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## The strategic choice to continue outsourcing, switch vendors, or backsource: Do switching costs matter?

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### ABSTRACT

IT outsourcing contracts are often discontinued in favor of other alternatives (returning to in-house development, or switching to another vendor). Switching costs are experienced when terminating a business relationship and securing an alternative. We tried to answer the question: do switching costs matter significantly in the strategic choice to continue outsourcing, switch vendors, or backsource? Switching costs were considered, such as those due to IT operations (sunk investment, lost performance, system upgrades, uncertainty, and induction–retraining–performance), personnel–replacement costs (candidate search, and IT/setup), and in-house learning (cognitive/behavioral learning). A field survey was conducted, and, for each of these cost types, the differences between group means across the three groups (outsourcing continuation, vendor switching, and backsourcing) were determined. The findings suggested that customer organizations preferred outsourcing continuation most and backsourcing least when their switching costs were high. However, the relative preference for vendor switching depended on the switching cost type.

### 1. Introduction

IT outsourcing involves the decision of an organization to turn over part or all of its IS functions to one or more external service providers. Though it has become prevalent, it has been noted that as much as 50% of all ongoing outsourcing contracts are discontinued in favor of either using a different vendor or bringing the work back in-house (backsourcing). Anthem Blue Cross and Blue Shield discontinued a 5-year \$30 million outsourcing deal with its vendor Unisys and switched to Affiliated Computer Services [10]. Washington Mutual discontinued a 10-year \$533 million deal with IBM Global Services to bring the IT work back in-house [11]. Recent articles have increasingly highlighted the need to understand what happens after IT work has been outsourced, such as the initiation of a strategic decision to discontinue an existing contract [1,2,5,7,9,12].

When existing IT outsourcing contracts are re-evaluated, managers make a strategic choice. They either (1) choose to *continue outsourcing* to the same vendor or (2) choose to discontinue the outsourcing contract and either (2a) *switch-vendors* or (2b) *backsource*.

Managers make strategic choices based on considerations such as prior relationships, vendor performance, and cost. We focused on switching costs, since little is known about the costs associated with vendor switching and backsourcing after prior outsourcing. Certain types of costs are likely to factor into decisions to discontinue IT outsourcing [14]. Accordingly, we posed the research question: do switching costs matter in the strategic choice to continue outsourcing, switch vendors, or backsource?

### 2. Theory development and hypotheses: the role of switching costs

Switching costs are important in terminating a business relationship and securing an alternative. In our study, they were considered in the context of IT outsourcing change and involved perceived economic and psychological costs that managers evaluate when deciding on possible alternatives. While past articles have generally lumped switching costs into one overall expense, some authors have suggested the need to look at various types of costs because they represent various psychological, physical, and economic factors in decision making.

#### 2.1. Switching costs related to IT operations

While the choice of *switching mode* is strategic, it is often based on an assessment of changes in IT operation costs. Transaction cost

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theory (TCT) suggests that IT operations are a series of transactions, the costs of which should be of major concern for managers. These are the costs of IT operations, both within an organization and in exchanges with IT vendors. TCT focuses on costs that arise in managing operations related to the exchange of goods or services, and they serve as the basic unit of analysis. TCT provides a theoretical way of understanding the role of switching costs in back-sourcing versus vendor switching. They are the change in transaction costs when an organization chooses to switch from the existing operational structure to another. Hence, switching costs represent the change in transaction costs due to structural changes in the way that IT operations are performed.

Managers might incur substantial switching costs if they decide to switch vendors or backsource. The costs are often high due to a loss of investments and revenues associated with past operations, and a need to make new investments for future operations (such as rewriting IS, upgrading management systems, managing uncertainty, and revising induction/training activities). However, if switching costs are low, then managers can easily switch either by outsourcing to a different vendor or by back-sourcing. Overall, switching costs can play a major role in the strategic choice between outsourcing continuation versus the alternatives. In contrast, switching costs may not make a difference in the choice between the two alternatives of vendor switching versus back-sourcing, because both alternatives involve equally high switching costs (due to change in the way operations are carried out) and are therefore equally avoided. Hence, we hypothesized:

**H1.** In general, the greater the switching costs related to IT operations, the more likely that the strategic choice will be *outsourcing continuation*, while both the alternatives (*vendor switching* and *back-sourcing*) will be avoided.

#### 2.1.1. Sunk investment costs of past IT operations

The switching cost of the IT operation is a sunk cost. The past expenditures cannot provide future returns if an outsourcing contract is discontinued. Prior commitments may also include the routines and procedures for dealing with specific IT vendors, such as day-to-day business processes and activities. When an outsourcing contract is discontinued in favor of alternatives, the past investment probably has no utility in a new working relationship [4]. In fact, investment in the development of cooperative processes with a vendor often induces a greater barrier to switching. Moreover, the psychological and emotional investments associated with the psychological attachment of employees to a project or vendor are likely to become worthless on discontinuation of an IT outsourcing contract. It is thus reasonable to argue that sunk investment costs are similar for both vendor switching and back-sourcing because the investments were incurred prior to the contract end. This leads to the hypothesis:

**H1-1.** The greater the sunk investment costs, the more likely that the strategic choice will be *outsourcing continuation*, while *vendor switching* and *back-sourcing* will be avoided.

