

# 資訊系統委外之隱藏成本初探

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## 摘要

本文植基於資訊系統委外的原因，對委外作一定義與分類，之後探討整理資訊系統委外的所有可能隱藏成本與因應之道。

資訊系統委外的隱藏成本可能在委外前、委外時與委外後皆會產生。從 (1) 評估供應商到簽約正式委外工作，之後 (2) 移植相關系統資料至供應商處以及 (3) 委外過程中與供應商的互信關係之建立及其他努力事項，乃至於最後 (4) 移轉回組織的成本，包括系統整合、是否需轉換供應商、外派的員工重回組織之問題以及是否保有核心競爭能力等。此外，其他隱藏成本如：組織降低學習能力及資訊專業員工士氣低落等也是常見的現象。在此，本文針對各種相關隱藏成本提出一兼總整理的解決方案。

# Issues on Information System Outsourcing — a Focus on Hidden Costs

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## I. Introduction

Since Kodak Company first had its IT outsourced successfully in 1989, IT outsourcing become an important issue. Nowadays, long-term outsourcing contracts of five to ten years have already become a trend among companies. Even small companies will also follow this type of partnership. According to "The 1999 Outsourcing Trends Report," information technology outsourcing in companies are roughly one-third of those activities and roughly one-fifth of their financial affairs. And the report reflects that all companies even spent more on this activity more in 1999 than in 1998. It is obvious that companies having their activities outsourced is a trend now.

However, past researches about hidden costs of IT outsourcing is rare. Most of the studies explored aspects of outsourcing but not pay attention to the potential hidden costs. Therefore, this research tries to collect all possible hidden costs of IT outsourcing and analyzes ways to solve these hidden costs. The result may contribute to both organizations that are considering IT outsourcing and those that have already have their IT outsourced. For those organizations evaluating outsourcing, they can pay attention to the possible ways to avoid incoming hidden costs. And, for those companies already have their IT outsourced, they can try to find ways to reduce hidden costs.

In this article, it contains following contents: (1) definition of outsourcing; (2) types of outsourcing; (3) reasons of outsourcing (4) hidden costs of outsourcing (5) ways to reduce hidden costs. Finally, the conclusion and suggestion is provided.

## II. Literature Review

### 1. Definition of Outsourcing

In reviewing the definition of outsourcing, Willcock's and Lacity's research definition is recognized as one of the representatives:

"IT outsourcing means handing over to third-party management, for required result, some or all of an organization's IT information systems (IS) and related services.....There is a key distinction between contracts that specify a service and result which the market is to provide" (Willcocks L, Lacity M & Fitzgerald G, 1995).

### 2. Types of Outsourcing

There are various types of outsourcing. It is vague that most articles just use "outsourcing" as the term and not really define what types of outsourcing activities theirs belong to.

Willcocks & Fitzgerald (1995) assessed European and the USA companies of their outsourcing activities. In their analysis, the activities of outsourcing can be divided into following categories. Same categories were used by other scholars (Lacity M. C., Willcocks L.P., & Feeny D.F., 1996):

#### (1). Total outsourcing

This includes both hardware equipments and software applications.

#### (2). Total outsourcing--return in-house

Different from the prior one, the assets will return to the company.

#### (3). Selective outsourcing

This may include hardware outsourcing and software outsourcing. For software outsourcing, a company may have multi- activities outsourced.

As for insourcing, willcocks et al(1995) defined it as " Contracts which call for the market to provide resources to be deployed under the buyer's management and control."

### 3. Reasons of Outsourcing

According to past researches, there are many reasons that company decided to outsource the activity. Saunders et al. (1997) ranked the primary reasons for outsourcing. According to their research report, reasons are listed below in order:

- (1). Technological Considerations (i.e. integrate technology; skills lacking in house)
- (2). Cost Savings
- (3). Strategic Considerations (i.e. quickly build infrastructure)
- (4). Human Resource Considerations (i.e. inadequate staffing for workload; seasonal workload)
- (5). Mandated by Central Office/Acquired by Another Company
- (6). Consolidate Data Centers
- (7). Never Insourced
- (8). Efficiency
- (9). Increase Range of Functions
- (10). Politics
- (11). Renewal of Contract
- (12). Cash Infusion

From their survey, technology consideration ranks first and cost reduction ranks second although many other researches show that cost reduction is usually the main concern (Henery, 1995, Lee J. N & Kim Y. G, 1999, Mehdi K., Girish H. S., & John G). But obviously from these researches, cost reduction and performance improvement can include all these reasons.

