# Sources of Vendor Production Cost Advantages in IT Outsourcing

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**Title:** *Sources of Vendor Production Cost Advantages in IT Outsourcing*

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**Abstract:** To date, most research on IT outsourcing concludes that firms decide to outsource IT services because they believe that outside vendors possess production cost advantages when facing environmental and technological change. Yet it is not clear what enables vendors to provide production cost advantages and how. The paper elaborates on these two questions by combining existing research literature with findings from a case study of one successful application maintenance outsourcing engagement. It then analyzes how answering these questions can help firms decide whether to outsource IT application maintenance and how to evaluate outsourcing vendors. It also suggests how vendors can become successful in today's environment.

12 Pages

## INTRODUCTION

The IT outsourcing phenomenon has been the subject of much interest and debate in both practitioner and academic communities throughout the past decade. While organizations have been purchasing IT products and services from outside providers for many decades, the onset of the IT outsourcing phenomenon is most often associated with Eastman Kodak, which in 1989 outsourced the bulk of its IT services (Applegate and Montealegre, 1991). In the past decade, the IT outsourcing industry has been growing at a staggering rate of about 20 percent a year reaching around $55 billion in 1998, while outsourcing deals have been getting larger and longer (Caldwell and McGee, 1997). IT outsourcing has been recognized as one of the top ten issues for success in the 1990s (Rockart et al., 1996), yet it is not clear what enables IT service vendors to potentially outperform in-house service delivery organizations in certain tasks.

Understanding the factors which can enable IT service vendors' effectiveness on projects has important implications for practitioners. It allows organizations looking for sourcing solutions to decide whether outsourcing is right for them. It enables IT service vendors to capitalize on the available opportunities in order to provide better value to their customers and achieve higher profitability.

The research presented here elaborates on the factors behind vendor effectiveness in IT application maintenance outsourcing based on a case study. The case study focuses on understanding which management practices allowed vendors to achieve their own, as well as their client's, goals. The paper begins by reviewing the literature on outsourcing. Then, a brief overview of the case study data provides an explanation for the vendor's success. Next, existing research on outsourcing is tied to the case data to propose a framework for explaining the vendor's success. Finally, the paper concludes with implications for practice.
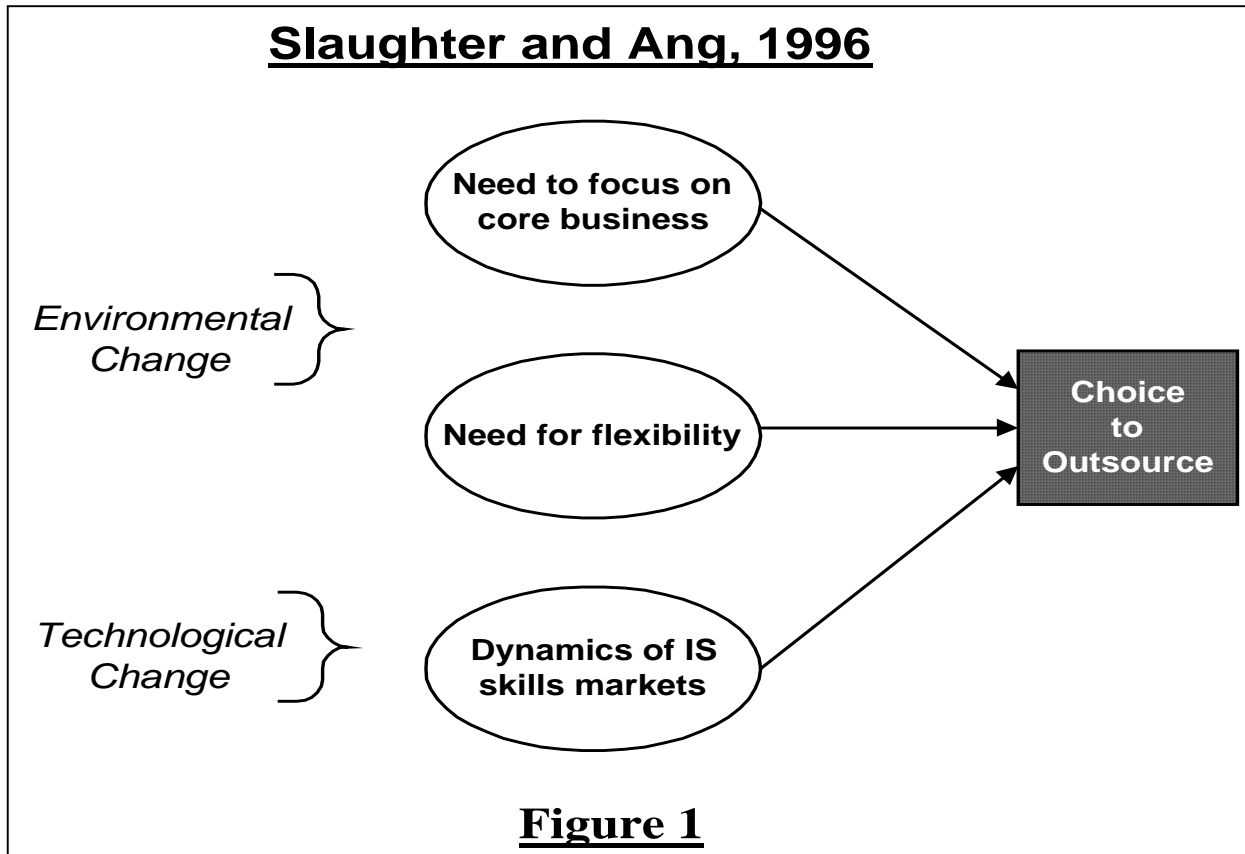
## RESEARCH ON THE EMERGENCE OF IT OUTSOURCING PHENOMENON

