

**Externalizing the Core:  
Explaining Firms' Use of Employment Intermediaries  
in the Information- and Communication Technology  
Industries**

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**ABSTRACT**

Recent research suggests that non-standard employment relations may be a source of innovation and competitive advantage for the firm. In this paper, we analyze firms' reasons for using two types of employment intermediaries—consulting firms and temporary help agencies—in their core activities. We hypothesize that consulting firms are used mainly by organizations that pursue an innovation strategy or need special competence, while temporary help agencies are used primarily by firms that compete on low cost or require numerical flexibility. We find empirical support for these hypotheses in a sample of 501 firms in six information and communication industries in Norway. Our results suggest that organizations say that they use consulting firms, rather than temporary help agencies, to provide them with knowledge from outside their boundaries.

Organizations' use of employment intermediaries such as contracting firms and temporary help agencies has become an increasingly important topic of research on human resource management. These kinds of external work arrangements create triadic employment relations among the client firm, the contracting firm or temporary help agency, and the employees of the intermediary. We define a contract company (such as a consulting firm) as an employment intermediary that supervises the work of its employees, while a temporary help agency provides labor power which is supervised by the customer firm.

A variety of general reasons have been suggested to explain why client organizations use employment intermediaries, including: reducing costs; achieving numerical flexibility or the capacity to adjust labor supply to changes in demand; and obtaining skills that are in short supply (e.g., Atkinson, 1984; Davis-Blake & Uzzi, 1994; Abraham & Taylor, 1996; Matusik & Hill, 1998; Houseman, 2001). Several conceptual frameworks have been advanced to account for the use of contract companies and temporary help agencies; these underscore the importance of distinguishing between an organization's "core" value creation area and those that are more peripheral to this core activity (e.g., Atkinson, 1984; Matusik & Hill, 1998; Lepak & Snell, 1999; Kalleberg & Marsden, 2005).

Despite the growing prevalence and importance of such external work arrangements (Matusik & Hill, 1998; Peck & Theodore, 2001; Bergström & Storrie, 2003), research on this topic is limited in several ways. Most organizational studies of differences in externalization have tended to be "monolithic" in the sense that they have sought to explain why organizations externalize, but have not generally differentiated the positions that are externalized (e.g., Mangum, Mayall & Nelson, 1985; Davis-Blake & Uzzi, 1993; Houseman, 2001). This is unfortunate, since the human resource architecture of an organization may differ internally, and a

particular organization may simultaneously internalize and externalize different kinds of functions and occupational activities (Matusik & Hill, 1998; Lepak & Snell, 1999). Moreover, those studies that have looked at intra-organizational differences in the use of employment intermediaries (Harrison & Kelley, 1993; Abraham & Taylor, 1996; Masters & Miles, 2002) have generally not examined why organizations use contract companies as opposed to temporary help agencies.

In this paper, we seek to overcome some of these limitations by examining why organizations use external work arrangements in their primary or core activities. We first provide an overview of research on organizations' use of employment intermediaries. We differentiate consulting firms from temporary help agencies based on the nature of their employment relations with client companies, and suggest that a firm's use of one or the other of these employment intermediaries depends on its strategies and reasons for externalizing work. We then test several hypotheses regarding these reasons using data from a sample of 501 firms in six information and communication technology (ICT) industries in Norway.

## **USING EMPLOYMENT INTERMEDIARIES: PREVIOUS RESEARCH**

### **“Monolithic” Studies**

Most organizational studies of externalization analyze work arrangements at the organizational level, and do not differentiate among the various positions within the firm. For example, Mangum, Mayall & Nelson (1985), Harrison & Kelley (1993), Houseman (2001), and Kalleberg, Reynolds & Marsden (2003) examine the extent to which different types of organizations use various types of nonstandard work arrangements. We refer to these studies as

“monolithic” because they do not distinguish within-organizational differences in the use of these nonstandard work arrangements.

This literature has produced useful information on the extent to which organizations use employment intermediaries and on the general situations in which they do so. Since these studies do not distinguish between types of organizational activities, however, they have not been able to test very precisely some key theoretical explanations for why organizations use the various types of external work arrangements. By contrast, some studies assume explicitly that organizations are divided into groups of positions that differ in the extent to which their activities are externalized (e.g., Kalleberg & Marsden, 2005). We build on such studies and argue that the reasons why organizations externalize are likely to differ by their functions and activities.