According to Mehdi et al, since Kodak company had its activities outsourced in 1989, outsource became strategic partnering but not just because companies cannot manage in-house operations. Not only big companied but also small companies often contract out some portion of their IT-activities. (Yvonne et al. 1998) Mehdi et al. even pointed out that the trend now is long-term commitment of partnership for both sides. The duration of contracts usually is from 5 to 10 years. Companies outsourced their activities can have cost benefits and business benefits which may

include:

- (1). Cost of hardware equipments buying and depreciation. Companies cannot only use the most modern facilities but also can have tax return.
- (2). Personnel salary savings. The monthly salary of IT-staff is fixed cost. If outsource some activities is more economic, companies surely will consider this alternative.
- (3). Managers can pay more attention to other core business if some of the activities are outsourced. It will increase business benefit.

#### **4. Hidden Costs of Outsourcing:**

Jerome(2001) analyzed possible hidden costs from four phases:

##### **(1). Vendor search and contracting**

While an organization finally decides to outsource its IT activities, (no matter total outsourcing or selective outsourcing) the typical processes followed would be the evaluation of possible vendors, selection of the vendor and then considerations of the contracts.

Since it is the first step, it is very time-consuming before an organization finally decides the vendor. Jerome pointed out that companies spend approximately 3% of the average total IT-outsourcing cost before they really spend the first money on outsourcing. Companies must spend time to collect information to select the most suitable vendor. It usually takes months for them to evaluate possible vendors.

This is the hidden cost many managers will ignore.

##### **(2). Transitioning to the Vendor**

The second phrase of possibly occurring hidden costs will be in transitioning to the vendor. It is very likely that transferring in-house IT activities to the vendor is the most elusive hidden cost. According to Jerome's research, the average transitioning time was about a year and most of companies will spend more than 10 months to switch in-house IT activities to the vendor. Time spent here because the vendor has to realize these activities as much as the internal IT department; otherwise,

the vendor cannot take over this transition. Besides, the time that internal employees spend helping the vendor is also hidden costs. The more complex the outsourced activity, the harder the transition will be. Furthermore, if the activities require to transfer people to the vendor, it also increases transition cost. The transferred employees often feel betrayed and may resist this decision or make the productivity lower.

### **(3). Managing the Effort**

The third possible phrase hidden costs may occur is when managing the IT-outsourcing effort. In this part, it probably represents the largest category of hidden costs because it covers three areas: Monitor to see that IT vendors fulfill their contractual obligations, bargaining with IT vendors, and negotiating any needed contract changes.

### **(4). Transitioning after Outsourcing**

The fourth hidden cost comes from switching vendors or reintegrating IT activities internally. Companies usually will not choose to re-integrate their IT activities or try to switch these activities to another vendor unless it is unavoidable.

### **(5). Others**

Hendry (1995) viewed the hidden cost of outsourcing from different considerations. By first supporting the trend of outsourcing from the economic logic and competitive reasoning, he then explored what is lost when an activity is outsourced and how this loss might affect the capability of the organization. According to his core thoughts, he made people to think the organization as an information processing system. Like all complex systems, the information processing system of the corporation may be broken down into many sub-systems. These subsystems may be explicit and are the primary domain of formal information systems and IT-based process reengineering. On the other hand are the informal part of the system which can be considered as infra-systems. Hendry used cultural web as the representation. He argued that outsourcing is based mainly on analysis of the formal side of the system. However, what outsourcing would affect the infra-systems and

informal adjusting systems should be paid attention to. Here he pointed there might have some hidden costs :

#### **A. Reduced learning capability**

The transferred employees will psychologically consider they are no longer belong to the same culture thus have higher stress levels. And once the ex-employees are replaced by people who have never had any links with the company, the new-comers first will try to have their needed information by formal sense but not by informal information.

