grover et al. scale was made up of the four dimensions that had been theoretically predicted by the authors, though the loadings of the items did not always correspond to the predicted ones. When the resulting items were then checked for convergent and divergent validity, it became clear that the single measure of “value for money” was highly correlated with the other measures of satisfaction. Consequently the value for money indicator was added to the satisfaction measures to create a *satisfaction/value measure*, which CFA confirmed was unidimensional, with an alpha of .94.

The resulting measures used in the analysis are included in Table 1. Because some of the items used 4 anchors and others used 7, averages would have been misleading. Instead, the *proportion reporting positive outcomes* (“5 or more” for the 7 anchor items, and “3 or 4” for the 4-anchor items) has been used to indicate the level of positive experience the scores represent.

The structural equation model in Figure 2 expands the theoretical model in Figure 1 to accommodate additional constructs that came from the Grover et al. scale. These include *economies of scale*, *technology benefits* and *access to skilled staff*. The latter could also be seen as an aspect of “technical service quality”, but for technical reasons (differences in item construction) was kept as a separate variable.

The variables in Table 1 were first subject to multiple regression with *satisfaction/value* as the DV. This analysis revealed that *reduced costs* did not directly predict *satisfaction/value* when the other predictors were taken into account. As this is contrary to a large body of established theory, it was likely that *reduced costs* was acting through its effect on other variables. SEM was then used test the role of *technical service quality* and *strategic benefits* as mediator variables.

Table 1: Measures of IT Outsourcing Success Used in the Analysis

<i>Measure</i>	<i>Items making up the measure</i>	<i>Reliability</i>
Overall satisfaction/value	<ul style="list-style-type: none"> • Overall, our organization is satisfied with the benefits from outsourcing • Our organization is satisfied with the performance of our service provider(s) • Our organization is satisfied with the value for money of our outsourcing arrangements (1 strongly disagree, 7 strongly agree)	.94

Reduced costs	<ul style="list-style-type: none"> • [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - cost reduction 	n/a
Technical service quality	<ul style="list-style-type: none"> • [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - better service • [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - better match of resource to supply • [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - access to better/more technology • [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - better use of in-house personnel • [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - access to services unavailable in-house • [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - access to better/more skills/expertise 	.86
Technology benefits of IT outsourcing	<ul style="list-style-type: none"> • Outsourcing IT has increased our organization's access to key information technologies • Outsourcing IT has reduced the risk of technological obsolescence (1 strongly disagree, 7 strongly agree) 	.78
Economies of scale	<ul style="list-style-type: none"> • Outsourcing IT has provided enhanced economies of scale in technological resources • Outsourcing IT has provided enhanced economies of scale in human resources (1 strongly disagree, 7 strongly agree) 	.72
Access to skilled personnel	<ul style="list-style-type: none"> • Outsourcing IT has given our organization access to skilled personnel (1 strongly disagree, 7 strongly agree) 	n/a
Strategic benefits of IT outsourcing	<ul style="list-style-type: none"> • Outsourcing IT has enhanced our organization's IT competence • Outsourcing IT has enabled our organization to refocus on its core business • Outsourcing IT has increased our organization's control of IS expenses (1 strongly disagree, 7 strongly agree) 	.71

5. Results

The structural equation model tested, and the results of the SEM (n=146), are included in Figure 2. Figure 2 also highlights (in parentheses) the proportion of respondents who reported a positive outcome for each measure. The model accounted for 67% of the variance in *satisfaction/value*.

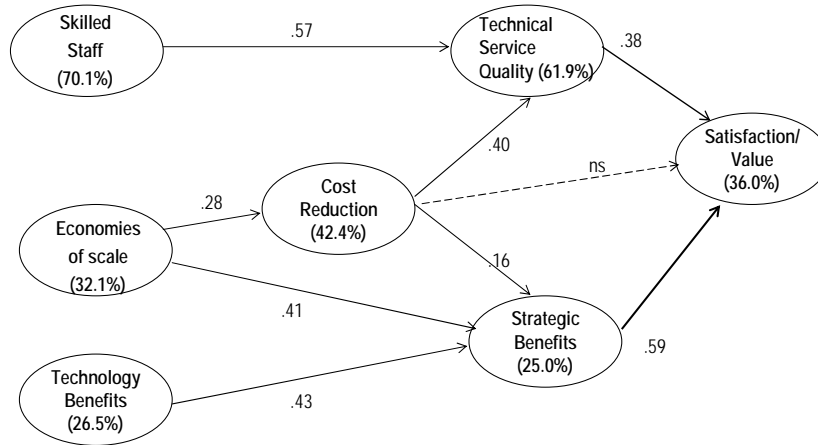


Figure 2: Structural Model Showing Proportions of Positive Response

The model in Figure 2 proved a good fit to the data. Goodness of fit tests are shown in Table 2.

