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Editors

Information Systems Outsourcing

Enduring Themes,
Emergent Patterns
and Future Directions

With 43 Figures
and 60 Tables

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A Taxonomy of Employment Insourcing and Outsourcing Strategies in Information Systems

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Summary

The primary worker-organization arrangement is the traditional employment insourcing relationship where the worker enters into a long-term association with the employer. However, with increasing worker diversity, advances in telecommunications infrastructure, downsizing, and labor shortages, organizations are adopting alternative staffing strategies. In particular, organizations are adopting a variety of employment outsourcing arrangements for their I/S human resources. These alternative arrangements represent methods through which an employer offers work, and workers perform it, in ways that depart from the traditional insourcing relationship. In this paper, we develop a taxonomy of I/S employment strategies that encompasses both traditional and outsourcing arrangements. In the taxonomy, specific dimensions that differentiate among the varying forms of employment strategies are discussed and elaborated. For the I/S researcher, the taxonomy provides a framework to organize research on I/S human resource sourcing arrangements and guide future investigation. For the I/S practitioner, this taxonomy offers an array of strategies to address severe skills shortages and downsizing pressures.

1 Introduction

Effectively managing Information Systems (I/S) human resources has consistently been rated as one of the most important issues in the management of the I/S function (Brancheau, et al. 1996). In the past, extensive research has been conducted on the I/S workforce (e.g., Baroudi and Igbaria 1995; Bartol and Martin 1982; Bartol 1983; Couger 1990; Ferratt and Short 1986; Goldstein and Rockart 1984; Guimaraes and Igbaria, 1992; Ginzberg and Baroudi 1988; Ives and Olson 1981; and others). The major assumption in this literature about the worker-organization relationship is the traditional insourcing[1] arrangement where work is largely subjected to internal labor markets or hierarchical control. As a result, many studies focus on examining issues related to the organization's permanent internal I/S workforce. For example, issues such as how to motivate, develop, and train I/S personnel, turnover, and internal career paths are prominent themes.

However, there have been challenges to this internal labor market perspective. Pfeffer and Baron (1988) in particular suggest that organizations are externalizing a buffer of workers against their permanent workforce. *Externalization* refers to the detachment of a worker to the organization, including *employment outsourcing* (Slaughter and Ang 1996) where the worker is not a permanent employee of the organization. Buffers in the form of alternative employment arrangements are viewed as necessary responses to an environment that is becoming increasingly dynamic, competitive and uncertain (Handy 1989). As empirical support for Pfeffer and Baron's assertions, Slaughter and Ang (1994) found that there was a significant trend toward greater externalization of I/S workers as organizations adopt downsizing strategies (Loh and Venkatraman 1992).

In this paper, we examine the etiology of alternative employment insourcing and outsourcing strategies in I/S. We begin with a general discussion of the traditional employer–employee relationship, identify forces that encourage evolution toward external forms of control, and outline specific motivators to employment outsourcing unique to the I/S workforce. We then propose a taxonomy of I/S employment strategies that spans beyond the traditional insourcing relationship and offer propositions predicting the selection of particular employment arrangements. As depicted in Figure 1, our taxonomy depicts a spectrum of I/S employment strategies ranging from the traditional insourcing form to outsourcing arrangements. We conclude with a discussion of the implications of this myriad of

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[1]   *Employment insourcing* refers to the traditional relationship between a permanent I/S worker and the employer, while *employment outsourcing* refers to the use of I/S workers who are not permanent employees of the organization (see Slaughter and Ang 1996).

work arrangements for managing an I/S workforce and with suggestions for further research.

2 Employment Insourcing and Forces for Other Alternatives

2.1 Traditional Employment Insourcing

According to the classic economic view of labor markets, workers move frequently and freely between jobs to take advantage of better employment opportunities (Bakke 1954). However, historically, hierarchical or internal control of the workforce supplanted the open labor market for various reasons. In their seminal research on internal labor markets, Doeringer and Piore (1971) observed that information, opportunities, mobility, and rewards could be differentially structured internally within a firm and shaped by varying occupational, industry, and organizational arrangements. Thus, they argue that internal work governance arrangements emerged as a means of controlling or influencing the open labor market. This suggests that an important motivation for the traditional employment insourcing relationship is that it enables greater control by the principal (the employer) over the agent (the employee). Based on authority appropriated from the legal basis of an employment relation, the employer enjoys and controls a "zone of indifference" over the employee. By a zone of indifference, we mean a set of activities that workers perform under the authority and direction of the employer in exchange for their wages (Simon 1957; Stinchcombe 1990).

The caricature of an employee in this traditional employment insourcing relationship is one who, except for vacations and holidays, works all year-round at the employer's place of business. Furthermore, unless they resign or have their services terminated, employees are assumed to remain with the employer until death or retirement. In terms of remuneration, employees receive additional fringe benefits designed in part to reward and encourage continued service (Nye 1988). From the legal perspective, both parties have rights and responsibilities accorded to them by both common law and employment statutes governing the employer-employee relationship. In sum, upon entering an employment insourcing relationship, an employee accepts an implied obligation to yield obedience to all reasonable rules, orders, and instructions of the employer (Masten 1991).

Besides enabling principals greater control over the agents, several other justifications have been offered for an employment insourcing arrangement. One argument advanced by Williamson (1981) is the specificity of the assets embodied in the worker. Human asset specificity is increased as the skills and knowledge of

the worker become more specialized and less transferable to other employers. Thus, internal organization of labor benefits both worker and employer where assets are specific because it provides the employee with prospects of upward mobility through regularized career advancements, and enables the employer to recoup investments in training the worker.