#### **B. Reduced robustness**

Given the non-core functions outsourced is based on the need of a company's flexibility to meet the current changing environment. However, cutting parts of the organization may be easy to lose flexibility of awareness and understanding. The greater the company focuses on the core, the less awareness beyond the core the company will pay attention to.

#### **C. Reduced long-term responsiveness**

Similar with reasons above, since a company focused mainly on the core, it will ignore non-core parts until something goes wrong or something out of ordinary happens. The responses may be a little bit too late.

#### **D. Damage to core competence**

From the prior arguments, it may eventually damage the core competence of an organization.

Yvonne et al. (1998) pointed out some risks along with possible hidden cost:

- A. IT permeates an entire organization and is not easily outsourced. IT cannot be compared with outsourcing of security, legal services, etc.
- B. Signing long-term IT outsourcing contracts is risky since information technology evolves rapidly.
- C. The prices of hardware equipments may drop down quickly. Decision makers are difficult to evaluate the cost of outsourcing.
- D. The cost of switching is high. In the future, it is very possible that just some

vendors will survive because of merge. Companies will be more difficult to bargain with appropriate vendors for more reasonable price.

- E. Company may lose control. Outside vendors surely won't act the same as the in-house employees. Also, the confidentiality of data, strategic applications may be another concern for disaster recovery.
- F. Bad of employee morale. Same as many researchers' viewpoint, here they also concern that even talented employees will be in the fear of layoff or transfer. Because of this psychological issue, the company may lose technical staff and be locked by the vendor.
- G. Less flexibility. Unless the contract is specified, the company may lose the flexibility of moving the application to new technological platforms.
- H. Subcontractors. For some hard-to-find technical skills, the vendor may subtract that part of applications to small and unknown companies. This may cause the problems of lower security and poor communication with the client.

Besides what have been discusses, Kee and Matherly (1996) pointed out that a company should calculate the costs of those departments supporting these activities. They viewed outsourcing from financial aspect and suggested possible equations to calculate these supporting costs.

Scott (1999) discussed that multi-vendor is very common for a company nowadays. The potential hidden cost is the efforts the IT department may need to put to ensure harmony across this network.

Many researchers (Brent & John-Mark, 1997; Scott, 1999) all pay attention to the possible hidden costs from personnel considerations. Brent and John-Mark argued from the human assets of the organization and listed some staffing arrangements. The alternatives contain: the vendor cannot hire the critical staff of the company; a vendor has to resolve any disparities in the two companies' compensation, benefits, vacation and sick policies, etc. Brent and John-mark finally listed that additional training and retraining employees, career transitions and change management are also

considered as hidden costs.

Finally, Anonymous (1996) weighed the costs of outsourcing from cost-benefit analysis and considered following as hidden cost:

- A. Administering the outsourcing contract
- B. Coordination between internal users and the vendor for upgrades, training and configuration changes, etc.
- C. Contracting and legal costs which may include contracting, renegotiating or vendor dispute settlements.
- D. The yearly fee of the contract.

Be careful that the vendor may raise the fee from second year when making projections for periods.

- E. Legal costs that disgruntled employees may sue the company.
- F. Contract cancellation.

If it really happens, the company has to spend efforts on evaluating and negotiating a new outsourcing agreement. Possible costs will include hiring and training new staff, replacing hardware and software equipments. Thus, hidden costs arise here. These costs should be clearly listed in the new outsourcing contract.

#### G. Staff morale

Again, many researchers have pointed out that outsourcing may cause lower productivity.

#### H. Share price

Is it possible that outsourcing will affect the company's stock price? For past researches, many companies outsourced their hardware equipments to have cash. Although nowadays outsourcing can be considered strategic policy, it may still possible that outsiders will think the company may have cash considerations so that decide to outsource.

### III. Ways to Reduce Hidden Costs

As Jerome(2001) presented four phases that may have hidden costs , he also discussed methods to reduce hidden costs. Possible solutions are presented in each phase.

#### 1. Phase A: Vendor Search and Contracting

Following are the methods to reduce the research and contracting cost:

##### (1) Select a trustworthy vendor

It is the first step to make the outsourcing activity successful if a company can choose a reliable vendor. Ways to be more warranted can review the vendors' past experiences and their clients' opinions.