### **Distinguishing Organizational Functions: Core vs. Non-Core**

There are various ways to differentiate organizations: a firm may be conceptualized as consisting of different parts or elements that may be termed activities, functions, departments, resources or competencies. Different theories emphasize different dimensions. Some theories of strategic management, for example, focus on “primary” versus “support” activities in order to capture a firm’s value configuration (Porter, 1985; Fjeldstad & Stabell, 1998). In addition, the resource-based view of the firm (Barney 1991) emphasizes critical resources or assets—the strategic core (Reve 1990)—of which competencies are often a vital part.

A distinction that is central to many of these theories is that between the core value-creation activities or resources, which are vital for an organization’s competitive advantage, on the one hand, and those activities and resources that are more peripheral to the organization, on the other. All organizations have a core element, which may refer to the main product or service that it produces. The nature of the core activity or function differs from one organization to

another: for an automobile manufacturing plant, the core activity might be assembling a car; for a school, it is educating students; and for a bank, it might be handling financial transactions.

The distinction between core and peripheral activities within organizations was popularized and applied to the topic of employment externalization by John Atkinson (1984) during the 1980s in Britain. The essence of his flexible firm model is that the organization's core consists of those employees who are most vital for the firm and provide the basis of its key competence. Firms seek to develop functional flexibility in its core activities "... so that employees can be redeployed quickly and smoothly between activities and tasks" (Atkinson, 1984: 4). In order to achieve this, the firm seeks to establish long-term relations with a group of highly committed, skilled employees. By contrast, in the periphery, firms seek numerical flexibility "... so that headcount can be quickly and easily increased or decreased in line with even short changes in the level of demand for labor" (Atkinson, 1984: 4). The peripheral work force consists of variable elements, which is made possible in part due to the use of non-standard work arrangements such as short-term hires, temporary help agencies and contract companies.

Conventional wisdom generally assumes that employment intermediaries and other non-standard work arrangements should be used only in the non-core or peripheral areas of the organization, not in its core activities. The assumption that organizations should internalize, not externalize, their core activities is supported by a number of influential theories in addition to the core-periphery model. One of James Thompson's main theses, for example, was that firms should buffer those capabilities that are most vital to their competitiveness (Thompson, 1967). Moreover, according to Transaction Cost Theory, asset specificity is the most important factor driving boundary choice. In order to deter against opportunism, internalization is the preferred

solution when asset specificity is high, while different contractual arrangements are applied to activities with a lower level of asset specificity (Williamson, 1985; Poppo & Zenger, 1998).

Furthermore, the resource-based view of the firm states that organizations that are able to build rare, valuable, non-substitutable and difficult-to-imitate resources will achieve an advantage over their competitors. These critical resources should be governed internally, while other resources should be governed by market mechanisms (Kogut & Zander, 1996, Moran & Ghoshal, 1996). In line with this view, Pfeffer (1994: 22) argues that "... the recent trend toward using temporary help, part-time employees and contract workers, *particularly when such people are used in core activities*, flies in the face of the changing basis of competitive success" (emphasis in original). The resource-based view thus assumes organizations should "stick to their knitting" and seek to secure a competitive advantage by investing in their "core" workers who are involved in the main value-creating activity of the organization (Lepak & Snell, 1999).

### **Why Firms May Use Employees of Contract Companies and Temporary Help Agencies in their Core Activities**

Each of the theories discussed above generally assumes that organizations should internalize their core value-creation activities. Externalization should occur, if at all, in non-core functions of the firm. Recent research has challenged this view, however, and has suggested the need for a more diverse picture of the role that employment intermediaries may play for a client organization.

Several explanations serve to undermine the proposition that employment intermediaries are useful only in non-core activities. Poppo & Zenger (1998: 3) argue that when technological change is rapid "... internal routines, languages and embedded forms of knowledge may easily become rigidities that hamper performance." There are potential learning costs associated with

an emphasis on stability of employees and the homogeneous nature of culture and knowledge (Grandori, 2001). Firms should be able to expose themselves to ideas from outside their boundaries in order to stimulate creativity and prevent rigidity (Leonard-Barton, 1992). This is consistent with the empirical finding that contract companies and temporary help agencies provide client organizations with employees that are highly skilled professionals as well as low skilled workers (Kalleberg, Reynolds & Marsden 2003), and that the most rapid growth in nonstandard work arrangements can be found in professional and technical functions (Matusik & Hill, 1998).