Another potential explanation for employment insourcing is an efficiency argument: internal forms of control lower transaction costs by reducing informational requirements and the need for recurrent contracting (Williamson 1980). Under this view, where there is a monopoly situation of workers with firm-specific skills, the result is higher transaction costs because firm-specific skills and knowledge create small numbers bargaining situations between employer and employee, favoring opportunistic behavior on both sides. Thus, it is more advantageous for the organization to put the worker under internal management, because the costs of contracting are high. A final related explanation of the motivation for employment insourcing is the size argument (Edwards 1979). Where there are large, powerful firms that are in a monopoly situation, and as these firms grow in size and complexity, it is more cost-effective to shift towards bureaucratic control of employees. Thus, bureaucratic control becomes embedded in the social and organizational structure of the firm and establishes the impersonal force of the company rules or policy as the basis for control. A common thread linking these arguments for employment insourcing arrangements is the reduction of costs related to controlling workers.

2.2   Motivating Factors for Other Work Arrangements

Despite the advantages afforded by traditional employment insourcing, there are corresponding costs and disadvantages associated with this arrangement. In fact, it can be argued that the recent visible and prominent trends of alternative work arrangements are evidence of organizations responding to costs and disadvantages of the traditional employment insourcing arrangement accentuated by dynamic changes in economies, organizations, technology, and labor compositions.

To illustrate, costs of permanent workers can exceed those for temporary workers because of the additional expenses for benefits, training, and recruiting. A bulletin published by the U.S. Chamber of Commerce indicates that while organizations reported paying health, retirement and vacation benefits to 100% of permanent employees, only 17% of part-time or temporary workers received paid benefits from these firms (Chamber of Commerce of the United States 1991, p. 32). More recent figures from the Contingent Worker Supplement to the U.S. Current Population Survey indicate that 87 percent of regular full-time employees work in firms that offer them health insurance while only 14 percent of contingent workers work in firms that offer them health insurance (Thorpe and Florence 1999). In addition, the cost of benefits for permanent workers, in particular, has increased

dramatically. For example, the United States Chamber of Commerce reports that employee benefits increased from 17.0% to 37.9% of total payroll costs from 1955 to 1990 (Chamber of Commerce of the United States 1991, p. 36). This provides significant cost incentives for organizations to reduce the number of permanent employees.

Another potential motivation for alternative employment arrangements is to protect resources that are critical to the firm's survival. A resource dependency perspective (Pfeffer and Salancik 1978) suggests that one mechanism by which organizations gain control over critical dependencies is environmental "buffering". Under this view, outsourced workers can be seen as a flexible buffer that can easily expand and contract to absorb fluctuations in environmental demand. A related view is advanced by Scott (1992) who argues that establishing control mechanisms for workforce management is similar to establishing boundaries between the firm and the environment. A key objective in boundary setting is to protect or insulate the key technical core activities of the organization from environmental disturbances (Thompson 1967). Thus, organizations would be likely to outsource less critical workers in conditions of environmental uncertainty, i.e., where there is a lack of specific, needed information to effectively accomplish work.

There are indications that organizations face increasing uncertainty in labor and product markets and are limited in their ability to effect direct control over these sources of uncertainty. Several key economic and demographic trends have the potential for increasing turbulence in the environment (summarized in Johnston and Packer 1987). One trend is the integration of the world economy which reduces the organization's ability to control outcomes because outcomes are tightly linked to a global economy that cannot be easily influenced. Integration into a global economy also increases competition in product, service and labor markets, with the result that "for both firms and nations, increased competition means that there will be relentless pressure to change and adapt to new markets and technologies" (Johnston and Packer 1987, p. 48). Another important trend is the proliferation of rapidly advancing technologies such as those in information storage, and processing and communications. These new technologies induce complex changes such as overcoming the barriers of time and distance that have organized work for centuries. Thus, Johnston and Packer conclude: "technology will introduce change and turbulence into every industry and every job" (1987, p. 37).

A final important trend is the changing demographics of the workforce that is, in general, growing more slowly and composed of aging workers. In the year 2000, the median age of the U.S. population was 36 - higher than at any time in the history of the nation (Johnston and Packer 1987, p. 79). In addition, a higher proportion of the workforce is composed of female, minority and immigrant workers who tend to be less well-trained. However, at the same time, the job mix is changing such that the fastest growing jobs require higher skill and educational

levels. This suggests that organizations may need to make costly investments to train key personnel.

Overall, these trends imply that organizations may find the traditional employment insourcing arrangement unduly restrictive and inoperative (Davis-Blake and Uzzi 1993). In contrast, alternative arrangements such as employment outsourcing may increase a firm's flexibility in dealing with changing labor market conditions and organizational requirements in the following ways. First, employment outsourcing may reduce employment costs. Firms can hire outsourced workers without increasing the cost of health insurance and other fringe benefits (Christopherson 1989). Second, employment outsourcing may reduce administrative costs. In cases where external employers of independent contractors plan and manage external workers, the administrative burden of the client organization is greatly relieved (Belous 1989). Third, outsourced workers are hired without expectation of long-term employment. Contracts with outsourced workers may be allowed to "lapse" without tarnishing a firm's image or fear of discriminatory employment practices (Osterman 1988).

Despite the advantages of employment outsourcing, we do not expect firms to outsource their workforce completely. Rather, we anticipate that firms will rely increasingly on a dual employment strategy where there is an internal "core" of permanent workers and a buffer of outsourced workers to absorb environmental fluctuations. Cost and resource dependency arguments imply that the internal core of workers would most likely consist of those with firm-specific skills, involved in core or critical activities to the firm's survival, and in whom the firm has invested a significant amount of training. Externalized workers would tend to be those involved in less central activities, and would possess skills that are less firm-specific and become rapidly obsolete.