Most IT outsourcing research to date has attempted to answer the question: Why do firms decide to outsource IT? Surveys and archival records of sourcing decisions made by firms were used to address this question. Three theoretical research traditions underpin a large part of the research on IT outsourcing: 1) Transaction Cost Economics and Theory of Incomplete Contracts (Ang and Cummings, 1997; Ang and Straub, 1998; Nam et al., 1996); 2) Institutional Theory (Ang and Cummings, 1997; Loh and Venkatraman, 1992b); and 3) Neoclassical Economics (Ang and Cummings, 1997; Ang and Straub, 1998; Loh and Venkatraman, 1992a; Slaughter and Ang, 1996). To date the strongest empirical support was found for the Neoclassical Economics explanations, which argued that production cost advantages offered by vendors are the main reason for IT outsourcing. Moreover, in a recent study of IT sourcing decisions "expected IT cost savings" was the most-cited reason for outsourcing appearing in 80 percent of the decisions considered (Lacity and Willcocks, 1998). Many studies have emphasized that organizations are experiencing great pressure to cut IT costs (Ang and Cummings, 1997; Loh and Venkatraman, 1992a; Loh and Venkatraman, 1992b; Slaughter and Ang, 1996). Outsourcing often results from decision makers' beliefs that IT service vendors can outperform their internal IT organizations in achieving cost cutting goals.

One explanation of why vendors have cost advantages in employment subcontracting is that increasing technological and environmental turbulence make permanent employment arrangements prohibitively expensive (Slaughter and Ang, 1996). This explanation is illustrated in Figure 1.

In this explanation, two factors responsible for IT outsourcing are the need for flexibility and the need to focus on core business. The third determinant of outsourcing is the dynamics of the IS skills market, characterized by skill deterioration and specific skills shortages associated with rapid technological

change. While this framework proposes that environmental factors lead firms to favor outsourcing over insourcing of IT labor, the framework needs to be developed further to address the question of how IT service providers are able to leverage these environmental factors. This paper applies Slaughter and Ang's framework to case study data in order to extend the framework beyond employment subcontracting to application maintenance outsourcing and to explain how IT service providers build competencies necessary to leverage given environmental factors.



# Slaughter and Ang, 1996

Environmental Change

Need to focus on core business

Need for flexibility

Choice to Outsource

Technological Change

Dynamics of IS skills markets

## Figure 1

CASE STUDY

**Research Approach**

The primary focus of the case study presented here was to understand what made one particular outsourcing engagement successful. Both vendor and client managers believed that the engagement was successful in that it achieved and outperformed its goals. Moreover, the success was documented fiscally through cost savings for the client and profit and revenue growth for the vendor. Finally, this engagement has received an independent certification on the high quality of Software Engineering management process by the Software Engineering Institute[1]—an accomplishment that only 12.2 percent of the commercial organizations had at the time of the study.

While both the clients and the vendor were responsible for the success of the engagement, the case study focused on the vendor's management practices used to achieve engagement success. The study also looked at the client's reasons for outsourcing its IT services and the environmental factors that both

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[1] CMM Level-3 Compliance

organizations faced. The investigation used a case study methodology (Yin, 1984), which is particularly appropriate for understanding innovations put in place by IT practitioners (Benbasat et al., 1987). The engagement represented both an extreme case (Software Engineering Institute certification was a rare achievement) and a revelatory case (it is rarely possible to study both client's and vendor's perspectives on the engagement in sufficient depth) (Yin, 1984).

The study employed qualitative methods (Miles and Huberman, 1984) to understand the nature of the outsourcing relationship and individual perceptions of the rationale behind staffing and management decisions. Although the primary unit of analysis was the vendor's management practice on the outsourcing engagement, the investigation also involved other levels of analysis such as the individual, client's organization, vendor's branch organization, and vendor's organization as a whole.

The bulk of the data collection took place in the spring of 1998 using different sources including unstructured and semi-structured interviews, documentation, archival records, direct observations, and physical artifacts such as manuals, forms, and project archives. Semi-structured interviews lasted from forty minutes to two hours (see Table 1).

**Table 1. Interviewee Type and Number of Interviews**

| Interviewee Type | Number of Interviews |
|---|---|
| *Vendor Organization* | |
| Branch Management | 4 |
| Engagement Management | 2 |
| Project Management | 4 |
| Consultants | 5 |
| | |
| *Client Organization* | |
| IS Department Management | 1 |
| Engagement Management | 1 |
| Project Management | 1 |
| User Managers | 4 |
| User Staff | 3 |
| **Total** | **25** |

**The Vendor**

The vendor, Keane, Inc., is a medium-sized firm providing a variety of IT outsourcing services through a North American network of branch offices. In the past decade, the 30-year old company has experienced great financial success. At the time of the study an average compound total return for the past ten yeas was over 50 percent a year—much higher than the software industry average of 26.9 percent. The compound total return was over 150 percent in 1997, with the software industry average of 46.1 percent. Revenues for 1997 were up 40 percent from 1996, and net income for 1997 was up 81 percent from a year earlier.

Keane's top management considers its Metropolis branch[2], the focus of this case, to be one of its most successful regional operations. In addition to consistently high financial results in both profit margins and revenue growth, this branch has pioneered a number of operational innovations including implementing major software engineering methodology improvement, and broadening the scope of employee recognition programs.

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[2] The location of the branch and the name of the client organization are disguised.

**The Client**

TELECOM is one of the world's premier voice and data communications companies. In recent years, unprecedented changes in the telecommunication industry have resulted in great market turbulence for TELECOM. The Telecommunications Act of 1996, along with the emergence of the Internet and the opening of global markets for worldwide competition, forced TELECOM to reevaluate its cost base and streamline its operations. Subsequently, in 1996 and 1997 the company underwent a major restructuring effort, which among other things, resulted in greater centralization of its IT operations.

TELECOM's Human Resources Information Technology department (HRIT) was Keane's client on the engagement. As part of the corporate IT organization, HRIT was responsible for providing IT services to the Human Resources (HR) organization. Currently HRIT consists of about 250 employees.

**Summary of Findings**

*Environmental Factors*

HRIT first outsourced its IT application maintenance to Keane at the end of 1994. According to HRIT's department manager, this decision was made amidst TELECOM's turbulent business environment and out of the necessity to cut IT costs. Throughout the decade, HRIT had been heavily involved in numerous technological initiatives including system migration to client-server technology, package implementation, Year 2000 (Y2K) compliance, and a multitude of technological upgrades. HRIT was pursuing these initiatives in an environment of shrinking IT budgets. At the same time, the HR department—HRIT's business customer—asked HRIT for numerous changes and enhancements to existing software systems that were associated with TELECOM's restructuring efforts and changing HR policies. Thus, HRIT's business environment was characterized by *constant changes in business and technical requirements* and *increasing pressure to cut IT costs.*

At the same time, IT employers of the 1990s—including HRIT—faced a whole new set of challenges associated with the difficult IT labor market situation. The labor market was characterized by *increasing IT worker salaries* and *high level of turnover.* Well documented in the business press, these factors made it especially challenging for HRIT to cut its spending on maintenance projects. These problems were exacerbated by the fact that HRIT's COBOL programmers were not content to remain in low prestige maintenance positions, while other employees and contract workers were offered opportunities to learn client-server development skills. HRIT's Department Manager explained how such task assignments resulted in low employee morale:

> Well, how does that make me feel if I'm a TELECOM employee? I work for HRIT for a while, and I've been working on this mainframe stuff all my life and I see somebody getting to work on client server things over here—exciting, resume-enriching, cutting edge, interesting stuff. That's not the best thing in the world for my morale. I would have at least liked to have had the chance to do that.

Thus, the third factor in HRIT's labor market was *the lack of worker's interest in the less skilled work* such as mainframe programming. HRIT's internal customers were especially sensitive to this third factor since constant business changes necessitated a significant amount of work with existing mainframe systems while new client-server packages were being implemented.

Faced with these environmental factors, HRIT decided to selectively outsource its system maintenance in order to cut costs and free its own personnel for client-server system development and implementation projects. At the end of 1994, Keane was chosen to support 25 different applications for two years at a cost

of $13.5 million. In the following years, Keane's contracts with HRIT have grown in both size and scope, including work on Y2K compliance, legacy system termination, UNIX system support, etc.

### Keane's Practices

The same environmental factors that created challenges for HRIT were also playing a crucial role in Keane's environment. Keane signed a fixed-price contract with HRIT that promised to cut HRIT's costs while keeping HRIT's customer—the HR department—satisfied. Keane had to comply with all of TELECOM's corporate technological initiatives, participate in Y2K compliance projects, etc. It was also faced with the same set of IT labor market concerns that faced HRIT. Yet, in this tough situation, Keane was able to deliver on its promises to HRIT while achieving profits and revenue growth for itself. HRIT's Department Manager commented on Keane's ability to deliver high quality services:

> They did a very good job and they saved us a lot of money, and they kept our customer satisfaction levels very high.… Keane came in and they were as motivated as we were.… They were really exceptional in terms of delivering more with less.

Keane's own financial achievements were evidenced by significant growth of the contract's size and profitability.[3] Understanding what factors and practices enabled Keane to outperform HRIT in this environment is the question addressed here.

The branch manager, who oversaw the HRIT engagement, summarized Keane's engagement management philosophy for fixed-cost application maintenance:

> The major philosophy of outsourcing is that Keane is taking a risk.… One of the benefits of an outsourcing contract, particularly a big one, is that we can control the staffing, so that we can bring people in and rotate people out, and provide good career advancement and good training for our employees, while still maintaining a level of service. The larger the engagement, in general, the more flexibility we have in doing that, so we as an organization can be more successful that way and give more opportunities to our employees.… We would be able to successfully propose and engage in these kinds of assignments using our methodology.… The more that we can control and manage, the better it is for us, and if we can do it successfully, the better it is for everybody. This has been a pretty successful methodology.

In other words, Keane attributed its success to its ability to utilize the control that it had over the engagement management practices. In order to develop Keane's core competence in IT service delivery, it put in place three key practices:
- Personnel Career Development
- Methodology
- Knowledge Sharing Inside and Out

The environmental factors, the core competence development practices, and the factors that enabled Keane's success are depicted in Figure 2.

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[3] Keane's stock and revenue growth were very strong; however, this reflected Keane's success on many engagements of which HRIT was just one.

# Sources of the Vendor's Cost Advantage

**Environmental Factors**

**Success Enabling Factors**

**Business Factors**

1.
Constant Change in Requirements

2.
Increasing Pressure to Cut IT Costs

**Economies of Scale and Scope**

Access to Variety and Multitude of Projects

**Core Competence Development Practices**

Personnel Career Development

Methodology

Knowledge Sharing Inside and Out

**IT Labor Market Factors**

a.
High Level of Turnover

b.
Rise of IT Workers' Salaries

c.
Lack of Interest in Less Skilled Work

**Relationship with IT Clients**

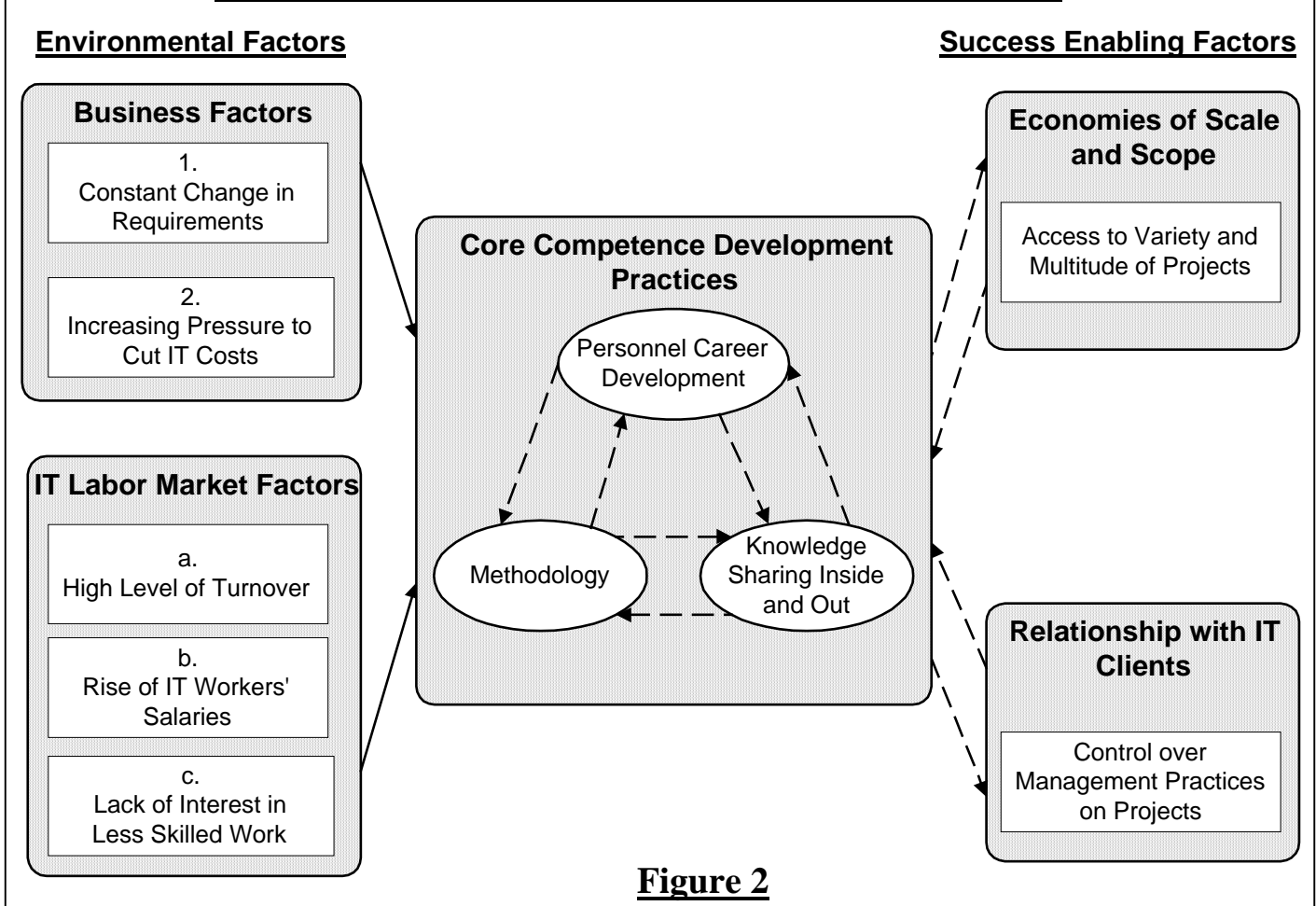Control over Management Practices on Projects

## Figure 2

Detailed accounts of each of the three core competence development practices can be found elsewhere (Levina and Ross, 1999). This paper will discuss how each practice worked as a response to the environmental factors faced by Keane.

Personnel Career Development practices aimed at providing HRIT with consultants who would do less skilled maintenance work, stay with the company as long as possible, and not demand "unreasonably" high salaries for doing so. In order to contain salaries, Keane relied heavily on junior staff, supplementing their skills with the software engineering methodology, training courses, and mentoring by senior employees. In order to keep junior consultants as well as other workers from leaving for higher salaries and more interesting jobs, Keane offered promising growth opportunities both horizontally (to other projects offering other skills) and vertically (into management positions). Simultaneously, to safeguard against the loss of knowledge associated with high turnover levels, Keane staffed its engagements to ensure redundant skills and knowledge among its employees. Finally, Keane established a Staffing and Employee Development Office at every branch to ensure that employee concerns were addressed before they decided to leave the company.

Methodology practice at Keane aimed at applying a consistent best-of-breed approach to IT projects. The application maintenance methodology constituted a set of standardized procedures and documents aimed at the efficient execution of IT system maintenance tasks. It was developed through knowledge sharing of what worked on particular engagements both up and down the organizational hierarchy. In a grass-roots approach, HRIT engagement consultants worked on finding the best way to perform their tasks. Line personnel routed their methodology suggestions to project managers, who met regularly to discuss possible methodology improvements. What worked was then shared with the Practice Area Head for that engagement, who then channeled suggestions to the Corporate Practice Group. Best practices were documented in the methodology and disseminated down to all engagements. An important emphasis of the methodology was the continuous operational improvement of client's operations. Another emphasis was on the standardization of processes across the whole engagement, making employee transfer to other assignments smoother.

A key part of Keane's project management methodology was its emphasis on continuous knowledge sharing inside and out. Internally, knowledge sharing worked to prevent knowledge loss associated with still high turnover. Formal training was offered to all consultants on a variety of management and technical topics. Senior consultants at the HRIT engagement took an active role in mentoring junior staff because it both counted on their performance evaluation and provided them with status recognition. The methodology enforced formal documentation of work thus creating organizational memory in anticipation of employee turnover on projects. Keane's methodology also emphasized the importance of sharing knowledge with the client: understanding the client's goals and priorities, managing client expectations, learning from client personnel, and continuously reporting work status to the client. This continuous knowledge sharing was critical in dealing with constant business and technological changes that HRIT experienced. Aside from formal knowledge sharing encoded in the methodology, Keane consultants established personal relationships with HRIT's staff by offering a helping hand when necessary and by building their reputation through high quality service delivery. The establishment of interpersonal trust with clients enabled Keane to deliver services more efficiently at a lower cost.

