

Developing a framework for analyzing IS sourcing

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Abstract

This paper develops a framework for the consideration of internal markets as an alternative to information systems (IS) outsourcing. It is based on an assessment of the pros and cons of both outsourcing and of insourcing based on the internal markets approach. It is formulated in terms of the operational, tactical, and strategic impacts of the choice among the alternatives. The framework, and the propositions that are developed from it, should be useful both for researchers, who can use it for developing testable research hypotheses, and for practitioners, who may use it as a basis for developing a comprehensive set of criteria for the evaluation of these sourcing options. © 2000 Elsevier Science B.V. All rights reserved.

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1. Introduction

Recent scholarly and practitioner articles in information systems (IS) research have argued that outsourcing may not be a panacea for all IS performance problems, and have argued in favor of selective insourcing. Such ‘smart’ sourcing [1] prescriptions have attempted to identify situations under which outsourcing makes sense, as well as situations for which insourcing may be more desirable.

There is a clear need for a framework for analyzing outsourcing vis a vis a major conceptual, practical, and innovative insourcing alternative, i.e. internal markets. The framework presented here is based on making a comparative assessment of the strengths and limitations of IS outsourcing and of the internal markets approach in terms of the operational, tactical, and strategic impacts of the choice among the alternatives.

The framework, and the propositions that are developed from it, should be useful for IS researchers, who can use it for developing testable research hypotheses, and for IS managers, who may use it as a basis for ensuring that they take all relevant factors into account when considering sourcing options.

The propositions, which may be considered by practitioners to be conclusions which are based on argument rather than evidence, are at the level of short-term operational impacts in terms of efficiencies, cost savings, productivity and service levels, mid-term tactical impacts in terms of performance, control and risk sharing and long-term strategic impacts in terms of core competencies and learning competencies.

2. Information systems outsourcing

Outsourcing implies the use of external agents to perform an organizational activity. Functions and activities that are frequently outsourced range from the obvious (e.g. services that are required so infre-

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quently that the maintenance of an internal competence is clearly unjustified) to those that may be vital to the organization's long-term health (e.g. IS and financial transaction management).

With about one-half of US corporate capital being invested in information systems and information technology (IS/IT) [2] and IS/IT representing the third largest corporate expense [3], the IS function has become a prime target for outsourcing. This is so popular among communications companies, computer vendors, and semiconductor firms that it has been suggested that the computerless computer company will soon dominate the industry [4]. Information systems is one of the business functions most likely to be outsourced [5,6] and the worldwide market for IS outsourcing is expected to grow to \$120 billion in 2002 at a worldwide annual rate of 16.3% [7].

3. Motivations for outsourcing

Cost saving has often been cited as the main reason for outsourcing IS [8]. Another driving force is management's perception that, by surrendering control of its IT to an external supplier, it can focus better on its core business [9–11]. A third motivating factor relates to the perception of IS in the organization — companies consider outsourcing when the internal IS function is perceived to be inefficient, ineffective, or technically incompetent [12]. Based on case studies, Lacity and Hirschheim [13] suggest that the outsourcing decision may be a result of rational consideration and/or it may be a product of organizational politics, conflicts and compromises.

4. The downside of outsourcing

Despite its popularity and growth, outsourcing has been frequently found to be poorly controlled, high in cost, and a drain on quality and service performance [14–16]. Studies of IS outsourcing have shown that many firms have made sourcing decisions based primarily on anticipated cost savings with insufficient regard for strategic or technological issues [17].

Many firms assert that they are justified in outsourcing their 'commodity' activities and retaining their 'core competencies'. However, a study of 40 US

and European companies, concluded that the 'strategic-versus-commodity approach' led to problems and disappointments [18]. Critics argue that IS outsourcing can result in loss of control over IS/IT assets, threat of opportunism (from the supplier), the loss of IS expertise and corporate memory, and a decline in the morale and performance of the remaining employees [19]. They also suggest that similar cost savings might also be achieved internally [20–22].

Companies that use this approach may well be outsourcing their capacity to learn and to coordinate technologies within the business [23], giving up the opportunity to build core learning competencies, and losing a capability that could *potentially* be a key success factor, even though it may not have been so in the past [24]. Existing empirical research provides little support for the popularity of outsourcing in improving overall organizational performance [25]. Researchers who have analyzed IS outsourcing and IS performance have not arrived at any conclusive evidence about the relationship between the two [26].

5. Alternatives to outsourcing

Companies that deploy the latest technologies within a framework of decentralized decision-making and empowerment of employees generally outperform companies in which IS is outsourced [27]. This suggests that many of the perceived advantages such as cost savings, improved service, etc. associated with outsourcing can be achieved without relinquishing control of the function to an external provider. For instance, the internal function may be re-engineered to be more efficient and effective or new incentive systems may be created to influence the demands placed on it.

A general 'backlash' against outsourcing has begun to be reflected in the popular IS press [28]. This suggests the need for an innovative insourcing paradigm. The concept of 'internal markets' offers a promising possibility.