2.3   Motivating Factors for Other Work Arrangements in I/S

In the I/S context, devising work arrangements other than the traditional employment insourcing relationship is even more critical because of increasingly rapid evolution of technology. Cutting-edge technologies typically enjoy lifespans of only about two years (Appleton 1994). Skills of I/S personnel therefore erode very rapidly. Operating in short windows of stable technological environments, I/S organizations with a static workforce anchored in traditional employment insourcing relationships continually face the problem of needing to upgrade the skills of the workforce. In light of competence-destroying technological developments, commitment to training the internal workforce may even be self-defeating. For example, because information technologies advance so rapidly, by the time an organization invests in and trains its I/S staff on a certain technology, that technology may already be obsolete (Appleton 1994; Martin 1992; Moad 1994).

In addition to rapidly changing technologies, I/S continues to face severe skills shortages (ITAA 1998; Unwin 1990; Yourdon 1992). Shortage of skilled labor is acute because the I/S industry is relatively new and has been growing very quickly, particularly with the advent of the Internet and e-commerce (Connor and Pearson 1986; Mowrey 1996). Rubin has estimated that in the U.S. alone, the supply-demand imbalance of I/S workers will grow to about 1 million by 2002 (see www.rubin.com). For specific skills in the newest e-commerce technologies, shortage of labor is particularly pronounced. Skills scarcity is exacerbated because organizations are reluctant to invest in training their I/S personnel as high turnover rates mean they would not have the chance to amortize the training investment. For example, Nolan lamented that organizations spend only an average of 12 days per year in training an I/S employee (James 1992) when the frequency of education and training should increase to about 52 days per year.

Training should intensify because skill sets associated with the I/S professionals in the new millennium are more multifaceted than those of the past. While technical skills and systems development were the fundamental skills sets of the past I/S professionals, the ideal I/S professionals in the 21st century must possess a combination of technical and practical knowledge, skills and abilities (KSAs). These include technical, interpersonal, teamwork, management and business skills sets necessary at each echelon of the I/S career hierarchy (Davis 1993; Farwell, et al. 1992; Ryan 1991; Trauth, et al. 1993).

Another unique characteristic of the I/S industry is that organizations outside the computer services industries tend to experience higher I/S turnover than those within it. As argued by Casey (1988), computer services employers have very flexible salary systems that make it much easier to pay the rate the market requires for the skills in question. On the contrary, those outside the computer services industry have salary systems tied to those for the industry in which they are operating. If that industry is not expanding, as the computer services industry is, its overall salary levels, and hence those of the I/S staff, are likely to be below those obtained in computing services. Thus, staff shortages arise due to the inability of non-computer services industries to compete on salary terms. While attempts have been made to restructure I/S salary systems or to add special supplements in an attempt to attract and retrain I/S staff, such adjustments are complicated to implement. Moreover, as observed by Casey (1988), these adjustments also risk pressures to "follow on" from non-I/S staff.

The inability to compete on salary terms is compounded in many cases by an inability to offer sufficiently satisfying work to attract labor with the skills that are desired. Organizations with established I/S departments require staff that are able to take on software development work as required and will also undertake maintenance work. Maintenance work is, however, often not considered sufficiently interesting or challenging by many of those who are qualified to perform development work (Swanson and Beath 1989). The problem is compounded by the continuing maturity of the applications development portfolio

of organizations. Over the last several decades, maintenance work has required a large and increasing proportion of I/S resources, often more than 80% in many organizations (Lientz, et al. 1978; Nosek and Palvia 1990). Thus, new development work in proportion to maintenance work continues to diminish considerably. Yet, from the I/S worker's point of view, there is less incentive to remain in position once the development tasks have been completed. Especially in a fast moving industry where technological obsolescence is prevalent, I/S workers fear that unless they are continuously involved in development work, their skills will deteriorate, and this will not only affect their future earning power, but also their ability to take on the sort of work they enjoy (Casey 1988).

At the extreme, the inability of non-computing services industries to attract sufficiently qualified staff to run their I/S departments has led to situations where organizations contract out the entire I/S department (Gershkoff 1990). The service-provider is able to staff up more successfully since it can offer higher salary levels and a sufficient variety of tasks, by being involved in development work for a number of different clients.

Thus, forces for other work arrangements than traditional employment insourcing appear to be particularly strong in the context of I/S. In order to understand this phenomenon, we develop a taxonomy of alternative I/S employment strategies as well as a set of propositions predicting the conditions under which each strategy will be adopted.

3   Alternative Employment Strategies

According to Pfeffer and Baron (1988), externalization refers to the degree of attachment or, more appropriately, detachment of a worker to the organization. Three dimensions of externalization are (1) physical proximity between the worker and organization (*locational detachment*); (2) the duration of employment (*temporal detachment*); and (3) the extent of internal control over personnel related activities (*administrative detachment*). Based on these dimensions, externalization occurs when the worker is physically removed from the workplace for non job-related reasons, when the duration of employment is diminished, and when the employer reduces administrative control over the employee. Figure 1 depicts a spectrum of work arrangements between worker and organization that varies along each dimension of externalization.
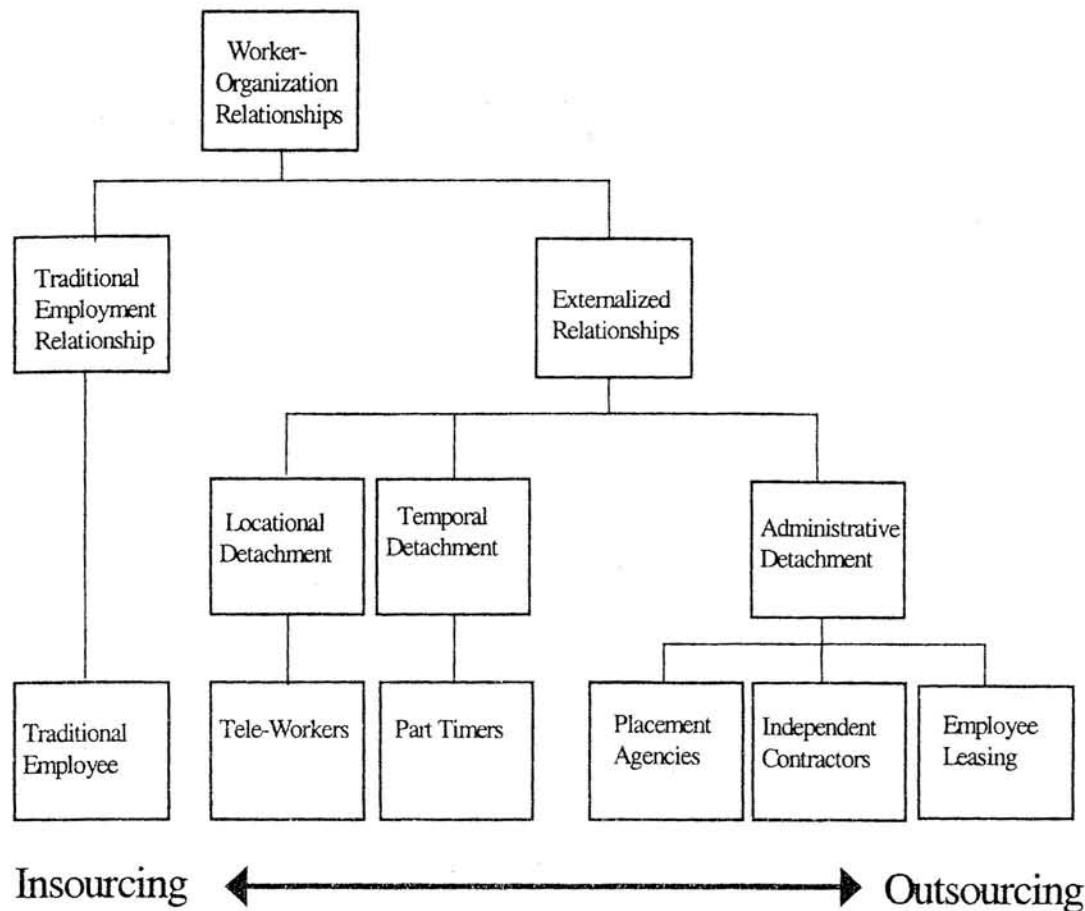
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      │ Employee     │   └────────────┘ └───────────┘  │Agencies │Contractors│Leasing │
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Insourcing ◄─────────────────────────────────────► Outsourcing

Figure 1: A Taxonomy of Alternative Employment Strategies in Information Systems

3.1   Locational Detachment

Locational detachment refers to the geographical proximity between the worker and the organization. In traditional employment insourcing, workers perform their activities on the physical premises of the organization. In contrast, especially with the advent of telecommuting, workers need not be restricted to the place of work. They may be placed at "remote" work sites such as their homes. Telecommuting combines the use of information and communication technologies with the concept of the flexible workplace. Thus, telecommuting may be defined as work carried out in a location where, remote from central offices or production facilities, the worker has no personal contact with co-workers there, but is able to communicate with them using information technology.

From the worker's point of view, locational detachment is advantageous because it reduces commuting costs, allows workers to work in familiar environments such as their homes, and allows workers to balance roles in employing organizations and family. Balancing work and family is important with the increasing trend of employing women, particularly married women with children (Kraut 1989). For

employers, locational detachment can save overhead costs, especially in large cities such as London and Tokyo where office space is premium. Moreover, there is widespread consensus that productivity gains can result from telework because of fewer interruptions, improved concentration, increased motivation and job satisfaction, and elimination of wasted time and frustration of commuting.

In the I/S context, locational detachment is especially vital in cases where the necessary skills span national boundaries. In places such as India, the Philippines, and the People's Republic of China, large numbers of qualified software engineers exist to relieve I/S labor shortages in the United States (Apte 1991). While there is a steady flow of the best software engineers to the United States, such influx of foreign talent is not without political and administrative implications. For example, tight visa requirements and regulations can render recruitment of foreign talent prohibitive (ITAA 1998). Telecommuting therefore presents an excellent alternative. As discovered by organizations such as Citicorp and Texas Instruments, foreign talent can be harnessed via locational detachment. In other words, rather than uprooting a software engineer from a foreign country and moving the person to the United States to perform services on-site, the services could be rendered on foreign soil, with communication aid provided by a dedicated satellite link with a combination of fax, electronic mail, and data communications. This leads us to advance the following propositions:

> **P1:** Organizations in geographic areas where commuting or relocation costs are high are more likely to adopt locational detachment I/S employment arrangements.

> **P2:** Organizations with empathy toward workers' balancing of work and family responsibilities are more likely to adopt locational detachment I/S employment arrangements.

> **P3:** Organizations located on premium property are more likely to adopt locational detachment I/S employment arrangements.