While each practice alone was important in and of itself, the three practices also worked in unison to reinforce each other's benefits. What enabled Keane to successfully develop and deploy these practices at HRIT is the subject of the next section.

*Success Factors*

As stated by Keane's branch manager earlier, the key to Keane's success was its *control over management practices on projects*. Keane realized control over its engagements through the structure of its contracts. The Level of Service Agreement (LOSA) was a type of contract that offered a client a predetermined level of service for a fixed cost. Services above and beyond LOSA were agreed upon and charged for separately. Building outsourcing relationships based on LOSAs allowed Keane to control the management practices, while alleviating the client's worries regarding overspending and overcharging. This control enabled Keane to **apply** its core competence in IT service delivery to decisions on the engagement staffing and organizational processes (methodology and knowledge sharing practices). By applying its management practices to engagements, Keane was able to deliver services at lower costs.

At the same time, Keane needed the control over its engagements not only to apply its knowledge to practice, but also to **develop** that knowledge and to grow its personnel. This is why Keane's Branch Manager said that the larger the project, the better it is for Keane. Keane used large engagements to build its career development practices and methodologies. In addition, by controlling engagements with various skill requirements, it offered its employees multiple growth opportunities. Thus, the *access to the variety and multitude of projects* as well as the control over management practices on them was crucial for developing Keane's core competence. Figure 2 demonstrates the interrelationship between Keane's core

competence development practices, access to the variety and multitude of projects, and control over management practices.

*Discussion*

The factors present in HRIT's and Keane's environment are largely consistent with Slaughter and Ang's framework. Need to focus on the core business and need for flexibility identified by these authors in HRIT's environment translated into *constant change in requirements* and *increasing pressure to cut IT costs*. The dynamics of the IS skills market characterized by *high level of turnover* and *rise of IT worker salaries* also played a critical role in HRIT's and Keane's environment; however, the dynamics were quite different from Slaughter and Ang's observations. While in the labor subcontracting setting Cobol jobs were more likely to be insourced, these jobs were more likely to be outsourced in application maintenance contracts due to morale problems associated with the *lack of interest in less skilled work*. Despite this small difference, the case study data provided support for Slaughter and Ang's argument in the new application maintenance outsourcing setting.

In this case both the vendor and the client had to operate amidst environmental and technological change. What enabled the vendor to deliver services at reduced costs were its three key competence development practices: Personnel Career Development, Methodology, and Knowledge Sharing Inside and Out. These three practices are not necessarily the only way to achieve production cost advantages, but they worked well together in providing a strategic response to the environmental factors that Keane and HRIT faced. Keane was able to explore complementarities (Milgrom and Roberts, 1995) among the three practices. That is, the benefits from using these practices together were greater than from using each one individually. For example, institutionalization of the mentoring program (part of Knowledge Sharing) increased the value added by junior staff (part of Personnel Career Development).

Given that the three practices were an effective way of building IT service delivery competence and reducing production costs, it is worthwhile to explore whether HRIT or other in-house IT organizations could implement these three practices rather than outsource. In fact, the case data showed that the development of the three practices was enabled through Keane's access to and control over a variety and multitude of projects. A good methodology does not grow from just one engagement. Keane constantly enriched its methodology by combining experience from multiple engagements. Similarly, many different types of projects are necessary to enable personnel growth opportunities. At the same time, developing the core competencies is an "expensive" task. Keane spent significant resources on developing the methodology, growing its personnel, and ensuring knowledge sharing on projects. These costly up-front investments paid off when the practices applied to all of Keane's outsourcing engagements resulting in multiple benefits. In other words, **Keane capitalized on the economies of scale and scope present in the IT service delivery market in the 1990s**. Namely, it was able to recoup high fixed costs due to lower marginal costs. The synergy between the three core competence development practices and Keane's ability to control a variety and multitude of projects enabled Keane to provide a strategic response to the factors found in its environment.

Keane capitalized on the economies of scale and scope in the HRIT engagement. Many internal IT organizations cannot apply Keane's approach to projects because they lack control over management practices on all of their IT projects. For large firms, this is often due to the decentralized nature of many IT organizations. On the other hand, many small IT organizations often do not have enough variety in their projects to develop IT project management competence. Finally, some organizations make strategic decisions not to invest limited resources in IT service delivery, concentrating instead on their core business. In all three cases vendors with scale and experience can offer production cost advantages to these organizations.

Clearly, the proposed explanation of what enables vendors to provide cost advantages in the 1990s needs further testing and verification. This paper relies on a single, though detailed, case study of application maintenance outsourcing and needs to be verified and modified in other settings including the same and other types of outsourcing engagements and in internal IT service delivery operations. Furthermore, additional verification and testing of the environmental factors identified here is necessary. Finally, the framework of vendor success developed here is in need of empirical testing with a broader set of client firms and IT service delivery organizations.