Matusik & Hill (1998) argue that external staffing arrangements are likely to be useful in core value-creation areas of firms that compete in dynamic environments. A strategy based on the appropriation of rents often will not work in dynamic environments due to obsolescence and because internal resources that are slow and costly to accumulate may also be slow and costly to dispose (Ghoshal, Moran & Bartlett, 2001). In dynamic environments—where there is rapid technological change, short product cycles and “creative destruction”—the firm should emphasize its ability to upgrade its stock of private and public knowledge. By contrast, in relatively stable environments, knowledge preservation is central and the development of new knowledge is less important; hence, the use of competence not employed by the firm should be avoided due to the dangers associated with knowledge leakage.

Obtaining expertise by the use of employment intermediaries enables the client organization to acquire knowledge, bring in new ideas and create an innovation-stimulating competence mix with its employees. Competitive advantage may thus reside in the network of relationships outside the firm as well as those resources governed internally (Dyer & Singh, 1998). When the locus of innovation is to be found in interorganizational networks, the ability to

obtain external knowledge and develop mechanisms to absorb these resources are critical for competitive advantage (Powell et al., 1996; Liebeskind et al., 1996). Using external work arrangements in combination with the employees of the firm thus has a value-creation potential. If properly managed, the gains from knowledge creation should outweigh the dangers of knowledge leakages.

A recent study of firms in computer services (Nesheim, 2003) found support for the proposition that external work arrangements are used in the core value-creating activities of organizations operating in dynamic environments. He showed that firms that had a strategy based on innovation and product development used such arrangements to a larger extent than other firms. Here, we develop further these arguments about the use of external work arrangements in the core by differentiating between two types of employment intermediaries on the basis of their supervisory relations to the client firm: consulting firms and temporary help agencies.

## **HYPOTHESES**

As we have suggested, the view that firms should not externalize their core activities may be wrong in certain situations. In particular, firms operating in dynamic environments and experiencing rapid technological change may be likely to use employment intermediaries in their core areas. Research emphasizing learning costs, core rigidities and the potential of knowledge residing outside organizational boundaries suggests that in dynamic environments, human capital not connected to the firm through employment provides a potential source of industry “best practices,” competence and new ideas which, combined with the employees of the firm, is likely to enhance the competitiveness of the firm.

Firms may also have different reasons for using employment intermediaries in their core activities, depending on the nature of their environments and other competitive issues. Based on Atkinson's (1984) concepts of functional and numerical flexibility as well the research on knowledge in the resource-based perspective (Barney, 1991; Matusik & Hill, 1998), we propose that organizations may use intermediaries in their core activities for two distinct reasons. First, firms might be concerned with developing *qualitative* flexibility<sup>1</sup>, a term we use to refer to the ability to assess, create and implement new knowledge and to change tasks and activities according to changes in the market, the strategy of the firm and relevant technology. This dimension refers to changes in the *content* of knowledge, tasks and activities. Secondly, organizations may emphasize *numerical* flexibility, or the ability to change the number of personnel working on certain tasks according to changes in workload and tasks. Numerical flexibility thus refers to "more or less" input of similar knowledge, i.e. *quantitative* changes in response to increases or decreases in demand for such knowledge.

Moreover, organizations are more or less likely to use different kinds of employment intermediaries depending on which of these forms of flexibility they are most concerned. We argue that a basic distinction between types of employment intermediaries is rooted in who supervises the work of the intermediary's employees: client organizations that use contract companies or consultants cede supervisory control of the activity to the contract company, while the client organization supervises workers from temporary help agencies (Pfeffer & Baron, 1988; Kalleberg & Marsden, 2005). We expect that organizations will use contract companies such as consulting firms when they need special competence, because such firms provide a service based on a specific skill, and the client organization does not have the knowledge to supervise employees with these skills. Consulting firms are classified as a professional business service,

and are often highly knowledge intensive whose employees are highly educated, and the delivery of such services often involves a high degree of discretionary effort and personal judgment by the experts providing the service (cf. Løwendahl 1997). Personnel from temporary help firms, on the other hand, provide more standardized and substitutable competence to the firm. Although temporary help agencies have increasingly entered into market niches where professional competencies are required (Matusik & Hill, 1998), clerical workers in lower skill categories constitute the main share of the personnel in such firms (Nergaard and Nicolaisen, 2002). We elaborate on these arguments below.

### **Reasons for Using Employment Intermediaries in Core Activities**

#### *The Impact of Strategy: Innovation vs. Low-cost*

Firms that operate in similar environments may choose different responses and strategies. Hill and Jones (2001) argue that competitive advantages are based on four factors: efficiency, quality, innovation and customer responsiveness. We believe that the building and creation of knowledge is especially vital for firms that compete on innovation and product development rather than imitation, costs or economies of scale. Innovation requires a continuous development of ideas. One vital source of ideas is found in experts who are related to the focal firm through employment intermediaries. A firm that competes on the basis of their ability to innovate should have more people from employment intermediaries involved in their core-value creation functions, compared to other firms. This hypothesis was supported in a study of 26 firms in ICT-services (Nesheim, 2003), which showed that firms that had a strategy based on innovation and product development used employment intermediaries to a larger extent than other firms.

The potential of employment intermediaries to contribute to innovation and product

development will in most instances be larger when personnel from consulting firms are involved, as compared to personnel from temporary help agencies. The first group is more likely to possess competencies that are useful in assessing industry best practices and creating an innovation-stimulating competence mix with the employees of the focal firm. Therefore, we expect there to be a positive relation between innovation strategy and the use of consulting firms.

*Hypothesis 1. Organizations that pursue an innovation strategy are more likely to use personnel from consulting firms in their core activities compared to organizations that do not have an innovation strategy.*

Organizations' use of personnel from temporary help agencies, on the other hand, is likely to be related to price and cost leadership strategies. There are several explanations for why the use of this staffing practice may reduce costs for the client firm. For example, training, recruitment, hiring and employment costs (such as the paperwork requirement involved in complying with governmental regulations) are less than ordinary employment, and the client firm is able to manage capacity more efficiently (Kalleberg & Marsden, 2005). Therefore, one would expect to find a positive relation between low-cost strategies and the use of people from temporary help agencies.

*Hypothesis 2. Organizations that pursue a low-cost strategy are more likely to use personnel from temporary help agencies in the core activity, compared to organizations that do not have a low-cost strategy.*

### *Special Competence*

A main reason for the use of consulting firms in the core activities of the firm is to provide qualitative rather than numerical flexibility, i.e., to enhance the ability to make vital

changes in substantive elements of the firms' value configuration, rather than to change the amount of such inputs. We expect that client firms will tend to turn to consulting firms rather than temporary help agencies when they require special competence since, as we suggested above, if a client does not have the special competency required to perform the task, then it is not in a good position to supervise the work of employees hired from the outside to perform these activities. We further anticipate that this pattern should prevail regardless of whether or not the firm competes on the basis of innovation and product development. We thus hypothesize that:

*Hypothesis 3. Organizations are more likely to use consulting firms than temporary workers in the core activities when the organizations demand special competence.*

### *Extra capacity*

Organizations are apt to use temporary help agencies in their core activities when they are seeking to obtain *numerical* flexibility. We expect such personnel to be used when extra capacity is needed in an area where the organization's employees already have the relevant skills. Seasonal changes, unpredictable demand and new projects are typical triggers for increased need for extra capacity. Due to the temporary nature of employment contracts with these agencies, the personnel may easily be discarded when demand for workers lessens. Using personnel from temporary help agencies entail lower exit costs—monetary as well as reputation costs—than using internal employees who have open-ended contracts since temporary employees may be discharged without tarnishing the firm's image or reducing morale among its employees. We thus expect a positive relation between the perceived need for numerical flexibility and the use of temporary help agencies (Davis-Blake & Davis, 1993; Matusik & Hill, 1998; Kalleberg & Marsden, 2005):

*Hypothesis 4. Organizations that demand extra capacity are more likely to use temporary help agencies in the core activity.*

Table 1 summarizes our hypotheses. As this table indicates, we expect that the reasons organizations give for using consulting firms and temporary help agencies in core activities differ. We expect the use of consulting firms to be related to qualitative flexibility, demand for special competence and innovation; while the use of temporary help agencies should be linked to cost leadership, numerical flexibility, and demand for extra capacity.

-- Table 1 about here --

## DATA

To test our hypotheses, we chose a business sector that is generally characterized by a high degree of dynamism and rapid market and technological change: firms in the information and communication technology (ICT) sectors. Given these dynamic and competitive environmental features, we expect the sector to be generally characterized by the conditions that make the use of employment intermediaries—especially the use of consulting firms in core activities—particularly relevant. Due to the evolving nature of this business arena, the pervasiveness of ICT-technology among business firms, and the definition of industry categories, we felt it was futile to try to establish objective boundaries between ICT-firms and other firms. Rather, we adopted a working definition of ICT-firms as consisting of those organizations that produce ICT-products, sell those products or provide services based on ICT-technology.

We identified six sectors: 1) Production firms, 2) wholesale and retail sales of ICT-products, 3) telecommunications, 4) ICT-services, 5) media, and 6) other ICT-firms. We included firms in the “media” category in order to capture the tendency towards converging technology and blurred boundaries among telecommunications, data and mass media.

We included the category of “other ICT-firms” because the rapid innovation and product development, combined with changes in boundaries between industries and the evolving e-commerce, have led to several ICT-firms being classified outside the NACE-categories employed in the creation of the five categories above. We identified “other ICT-firms” in two steps. First, we compiled several lists of firms: a list from “the 500 largest Norwegian ICT-firms;” membership lists of two industry/employer associations; a list of consulting firms that we judged to provide ICT- services; and two lists of firms providing e-commerce. Secondly, we

checked for “doubles” and excluded those firms that already were included in subgroups 1-5. In this manner, we identified a sampling frame of 326 “other ICT-firms.”

We collected information from 501 Norwegian ICT firms that had five or more employees. Data were collected by means of a standardized questionnaire, administered through telephone interviews with the manager (or, if not present, the human relations manager) of the establishment. The interviews were conducted by an external professional bureau.

## **OPERATIONALIZATION OF VARIABLES**

Table 2 presents descriptive statistics and correlations of our dependent and explanatory variables.

-- Table 2 about here --

### **Dependent Variables**

Our dependent variables are whether (=1) or not (=0) the firms used each of two types of employment intermediaries (personnel from consulting firms and temporary help agencies) in their *core or primary activities*. We identified the core activity by asking the following question:

“We are interested in the kind of work that is being done in the firm. Examples are ‘sales and marketing of hardware,’ ‘development and sales of software,’ etc ..... What are the most vital activities and tasks in the firm?” (open-ended response).

The open-ended responses included answers such as: “support of databases,” “production of movies and videos,” “web-design,” and so on.

While we do not have information on the number of personnel from consulting firms and from temporary help agencies that work in the client firm, we are able to assess differences among firms that use high and low levels of employment intermediaries of all types.

## **Explanatory Variables**

### *Strategy*

Our measures of innovation and price strategy are based on responses to the following statements (scored on a 1-5 scale from “completely disagree” (=1) to “completely agree” (=5)).

\* Innovation strategy: “In the markets where we operate the ability to innovate and develop new products are the most important source of competitive advantage”.

\* Price strategy: “In the markets where we operate, price is the most important source of competitive advantage.”

### *Reasons for Using Employment Intermediaries*

Our indicators of the reasons why client firms use employment intermediaries are available only for the firms that used such external work arrangements in the core activity. Thus, we obtained information on these reasons only from the 335 firms (out of 501) that used such employment intermediaries in the core.

Our measures of two main reasons (special competence and extra capacity) are based on the managers responses to questions about the perceived benefits of using employment intermediaries in the core activity (scored on a scale 1-5 from “completely disagree” (=1) to “completely agree” (=5)).

\* Special competence: Our measure is an additive index based on the following items: “‘Externals’ contribute with special competence in key areas for the firm,” “some of the ‘externals’ have competence that is difficult to replace,” and “‘externals’ primarily work on tasks that require a relatively low degree of competence” (Chronbach’s alpha for a scale based on these items is 0.66). Excluding one of these items gives a lower Chronbach’s alpha.

\* Extra capacity: “‘Externals give us extra capacity when the work load increases.’”

## **Control Variables**

Our logistic regression models control for two basic features of organizations: organization size (number of employees) and age. We expect larger organizations to be less likely to externalize activities generally, because they are better able to achieve economies of scale and have more demand for and capacity to provide specialized services (Harrison & Kelley, 1993). On the other hand, larger organizations may be engaged in more and diverse activities that require skills that may be needed from other companies, and so be more apt to use employment intermediaries (Davis-Blake & Uzzi, 1993).

We expect that use of employment intermediaries will be negatively related to an organization’s age: since the use of consulting firms and temporary help agencies has become more common in recent years, recently founded organizations will be more likely to use them.

In addition to organization size and age, our models also control for possible differences in use of employment intermediaries among the six industry sectors. Table 3 presents information on the use of the two types of employment intermediaries among industries.

## **METHOD**

We use a Logistic regression model to examine whether (=1) or not (=0) the establishment uses consulting firms or temporary help agencies in the core activity.

Our Logit function is:

$$P(y=1|L)=\exp(L)/1+\exp(L)$$

In order to test our hypotheses we apply two models:

### **Model 1**

$$\text{LOGIT (L)}=\text{Intercept}+ b_1(\text{innovation strategy})+b_2(\text{price strategy})+ b_3(\text{lnsize})+b_4(\text{org.age})$$

### **Model 2**

$$\text{LOGIT (L)}= \text{Intercept} + b_1(\text{innovation strategy})+b_2(\text{price strategy})+ b_3(\text{special competence})+b_4(\text{extra capacity})+ b_5(\text{lnsize})+b_6(\text{org.age})$$

We are able to estimate Model 2 only for those firms (335 of 501) that use at least one form of external work arrangement in the core activity.

## **RESULTS**

The results presented in Table 3 indicate the extent to which firms in the ICT industries use external work arrangements in their core activities. Among the 501 firms in our sample, 33 percent used personnel from consulting firms and 21 percent used temporary help agencies in their core activities. The share of firms that did not use any of these two arrangements was 56 percent (not reported in Table 3). Thus, 218 out of 501 firms (44 percent) used personnel from consulting firms and/or temporary help agencies in their core activities.

-- Table 3 about here --

Comparing the use of the employment intermediaries in the various economic sectors, we see that firms in ICT-services most often used consulting firms, while there are only small differences among sectors in the use of temporary help agencies. In general, retail and wholesale sales seem to have the lowest incidence of use of employment intermediaries, although the results for some of the sectors should be interpreted cautiously due to low sample size.

Table 4 presents our empirical assessment of our hypotheses, using logistic regression analyses. We report the results for consulting firms and temporary help agencies separately. We also estimate two different models for each type of employment intermediary, since information on “reasons” for using them were only collected for a subset of the sample (see above). We test our first two hypotheses on the total sample. We then test our second two hypotheses using the limited sample of firms that use some form of external work arrangement.

-- Table 4 about here --

### **Innovation strategy**

Consistent with our first hypothesis, we find a positive effect of innovation strategy on the use of consulting firms, but not on the use of temporary help agencies. The top panel of Table 4 shows that the effect of innovation strategy is significant in Model 1 for the total sample and in both models for the limited sample. We computed probabilities in order to get a better sense of the size of this effect: the probability of using consulting firms when scoring very low on innovation strategy is 0.08, whereas the probability increases to 0.18 when scoring very high on innovation strategy.<sup>2</sup>

### **Price strategy**

The bottom panel of Table 4 shows that there is a positive effect of price strategy on the use of temporary help agencies in all analyses, which supports our second hypothesis.

Organizations that pursue a low-cost strategy are more likely to use personnel from temporary help agencies in the core activity, compared to organizations that do not.

When comparing Model 1 and Model 2 for the limited sample, we see that the effects of innovation and price strategy are consistent in both models. Model 2 increases the fit of the model significantly and gives a higher adjusted R-square than Model 1.

### **Special competence**

The effect of special competence on consulting firms is positive and significant at the .01 level (see top panel of Table 4, Model 2), which suggests that managers see the acquisition of special competence as a benefit of using consulting firms in the core activity. By contrast, the effect of special competence on the use of temporary help agencies is negative (see bottom panel of Table 4, Model 2). These results are consistent with our third hypothesis: organizations are more likely to use consulting firms than temporary workers in the core activities when the organizations are seeking to acquire special competence.

### **Extra capacity**

Table 4 indicates that there is no significant relationship between demand for extra capacity and the use of temporary help agencies in the core. These results provide no support for our fourth hypothesis.

### **Control variables**

Larger organizations are more likely to use both consulting firms and temporary help agencies in their core activities. These positive effects suggest that larger organizations may be engaged in more and diverse activities, and thus being more apt to use employment intermediaries.

Among the different sectors, ICT services firms tend to use this work arrangement more than other ICT industries (the omitted category).

Finally, older organizations tend to use temporary help agencies in the core more often than more recently established organizations, whereas there is no effect of organization age on the use of consulting firms.

## **Summary**

These findings are consistent with the view that organizations use personnel from consulting firms and temporary help agencies in their core activities for different reasons. Firms that use personnel from consulting firms perceive that they enhance innovation and bring special competence into the organization. These work arrangements are linked to the critical competence resources for the firm if not constituting such resources in themselves, and should be important for the competitiveness for the firm. This general picture is compatible with Matusik & