Outsourcing the Information Systems Function: The Impact on Competitive Advantage

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ABSTRACT

In recent years, information systems (IS) have become increasingly crucial to the ability of an organization to compete effectively. However, the increasing importance of IS has placed a strain on the ability of an organization to produce and manage information in a timely, relevant, and cost-effective manner. Many organizations have begun to rely more heavily on external vendors to meet their IS needs (outsourcing).

Relying on an external supplier for a resource may allow an organization to take advantage of economies of scale, thereby generating cost savings, but it also often means relinquishing some degree of control over that resource. Several factors must be considered by managers in order to make rational outsourcing decisions which do not adversely affect competitive strategy. This paper explores the relationship between outsourcing IS activities and the ability of the organization to continue the use of IS for competitive advantage. It also provides a framework within which the decision to Outsource can be evaluated.

INTRODUCTION

Over the last decade, the relationship between IS and the competitive advantage of the firm has become an integral part of many organizations [11, 14]. While many believe that major gains in competitive advantage through IS are increasingly difficult to achieve, the relationship between the two is still crucial to organizational survival [12]. Surveys of IS executives and general managers indicate that these managers believe that strategic planning and competitive advantage are among the most important issues they face [12]. Much of the literature in this area addresses the role of IS in creating the competitive framework necessary to respond to opportunities rapidly and effectively (e.g., [11]). Little work addresses the issue of factors that may affect the ability of an organization to use IS as a competitive weapon. This paper provides an assessment of the implications of the use of outsourcing with respect to the competitive advantage of the organization. The paper also provides a framework within which outsourcing decisions may be made.

CONCEPTUAL BACKGROUND

Despite the recognized importance of information sys-

tems as a competitive weapon, there is a gap "between strategi-
gic (IS) planning and competitive strategy" [3]. One reason for this gap is the relative lack of organizational knowledge about how to effectively utilize IS as a strategic weapon [8]. However, even with better knowledge about strategic IS, the capability to effectively use IS to meet strategic opportunities is still constrained by increasing demands and a shortage of IS professionals. Backlogs of two to three years are not unusual in organizations today. There are too many demands and too few IS professionals [6].

The need for information strategic aspects of the firm places increased strain on the already overloaded information systems function. One response to the overload is the use of external workers who are able to provide needed services in a timely, cost-effective manner (outsourcing). Max Hopper, architect of the American Airlines' classic SABRE reservation system, says that "outsourcing is a natural consequence of the IS business" [2]. He likens the use of outsourcers for the provision of basic IS functions to the use of water and electricity.

Organizations are spending more and more of their IS budget on outside consultants both for basic functions and for more sophisticated applications. Outsourcing is projected to
be a multi-billion worldwide industry by 1995, and includes activities ranging from processes management and systems integration to hardware installation/maintenance and software development/support/training.

As a result of providing US outsourcing services, many non-US organizations have been thrust into Datamation’s annual listing of “Top 100 IS Firms” (for example, American Express, Black & Decker, Ernst & Young, and Lockheed are all on the current Top 100 list) [7]. While external sources such as service bureaus and software vendors have long been a part of the US function, the growth in outsourcing that the industry has experienced in the last few years is relatively new. It is not, however, totally unexpected. In 1987 Deardeen predicted that “within the next five years companies specializing in software will likely replace in-house resources in U.S. companies because the cost will be far lower, and the quality far higher than that which can be developed internally” [4,p.87].

Since outsourcing still constitutes a relatively small percentage of the total US activity, we can conclude that it has not grown as rapidly as Deardeen predicted. If the phenomenon continues to grow at its current rate, however, his prediction may be realized within the next few years. The number of executives satisfied with outsourcing is strong, while the number opposed to outsourcing is decreasing [10].

Despite the apparent move toward outsourcing, this may not be the panacea for US that Deardeen indicated. Based on their survey of US executives, Niederman, et al. [12,p.491] predict that while outsourcing may alleviate some of the US overload, many companies will find that “IS in the 1990s will probably be too critical to their primary mission and too integral to their corporate strategy to be managed by outsiders.”

When an organization relies on an external entity to supply a critical resource, there may be a negative impact on competitive advantage [13]. Organizations are beginning to see the detrimental effects on competitiveness caused by outsourcing the manufacturing function. If not properly managed, outsourcing the US function can pose an equally dangerous, although somewhat different, threat to competitive advantage. One study indicates that loss of control and competitive strategy are two reasons many organizations hesitate to use a third party for business applications [10].

As suggested by Newman and Brock [11,p.33], whoever controls the “fabrication and flow” of information possesses a distinct advantage over the competition. “The goal of—achieving competitive advantage—is to attempt to dominate the industry” [11,p.34]. While industry domination may not always be the end result, US can serve as an important weapon in a firm’s competitive environment.