6. Internal markets

The concept of internal markets is not new. Even Dearden, who prophesied the 'withering away' of the IS organization, suggested that [19]:

Companies with large IS capabilities. . . will establish independent IS profit centers or independent subsidiaries that will compete both inside and outside the company. . . These software subsidiaries will constitute an important part of the entire software market. As far as users are concerned, though, dealing with subsidiaries should be no different than dealing with independent suppliers.

Peters and Waterman noted that ‘excellent companies’ had been simulating some characteristics of internal market forces by encouraging internal competition, thereby creating ‘their own internal marketplace’ [29]. Many authors have argued that the concept of internal markets is a ‘dramatically different’ system that is emerging to meet the challenges posed by the information revolution [30–33].

The first widely-known formulation of internal markets seems to have been made by Forrester [34]. The concept was then perceived to have radical implications eliminating superior-subordinate relationships, organizing all activity in terms of self-responsible profit centers, determining compensation objectively, eliminating internal monopolies, allowing freedom of access to information, and establishing a corporate constitution. These appear to be less radical in today’s environment of matrix organizations, self-managed teams, and re-engineered business processes. However, the notion of internal markets is not as simple as that suggested by Dearden. The internal market is a mechanism for unleashing market forces *inside* the firm. Firms selecting this alternative might be able to retain control of the function while achieving the objectives of cost savings and service-responsiveness that are often ascribed to an external vendor.

In order to facilitate clarity, we offer the following working definition of the internal markets concept.

The internal market within an organization is characterized by a setup in which internal units are enabled to act autonomously by exerting *self-control* in conducting *transactions* with *other internal units* and with *external entities* within a framework of an *overarching corporate vision, values and precepts*.

This notion of internal markets may be best understood in terms of its potential broad applicability in an organizational context. Thus, the discussion of internal markets will be broadened to focus beyond IS. Subsequently, we return to the IS context to present a

framework for assessing the relative merits of IS outsourcing versus internal markets.

7. Internal markets and transfer pricing

Implementation of the internal markets concept requires the creation of a market economy inside a firm. In this, organizational units buy and sell goods and services among themselves and to others outside the firm at prices established in the *open market*. In contrast, the transfer prices that are used for internal transactions often represent a simulation of a market-clearing mechanism. They are *proxies* for the market prices that are missing when various organizational units trade with one another.

The effectiveness of traditional transfer prices for services depends on their ability to simulate a market environment in which various organizational units compete for scarce resources. The effectiveness of this simulation, in turn, depends upon the perceptions of the providers and users of those services. Although transfer pricing systems are intended to motivate managers to increase their operating efficiency without a loss in the autonomy of divisions as profit centers, they present a difficult practical problem [35].

Traditional organizational chargeback and control systems are buffered by power and political structures. In some cases, the internal unit is actually constrained from being cost-effective by organizational incentive systems. This was demonstrated in the context of the successful outsourcing of the IS function in the USA by Continental Bank. Prior to outsourcing, it was widely believed that everything that the IS unit did took too long and cost too much. However, it was also observed that most of Continental’s problems resulted from overuse of IS by the bank’s business units motivated by the lack of *real* market prices. The same IS employees, after being outsourced, delivered better service, since the business units were more cautious in prioritizing their IT projects they had to get them done on a ‘hard-dollar, contract basis’ [36].

8. Major characteristics of internal markets

The major characteristics of the internal markets approach are given below.

8.1. *Internal units operate in market-based competition*

The primary concept of internal markets is the autonomy given to the internal unit for making all decisions about its services without being constrained by organizational chargeback [37]. An internal market economy brings the ideas of external free markets *inside* large organizations. Units of the organization operate like a collection of entrepreneurial enterprises having their own distinct markets, clients, and competitors. At various times, they may sell their products or services to other units within the parent corporation, compete against one another for the same customers, and award contracts to outside competitors. In this process, they are forced to compare themselves continually with outside and inside competitors of activities in which they choose to compete.

For the internal market to operate properly, each of its elements must participate regularly in the external market — trading, buying, or selling to other firms in order to bring real prices to bear on internal transactions. Even when an internal network's components are commonly owned, the essential structure and operating rules of the organization are of the type found in a marketplace — clearly specified, objectively-structured contracts that guide interactions, rather than internal schedules, procedures, and routines.

8.2. *Internal units operate as profit centers*

When the internal markets model is implemented in an organization, organizational units, including executive offices, should operate as profit centers. The exceptions to this requirement are units whose output cannot, or should not, be provided to external customers; e.g., product research, development, and design. These exceptional units should operate as cost centers that are attached to profit centers. Establishing a department as a profit center transfers control of funding to the users of services. When the internal service unit is not competitive, users are free to seek alternate external sources.

8.3. *A system of competitive cooperation*

A significant aspect of the internal markets concept is that it does not imply implementation of unfettered

competition within the organization. What is required is the power of cooperation that is simultaneously allied with competition; this has been termed 'a confederation of entrepreneurs,' 'collaborative competition,' or the 'new business ethic of competition and cooperation' [38,39].