Table 2: Fit measures for structural model

Fit Measure	Desirable measures for good fit	Model
Discrepancy ((χ^2))		10.266
Degrees of freedom		10
P	>.05	.417
Normed χ^2 (i.e. χ^2/df)	$1 < \chi^2/df < 3$	1.027
RMR	<.05	0.036
GFI	>.95	0.98
Adjusted GFI	>.90	0.945
Normed fit index (NFI)	>.95	0.972
Tucker-Lewis index	>.95	0.998
Comparative fit index	>.95	0.999
RMSEA	<.05	0.014

The SEM analysis confirmed that *strategic benefits* and *technical service quality* were acting as mediator variables between *reduced costs* and *satisfaction/value*, but were acting independently on *satisfaction/value* (as the paths between them were non

significant). The results confirmed the importance of the predictors in the original theoretical model presented in Figure 1, but reveal that when the other predictors are taken into account, the effects of *reduced costs* (and of *technology benefits*, *economies of scale* and *access to skilled staff*) are indirect, rather than direct. Figure 2 (and Table 3) show that, taking into account both the direct and indirect effects, the two most powerful predictors of IT *satisfaction/value* were *strategic benefits* and *technical service quality*.

The analysis confirmed that contrary to the picture provided by multiple regression, *reduced costs* is a significant (but indirect) predictor of IT outsourcing *satisfaction value*, as illustrated in Table 3. Analysis also revealed that *reduced costs* is positively correlated with, and directly predicts, both *strategic benefits* ($\beta = .59$), and *technical service quality* ($\beta = .38$), the other mediator variables. The proportion of respondents reporting cost reductions (43%) was low compared with the 65% of respondents who were seeking some cost advantage from outsourcing. Of the 113 respondents seeking reduced costs, only 75 obtained them, while a further 39, reported increased costs. Only 7% of the respondents (a small subset of the 42% indicating any savings at all) reported “substantial” cost savings. Clearly a large number of purchasers were not obtaining their cost savings expectations from the outsourcing strategy.

Figure 2 demonstrates that an important predictor of satisfaction was the *access to skilled staff* that outsourcing provided, which in turn led to perceptions of *technical service quality*. Both these aspects were rated positively by a majority of respondents (70% and 62%, respectively). However, the lower proportion of positive ratings for *satisfaction/value* (36%) indicates that, when a global judgment is made by purchasers, these two positive aspects of outsourcing are not sufficient to outweigh the negative aspects revealed in the low proportions of positive scores for *reduced costs* (42%) and *strategic benefits* (25%).

Table 3: Standardized total effects on Mediator and Dependent Variables

Predictor variable	Effect on <i>Strategic benefits</i>	Effect on <i>Tech. Service Quality</i>	On <i>Satisfaction/</i> <i>Value</i>
Strategic benefits	-	-	.59
Tech. service quality	-	-	.38
Economies of scale	.41		.31
Technology benefits	.43		.25
Cost reduction	.16	.40	.25
Access skilled personnel		.57	.22

6. Discussion

Overall, the analysis supports the theoretical model shown in Figure 1, although it reveals that, at least in this sample, the effect of “cost reduction” is indirect. In fact, Figure 2 reveals that it is the failure of most organizations to reap expected strategic benefits, together with the low proportion of respondents reporting cost savings from outsourcing, that are the major causes of purchasers’ dissatisfaction with outsourcing. On the other hand, the high proportion of respondents reporting “access to skilled staff”, and the overall positive evaluations of “technical service quality” suggest that these are the major

benefits of IT outsourcing actually being experienced by purchasers. (As discussed above, access to skilled staff, is probably more appropriately seen as an element of technical service quality).