Despite its advantages, locational detachment has its accompanying disadvantages. For example, difficulties in control and supervision of teleworkers, accompanied by decreasing loyalty to the company are often cited as constraints to telework. From the workers' point of view, remuneration and benefits tend not to be equivalent between teleworkers and normal salaried employees. For example, in a research study carried out in the United Kingdom by the Low Pay Unit, computer professionals performing telework were found to be earning between 19 to 29% less than on-site workers performing similar activities. The study also revealed that overtime compensation, which makes up a considerable proportion of many wage packets in the computer industry, is not usually paid to teleworkers (Martino and Wirth 1990). Moreover, telework has also been found to affect the physical and psychological well-being of workers. By separating workers from their co-workers, telework can generate isolation and stress, and can reduce the stimulation of exchanging ideas with colleagues. The lack of day-to-day

interaction may gradually isolate teleworkers from a professional as well as a social perspective and could affect their career development (Martino and Wirth 1990). Thus, we propose the following:

> **P4:** Organizations that value social interaction among workers are less likely to adopt locational detachment I/S employment arrangements.

3.2   Temporal Detachment

Temporal detachment refers to the length or duration of employment. Detachment on the temporal dimension can be achieved by employing part-time workers or full-time workers for fixed contract periods. Traditionally, part-time workers are defined as those who work for less than 35 hours per week (Hotchkiss 1991). There are a number of advantages in using part-time workers as part of a human resource strategy. The major rationale for part-time work is flexibility in scheduling workers to meet peak demand periods. To illustrate, Nollen and Martin (1978) found that part-time work is more critical in service industries, including I/S services, than in manufacturing or goods-producing industries. The rationale is that while goods can be produced at an even pace and held in inventories to meet demand, services cannot be inventoried and must be provided on demand. When demand is uneven or must be met outside normal working day or on weekends, as in the case of systems or data center operators, employers favor part-time employment as a means of fitting the work force more efficiently to the workload. This suggests the following propositions:

> **P5:** Organizations in which work demand is uneven are more likely to adopt temporal detachment I/S employment arrangements.
>
> **P6:** Organizations in which services must be provided outside normal working hours are more likely to adopt temporal detachment I/S employment arrangements.

From the perspective of the employee, opportunities for part-time work can be perceived as a boon with the demographic shifts in the work force in the form of a greater influx of women, students and retirees (Tilly 1991). For example, computer science students often provide their programming services to organizations on a part-time basis as they work their way through college. Similarly, parents with childcare responsibilities often opt for part time jobs in order to balance work and family concerns. This suggests that:

> **P7:** Organizations are more likely to adopt temporal detachment I/S employment arrangements if their human resource pool is predominantly composed of workers who cannot offer full time service.

Despite the advantages of part-time work from both the employer and employee perspectives, the status of part-time work compared to full-time jobs is still

considerably low. In addition to receiving lower pay and benefits, part-time workers are stereotyped as having less commitment to their jobs. Hence, they face more difficulty in advancing their careers (Granrose and Applebaum 1986).

3.3   Administrative Detachment

Administrative detachment refers to the extent of internal control over personnel-related activities. Administrative detachment occurs when firms remove tasks from their own administrative control (Pfeffer and Baron 1988). Included in major administrative tasks related to personnel are (1) hiring and selection, (2) evaluating performance and administering remuneration, and (3) developing training and skills. Detachments along one or more of these administrative dimensions characterize different forms of alternative arrangements including placement agencies, contract workers, and employee leasing. Table 1 distinguishes the different forms of administrative detachments and contrasts them with the traditional employment insourcing relationship.

Table 1: Administrative Tasks Performed by Client Organizations

		Alternative Work Arrangements in Administrative Detachment		
	Traditional Relationship (Insourcing)	Placement Agencies	Independent Contractor	Employee Leasing (Outsourcing)
Hiring and Selection	✓		✓	
Remuneration	✓	✓	✓	
Training and Skills Development	✓	✓*		

Note:

✓ administrative task performed by client organization (i.e., organization requiring the services of the worker).

✓* if client organization enters into a permanent employee relationship with the worker, then training and skills development are typically provided by the organization. Otherwise, if client organization enters into an independent contractor arrangement with the worker, training is typically not provided.

In the traditional employment insourcing relationship, there is a direct worker-organization arrangement on a non-fixed term basis. Control and administrative aspects of hiring, remuneration, and training are handled by the organization itself. Figure 2(a) depicts such a relationship.

hires and pays

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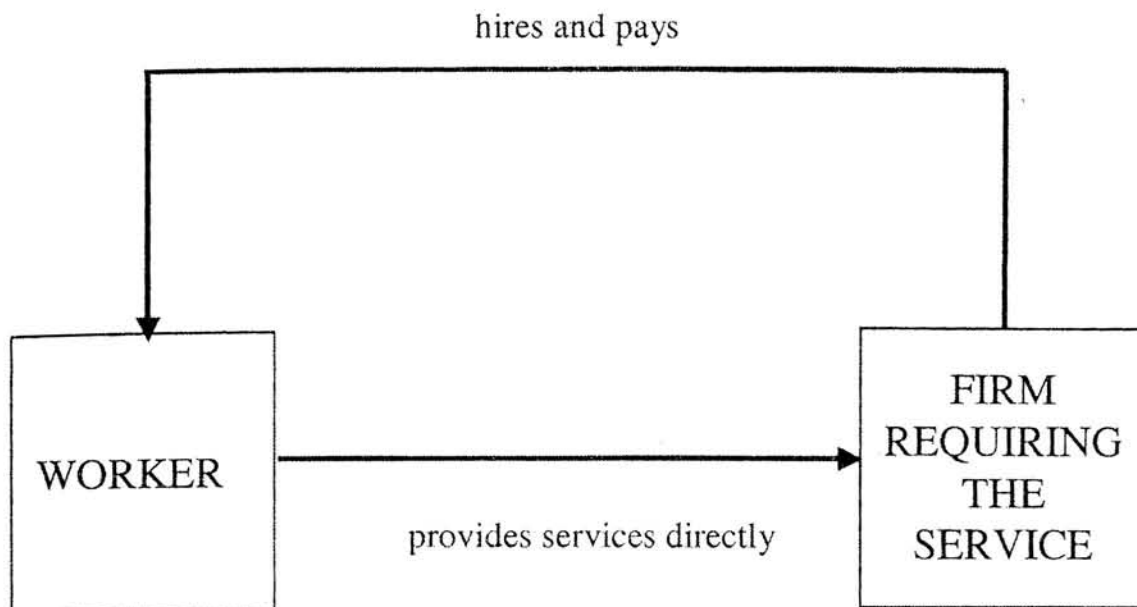
Figure 2a: Traditional I/S Employment Insourcing Arrangement

In the case of placement agencies, selection and recruitment are handled by the agency. As depicted in Figure 2(b), these agencies advertise the required positions, select and recruit potential employees for the client organization for a fee. After a successful match, the client organization often enters into a traditional employment insourcing relationship with the worker (in the case of a permanent position), or a contract worker relationship. One immediate benefit for relying on placement agencies is the cost and effort saved in recruitment. Considering that recruitment costs include preparing or reviewing specifications for both the job to be done and person to be recruited, briefing of the personnel officer with the manager, preparing recruitment programs, search and promotional/advertisement costs, evaluating candidates, interviewing including traveling, hospitality, university/college job talks, selection tests, induction, medical examination prior to establishment, etc. (Evans and Walker 1986), outsourcing the task of hiring or selection to a professional head-hunter or placement agency relieves considerable administrative overhead associated with human resources management. Thus, we advance the following proposition:

> **P8:** Organizations are more likely to adopt the placement agency form of administrative detachment I/S employment arrangement if placement agencies have a comparative cost advantage in I/S worker selection and recruitment.
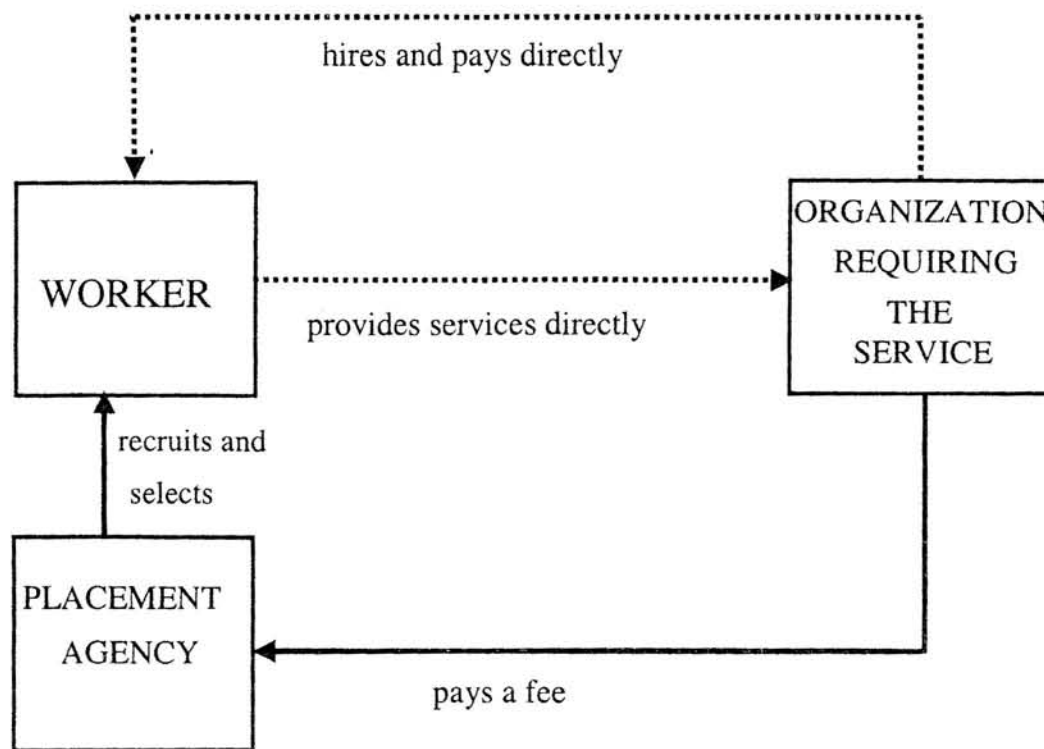
Figure 2b: I/S Placement Agency Arrangement

Contract workers are typically independent and self-employed. They are hired on a fixed term basis through an agreed-upon contract. The contract may provide a fixed duration of service or on a job-by-job basis. As depicted in Figure 2c, contract workers are often hired and remunerated directly by the client organization. A primary distinction between the traditional employment insourcing relationship and the independent contractor work arrangement is the absence of training provided by the client organization in the contractor work arrangement. Rather than training internal personnel, client organizations often hire contract workers because they possess skills and expertise necessary to complete a task immediately at hand. Suitably labeled as an "elite corps of temporary workers," independent contractors include a wide range of professionals such as systems analysts, programmers, and engineering researchers (Lewis and Molloy 1991). From the workers' point of view, contract work provides an opportunity to establish a special expertise or professional status within an industry. In fact, it is often regarded as a way for workers to focus on aspects of their profession that they most enjoy (e.g., programming instead of managing software projects) without having to deal with corporate politics or pressures to move up the expected career ladder (Lewis and Schuman 1988). For example, a contract programmer comments: "I'm financially and emotionally secure ... I never needed to be a company man." (Lewis and Schuman 1988, p. 34).

pays directly

WORKER

provides service via a
contract for a fixed term

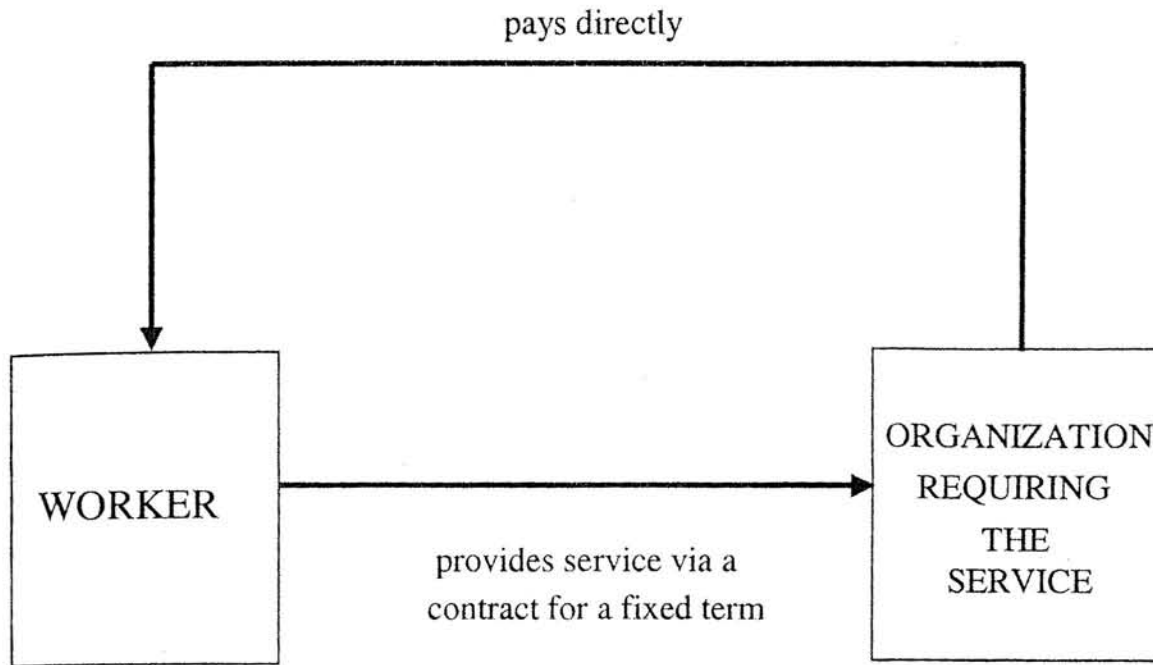ORGANIZATION
REQUIRING
THE
SERVICE

Figure 2c: I/S Contract Work Arrangement

While contract staffing offers many advantages, there are also disadvantages associated with this strategy. As elaborated in Causer and Jones (1992), wages of contract staff are higher than permanent employees. The higher wages are also perceived as de-motivating factors for permanent staff and can cause potential tension between the two groups. Second, the quality of contract workers is often not tested as compared to permanent employees. Third, in positions that require company-specific knowledge, contract staff can be inefficient as time is needed to groom them for the job. Finally, some believe that expertise developed within the organization should be retained as far as possible. This leads us to propose the following:

> **P9:** Organizations are more likely to adopt the contract staffing form of administrative detachment I/S employment arrangement if contract workers are less costly to administer than permanent workers.

> **P10:** Organizations are less likely to adopt the contract staffing form of administrative detachment I/S employment arrangement if the job requires organization-specific skills.

Employee leasing is the most radical transformation of the traditional employment insourcing relationship and is depicted in Figure 2d. In the "pure" form of employee leasing, an arrangement is made where a business formally "fires" its regular workers, who are then hired by an employee leasing company, who in turn leases them back to their original employer. In this case, the administrative hiring, firing, payroll, day-to-day personnel management, selection and implementation of benefits, worker compensation and insurance premiums are all the responsibility of the leasing company (Bennett 1986; Mayall and Nelson 1982).
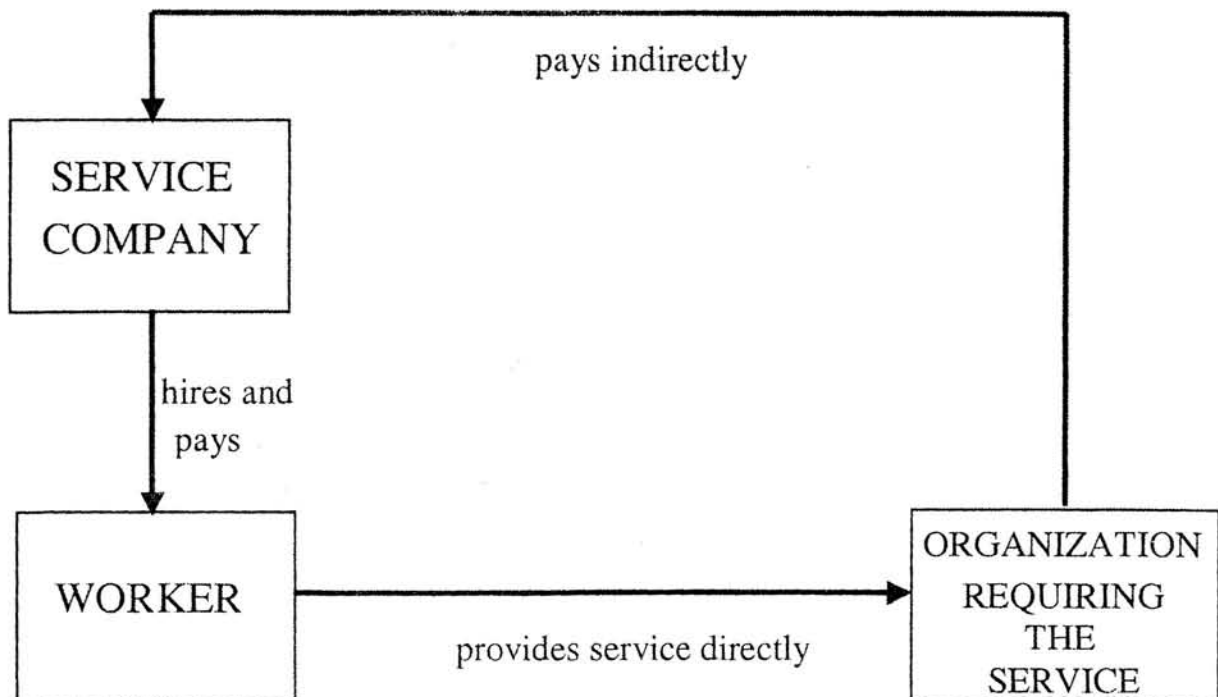
Figure 2d: I/S Employee Leasing Arrangement