Management can implement this by developing overarching precepts, values, and visions that have meaning to people in disparate profit centers [40]. Such leadership can sustain a community of entrepreneurs that fosters collaborative synergy by encouraging joint ventures and alliances, the sharing of technology, the development of solutions for common problems, and mutual support among partners.

8.4. *Role of the executive unit*

In an internal market economy, the executive officers manage the organizational infrastructure through the chain of command rather than the operations. Senior managers act as *enterprise designers* responsible for *building organizations* in which people are continually expanding their ability to shape the future [41]. Senior managers should create and embody the company's vision and ensure that activities are aligned with that vision. Middle managers provide the link between the top management's visionary ideals and the tacit knowledge of front-line workers in creating new products, business concepts, and technologies [42].

In the internal market organization, the unit must add value to the corporation and also *add value to the units*. In an internal market concept, the office of the CEO, which also operates as a profit center, is responsible for making membership in the enterprise more attractive. The collection of units in an internal market is different from a group of independent companies in the external environment because of its synergy (or the positive net benefits) that can be created by operating together. This synergy may derive from reduction of risk, more efficient allocation of capital, economies of scale, the possibility of creating a shared vision of the future, the value system etc.

Since the Executive Unit also operates as a profit center, it incurs costs when it overrides purchasing or selling decisions of internal units, when it obtains consulting or staff services, for interest on money it has borrowed, and for taxes and dividends. It has two

major sources of income: charges for the capital it supplies to subordinate units, and a ‘tax’ that is imposed on the profits of each unit.

The Executive Unit must be able to intervene when lower-level units fail to act in the best interests of the overall organization. The justification for a single corporation that consists of units operating as businesses is the value that the corporate function adds. Sale of products/services that are considered against the best interests of the corporation can be regulated by rules, etc. In all other cases, the Executive Unit should compensate the internal units for the losses they incur because of executive intervention.

9. The pros and cons of internal markets

Generally speaking, internal markets should result in the increased responsiveness of internal suppliers, better quality with lower cost of internally-supplied services and products, elimination of fluff, debureaucratization, demonopolization, uniform measures for comparing the performance of various units, and greater opportunity for development of management skills.

The primary reason for these advantages is embedded in the nature of the internal market setup. They are closest to the operating conditions and have complete autonomy to adapt without being constrained by the information and decision flows up-and-down the organization. Such a context provides greater opportunities for managers to gain experience.

Internal markets provide adaptability because the internal market unit is not buffered from the external environment: each unit is responsible for sustaining its competitiveness and it has the autonomy and self-control to enable it to act quickly on the basis of available information. In the presence of market dynamics, the unit will be compelled to focus on customer satisfaction and responsiveness to the needs users.

The managers of the internal units will also be continuously responsible for making prudent decisions about eliminating overhead and unnecessary expense. Being closer to the day-to-day operations, they have the best knowledge for making such decisions and can avoid making ‘across-the-board’ cutbacks. These are often proposed by bureaucrats who suggest cutback of the most critical or complex func-

tions for cutbacks (e.g. of customer service operators), in the belief that senior managers, will not allow them to be implemented.

Of course, there may be many practical limitations to an internal IS market. Earl et al. [43] found that they could create problems which include:

1. allocation of best people to outside contracts;
2. diversion on transfer pricing arguments;
3. breakup of infrastructure qualities;
4. creation of internal shadow and duplicating units and
5. removal of the IS unit.

So, while the internal markets approach offers an interesting alternative, it is no panacea. This suggests the need for a comprehensive analytical framework.