#### 2.1.2. Lost performance costs of past IT operations

The second type of switching cost due to IT operations is lost performance. These costs are the loss of special benefits and preferential treatment that were developed during past operations, including continued patronage with a service provider that can provide benefits and privileges to the organization over time. Psychological benefits (including comfort and trust in the provider) and economic benefits (such as discounts, quicker service, and time saved in searching for another vendor) result from continued business relationships. These provide an incentive to remain in a contractual relationship; their loss is part of the price

an organization pays for discontinuing a contract. It is likely that these costs are similar for both *vendor switching* and *back-sourcing*. Hence the hypothesis:

**H1-2.** The greater the lost performance costs, the more likely that the strategic choice will be *outsourcing continuation*, while *vendor switching* and *back-sourcing* will be avoided.

#### 2.1.3. Management system upgrade costs for future IT operations

The third type of switching cost due to IT operations is the costs of upgrades in management systems. TCT suggests that expenditures are associated with changing an established organizational structure, e.g., changes in the management systems that oversee, organize, and control operations. Accordingly, these upgrade costs are additional investments required to enhance the systems, possibly including acquiring additional assets and adjusting processes. The same applies for IT operations. The decision to backsource or switch vendors may require radical changes in systems and operations to supervise and integrate IT personnel. As management assesses organizational operations and considers discontinuing an IT contract, substantial management system upgrades may be necessary. Hence, when management system upgrade costs are high, managers are likely to avoid vendor switching and back-sourcing and renew the existing outsourcing contract. This leads to the hypothesis:

**H1-3.** The greater the management system upgrade costs, the more likely that the strategic choice will be *outsourcing continuation*, while *vendor switching* and *back-sourcing* will be avoided.

#### 2.1.4. Uncertainty costs of future IT operations

The fourth type of switching cost due to IT operations results from uncertainty about future operations. Uncertainty is the result of doubt and skepticism or may result from lack of experience with alternatives, such as the capabilities of a new external IT vendor or internal IT department. When a vendor contract is terminated, a known and established level of service quality will be replaced with a relatively uncertain quality level, regardless of the chosen alternative [6]. Given the wide range of quality and abilities required for successful IT operations, the level of uncertainty involved in a switching decision may be very high. Therefore, we hypothesize:

**H1-4.** The greater the uncertainty costs, the more likely that the strategic choice will be *outsourcing continuation*, while *vendor switching* and *back-sourcing* will be avoided.

#### 2.1.5. Induction–retraining–performance costs during future IT operations

When an alternative outsourcing method is chosen, the new personnel face some initial performance challenges. These translate into a set of costs (of overall induction, retraining, and performance) that make up a fifth type of switching cost due to IT operations. These costs arise from changes in organizational structures after termination of an IT outsourcing contract. From a managerial perspective, the costs reflect the extent to which new personnel will need training, face performance challenges, and take longer to perform at levels that meet expectations. Hence, the possibility of high induction–retraining–performance costs may favor outsourcing continuation with the same vendor. This leads to the hypothesis:

**H1-5.** The greater the induction–retraining–performance costs for an alternative, the more likely that the strategic choice will be *outsourcing continuation*, while *vendor switching* and *back-sourcing* will be avoided.

While switching costs related to IT operations were assessed from an operational perspective using TCT, it was also essential to capture the strategic factors because IT is an enabler of strategic competitive advantage.

2.2. Switching costs related to the personnel-replacement process

Certain switching costs related to the personnel-replacement process need to be incurred in order to fill any vacancy created by the discontinuation of an ongoing IT outsourcing contract. These consist of the costs incurred in the search for suitable candidates and of transferring knowledge about needs, processes, and systems to prepare them for new IT work. In order to avoid such costs, managers would avoid back-sourcing and opt for switching vendors. Finding a competent IT vendor is less difficult and less costly than in-house replacement. However, when personnel-replacement costs are high, outsourcing continuation is probably the least costly option. If management opts to discontinue an IT contract, it is likely that personnel-replacement costs will inhibit back-sourcing in favor of switching vendors. This leads to the general hypothesis:

**H2.** The greater the switching costs related to personnel-replacement, the more likely that the strategic choice will be *outsourcing continuation with vendor switching* as an intermediate choice and *back-sourcing* avoided.

