Information Systems Outsourcing Success: A Review

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Abstract – The objectives of the paper are to develop a model of Information Systems (IS) outsourcing success and to identify the neglected areas of research in IS outsourcing success. Using online search of research databases, we analyze the empirical papers published on IS outsourcing success through meta-analysis. Thus, the paper extracts dependent variables (success variables) and independent variables (determinants) related to IS outsourcing success. Based on correlation coefficients of various empirical studies on IS outsourcing success and by using structural equation modeling (SEM), the paper aims to arrive at a final model of IS outsourcing success. An initial success model and hypotheses are presented in this paper, as the research is at a work-in-progress stage. The final model is expected to be presented at the ICEME 2010 conference.

Keywords: Information Systems Outsourcing, Success Models

I. INTRODUCTION

Outsourcing refers to the practice of transferring business activities of a firm to a third party vendor either within the country or outside the country so that the firm can concentrate on its core business. In particular, outsourcing of Information Technology (IT) is witnessing continued popularity—the IT outsourcing market accounts for 67% of all global outsourcing deals with the current IT services market valued at $746 billion (Hirschheim et al. 2009). Researchers predict that both IT outsourcing and business process outsourcing markets will continue to grow in all global outsourcing markets (Lacity et al. 2008). However, satisfaction with IT outsourcing has been reported at only 33% for IT services in comparison to 70-80% for non-IT services (Wang and Yang 2007).

Several empirical studies have identified the reasons for outsourcing. These include a closer focus on the core business, rapid introduction of new products, cost reduction, increased access to technical expertise, and the lack of required resources or expertise to develop internally (Dibbern et al. 2004). However, a survey of outsourced IS projects has shown that 90 out of 160 IS projects outsourced discontinued their current contracts either by switching vendors or by backsourcing (Whitten and Leidner 2006). Such risks of outsourcing can be grouped broadly into two categories: client-vendor relationships and unforeseen contingencies related to modification of contract specifications (Gefen et al. 2008). Previous literature cites several problems with outsourcing, such as the degradation of service, the lack of vendor commitment, the ineffectiveness of a vendor, cultural dissimilarity, and slow implementation (Aubert et al. 1998). It has been found that infrastructure-related vendor competence problems and vendor coordination problems have significant negative effect on re-outsourcing decisions (Gorla, 2009). Furthermore, it is found that outsourcing is associated with poor service quality as experienced in the industry -- the performance of Application Service Providers (ASP) was influenced by user expectations of ASP services (Susarla et al. 2003); poor service quality was a major reason for terminating outsourcing contracts (Hoffman, 2005).

In spite of several risks of IT outsourcing, IT outsourcing is growing very rapidly both in practice and research. A search in ABI/INFORM with the keywords “Information Systems” and “Outsourcing” in “Citation and Abstract” returned 407 articles. However, there have been conflicting results in terms of outsourcing success. For example, while some empirical studies report positive results about IT outsourcing, some others report dissatisfaction and poor service quality (Aubert et al. 1998). Therefore, it will be important to resolve conflicting results and to identify the IT outsourcing success factors based on previous empirical research results. Till date, there is little previous research that considered the entire network of inter-related success factors forming a motivation for this study. In this research, we use review papers in outsourcing (for example, Dibbern et al., 2004), develop an initial model of IS outsourcing success. By using a meta-analysis of articles in IT outsourcing, we plan to validate the above model and determine significant paths between various success factors. Thus, we plan to obtain the revised model, which should help in determining the neglected areas related to IT outsourcing success. The objectives of this research are to derive a network of inter-related success factors by meta-analyses of the empirical studies in the area of IT outsourcing and to identify the neglected areas of research in IS outsourcing.

II. THEORETICAL FOUNDATIONS

Some theories related to IT outsourcing are described below. Outsourcing gives rise to agency situations since the principal (client firm) employs an agent (vendor) to do certain tasks (business functions), resulting in outsourcing risks (Eisenhardt, 1989). Two of the problems faced in the outsourcing by the principal (client firm) are the hidden characteristic problems and the hidden action problems. Hidden characteristic problems, which occur before the
principal and agent enter into the contract, are the concern of
the principal that the agent has the necessary skills, capacity,
and experience. Hidden action problems, which occur after
they enter into a contract, are the concern of the principal
that the agent may not perform in their best interests. It
is difficult for the client firm to verify the quality of work
performed by the outsourcing vendor in professional settings.
Since the vendor may not be skillful enough to perform the
task at hand and/or may not act in the interest of the client
firm, the resulting system may be inadequate to the users’
tasks.