10. A framework for consideration of sourcing options

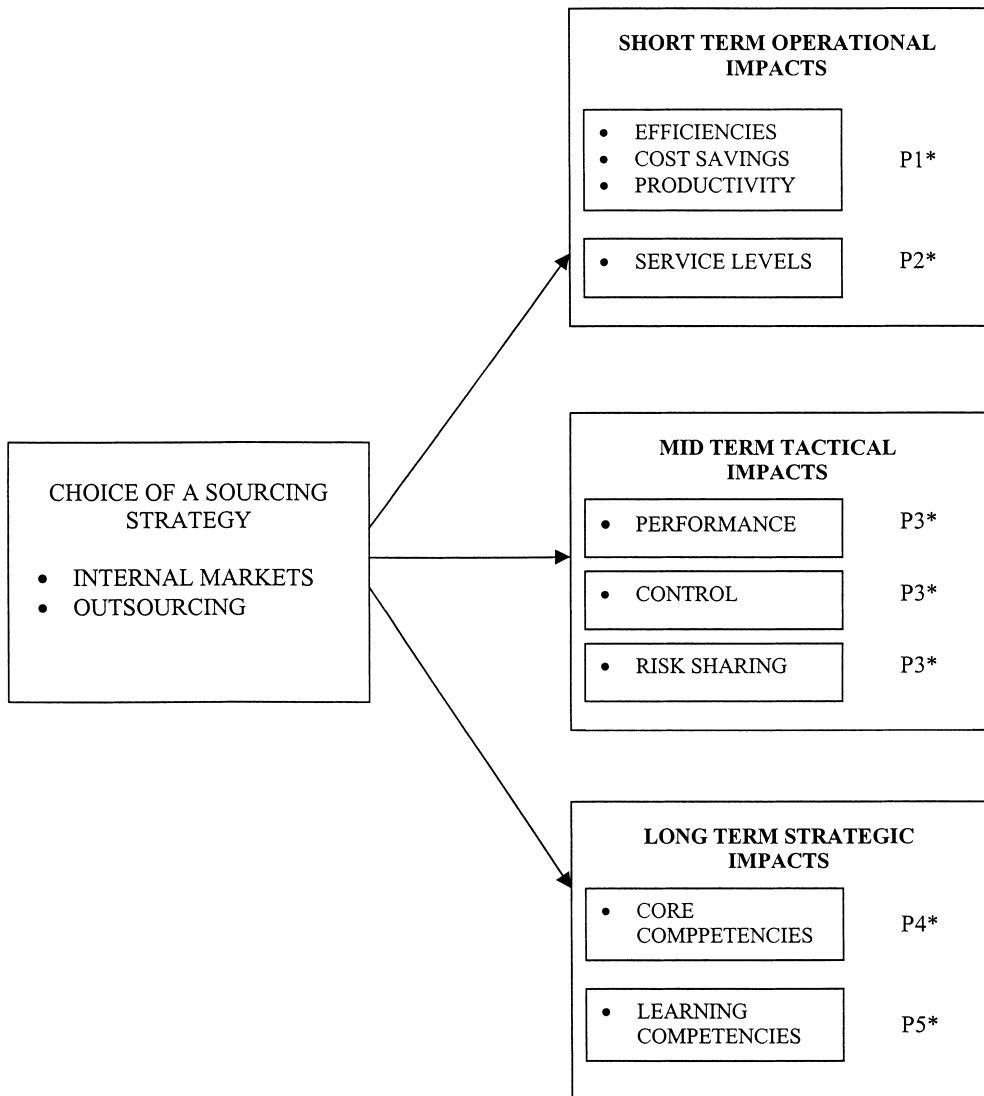
A framework to guide practitioners in assessing their sourcing decisions is offered in Fig. 1 and a basis for the development of hypotheses by researchers. The figure depicts the consequences of the choice of a sourcing strategy in terms of projected short-term operational impacts, mid-term tactical impacts, and long-term strategic impacts.

Because it is the more innovative approach, the *propositions* are stated in terms that suggest that the internal markets approach is superior to outsourcing. This presumed superiority of internal markets is also adopted in justifying each proposition. This approach is adopted to demonstrate that a plausible case can be made for the superiority of the less-used internal markets approach. Clearly, convincing counterarguments also may be made, so it should be emphasized that the framework is provided as a basis for intelligent analysis and not as an argument for the superiority of one option.

10.1. Short-term operational impacts

Short-term operational impacts such as efficiency and productivity are addressed in the Proposition 1.

Proposition 1. *Organizations that use internal markets can achieve similar or greater efficiencies, cost*



*Refers to numbered propositions in text

Fig. 1. Assessing the relative effectiveness of the two sourcing strategies.

savings and productivity than organizations that use outsourcing.

The logic of the internal market is that if internal units must operate with prices set by the external market (instead of artificial transfer prices), they will constantly seek to improve their performance. These performance improvements will directly impact cost, efficiency and productivity. In fact, according to a

Boston Consulting Group study of over 100 manufacturing firms in America, Japan and Europe, many western companies found that something unexpected happened when they started using extensive subcontracting, far from falling, their costs actually increased [44].

Being accustomed to recognizing profits only at the level of end products has left many managers with in the expectation that internally-provided services will

be performed for them at cost, or at no profit to the provider unit. This mode of thinking artificially inflates profits for the user departments at the expense of the internal service functions, disconnects the using unit(s) from the realities of the marketplace, and focuses managers' attention on internal battles over the transfer prices that are established by corporate accountants, diverting them from satisfying their cost and productivity objectives [45,46]. In contrast, the internal market approach highlights the units in which value is being created or being destroyed and exposes every element of the value chain to the discipline of the marketplace, thereby establishing cost consciousness throughout. It promotes a 'price-minus' mentality rather than the 'cost-plus' mentality allowing costs to be reduced rather than being passed on.

Short-term operational impacts on customer service are reflected in Proposition 2.

Proposition 2. *Organizations that use the internal market approach can provide similar or better service to internal users of that service than organizations that use outsourcing.*

In an internal market, the relationship between the units is unambiguously established: a supplier's primary source of revenues is its internal and external customers. Knowing that it can be potentially outsourced, each activity in the company becomes more market driven to provide better and lower cost service for customers.

It is certainly true that many internal IS departments are faulted by users for the service that they provide. However, often this is because of the overuse that results from treating these services as 'free goods.' When users must pay market prices for services, they tend to focus on high-priority projects and to be more precise in establishing their requirements. Thus, high service levels may be as readily achieved using internal markets as they can be through outsourcing.