2.2.1. Candidate search costs related to the personnel-replacement process

The resource-based view of the firm suggests that it is difficult to find and substitute unique human resources, and resource dependence theory suggests that customer organizations depend on external vendors for access to human resources due to the difficulty of finding skilled candidates. Thus, search costs include the time and effort expended to find potential candidates. A candidate search process is typically initiated with a formal RFP from both the internal IT department and external IT vendors with the goal of obtaining bids. Candidate search costs are thus a function of factors such as the intangible or tacit nature of the IT work, inability to clearly specify requirements, geographic and cultural diversity, and the limited availability of labor in a region [3]. Back-sourcing may involve substantial costs due to the nature of the IT job market, the high compensation required by IT professionals, and the high attrition rates in the industry. In comparison, the search costs of locating a suitable outsourcing vendor may be more acceptable since IT vendors maintain a pool of readily available IT professionals. Hence, when candidate search

costs are high, back-sourcing would be the least preferred option, and outsourcing continuation with the same vendor the most preferred.

**H2-1.** The greater the candidate search costs, the more likely that the strategic choice will be *outsourcing continuation with vendor switching* as an intermediate choice and *back-sourcing* avoided.

2.2.2. Information transfer/setup costs related to the personnel-replacement process

Candidates chosen for a particular type of work require information from others about processes, activities, and norms before starting work. Barriers and difficulties in the transfer of existing knowledge and information can result in a long learning curve and hamper the ability of new personnel to perform. Managers are more likely to avoid back-sourcing due to the substantial costs of transferring knowledge from a discontinued vendor to in-house staff. To some extent, knowledge transfer costs would be lower if the decision is to switch to a vendor that provides similar services. Hence, when information transfer/setup costs are high, back-sourcing would be the least preferred option and outsourcing continuation with the same vendor would be most preferred.

**H2-2.** The greater the information transfer/setup costs, the more likely that the strategic choice will be *outsourcing continuation with vendor switching* as an intermediate choice and *back-sourcing* avoided.

2.3. Switching costs related to in-house learning: cognitive and behavioral learning costs

Complex work, with hands-on learning requires substantial time and effort, and progress is often slow. A customer organization's in-house learning costs are the expenditures of time, money, and effort toward ensuring that in-house staff develop new cognitive and behavioral skills/knowledge rapidly. If the IT work is back-sourced, then internal learning requires expenditures to facilitate the transition, plan processes, develop procedures, and organize departmental functions and personnel. Thus, the costs of in-house staff learning new procedures, policies, and techniques are usually significant. In contrast, the in-house learning costs are negligible for firms that continue an outsourcing contract or switch vendors. Hence, when in-house learning costs are high, managers are more likely to prefer the outsourcing options and avoid back-sourcing.

**Table 1**  
Switching costs: theory and hypotheses.

Hypotheses	Basis	Customer's switching costs-level	Strategic choice (in the order of preference)
H1 (H1-1–H1-5)	Transaction cost theory	Switching costs related to IT operations (sunk investment, lost performance, management system upgrade, uncertainty, induction–retraining–performance)	High (1) Continue outsourcing (2) Switch vendors or backsource
			Low (1) Switch vendors or backsource (2) Continue outsourcing
H2 (H2-1 and H2-2)	Resource based and information processing theories	Switching costs related to the personnel-replacement process (candidate search, information transfer/setup)	High (1) Continue outsourcing (2) Switch vendors (3) Backsource
			Low (1) Backsource (2) Switch vendors (3) Continue outsourcing
H3	Organization learning theory	Switching costs related to in-house learning (cognitive/behavioral in-house learning)	High (1) Continue outsourcing or switch vendors (2) Backsource
			Low (1) Backsource (2) Continue outsourcing or switch vendors

**H3.** The greater the in-house learning costs, the more likely that the strategic choice will be *outsourcing continuation* or *vendor switching* with *backsourcing* avoided.

These hypotheses are shown in [Table 1](#).

### 3. Methodology

Using a field survey, we collected data from a number of firms across a range of industries. Our purpose was to test the differences between three groups of firms in each of the three switching types.

#### 3.1. Sample and procedure

Our sampling process for the field survey began with a random selection of 934 top IT managers in the United States from the *Directory of Top Computer Executives* published by Applied Computer Research. Our procedures were carefully applied to mitigate potential bias. Anonymity was assured to encourage involvement. Furthermore, as a precondition for inclusion, the managers were required to have re-evaluated their company's IT outsourcing for potential discontinuation during the past 3 years. Out of these randomly selected managers, 620 did not meet this precondition and 151 were unwilling to participate; thus our sample was limited to 163, resulting in an overall response rate of 26%.

There was no evidence of response bias when their industries were compared to the population, which was spread across a wide range of industries including manufacturing, education, health-care, and public administration. There was also no evidence of non-response bias when the results of key variables were compared between early- and late-returned questionnaires.

[Table 2](#) provides respondent demographic information.