**FORCES OF THE COMPETITIVE ENVIRONMENT**

Michael Porter has described five “forces” which combine to form the competitive environment. Porter’s description is broader than the traditional view of competition. While most people probably think of competitors as those businesses which sell a similar product and compete on a basis such as price and product differentiation, Porter includes forces such as suppliers and customers as competitors. “Competition in an industry is rooted in its underlying economic structure and goes well beyond the behavior of current competitors. The essence of formulating competitive strategy is relating a company to its environment” [13,p.1].

A brief overview of Porter’s five forces is provided below.

**Threat of Entry:** The threat of entry into an industry depends on the barriers to entry into that industry, such as economies of scale, capital requirements, switching costs, entrenched product differentiation (brand loyalties), and access to distribution channels. When the barriers to entry into an industry are high, the threat of entry is low and an existing industry player can compete more easily.

**Intensity of Rivalry among Existing Competitors:** The intensity of rivalry within an industry depends on the number of firms in the industry, on the balance of power among those firms, on the stability or growth of the industry market, and on the existence of barriers to exit from the industry.

**Pressure from Substitute Products:** Any industry can be vulnerable to competition from an industry that offers a product which can perform the same function as its own product. The impact of substitute products is reflected by the industry’s overall elasticity of demand.

**Bargaining Power of Buyers:** A buyer group (customer) can be a significant influence in limiting the competitive advantage and overall financial return of a company or industry if the buyer group’s business constitutes a high percentage of the industry’s sales. Additionally, if the buyer group has “perfect” market information and low switching costs, the buyer group possesses similar high influence.

**Bargaining Power of Suppliers:** A supplier group can be a significant influence in limiting the competitive advantage and overall financial return of a company or industry. Each of these five forces may affect the way in which an organization chooses to compete. There is also a general consensus in the literature that these forces relate to the use of IS as a competitive weapon. For example, Newman and Brock [11] outline a plan for creating an information system for competitive advantage based on Porter’s five forces.

However, one force in particular becomes especially important when a firm considers outsourcing: the bargaining power of suppliers. If an outsourcing client possesses an unequal amount of bargaining power in the outsourcing/client relationship, then the client organization may be limited in its
ability to compete in its own marketplace.

Because outsourcing is still evolving, there are few proven examples of this situation arising. However, the possibility does not go unnoticed. For example, the Government Accounting Office (GAO) is currently investigating reports of reciprocal relationships between banks and their outsourcers [1]. There are reports of outsourcers having members on the board of directors of client banks, as well as, purchasing stock from and making deposits into these client banks. This situation could give rise to unequal bargaining power between banks and their outsourcers. Therefore, the FDIC is reported to be considering regulations on outsourcing in order to “improve the soundness of the banking industry and the competitiveness of the computer outsourcing industry” [1, p. 12]. While these occurrences may not be widespread, evidence of unequal bargaining power does occur outside of the banking industry. Porter indicates that there are several ways in which a situation of unequal bargaining power may arise. Five of these ways are discussed below and illustrated in Figure 1.

**Importance of Resource**

A supplier group is powerful if its product is an important input to the buyer’s business. Many organizations can not operate without ready access to their systems. A manager at Southern Pacific Railroad told us that “when our computer goes down, our company goes down.” In such an organization, it is important that information be provided in a timely, relevant, and cost effective manner. Failure to provide this information may inhibit the capability of recognizing and responding to opportunities in the marketplace.

Note that some firms use IS not to attain competitive advantage, but as more of an operational support tool. Many retail stores, for instance, have adopted point-of-sale technology, but they do not necessarily use the available capabilities to the fullest. Some stores may only use point-of-sale simply to generate sales reports. The information system in this case may not be as “important” to the company as many other information systems are.

Operation or development of an IS internally does not always insure that the quality of information will be enhanced. However, giving control of a vital resource to an external vendor, if not properly managed, may result in diminished quality. For example, there is a possibility that services provided by an external vendor may fail to meet quality standards such as timely delivery. In addition, there is little precedence for who has the legal liability for poor quality. Although outsourcing contracts are not lifetime commitments, they usually extend over a two to three year period; a long time to incur poor service. In addition, even if there is no

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substantial penalty for breaking the contract, premature ter-
mination results in costs to the client in terms of the
finding another supplier or bringing the outsourced activi-
ties back in-house.