The major component of IT costs is now the skilled labor incorporated in the development and servicing of software and hardware, so the fact that access to skilled staff leads to technical service quality, and thus to *satisfaction/value* is not surprising. However, access to skilled staff appears to come at a higher cost than was expected by purchaser firms, who also fail to report obtaining substantial economies of scale – presumably because vendors are not in their minds passing these savings on in the form of reduced costs.

The results suggest that a common message being promoted by vendors – that only naïve purchasers enter outsourcing arrangements to save costs – is at odds with purchaser expectations. It is likely that in some ways this message is a self-serving “spin” by vendors, given the small proportion of respondents actually reporting savings here (and the significant minority reporting higher costs). This pattern is consistent with the few other survey-based studies that have examined cost outcomes (e.g. Aubert et al, 1999) and suggests that the high levels of savings reported in individual case studies in the literature (e.g. those reported by Lacity and Willcocks, 1998) are not representative of general experience.

The results also suggest that while vendors are generally perceived to be providing the technical service quality required, it is the translation of outsourcing benefits, and the purchased services, into strategic benefits that is the major failure point in outsourcing delivery. Only 25% of respondents reported this benefit. This is an issue that is the province of purchaser management, rather than of vendors, as only the purchaser can ensure realization of strategic benefits. This finding suggests that it is purchaser management’s failures (including failure to accurately cost alternative sourcing options) that are producing the negative picture revealed by the survey. This is consistent with early research into outsourcing conducted by Willcocks and Fitzgerald (1994) and Lacity and Hirschheim (1993, 1995), who concluded that the management of the outsourcing arrangement by the client organization is crucial to its success.

The messages coming from this study to practitioners (working in both purchaser and vendor firms) are relatively clear. Vendors will need to continue attempts to dispel expectations that outsourcing, of itself, saves money, and will need to communicate more clearly the value they are providing to purchaser firms. Yet this needs to be done without overselling outsourcing, as this would lead to further dissatisfaction. In future they will also need to enhance perceived value (or reduce costs significantly) if they are not to risk continued large scale dissatisfaction, and non-renewed contracts. As the figures reported in Figure 2 reveal, the strategic benefits that vendors promise their customers are rarely encountered in the field, and the technical service quality benefits that are obtained do not generally counteract the dissatisfaction associated with the failure to obtain expected cost savings. Vendors may need to work more closely with purchaser to help them translate

the benefits of outsourcing into the strategic benefits they seek, and to develop more realistic costing models.

The findings suggest that purchasers, on the other hand, should critically review their expectations for outsourcing. The evidence from this study (and others) is that it is unlikely that outsourcing will enable substantial cost savings, and has a strong possibility of increasing costs, particularly once transaction costs are taken into account. This message reinforces the cautionary approach to IT outsourcing originally recommended by Lacity and Hirschheim (1993, 1995) when outsourcing was first systematically investigated. Importantly, transaction costs tend to increase when “selective” (i.e. multivendor) outsourcing is undertaken, and when contracts are shortened – both strategies promoted as good outsourcing practice by writers such as Lacity et al. (1995). So in adopting these risk minimizing strategies purchasers may inadvertently have reduced their likelihood of obtaining the cost savings they were seeking.

A key to avoiding dissatisfaction in the future is for purchasers to carry out comprehensive financial modeling. Case study research (e.g. Rouse and Corbitt, 2003b) suggests that if this modeling is done well, purchasers will recognize in advance the limited likely cost savings, and if they proceed with outsourcing, should have aligned their expectations more realistically with what is likely on the basis of extant empirical research.

This research also has implications for IT outsourcing researchers. It reveals the importance of including multiple dimensions of outsourcing success when theory is being tested, given the multiplicity of goals sought from the strategy. Researchers should avoid aggregating these into a single formative measure (as Grover et al. did). Had an aggregating approach been used for the data reported above, it is likely that the positive response to *access to skilled staff* and *technical service quality* would have obscured the generally negative responses to *strategic benefits*, *reduced costs* and *satisfaction/value*—an important explanatory finding. The research has also confirmed ongoing problems with the existing Grover et al. measure of outsourcing success, leading to a call for further developments of a psychometrically sound success measure. With outsourcing continuing to grow as a strategy, the importance of being able to reliably assess the success of the strategy is increasing. Such research is warranted, if important relationships are not be obscured, and possibly erroneous conclusions arrived at, because of a poor success measure.

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