#### 3.2. Measures

Before performing the analyses, we grouped respondents into one of three groups according to their decision on the outsourcing contract. A variable called *strategic choice* was attached to each respondent and given a value of 1 when the outsourcing contract had been discontinued and the work brought back in-house (about one-third of the cases), 2 when a contract had been given to a new

**Table 2**  
Demographic details.

<i>Characteristics of the survey respondents</i>	
Mean (age of respondent, in years)	46.5
Mean (years in current position)	5.8
Mean (years employed with the organization)	12.8
Number of male respondents	115 (72%)
Number of female respondents	48 (28%)
<i>Characteristics of respondents' employing organizations</i>	
Mean (age of organization, in years)	68.1
Mean (total employees in the organization)	8831
Mean (IT employees in the organization)	118
Number of outsourcing contracts in the past 5 years	6.8

IT vendor (about one quarter of the cases), and 3 when the outsourcing contract had been renewed.

The survey instrument used to measure switching costs consisted of 28 items adapted from two primary sources with appropriate modifications to fit our IT outsourcing context. Items measuring management system upgrade costs and induction–retraining–performance costs were adapted from Weiss and Anderson [13]. Items to measure sunk investment costs, lost performance costs, uncertainty costs, candidate search costs, knowledge transfer/setup costs, and in-house learning costs were adapted from Jones et al. [8]. The reliability (Cronbach's  $\alpha$ ) of the 28 items was 0.93. All items were measured on a seven-point Likert-type scale that ranged from strongly disagree to strongly agree. A list of generic items is provided in [Appendix A](#).

### 4. Results

[Table 3](#) provides the means, standard deviations, and correlations of the collected data. The correlations between each type of switching cost and the ordinal variable of strategic choice were all found to be significant. This lends support to the suggestion that outsourcing continuation will be most preferred and backsourcing will be least preferred by customer organizations when switching costs are high, and that the relative preference for vendor switching will depend on the switching cost type.

[Table 4](#) provides factor analysis results using principal component extraction and Varimax rotation with loadings less than 0.4 suppressed for clarity. The items loaded satisfactorily on

**Table 3**  
Switching costs: correlations and descriptive statistics.

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(0) Strategic choices (3 = continue outsourcing, 2 = switch vendor, 1 = backsourcing)	1								
<i>Switching costs related to IT operations</i>									
(1) Sunk investment costs of past operations	0.35**	1							
(2) Lost performance costs of past operations	0.44**	0.32**	1						
(3) Management system upgrade costs for future operations	0.30**	0.28**	0.31**	1					
(4) Uncertainty costs of future operations	0.36**	0.27**	0.46**	0.32**	1				
(5) Induction–retraining–performance costs during future operations	0.36**	0.24**	0.50**	0.55**	0.39**	1			
<i>Switching costs related to personnel-replacement</i>									
(6) Candidate search costs	0.49**	0.23**	0.52**	0.45**	0.39**	0.67**	1		
(7) Information transfer and setup costs	0.56**	0.20**	0.54**	0.37**	0.41**	0.52**	0.59**	1	
<i>Switching costs related to in-house learning</i>									
(8) Cognitive/behavioral in-house learning costs	0.27**	0.08	0.41**	0.36**	0.42**	0.49**	0.41**	0.52**	1
Minimum	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maximum	3.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Mean	2.1	4.9	3.5	3.8	3.5	3.2	3.5	4.5	4.0
Standard deviation	0.9	1.3	1.5	1.6	1.5	1.5	1.6	1.7	1.5

Sample size  $N = 163$  outsourcing contracts in distinct firms.

\*\* Pearson bivariate correlation is significant at the 0.01 level (2-tailed).

**Table 4**  
Customer organization's switching costs: reliabilities and factor analysis.

Factors (Cronbach's $\alpha$ reliability)	Item #	Factor loadings							
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Sunk investment costs of past IT operations ( $\alpha = 0.90$ )	Item_1a	0.79							
	Item_1b	0.87							
	Item_1c	0.82							
	Item_1d	0.87							
	Item_1e	0.78							
(2) Lost performance costs of past IT operations ( $\alpha = 0.86$ )	Item_2a		0.81						
	Item_2b		0.79						
	Item_2c		0.73						
	Item_2d		0.70						
(3) Management system upgrade costs for future IT operations ( $\alpha = 0.67$ )	Item_3a			0.83					
	Item_3b			0.69					
(4) Uncertainty costs of future IT operations ( $\alpha = 0.61$ )	Item_4a				0.73				
	Item_4b				0.79				
(5) Induction–retraining–performance costs during future operations ( $\alpha = 0.90$ )	Item_5a					0.88			
	Item_5b					0.77			
	Item_5c					0.77			
	Item_5d			0.49		0.49			
	Item_5e					0.49		0.47	
(6) Candidate search costs ( $\alpha = 0.93$ )	Item_6a							0.78	
	Item_6b							0.82	
	Item_6c							0.86	
	Item_6d							0.77	
	Item_6e							0.73	
(7) Information transfer and setup costs ( $\alpha = 0.87$ )	Item_7a								0.69
	Item_7b								0.79
(8) Cognitive/behavioral in-house learning costs ( $\alpha = 0.73$ )	Item_8a								0.66
	Item_8b								0.78
	Item_8c								0.71