Indeed, one problem associated with outsourcing is that of getting products and services customized to the unique needs of the organization. In most cases, when the outsourcing vendor is catering to several clients in the same industry, it tries to minimize its cost by providing the same infrastructure (such as IS software functions and features) to all its clients. Since most large suppliers are diversified across many industries,

a single industry may not be an important customer of the supplier. In contrast to this, internal supplier units are usually more familiar with the unique needs of the organization. Although most outsourcing vendors indeed attempt to be responsive to the issue of unique needs, it is generally believed that service providers are less than flexible in tailoring their systems around the specialized needs of customers [47].

A related issue is that of the intellectual investment in learning the business processes of the 'user' units. By virtue of greater familiarity with the business processes of the organization, the internal service unit should be better equipped to serve the unique needs of the company compared to an outsourcing vendor. Also considering the proprietary nature of some IS services, it may often be easier to confide in the internal IS unit than in an external vendor.

Of course, an internal service provider also must balance the need for customized services with that of appealing to a broad market consisting of both internal and external customers. However, the overall tendency of traditional internal units to spend inordinate time and effort to provide low value-added enhancements, (because of the 'free good' mentality) and the tendency of outsourcing vendors to provide limited choice should be balanced through the discipline of the internal market forces.

10.2. Mid-term tactical impacts

Proposition 3 reflects mid-term impacts on performance, control and risk sharing.

Proposition 3. *Organizations using the internal markets approach:*

1. *can achieve similar or greater reliance on outcome-based performance measures;*
2. *can achieve similar or lesser need for monitoring and controlling of internally-provided services;*
3. *face similar or less risk of monopoly practices and less threat of opportunism. than those using outsourcing.*

Internal markets rely on *outcome-based control measures* instead of the behavior-based control measures that are typical of hierarchical organizations. Thus, the internal markets approach may free the traditional organization to focus on the same benefits

that are often associated with outsourcing. If an existing function utilizes a control system that is behavior-based, the role of senior executives in monitoring and directing the activities of personnel is usually greater, the use of subjective and complex measures of employee behaviors to evaluate performance is usually greater, and the use of compensation plans that rely on fixed compensation is usually greater. When a control system is more outcome-based, the role of senior executives in monitoring and directing the day-to-day activities and behavior of personnel should be less, and compensation should involve more objective performance measures and higher proportions of incentive compensation.

Maintaining *control* over an outsourced function is complicated by the power of the vendor. The limited market and the relationship between customers and suppliers helps the vendor to maintain power over customers. The potential supplier group is usually dominated by a few companies, particularly when the client company is itself a large organization. Potential client companies, therefore, have few options, especially when they shop for suppliers with combined applications, industry, and technical qualifications. This may give rise to what Williamson [48] refers to as the *small numbers* problem, in which the buyer has limited choices because there is a small number of suitable suppliers.

This problem is more pertinent at the time of contract renewal when the supplier has the advantage of valuable knowledge gained over the earlier term of the contract. Under such circumstances the most attractive option left with the buyer is to renegotiate with the existing supplier but the *small numbers bargaining* situation may result in opportunistic advantage-taking behavior of the supplier [49].

Vendors may also 'buy into' outsourcing contracts and subsequently charge higher prices for contract changes and special projects and services that are not included in the original contract. This is inevitable in contracts that typically run for many years and is analogous to the problem of \$300 hammers and \$800 toilet seats that are often described in the popular press as manifestations of a government contract management system which places great emphasis on low initial bids, but which allows contractors to price subsequent changes on a monopolistic basis.

In terms of *risk sharing*, the outsourcing vendor may be assuming short-run risk in terms of the costs incurred to deliver services. However, this is often minimized by hiring those individuals who formerly performed the services internally at lower compensation rates. This can provide the basis for reducing the risk of poor cost estimates and for ensuring the availability of the necessary skills.

Over the long run, the vendor is reducing its investment risk through long-term contracts and is garnering experience and knowledge in applying and operating critical emerging capabilities and technologies

The outsourcing customer clearly assumes the possibly significant risk of becoming obsolete in critical capabilities and technologies [50].

This problem may be significantly amplified if one considers the vendor's decisions to shift to new technologies. Since the buyer will necessarily have relatively little experience in operating with advanced technologies, it might not have the requisite competence to meaningfully influence a vendor's shift in this direction. In fact, as observed by Orlikowski [51], the shift to an advanced information technology by the external provider may represent a greater focus on the providers' own technological strengths and a commensurate decreased focus on the client's business problems.

Many firms lose sight of other long-term risks associated with outsourcing key inputs. They do not anticipate that the suppliers could learn critical business skills, which may result in potential competitive threats. In an imperfect world, where individuals have limited information-processing capacity and are subject to opportunistic bargaining, high uncertainty makes it more difficult for the buyer of the goods or service to evaluate the outsourcing vendor's actions, and that a high asset specificity of client's business knowledge makes opportunistic supplier decisions particularly risky for the buyer. Specificity of assets implies the uniqueness of the assets associated with the goods or services transacted. Assets are specific to a transaction when they are highly specialized and thus have little or no general purpose use outside of the buyer-supplier relationship [52]. For instance, the outsourcing of information systems can afford the vendor the opportunity to gather and process information related to existing and potential customers. This may pose a competitive threat to the organization.

Suppliers of one service may leverage their relationships with their customers to become highly competent at other aspects of the customer's business. Some vendors have successfully done this and then integrated forward to gain market share from the companies they once served.

Thus, there is a significant risk that outsourcing 'alliances' may be used as a mechanism to slowly *deskill* a partner who does not understand the risks inherent in such arrangements.

11. Long-term strategic impacts

The long-term strategic impacts of the sourcing choice may be formulated in terms of core competencies and learning competencies.

11.1. Development and retention of core competencies

Proposition 4. *Organizations using the internal markets approach can better develop their core competencies than organizations that use outsourcing.*

Core competencies are integrated sets of skills, processes, procedures, organizational structures, and systems [53]. The capability to develop, maintain, and improve core competencies and the ability to create new competencies may be influenced by the choice of an organization's sourcing strategy.

Since sustainable strategic capabilities are complex 'bundles' of activities and capacities, and because IS is increasing in its importance in the economy and in virtually all firms, the outsourcing of IT may well create a void that constrains the evolution of core competencies and the development of new ones [19].

This is particularly important in the context of the robustness of these competencies: their ability to serve the firm well under various contingencies that might ensue. Currently, much attention is being paid to the 'real options' value of systems, strategies and competencies, i.e. their capacity to provide value under future unanticipated conditions [54]. Companies that outsource a potentially critical component of many capabilities and competencies that may prove to be more critical for the future than they have in the past

are limiting their robustness and giving up real option value.

When a firm believes that it is retaining its strategic capabilities and core competencies, and outsourcing only 'commodity' activities, it may be ignoring the two-way relationship between business strategy and capabilities. This may be illustrated in the context of information strategy and information technology. Firms that outsource may simplistically believe that they are retaining their information strategy function while relieving themselves of the burdens of operationalizing that strategy. Some managers believe that information strategy and information technology are independent of each other, and that they can control information strategy regardless of who controls information technology. However, while IT may be driven by strategy, strategy may also be influenced by the emergence of new technologies and the development of new information-based capabilities [55]. When this is so, the lack of competence in a technology or the lack of a capability that has been outsourced may severely limit the firm's strategic options.

11.2. Development of learning and knowledge-creating competencies

Proposition 5. *A higher degree of organizational learning and knowledge-creation can occur in organizations that use the internal markets approach than in organizations that use outsourcing.*

Many companies simplistically declare that they can safely outsource anything that is not a core competence. In fact, some companies may simply use the 'core' designation as an excuse for protecting an activity from market pressures. They jealously guard what they believe to be their 'core' business, only to find that they have buried themselves in an outmoded approach or an outmoded technology.

In fact, the only true core competence is the ability to continually and effectively innovate while nurturing the 'complementarities' that are based on the synergistic nature of *internal* organizational activities [56,57]. Any competitive advantage that flows from an *interrelated set of capabilities* is much more sustainable than that which is based on a single factor such as quality. For sustainable competitive

advantage, companies must learn and assimilate new technologies, tacit skills and competencies that will become the basis of future initiatives. Firms that rely on outsourcing may find their internal skill sets deteriorating as they become ‘locked out’ from learning new skills and technologies that are critical to participating in industry evolution [58]. Firms that outsource advanced IT/IS are accumulating little technological knowledge and are unlikely to benefit if these skills and competencies appreciate in value due to future business opportunities that cannot be clearly foreseen.

Often, firms ‘split apart’ various functions for outsourcing based on the assumption that they are separable functions that can be delegated to entities outside the firm. However, this creates a division-of-labor that may result in a steady deterioration of the firm’s skills and technologies in areas that are important contributors to organizational learning. This is so because functions may be complementary and synergistic to a degree that has been unrecognized.

Competition has become a *race to learn* (i.e. to accumulate skills and competencies). Under fast-changing technological and competitive conditions, the firm’s current competitive advantage is an incomplete measure of its competitiveness. Rejecting the interpretation of the firm’s business solely in terms of its *present* product and service offerings, Boynton and Victor [59] have suggested that the firm must be defined by the specific process know-how or competence it brings to the competitive market. They further contend that the *knowledge* the firm possesses, develops, and enhances represents the basis of competition.

Quinn [11] also implores firms to look beyond mere product lines to a strategy built around core intellectual or service competencies. He argues that true strategic focus means developing customer-oriented knowledge factors, databases, and service skills. This view turns the neoclassical conception of the firm upside down, since it defines the firm not by its existing product array, but by its ability to apply specific organizational knowledge to a variety of end products [60].

An example of such a scenario is that of a British bank that wanted to outsource the telephone ‘helpdesk’ function that had been manned by personnel from its limited IS staff. The outsourcing of this IS

function is commonly done because it is not seen to have critical importance. However, on realizing that the service is an important source of user feedback about its IS services, and therefore, of its learning, it decided against outsourcing this ‘barometer’ of customer service [61].