IMPLICATION TO PRACTICE

### Implications for Firms Making IT Sourcing Decisions

The framework presented in Figure 2 implies a set of questions that firms making sourcing decisions can ask before deciding whether and to whom to outsource. On the one hand, the case study indicated that outsourcing is not just a fad and that vendors, who leverage economies of scale and scope, can provide significant cost savings to clients. On the other hand, it indicates that in-house IT organizations who are willing to invest in building IT service delivery competence and who have the scale and scope necessary to achieve it might not need the help of vendors. Figure 3 proposes a set of questions decision-makers in firms can ask themselves in making IT application maintenance sourcing decisions. The first set of questions helps firms decide whether they need to make major changes in their sourcing decisions.

### Environmental Factors:

**Question 1a: Do our business and technological requirements change rapidly?**
Most of the firms in today's environment will answer this question affirmatively, but even this rule may have some exceptions.

**Question 1b: Do we have pressures to cut IT maintenance costs?**
While most firms today do experience these pressures, it is not necessarily the case with every firm. If, for example, upper management considers IT maintenance to be strategically important (e.g. financial firms), it might allocate ample resources for it, hence alleviating the pressure on internal IT organizations.

**Question 2: Do we control our IT labor market?**
Despite the increasing mobility of the workforce, it is still possible that some employers exercise significant control over their labor market. Rising IT worker salaries and turnover levels as well as the lack of interest in less skilled work might not affect these employers to the degree that it affects others. For example, if a firm is (or almost is) the only IT employer in the geographical locale, it may be able to exercise enough control over its IT labor force avoiding labor market pressures identified here.

If the answer to any of these questions is "No," then a given firm may not need to outsource nor to invest in the implementation of the three practices used by Keane. However, if the answer to all three is "Yes" and the firm decides to invest into the development of IT service delivery competence, then it is necessary to evaluate if such a competence can be developed internally by considering the next two questions.
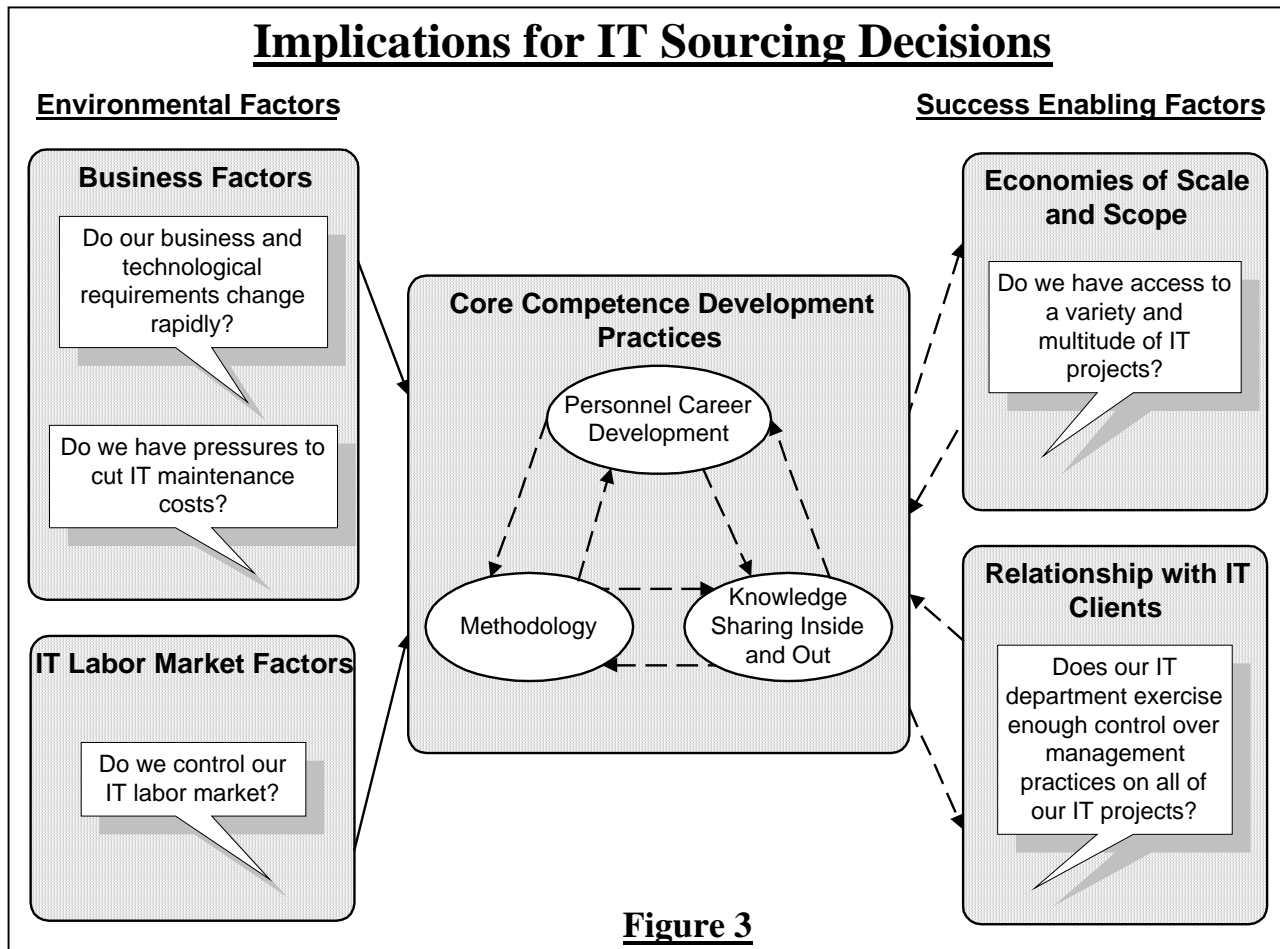
# Implications for IT Sourcing Decisions