Note: Factors loadings less than 0.40 are not shown. Extraction method: principal component analysis, rotation method: Varimax with Kaiser normalization. Reliability (Cronbach's  $\alpha$ ) of the 28-item scale for switching costs is 0.93.

their respective factors with all factor loadings greater than 0.4, and the high loadings indicating a good degree of correspondence with their respective factors. Overall, the factors explained a substantial 76% of the variance in items. Bartlett's test of sphericity was significant ( $\chi^2 = 3162$ ,  $df = 378$ ,  $p$ -value  $< 0.01$ ) suggesting that the assumption of multivariate normality was satisfied. Furthermore, the Kaiser–Meyer–Olkin measure of sampling adequacy was 0.88, which is above the suggested minimum of 0.60, indicating that the degree of common variance among the variables was relatively low, and that the factors accounted for a substantial amount of variance.

The results in Table 5 show a one-way analysis of variance for each of the quantitative variables (types of switching costs). For each, the significant  $F$ -test rejected the null hypotheses that group means are equal and indicated that differences existed between the group means. Independent  $t$ -tests between groups were computed to determine precisely which group means differed. Table 6 shows the group means and  $t$ -tests for differences in group means for each type of switching costs. The means are also shown in Fig. 1.

Results suggested that H1-1–H1-5 were supported. However, there was no significant difference in means between *switch-vendors* and *backsource* implying that the greater the sunk investment costs, the more likely that outsourcing continuation will be the top strategic choice, and both the alternatives (vendor switching and back sourcing) would be equally avoided. Also, there was no significant difference in means between *switch-vendors* and *backsource* implying that the greater the lost performance costs, the more likely that outsourcing continuation would be the top strategic choice, and both alternatives would be avoided. Third, as suggested by H1-3, the mean of management system upgrade costs

was significantly greater for *continue* than *backsource* and significantly greater for *continue* than *switch-vendors*. However, there was no significant difference in means between *switch-vendors* and *backsource* implying that the greater the management system upgrade costs, the more likely that outsourcing continuation would be the preferred choice and that both alternatives would be avoided.

Fourth, as suggested by H1-4, the mean of uncertainty costs was significantly greater for *continue* than *backsource* and significantly greater for *continue* than *switch-vendors*. However, there was no significant difference in means between *switch-vendors* and *backsource* implying that the greater the uncertainty costs, the more likely that outsourcing continuation will be the choice, and that both the alternatives would be avoided. Fifth, as suggested by H1-5, the mean of induction–retraining–performance costs was significantly greater for *continue* than *backsource* and significantly greater for *continue* than *switch-vendors*. However, there was no significant difference in means between *switch-vendors* and *backsource* implying that the greater the induction–retraining–performance costs, the more likely that outsourcing continuation would be the choice, and both alternatives would be avoided.

H2-1 and H2-2 were supported. First, the mean of candidate search costs was significantly greater for *continue* than *backsource* and significantly greater for *switch-vendors* than *backsource* implying that the greater the candidate search costs, the more likely that outsourcing continuation will be the choice, vendor switching will be the intermediate strategic choice, and back sourcing will be avoided. Second, the mean of information transfer/setup costs was significantly greater for *continue* than *backsource* and for *continue* than *switch-vendors* and

**Table 5**  
Switching costs: one-way ANOVA.

Variables	Groups for comparison (3 = continue outsourcing, 2 = switch vendor, 1 = backsource)	One-way ANOVA tests for comparison of means				
		Sum of squares	df	Mean square	F	Sig.
<i>Switching costs related to IT operations</i>						
(1) Sunk investment costs of past operations	Between groups	44	2	22.1	14**	0.000
	Within groups	246	160	1.5		
	Total	290	162			
(2) Lost performance costs of past operations	Between groups	95	2	47.6	27**	0.000
	Within groups	279	160	1.7		
	Total	374	162			
(3) Management system upgrade costs for future operations	Between groups	42	2	20.9	8.7**	0.000
	Within groups	384	160	2.4		
	Total	426	162			
(4) Uncertainty costs of future operations	Between groups	47	2	23.6	13**	0.000
	Within groups	291	160	1.8		
	Total	338	162			
(5) Induction–retraining–performance costs during future operations	Between groups	60	2	30.2	17**	0.000
	Within groups	288	160	1.8		
	Total	348	162			
<i>Switching costs related to personnel-replacement process</i>						
(6) Candidate search costs	Between groups	103	2	51.6	26**	0.000
	Within groups	319	160	2.0		
	Total	422	162			
(7) Information transfer and setup costs	Between groups	151	2	75.7	36**	0.000
	Within groups	335	160	2.1		
	Total	486	162			
<i>Switching costs related to in-house learning</i>						
(8) Cognitive and behavioral in-house learning costs	Between groups	25	2	12.7	6.4**	0.002
	Within groups	317	160	2.0		
	Total	342	162			

Note: One-way ANOVA procedure produces a one-way analysis of variance for each of the quantitative variables (various switching costs) by a group variable (strategic choice: 3 = continue outsourcing, 2 = switch vendor, 1 = backsource). It helps to suggest that differences exist among the means. To know which means differ between groups, this has to be followed by independent *t*-tests.