##### (2) Know what you want

Although certain level's ambiguity is unavoidable, a company still needs to have enough knowledge to deal with the contract. A good example will be the choice of the system that can be able to fit the company's business within the following 3 years.

##### (3) Spend some time on the contract and vendor survey

Jerome(2001) pointed out that there are two types of IT-outsourcing contracts. The first type applies both to technology and to the price and the scope of the outsourcing contract. The most common examples in this type are benchmarking clauses. Another type contract is about reversibility which concerns either material reversibility or human reversibility. This is the contract that gives the company options to re-buy premises and equipment from the vendor; the other permits the company to hire employee from the vendor. A company should know what kind of contract is more suitable to its real needs.

Jerome(2001) also mentioned that it's essential to spend more time on vendor survey and evaluation. It is worth to pay additional cost to contract with outside experts who can provide the company general outsourcing pitfalls. Outside legal experts can help to evaluate and write the contract with the vendor. Technical experts can help to develop precise but meaningful measures to check vendor's

service performance. Many companies saved this vendor-survey budget and finally are suffered from transitioning to a new vendor or back in-house. In fact, the management cost and transitioning cost will increase which may be avoided if carefully evaluated vendors by experts in advance

## **2. Phase B: Transitioning to Vendor**

Here Jerome presented methods to reduce hidden costs in this phase:

### **(1) Keep core and experienced IT staff in house**

A company should know this possible hidden cost and keep good relation with both transferred and in-house IT employees. Of course, keep the core IT staff in house can keep in-depth knowledge of outsourced activities. And, not to make those transferred employees move to the vendor's other clients too quickly.

## **3. Phase C: Managing the Effort**

Ways to reduce possible costs can be:

### **(1) Cultivate trust in the vendor relationship**

When the relationship between the vendor and the company is harmonious, the vendor will usually ignore the gaps in the contract and does thing well on the outsourced activities.

Here as I know so far, some researchers now pay attention to this topic and try to evaluate "trust" and "relation" between vendors and companies.

## **4. Phase D: Transitioning after Outsourcing**

If the organization really comes to end the contract, following key-points must be considered to try to reduce hidden cost occurred in this phase:

### **(1) Be aware of it**

Most companies don't realize the cost and difficulty if they want to end-up a contract. Things usually happen that they then find out it is very complex and hard to manage.

### **(2) Call back transferred employees**

Calling back transferred employees when the activity was first outsourced can

ease the transition.

### **(3) Keep core IT expertise in-house**

Keeping the experienced IT employee inside the company is another way to reduce the costs at the end of contract.

### **(4) Bring back hardware and software or transferred to another vendor**

## **5. Others**

Although researchers pointed out many possible hidden costs from different considerations, they rarely provide concrete solutions except during the above four phases. Besides the solutions listed in the four phases, Jerome(2001) mentioned that by hiring people with outsourcing management experiences can help companies to deal with this kind of activity. This can result to reduce hidden costs of outsourcing. Jerome(2001) also pointed out that it's essential to avoid outsourcing idiosyncratic and critical activities. Specialized equipments, operating procedures and systems tailored to a single company's requirements are examples of idiosyncratic physical resources. Problems may occur when trying to switch vendors or to reintegrate these activities. Similar situations may occur if outsourcing critical activities. The switching and reintegrating cost will be high and it is very possible to be locked into the long-term vendor relationship.

The other two research papers provided other possible ways to deduce IT outsourced hidden cost. Scott (1999) just pointed out to keep harmony of multi-vendor and Brent & John-Mark (1997) suggested to find alternatives of staffing arrangements.

Table 2 listed all the possible methods to reduced hidden costs of outsourcing presented by scholars.

## V. Conclusion & Suggestion

### 1. Conclusion

Table 1 is the listings of hidden costs. Researchers presented their viewpoints from time phases, organization culture, risks, financial aspects, harmony, personnel and cost-benefit analysis. Most of the costs are unique while staff morale mentioned repeatedly. Therefore, besides cost consideration, staff psychology is an important issue to explore.