The I/S outsourcing strategy of the Kodak-IBM partnership is the quintessence of employee leasing. In that arrangement, Kodak "fired" about 200 of its permanent I/S staff who were "bought" over by IBM, who in turn leased the staff back to Kodak. In other outsourcing arrangements, the leased workers have never been employees of the client organizations. Instead, workers are employed by the service organizations (often consulting firms) to provide specific services to the client organizations. In both of the these situations, leased employees are formally on the payroll of another entity, the service organization, but the direction and control of their work is left largely in the hands of the client organization. This leads us to advance our final proposition:

> **P11:** Organizations are more likely to outsource the entire I/S function if the administrative costs of managing an internal workforce exceed the cost of services charged by an I/S service provider.

The number of organizations adopting externalization of administrative control for I/S work has grown dramatically in the last two decades as evidenced by Mowrey (1996) and Howe (1986) who have observed that the number of service organizations providing computer and information services is the most rapidly growing business service industry. Such trends imply an increasing inter-organizational division of labor, as work formerly conducted within the boundaries and under the administrative control of a single enterprise is parceled out to more specialized organizational entities. An implication for internal human resource management is that there are fewer opportunities for workers to build careers via the internal labor market by moving upward within single organizations.

4 Conclusion

In the previous sections, we have outlined the different arrangements for employment insourcing and outsourcing that organizations can adopt for flexible human resource strategies. These strategies can be arranged along a continuum in which the degree of externalization increases from the traditional employment insourcing arrangement on one end, to the employee leasing form of employment outsourcing on the other end (see Figure 1). Although the dimensions of locational, temporal, and administrative control were discussed separately, in reality, these dimensions are not mutually exclusive. A managerial implication is that innovative alternative employment arrangements can be formed by combining different dimensions of detachment. For example, organizations offering locational detachment in the form of telecommuting, can also offer temporal detachment in the form of flexi-time telecommuting. Similarly, contract workers (administrative detachment) can be hired on a part-time basis (temporal detachment). With the widespread adoption of the Internet and other network and communication technologies, cybermediaries may play an increasingly important role in facilitating these innovative alternative employment arrangements (Knolmayer 2002).

We propose a taxonomy of alternative I/S employment insourcing and outsourcing arrangements created by specifying the different degrees and dimensions of externalization in the I/S context. The taxonomy offers organizations a portfolio of alternative human resource strategies to combat I/S skills shortages. However, when implementing these alternative work arrangements, organizations need to be cognizant of (1) legal ramifications; (2) the ability to control or monitor performance; and (3) workplace attitudes.

In terms of legal ramifications, any deviation from the traditional employment insourcing arrangement means that the legal obligations and risks for both the employer and employee become ill-defined. Generally, courts, tax authorities, worker compensation boards, and administrative agencies that enforce employee protection statutes cover only cases where a worker is an employee in the traditional sense. Comprehensive legal protection for both worker and organization in cases of part-time work, temporary work, or independent contracting is less well defined.

Another concern is the erosion of the organization's ability to control workers. Monitoring and control become problematic when the execution and control of the tasks are not co-located as in the case of locational detachment (Beath and Straub 1989), or when control of the work lies in the hands of the service company's own supervisory staff. Explicit and specific outcome measures must be negotiated and implemented at the beginning of the contract to ensure quality job performance.

Finally, the social and psychological effects of employment outsourcing arrangements on the existing permanent workforce in an organization must be

examined to ensure a smooth co-existence of two separate classes of workers. For example, a recent study by Ang and Slaughter (2001) indicates that work outcomes can be adversely impacted when contractors work on software development teams with permanent workers. Pearce (1993) has found that the presence of contractor co-workers is associated with employee reports of lower organizational trustworthiness. Lack of trust is problematic because prior research indicates that distrust leads employees to reduce levels of performance (Organ 1988), to leave the organization (Porter and Steers 1973), to reduce cooperation (Gembetta 1988), and also to exhibit dysfunctional behavior such as lying, cheating, and stealing (Rotter 1980).

Thus, while the variety of alternative employment arrangements offers I/S managers considerable flexibility in responding to labor shortages, there is potential for negative impacts of these arrangements on organizational climate and working relationships. Understanding the benefits and limitations of these alternative employment arrangements is therefore an important area for future research.

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