The strategic aspect of learning related to advanced technologies is reflected in the credo of outsourcing *things you can do, but would rather not*. The basic premise of this credo is that the organization should not outsource what it does not understand. Companies are generally tempted to outsource the information technologies and activities for which they do not have inhouse expertise. This may be a myopic strategy fraught with risk of vendor’s opportunistic behavior and with a consequent lowering of the learning capacity of the firm.

12. Summary and conclusion

The development of a framework for comparing outsourcing and internal markets is motivated by the current significance, pervasiveness and dissatisfaction associated with IS outsourcing. IS outsourcing has not been systematically addressed through research, and practitioners’ decisions to outsource are often based on faulty or incomplete criteria and assumptions.

This paper identifies internal markets as an innovative insourcing alternative to IS outsourcing. The review of research and writing on outsourcing and internal markets identified five important issues that should be addressed within a systemic framework that will permit practitioners to perform comprehensive analyses of sourcing choices and will enable researchers to develop testable hypotheses.

References

- [1] M.J. Earl, The risks of outsourcing IT, Sloan Management Review, 1996, 26–32.
- [2] P. Keen, Every Manager’s Guide to Information Technology, Wiley, Boston, MA, 1991.
- [3] C. Benko, If information system outsourcing is the solution, what is the problem? Journal of Systems Management, 1992, 32–35.
- [4] S. Rappaport, S. Halevi, The computerless computer company, Harvard Business Review 1991, 69–80.

- [5] B. Caldwell, M.K. McGee, DuPont goes outside, *Information Week* 16, 1996, pp. 14–16.
- [6] T. Field, An outsourcing buyers guide: caveat emptor, *CIO* 1, 1997, pp. 47–58.
- [7] D.A. Nadler, R.B. Shaw, Change leadership: core competency for the twenty-first century, in: D.A. Nadler, R.B. Shaw, A.E. Walton (Eds.), *Discontinuous Change: Leading Organizational Transformation*, Jossey-Bass, San Francisco, CA, 1995.
- [8] R.T. Due, The real costs of outsourcing, *Information Systems Management*, 1992, 78–81.
- [9] V. Grover, J.T.C. Teng, The decision to outsource information systems, *Journal of Systems Management* 1993, 34–38.
- [10] E.M. Hufnagel, J.G. Birnberg, Perceived chargeback system fairness in decentralized organizations: an examination of the issues, *MIS Quarterly*, 1989, 415–429.
- [11] J.B. Quinn, The intelligent enterprise a new paradigm, *Academy of Management Executive*, 1992, 48–63.
- [12] M.C. Lacity, R. Hirschheim, Implementing information systems outsourcing: key issues and experiences of an early adopter, *Journal of General Management* 1993, 17–31.
- [13] M.C. Lacity, R. Hirschheim, *Information Systems Outsourcing: Myths, Metaphors and Realities*, Wiley, Chichester, UK, 1993.
- [14] L.J. De Rose, The downside to outsourcing, *Electronic Buyer News*, 14, 1997.
- [15] R.A. Jacobs, The invisible workforce: how to align contract and temporary workers with core organization goals, *National Productivity Review* 1994, 169–183.
- [16] R. Pastore, Uneasy pieces: outsourcing, *CIO* 9 (16), 1996, pp. 36–38.
- [17] J.A. Welch, P.R. Nayak, Strategic sourcing: a progressive approach to the make-or-buy decision, *Academy of Management Executive*, 1992, 23–31.
- [18] M.C. Lacity, L.P. Willcocks, D.F. Feeny, IT outsourcing: maximizing flexibility and control, *Harvard Business Review* 1995, 84–93.
- [19] J. Dearden, The withering away of the IS organization, *Sloan Management Review* 28 (4), 1987, pp. 87–91.
- [20] E.W. Davis, Global outsourcing: have U.S. managers thrown the baby out with the bath water? *Business Horizons*, 58–65.
- [21] M.C. Lacity, R. Hirschheim, *Beyond the Information Systems Outsourcing Bandwagon: The Insourcing Response*, Wiley, Chichester, UK, 1995.
- [22] B. Sharp, Is it time to insource your financial apps? *Datamation* 15, 1993, pp. 75–77.
- [23] C.K. Prahalad, G. Hamel, The core competence of the corporation, *Harvard Business Review*, 1990, 79–91.
- [24] W.R. King, Strategic outsourcing decisions, *Information Systems Management*, 1994, 58–61.
- [25] P.A. Strassmann, Outsourcing: a game for losers, *Computerworld* 21, 1995, pp. 75.
- [26] K. Altinkemer, A. Chaturvedi, R. Gulati, Information systems outsourcing: issues and evidence, *International Journal of Information Management* 14, 1994, pp. 252–268.
- [27] E. Brynjolfsson, L. Hitt, Information week 500: the productive keep producing, *Information Week* 18, 1995, pp. 38–57.
- [28] *Information Week*, Backlash against outsourcing, 1997, 29.
- [29] T.J. Peters, R.H. Waterman, Jr., In *Search of Excellence: Lessons from America's Best-Run Companies*, HarperCollins, London, UK, 1982.
- [30] R.L. Ackoff, Corporate Perestroika: The internal market economy, in: W.E. Halal, A. Geranmayeh, J. Pourdehnad (Eds.), *Internal Markets: Bringing the Power of Free Enterprise INSIDE Your Organization*, Wiley, New York, 1993.
- [31] A. Geranmayeh, J. Pourdehnad It's a great idea! But ..., in: W.E. Halal, A. Geranmayeh, J. Pourdehnad. (Eds.), *Internal Markets: Bringing the Power of Free Enterprise INSIDE Your Organization*, Wiley, New York, 1993.
- [32] W.F. Halal, From hierarchy to enterprise: internal markets are the new foundation of management, *Academy of Management Executive* 1994, 69–83.
- [33] W.E. Halal, The transition from hierarchy to . . . what?: Market systems are the paradigm of information age, in: W.E. Halal, A. Geranmayeh, J. Pourdehnad (Eds.), *Internal Markets: Bringing the Power of Free Enterprise INSIDE Your Organization*, Wiley, New York, 1993.
- [34] J.W. Forrester, A new corporate design, *Industrial Management Review*, 1965, 5–17.
- [35] S.V. Grabski, Transfer pricing in complex organizations: a review and integration of recent empirical and analytical research, *Journal of Accounting Literature* 4, 1985, pp. 33–73.
- [36] R.L. Huber, How continental bank outsourced its crown jewels, *Harvard Business Review*, 1993, 121–129.
- [37] J. Pfeffer, G.R. Salancik, *The External Control of Organizations: A Resource Dependence Perspective*, Harper and Row, New York, 1978.
- [38] W.E. Halal, A. Geranmayeh, J. Pourdehnad (Eds.), *Internal Markets: Bringing the Power of Free Enterprise INSIDE Your Organization*, Wiley, New York, 1993.
- [39] P.M. Senge, Internal markets and learning organizations: some thoughts on uniting the two perspectives, in: W.E. Halal, A. Geranmayeh, J. Pourdehnad (Eds.), *Internal Markets: Bringing the Power of Free Enterprise INSIDE Your Organization*, Wiley, New York, 1993.
- [40] P.M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization*, Doubleday, New York, 1990.
- [41] P.M. Senge, The leader's new role: building learning organizations, *Sloan Management Review*, 1990, 7–23.
- [42] I. Nonaka, H. Takeuchi, *The Knowledge-Creating Company*, Oxford University Press, New York, 1995.
- [43] M.J. Earl, B. Edwards, D.F. Feeny, Configuring the IS function in complex organizations, in: M.J. Earl (Ed.), *Information Management: The Organizational Dimension*, Oxford University Press, Oxford, 1996.
- [44] *Economist*, The ins and outs of outing, 1991, 54–56.
- [45] R.N. Anthony, J. Dearden, N.M. Bedford, *Management Control Systems*, Irwin, Homewood, IL, 1989.
- [46] R.R. Eccles, *The Transfer Pricing Problem*, Lexington Books, Lexington, MA, 1985.