**Table 1. Hidden Costs of Outsourcing listed by researchers**

Author	Analysis Viewpoint	Result
Jerome	Time phase	<ol style="list-style-type: none"> <li>1. Vendor search and contracting</li> <li>2. Transitioning to the vendor</li> <li>3. Managing the effort</li> <li>4. Transitioning after outsourcing</li> </ol>
Hendry	Organizational Culture	<ol style="list-style-type: none"> <li>1. Reduced learning capability</li> <li>2. Reduced robustness</li> <li>3. Reduced long-term responsiveness</li> <li>4. Damage to core competence</li> </ol>
Yvonne et al. (1998)	Risk along with possible hidden cost	<ol style="list-style-type: none"> <li>1. IT permeates an entire organization and is not easily outsourced.</li> <li>2. Long-term contract is risky since IT evolves rapidly.</li> <li>3. Hard to evaluate the cost of outsourcing since prices of hardware drops down quickly</li> <li>4. Cost of switch is high</li> <li>5. Lose control</li> <li>6. Bad of employee morale</li> <li>7. Less flexibility</li> <li>8. Subcontractors</li> </ol>
Kee & Matherly (1996)	Financial aspect	Costs that departments support outsourcing
Scott (1999)	Harmony	Harmony among multi-vendors

Table 1. Hidden Costs of Outsourcing listed by researchers (cont'd)

Author	Analysis Viewpoint	Result
Brent & John-Mark (1997);	Personnel	<ol style="list-style-type: none"> <li>1. Vendor cannot hire critical staff of the company</li> <li>2. Vendor has to resolve any disparities in the two companies' compensation, benefits, vacation and sick policies, etc.</li> <li>3. Additional training and retraining employees, career transitions and change management</li> </ol>
Anonymous (1996)	Cost-benefit analysis	<ol style="list-style-type: none"> <li>1. Administration cost</li> <li>2. Coordination between internal users and the vendors</li> <li>3. Contracting and legal costs</li> <li>4. Unreasonable yearly fee</li> <li>5. Legal costs from disgruntled employees</li> <li>6. Contract cancellation</li> <li>7. Staff morale</li> <li>8. Share price</li> </ol>

Table 2 is the summary of possible solutions to reduce hidden costs. Different phases have different emphasis. Besides the listings of solutions in the four phases, to keep multi-vendor harmony and to have alternative staffing arrangements are mentioned by researchers.

It is obvious that possible solutions are not as many as the listing of hidden costs in IT outsourcing. The reason may be because it is more difficult for researchers to gain concrete results in comparison with the evaluation of hidden costs. Therefore, they tried to point out possible hidden cost from different considerations and left spaces for companies and followed researchers to explore more on the possible solutions.

Table 2. Ways to Reduce Hidden Costs

Author	Solutions
Jerome (2001)	<p><i>Phase A: Vendor Search and Contracting</i></p> <ol style="list-style-type: none"> <li>1. Select a trust worthy vendor</li> <li>2. Know what you want</li> <li>3. Spend some time on the contract and vendor survey</li> </ol> <p><i>Phase B: Transitioning to Vendor</i></p> <ol style="list-style-type: none"> <li>1. Keep core and experienced IT staff in house</li> </ol> <p><i>Phase C: Managing the Effort</i></p> <ol style="list-style-type: none"> <li>1. Cultivate trust in the vendor relationship</li> </ol> <p><i>Phase D: Transitioning after Outsourcing</i></p> <ol style="list-style-type: none"> <li>1. Be Aware of It.</li> <li>2. Call back transferred employees</li> <li>3. Keep Core IT Expertise in-house</li> <li>4. Take back hardware and software and transfer to other vendor</li> </ol>
Jerome(2001)	<ol style="list-style-type: none"> <li>1. Hire people with outsourcing expertise</li> <li>2. Avoid outsourcing idiosyncratic and critical activities</li> </ol>
Scott (1999)	Keep harmony of multi-vendor
Brent & John-Mark (1997)	Alternatives of staffing arrangements

## 2. Suggestion

According reviews above, it can be found out that researches on this issues of hidden cost is still not many. Therefore, this topic be a potential issue to be explored in the future. However, in this article, because of time limitation, other alternative findings about this issue may be omitted. In the future, when researchers try to devote to this topic, they can try to quantify the possible hidden costs or by qualitative method to have a more integrated review.

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