Outsourcing contracts are binding commitments, and if
clients are not careful, outsourcing can result in greater costs
and lower quality. "While the outsourcing field is still in its
infancy, experts say the deck is stacked against you. Unless
the outsourcer is blatantly negligent, abuses information or
has organized a "rogue" liability scenario, there is very
little for which outsourcing vendors can be held liable" [9].
Thus, if the outsourced activity is organization-critical, and
the supplier (outsourcer) mismanages the activity, the client's
business may suffer and there may be little contribution for the
client. If a system is especially significant to an organization,
giving a high degree of control over that system to another
party is risky.

Switching Costs
Unequal bargaining power may arise if a supplier has a
built-in switching costs. When a firm agrees to let an
external organization develop or operate a business-critical
information system, these characteristics may exist. There
may be substantial costs associated with switching a systems
supplier. After significant time and dollars have been in-
vested in one supplier's system, it is very difficult and
expensive for an organization to basically "start over" with
another supplier. Additionally, an organization may be
somewhat "tied" to one supplier because of existing equip-
ment or software, or because of organizational expertise
with a particular system.

A company was recently penalized for breaking an
outsourcing contract when the company moved from main-
fones to client/server systems and the outsourcer could not
support the new client/server architecture [6]. In this case,
the client chose to switch, but the costs were substantial.
However, remaining with the outsourcer would have inhib-
ited the firm's ability to pursue a newer, perhaps more cost
effective platform. If an organization's users are particularly
comfortable with a particular operating system, environ-
ment, or application, then the users will certainly resist
switching to another system — even if the other system is
better suited to the serious resistance of many users to switch
from Lotus or Lotus-style menus to other spreadsheet pro-
grants.

Competition Among Outsourcers
A supplier may be powerful if the supplier group is
dominated by a few companies and is more concentrated
than the industry itself. When you purchase a system from
to proprietary technology from a supplier, for instance,
there may be absolutely no competition for that supplier for
subsequent system purchases and changes. If your pur-
chased systems utilize the supplier's special-purpose termi-
nals, for instance, you may have no other source from which
to purchase additional terminals. Mainframe computing
users experience this situation far more frequently than do
microcomputer users, who generally purchase much more
"open" systems.

Importance of the Client
A supplier is powerful if the firm is not an important
supplier to the client. If the firm is one of many custom-
ners, and in particular, if the firm is one of the smaller cus-
tomers, the outsourcer will be less likely to respond to the
firm's individual needs and will possess greater bargaining
power. Additionally, outsourcing is a secondary business to
many firms and may thus be seen by them as less significant
than their primary business. In most outsourcing systems
cases, the system and contract are large, and the business is
in fact important to the outsourcer, thereby reducing the
power that the outsourcer has in the relationship. Neverthe-
less, every supplier has some customers who are more im-
portant than others, and if you are a smaller, less important
customer, then bargaining power is seriously reduced. Such
an "insignificant" customer may have trouble getting prompt
service or required changes to a system. For example, if a
retail holding company such as Dayton Hudson, Inc. and a
smaller chain of privately owned department stores are clients
of the same outsourcer, then the outsourcer may give prior-
ity to Dayton Hudson, Inc. because it may be seen as more
significant to the outsourcer's business than the smaller chain.

Threat of Vertical Integration
A supplier is powerful if it poses a credible threat of
forward integration. Although there are many threats of
this outcome to date, there is always more danger that the
outsourcing firm, having learned a great deal about the firm's
business through its contact with the firm's information sys-
tems, will eventually enter the same business. When IBM
contracted with Microsoft to write the original MS-DOS, they
certainly could not have foreseen the extent to which
Microsoft would later extend their product offerings in both
software and hardware. Microsoft is now a threat to enter
just about any market, and has significant power in dealing
with virtually any other company.

SUMMARY
Outsourcing has become a big business that is expected
to rapidly expand for the next several years. If properly
managed, outsourcing can be used to enhance an
organization's ability to use IS in order to compete more
effectively. However, before deciding to outsource, one

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issue firms should consider is the potential effect on the firm’s competitive position if outsourcing enhances the power of the supplier (outsourcer). Some of the factors related to this issue are (1) the importance of the outsourced activities to the client firm; (2) the cost associated with switching to another outsourcer either at the end of or during the current contract; (3) the extent of competition among relevant outsourcers; (4) the importance of the client firm to the outsourcer; and (5) the potential for the outsourcer to enter the client firm’s business through vertical integration. Any one of these factors could counteract the benefits of outsourcing and, in a worse case scenario, could negatively affect the client firm’s business.

Outsourcing decisions must be made with care regardless of whether the outsourced activities are basic functions such as hardware maintenance or are critical to the firm’s strategic mission. However, firms should be especially careful if they decide to outsource activities related to their competitive position. Otherwise, they could encounter a variety of problems ranging from diminished quality to finding themselves actually competing with their outsourcing for business.

REFERENCES


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