\*\* Significant at the 0.01 level (2-tailed), sample size  $N=163$  outsourcing contracts in distinct firms.

**Table 6**  
*t*-Tests for switching costs: continue outsourcing versus switch vendors versus backsource.

Hypotheses	Switching cost variables	Means ( $\mu$ )			Continue versus backsource			Continue versus switch vendors			Switch vendors versus backsource		
		Continue	Switch vendors	Backsource	Mean difference ( $\Delta\mu$ )	<i>t</i>	Sig.	Mean difference ( $\Delta\mu$ )	<i>t</i>	Sig.	Mean difference ( $\Delta\mu$ )	<i>t</i>	Sig.
H1	<i>Switching costs related to IT operations</i>												
H1-1	(1) Sunk investment costs of past operations	5.49	4.43	4.44	1.05**	4.95	0.00	1.06**	4.61	0.00	−0.01	−0.02	0.98
H1-2	(2) Lost performance costs of past operations	4.37	2.72	2.92	1.45**	6.24	0.00	1.65**	6.09	0.00	−0.20	−0.70	0.49
H1-3	(3) Management system upgrade costs of future operations	4.40	3.53	3.30	1.10**	4.07	0.00	0.87**	2.62	0.01	0.23	0.71	0.48
H1-4	(4) Uncertainty costs of future operations	4.15	3.20	3.00	1.15**	4.60	0.00	0.95**	3.41	0.00	0.20	0.77	0.44
H1-5	(5) Induction–retraining–performance costs during future operations	3.86	2.53	2.71	1.15**	4.61	0.00	1.33**	4.63	0.00	−0.18	−0.72	0.47
H2	<i>Switching costs related to personnel-replacement process</i>												
H2-1	(6) Candidate search costs	4.36	3.20	2.57	1.79**	7.29	0.00	1.16**	3.91	0.00	0.63*	2.09	0.04
H2-2	(7) Information transfer and setup costs	5.41	4.53	3.20	2.21**	8.59	0.00	0.88**	3.16	0.00	1.33**	4.04	0.00
H3	<i>Switching costs related to in-house learning</i>												
	(8) Cognitive and behavioral in-house learning costs	4.35	4.05	3.45	0.90**	3.53	0.00	0.30	1.03	0.30	0.60*	2.06	0.04

Samples size  $N=163$  outsourcing contract decisions (71 continue, 37 switch vendors, and 55 backsource). *t*-Tests for *continue* versus *backsource*: when switching costs are high, managers decide to *continue* outsourcing rather than *backsource*. *t*-Tests for *continue* versus *switch-vendors*: when switching costs are high, managers decide to *continue* outsourcing rather than *switch-vendors*. *t*-Tests for *switch-vendors* versus *backsource*: when switching costs are high, managers decide to *switch-vendors* rather than *backsource*.

\* Significant at the 0.05 level (2-tailed).

\*\* Significant at the 0.01 level (2-tailed).

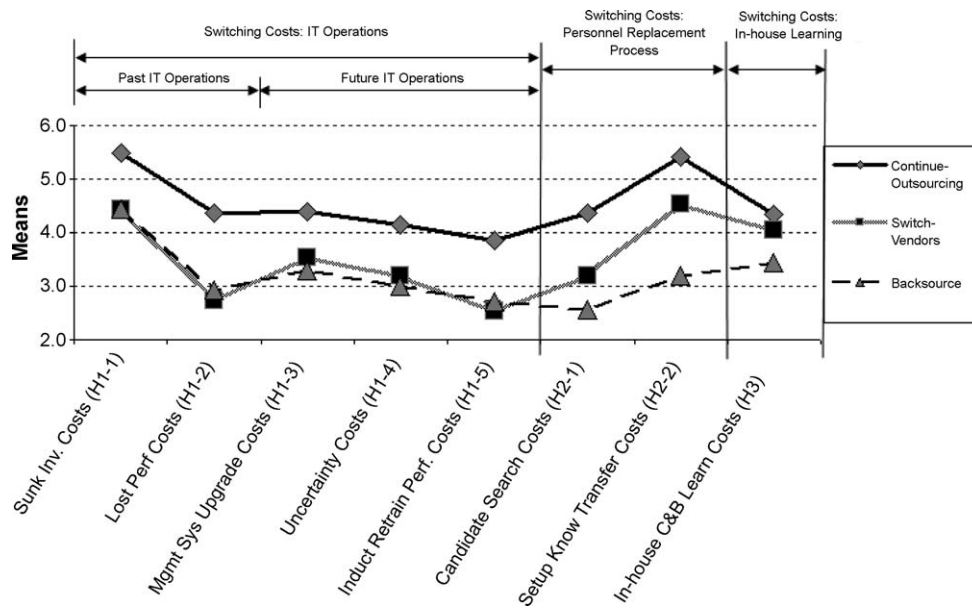


Fig. 1. Managerial decision to continue outsourcing, switch vendors, or backsource: do switching costs matter?