Outsourcing risk is also due to transaction cost
economics (TCE) theory (Williamson, 1981). Asset
specificity is the most important dimension of a transaction
wherein the vendor provides specific investments in physical
(special software) or human (specialized technical skills of
personnel) capital. The asset specific transaction can lead to
a tied-up relationship between the transacting parties since
the supplier is “locked into” the transaction and the buyer
cannot turn to alternate suppliers because of the high cost of
supply. This scenario may give rise to opportunistic behavior
on the part of the vendor. The services provided by the
vendors may not precisely meet the needs of users, since it is
cost beneficial to vendors to provide services that are general
enough so that they can cater to multiple clients (King and
Malhotra, 2000).

Trust is crucial in enabling many business relationships,
especially if the parties depend on each other but have no
control on each other as is the case in the outsourcing
relationship between client and vendor (Kumar et al., 1995).
In principle, trust reflects on the trustworthiness of the other
party. If either party can be trusted, it will result in
uncooperative attitude and behavior and make the
contracting arrangements more risky and expensive.
Business familiarity has been treated as a proxy of trust and
as a central antecedent of trust (Gefen et al. 2008). Thus, the
vendor’s business familiarity reduces outsourcing risks of
both vendor and client before and after contract is signed and
thus, they may not add any risk-reducing controls into the
contract (Gefen et al. 2008). This results in reduced cost of
outsourcing contract execution.

III. RESEARCH METHODOLOGY

In order to meet the objectives of developing IS
outsourcing success model and determining neglected
research areas in IT outsourcing success domain, we follow a
2-step procedure, as detailed next. First, a detailed theoretical
model of inter-related factors leading to success variables of
IT outsourcing will be proposed using literature review
papers on IT outsourcing (for example, Dibbern et al. 2004;
Gonzalez et al. 2006; King and Torkzadeh, 2008; Lacity et al.
2009). We will provide a theoretical justification to our
model. Second, we will use a meta-analysis of published
articles in IT outsourcing, map them to the initial model and
apply SEM to find the significant and insignificant paths.

Meta-analysis refers to a systematic review of prior
literature and involves statistical analysis of descriptive
statistics reported by individual studies. The aim is to
quantitatively estimate the magnitude of the effect size and
its precision using three steps (Sabherwal et al. 2006):
identifying the individual studies to be included in the
analysis, coding them, and accumulating the findings
reported by the individual studies. Step 1, identifying
individual studies, will be accomplished by running searches
on databases such as Ebscohost, JSTOR and ABI Inform.
These searches (within citation and abstract) would include
keywords pertaining to information systems outsourcing and
its success. Results thus obtained will be then filtered using
different criteria. For example, unrelated studies will be
dropped. In addition, theoretical studies and those that are
based on qualitative research will be excluded due to lack of
reporting on the magnitude of the effect. In addition, studies
based on experiments will be considered inappropriate as
they include manipulations and experimental controls unlike
other studies in the meta-analysis (Parker et al. 2003, Roth et
al. 2005). Similarly, we will exclude studies that report
statistics which cannot be converted into Pearson
correlations. Also, we will eliminate studies that use the
same data as another study in the sample. This will ensure
independence of samples for the meta-analysis. Studies that
are deemed relevant after filtering will be then coded. Step 2,
the process of coding relevant studies, will be done by
authors using agreed criteria. A pilot study would be first
conducted to ensure high inter-rater reliability. Finally, we
aim to accumulate findings, as described under Step 3, by
correcting all reported effect sizes for measurement errors
and obtaining partial correlations. We will compute the
weighted mean of the partially corrected effect sizes (Hunter
and Schmidt 1990, Hedges and Olkin 1985) to correct for
sampling errors. This procedure will be repeated for all
relationships between constructs, producing a matrix of
fully-corrected correlations. Following this, we will test for
publication bias using funnel plots, and failsafe Ns. Finally,
we will use the correlation matrix for analysis using SEM.
The result is an IS outsourcing IS success model with
linkages among determinants and success variables
representing good fit of the model with the data collected.
The model will also be utilized to determine the areas of
research (linkages and constructs) that need attention for
future research.

IV. THE SUCCESS MODEL

The partial data collected to serve the meta-analysis is
provided in Table 1. The tentative model for IS outsourcing
success is given in Figure 1, which can be described as
follows. The dependent variable, IS outsourcing success, has
three components: firm benefits, IS benefits, and user
benefits. Firm benefits include increased profitability of
the firm, increased stock returns, and process performance.
User benefits include user satisfaction and increased productivity.
IS benefits include increased technical know-how of internal
IS staff and more valuable systems.

Degree of IS outsourcing (percentage IT budget
outsourced and number of IS functions outsourced) is
inversely related to outsourcing success (Lacity and
Willcocks, 1998). Excessive outsourcing results in decreased
IS outsourcing success as it involves increased coordination
costs and decreased profitability to the firm. Excessive
outsourcing results in decreased service quality because of the difficulty in monitoring the performance of the vendor.