**Environmental Factors**                                      **Success Enabling Factors**

**Business Factors**

> Do our business and technological requirements change rapidly?

> Do we have pressures to cut IT maintenance costs?

**Core Competence Development Practices**

Personnel Career Development

Methodology

Knowledge Sharing Inside and Out

**Economies of Scale and Scope**

> Do we have access to a variety and multitude of IT projects?

**Relationship with IT Clients**

> Does our IT department exercise enough control over management practices on all of our IT projects?

**IT Labor Market Factors**

> Do we control our IT labor market?

**Figure 3**

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**Success Enabling Factors***:*

### Question 3: Do we have access to a variety and multitude of IT projects?

Smaller firms may only have a handful of IT projects (both development and maintenance) and thus may not be able to build IT service delivery competence development practices necessary for success. Similarly they may not be able to get enough benefits from implementing these practices if the scale of their IT operations is too small.

### Question 4: Does the IT department exercise enough control over management practices on all of IT projects?

This question is particularly important for internal IT organizations. While a given firm may have enough projects to sustain the three key practices suggested here, its decentralized IT department may not be able to exercise enough control over the management practices on all of them. For example, if staffing and promotion decisions are made by business units and not by the IT organization, then it will not be possible to implement the Personnel Career Development practices suggested here. Similarly, business units may decline to use and develop the Methodology if they feel it is too resource consuming or constraining for them.

If the answer to both questions is "Yes," then a given firm can start building its IT service delivery competence on its own. Such competence takes a significant amount of time and resources to develop and top management must realize the extent of that commitment. With proper resource commitment and control, however, many in-house service delivery organizations were able to build an excellent IT service delivery competence. On the other hand, if the in-house organization lacks the necessary control over a variety and multitude of projects or *if for strategic, political, or cultural reasons chooses not to build IT service delivery competence in-house*, they can look at outsourcing as a viable option. In this case, potential vendors should be judged on how well they cope with environmental factors and whether they have developed a sound IT service delivery competence. Also, the structure of the contract should be such as to allow vendors to exercise enough control over projects to implement their practices.

## Implications to IT Service Vendors

Another set of implications concerns IT application maintenance service vendors. If they operate in the environment characterized by the environmental factors in Figure 2, then they are in position to take advantage of these factors. This will require the following:

1. Structure contacts so as to exercise necessary control over IT management practices on engagements.
2. Invest resources into developing core competencies in IT service delivery by implementing Personnel Career Development, Knowledge Sharing Inside and Out, and Methodology.
3. Apply core competence development practices to each engagement.

The suggestions made here, if implemented, do not by themselves guarantee the success of any given IT maintenance outsourcing engagement. Other issues associated with outsourcing have to be considered carefully as well. Based on the existing IT research literature and confirmed by the data in this case, proper alignment of client and vendor incentives and the establishment of trust between partners are necessary ingredients of the engagement success (Kern, 1997; Lacity and Willcocks, 1998; Sabherwal, 1999). Once these are secured, the implementation of proper IT management practices can result in the long-term success of IT application maintenance outsourcing for both vendors and clients.

This paper contributes to the identification of the competence development practices for IT vendors. It supports and extends Slaughter and Ang's (1996) framework by explaining why vendors can provide production cost advantages amidst environmental and technological changes. This explanation helps practitioners understand the value of IT application maintenance outsourcing in today's environment. Vendors can take steps to deliver this value to their clients, while organizations in need of IT services can decide whether to outsource and what to look for in a vendor.

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