for *switch-vendors* than *backsource*. This implies that the greater the information transfer/setup costs, the more likely that outsourcing continuation will be the strategic choice, vendor switching will be the intermediate choice, and back sourcing will be avoided.

Finally, H3 for switching costs related to in-house learning was supported. In general, ‘outsourcing continuation’ is most preferred and ‘back sourcing’ is least preferred by customer organizations when switching costs are high, and the relative preference for ‘vendor switching’ depends on the switching cost type. Table 7 summarizes the hypotheses.

5. Discussion

Our study showed how managers evaluate the need to discontinue ongoing IT outsourcing contracts in favor of other alternatives, and that switching costs can influence their choice. Eight types of switching costs related to IT operations were

considered in our study. Findings suggest that outsourcing continuation is the most preferred and back sourcing the least preferred option when switching costs are high, and that the relative preference for vendor switching depends on the switching cost type. This has the following implications.

From a practical standpoint, high switching costs might entrap the customer organization into a ‘no-change situation’, forcing it to continue outsourcing IT work to the same vendor. Thus, a deeper understanding of switching costs can help organizations identify strategies to minimize costs and prevent such situations.

Our findings might also have implications for IT vendors. As competition among IT vendors grows, a vendor has greater incentive to lock-in its customers. Thus while customer organizations have incentives to reduce their switching costs, IT vendors will try to increase them. The high level of contract discontinuation in the expanding outsourcing market shows a lack of counter-strategies by IT vendors. Understanding how its customer

Table 7 Hypotheses summary.

Hypotheses	Switching cost variables	Supported?
H1	In general, the greater the various <i>switching costs related to IT operations</i> , the more likely that the strategic choice will be <i>outsourcing continuation</i> , while both the alternatives ( <i>vendor switching</i> and <i>back sourcing</i> ) will be avoided.	Yes
H1-1	The greater the <i>sunk investment costs</i> , the more likely that the strategic choice will be <i>outsourcing continuation</i> , while <i>vendor switching</i> and <i>back sourcing</i> will be avoided.	Yes
H1-2	The greater the <i>lost performance costs</i> , the more likely that the strategic choice will be <i>outsourcing continuation</i> , while <i>vendor switching</i> and <i>back sourcing</i> will be avoided.	Yes
H1-3	The greater the <i>management system upgrade costs</i> , the more likely that the strategic choice will be <i>outsourcing continuation</i> , while <i>vendor switching</i> and <i>back sourcing</i> will be avoided.	Yes
H1-4	The greater the <i>uncertainty costs</i> , the more likely that the strategic choice will be <i>outsourcing continuation</i> , while <i>vendor switching</i> and <i>back sourcing</i> will be avoided.	Yes
H1-5	The greater the <i>induction-retraining-performance costs</i> for chosen alternative, the more likely that the strategic choice will be <i>outsourcing continuation</i> , while <i>vendor switching</i> and <i>back sourcing</i> will be avoided.	Yes
H2	In general, the greater the <i>switching costs related to personnel-replacement</i> , the more likely that the strategic choice will be <i>outsourcing continuation</i> with <i>vendor switching</i> as an intermediate choice and <i>back sourcing</i> avoided.	Yes
H2-1	The greater the <i>candidate search costs</i> , the more likely that the strategic choice will be <i>outsourcing continuation</i> with <i>vendor switching</i> as an intermediate choice and <i>back sourcing</i> avoided.	Yes
H2-2	The greater the <i>information transfer/setup costs</i> , the more likely that the strategic choice will be <i>outsourcing continuation</i> with <i>vendor switching</i> as an intermediate choice and <i>back sourcing</i> avoided.	Yes
H3	The greater the <i>in-house learning costs</i> , the more likely that the strategic choice will be <i>outsourcing continuation</i> or <i>vendor switching</i> with <i>back sourcing</i> avoided.	Yes



**Table 8**  
What do various stakeholders hope for (about a customer's switching costs)?

Customer organization's switching costs	What various competing stakeholders hope		
	What current IT vendor hopes	What other competitor IT vendors hope	What in-house IT department hopes
Switching costs related to its operations (sunk investment, lost performance, management system upgrade, uncertainty, and induction–retraining–performance costs)	High	Low	Low
Switching costs related to personnel-replacement process (candidate search costs, information transfer/setup costs)	High	Medium	Low
Switching costs related to in-house learning (cognitive/behavioral in-house learning costs)	High	High	Low
Their hope	Current vendor hopes that customer chooses to continue outsourcing to it	A competing vendor hopes that customer chooses to switch to it	Customer organization's in-house IT department hopes that IT work is backsource to it

organization evaluates switching costs may provide opportunities for a current IT vendor to predict, influence and prevent switching.