Increased service quality results in increased user satisfaction and productivity, implying a positive relationship between service quality and outsourcing success. Better client-vendor partnership (trust, open communication, cooperation) are associated with higher levels of IS outsourcing success (Sabherwal, 1999). Furthermore, better client-vendor relationship results in better service quality, as the ill-effect of agency risks are minimized with increased trust between client and vendor.

V. CONCLUSIONS

The paper develops a macro model of IS outsourcing success and its determinants based on meta-analysis. The paper reviews previous research on IS outsourcing success and also provides theoretical bases for the outsourcing success. The paper provides justification for the model by arguing about the relationships between determinants and IT outsourcing success variables. The paper represents a work-in-progress research. The steps remaining in the research include statistical analysis of the data collected from various empirical studies on IS outsourcing success and the refinement of the model using the structured equation modeling. We expect that these steps will be competed and results presented at the time of ICEME 2010 conference.

![Figure 1. IS Outsourcing Success Model](image)

<table>
<thead>
<tr>
<th>No</th>
<th>Dependent Variables</th>
<th>Independent Variables</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stock returns</td>
<td>BPO announcements on primary processes; BPO announcements on secondary processes; Value chain</td>
<td>Duan, Grover, Balakrishnan (2009)</td>
</tr>
<tr>
<td>2</td>
<td>Share price of public companies</td>
<td>Offshoring announcement</td>
<td>Daniel, Kodwani, Datta (2009)</td>
</tr>
<tr>
<td>3</td>
<td>Vendor performance (Project quality; Cost adherence)</td>
<td>Vendor trust in client; Client control over vendor</td>
<td>Mao, Lee, Deng (2008)</td>
</tr>
<tr>
<td>4</td>
<td>Knowledge Sharing: Outsourcing Success from provider/rec eiver perspective</td>
<td>Initial trust; Initial distrust; Mutual trust; Mutual dependency</td>
<td>Lee, Huynh, Hirschheim (2008)</td>
</tr>
<tr>
<td>5</td>
<td>BPO Success</td>
<td>Process Standardization (mediator variables are relational governance variables i.e., communication, consensus, coordination, and contractual governance variables, i.e., measurability, contract completeness)</td>
<td>Wullenweber, Beimborn, Weitzel, König, 2008</td>
</tr>
<tr>
<td>6</td>
<td>Firm performance; Process performance (operational, managerial)</td>
<td>IT strategy (outsourcing or non-outsourcing) moderated by IT capability</td>
<td>Wang, Gwebu, Wang, Zhu (2008)</td>
</tr>
<tr>
<td>7</td>
<td>User satisfaction</td>
<td>Service quality; Relationship quality</td>
<td>Chakrabarty, Whitten, Green (2007)</td>
</tr>
<tr>
<td>8</td>
<td>Satisfaction with outsourcing</td>
<td>Specialization benefits; Market-discipline benefits; Flexibility benefits; Cost savings</td>
<td>Seddon, Cullen, Willcocks (2007)</td>
</tr>
<tr>
<td>9</td>
<td>Perception of</td>
<td>Characteristics of company, IS</td>
<td>Hsu and Wu (2006)</td>
</tr>
<tr>
<td>Organization of Performance</td>
<td>Performance of IS, Evaluator, and degree of participation by project members</td>
<td>Lee and Kim (2005)</td>
<td></td>
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<td>----------------------------</td>
<td>--------------------------------------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>10 Success of outsourcing (business satisfaction and user satisfaction)</td>
<td>Behavioral variables (shared knowledge, mutual dependency, organizational); Psychological variables as mediators (mutual benefits, commitment, pre-disposition)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Service quality; Maintenance efforts;</td>
<td>Sourcing type (insourcing vs outsourcing); System type; System age</td>
<td>Park and Kim (2005)</td>
<td></td>
</tr>
<tr>
<td>12 Outsourcing success (6 items relating to satisfaction and intention to continue outsourcing relationship)</td>
<td>Supplier obligations for accurate project scoping, clear authority structures, taking charge, effective human capital management, effective knowledge transfer, and effective interorganization al teams; Customer obligations for clear specifications, prompt payment, close project monitoring, dedicated project staffing, knowledge sharing, and project ownership.</td>
<td>Koh, Ang, Straub (2004)</td>
<td></td>
</tr>
<tr>
<td>14 Persistence of managerial expectations; Outsourcer performance</td>
<td>Role overload, Strength of ties between manager and contractor, Prior outsourcing experience, Trust in outsourcer</td>
<td>Ho, Ang, Straub (2003)</td>
<td></td>
</tr>
<tr>
<td>16 Outsourcing success</td>
<td>Knowledge sharing, organizational capability as moderator, partnership quality as a mediator</td>
<td>Lee (2001)</td>
<td></td>
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</tbody>
</table>

REFERENCES