- [47] R. Suh, Guaranteeing that outsourcing serves your business strategy, *Information Strategy: The Executive's Journal*, 1992, 39–42.
- [48] O.E. Williamson, *Markets and Hierarchies: Analysis and Antitrust Implications*, Free Press, New York, 1975.
- [49] G. Pisano, G., The R&D boundaries of the firm: an empirical analysis, *Administrative Science Quarterly* 1990, 153–176.
- [50] M. Lacity, R. Hirschheim, L. Willcocks, Realizing outsourcing expectations: incredible expectations, credible outcomes, *Information Systems Management*, 1994, 7–18.
- [51] W.J. Orlikowski, Integrated information environment or matrix of control? The contradictory implications of information technology, *Accounting, Management and Information Technology*, 1991, 9–42.
- [52] G. Walker, D. Weber, A transaction cost approach to make-or-buy decision, *Administrative Science Quarterly* 29 (3), 1984, pp. 373–391.
- [53] W.R. King, Creating a strategic capabilities architecture, *Information Systems Management*, Winter, 1995, 67–69.
- [54] P. Coy, Exploiting uncertainty: the real options revolution in decision-making, *Business Week*, 1999, 118–124.
- [55] W.R. King, Information Technology and corporate growth, *Columbia Journal of World Business*, 1985, 29–33.
- [56] B. Harrison, The importance of being complementary, *Technology Review*, 1996, 65.
- [57] R. Pastore, Competing interests: an interview with Michael E. Porter, *CIO* 9 (1), 1995, pp. 63–68.
- [58] D. Lei, J.W. Slocum, Jr., Global strategic alliances: payoffs and pitfalls *Organizational Dynamics* 1991, 44–62.
- [59] A.C. Boynton, B. Victor, Beyond flexibility: building and managing the dynamically stable organization, *California Management Review*, 1991, 53–66.
- [60] D.J. Teece, Economies of scope and the scope of the

enterprise, *Journal of Economic Behavior and Organization*, 1980.

- [61] D. Asbrand, Outsourcing: managing pieces Of the enterprise, *Information Week* Aug. 14, 1995, pp. 46–56.



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