Given our findings, this implies a  $3 \times 3$  matrix, as illustrated in Table 8. The perspectives and hopes of the three types of stakeholders are quite different. The *current IT vendor* hopes that all categories of its customer's switching costs are relatively 'high'. In contrast, the customer organization's in-house department hopes for the exact opposite so that it can again wield greater influence and power to prove its IT abilities. In contrast, *competing IT vendors* hope that neither outsourcing continuation nor back sourcing is feasible, and that a customer's switching costs tempt it to consider switching. They hope that the in-house learning related costs are 'high', so that the customer is discouraged from back sourcing. Further, they hope that the switching costs related to personnel-replacement process (candidate search costs, and information transfer/setup costs) are 'medium', because very high personnel-replacement process difficulties might force the customer to continue with the current vendor and very low personnel-replacement process difficulties might tempt the customer to consider back sourcing.

## 6. Conclusion

We carried out an investigation of customer organizations that make decisions on whether to continue IT outsourcing by renewing the existing contract, switch vendors, or backsource. The major result was that outsourcing continuation was most preferred and back sourcing least preferred when switching costs were high, and the relative preference for vendor switching depended on the switching cost type. Eight types of switching costs were related to IT operations; findings suggested that for all these, organizations that backsource to an internal/in-house IT department had lower switching costs, whereas organizations that continue outsourcing to the same external IT vendor had higher switching costs. Further, organizations that opt for an intermediate choice of vendor switching had switching costs in which the costs of in-house learning were high, personnel-replacement were medium, and IT operations were low.

## Appendix A

### A.1. Switching costs related to IT operations

#### (1) Sunk investment costs of past IT operations.

Measuring these costs required an assessment of the costs in discarding earlier investments. Five items were adapted from Jones et al.:

- time, energy, and effort went into building and maintaining the relationship
- had a significant investment in the relationship with vendor
- devoted significant resources into previous dealings with the vendor
- spent significant time and money with outsourcing vendor
- not invested significant time and money in the relationship with the vendor (this was reverse-scaled).

#### (2) Lost performance costs of past IT operations.

These were measured using four items adapted from Jones et al.:

- vendor provided us with particular privileges we would not receive elsewhere
- certain benefits would have been received that would not have been received if the relationship were terminated
- certain benefits would not be retained
- would lose preferential treatment after discontinuing relationship.

#### (3) Management system upgrade costs for future IT operations.

These required an assessment of the additional investment in upgrading managerial systems. Two items were adapted from Weiss and Anderson:

- no significant investment in resources to create a new management system (this was reverse-scaled)
- invest a good deal in setting up a new management system.

#### (4) Uncertainty costs of future IT operations.

These were measured using two items adapted from Jones et al.:

- not sure what the level of service would be
- service we would receive will probably be worse than the service received currently.

#### (5) Induction–retraining–performance costs during future IT operations.

After an alternative has been chosen, the new personnel often face initial performance challenges. Induction–retraining–performance costs represent the challenges in meeting performance expectations. Five items were adapted from Weiss and Anderson:

- hiring good IT personnel proved difficult
- cost of training and hiring new IT personnel was extraordinarily high
- could not attract personnel considered acceptable to support application development and maintenance
- taking a long time to become productive
- total length of time from start to finish to establish a new application development team and for them to become productive is extremely long.

## A.2. Switching costs related to personnel-replacement process

### (1) Candidate search costs.

These costs are incurred because of the time and effort expended in searching for potential candidates. Five items were adapted from Jones et al.:

- took a significant amount of time and effort to locate new IT personnel
- had to devote significant resources to find new IT personnel
- had to conduct and extensive search to find new IT personnel
- locating new IT personnel took a great deal of time and
- search for new IT personnel was needed.

### (2) Information transfer and setup costs.

Information transfer/setup cost measurement required assessment of the time and effort involved in communicating information to various internal processes and to chosen candidates before they could perform their work. Two items were adapted from Jones et al.:

- significant time required to explain needs
- having to explain processes.

## A.3. Switching costs related to in-house learning: cognitive and behavioral learning costs

Learning ensures that in-house staff understand needed new cognitive/behavioral skills. Three items were adapted from Jones et al.:

- [customer organization might] require learning how to do things differently
- [customer organization] unfamiliar with policies
- [customer organization might] have to learn how the system works.

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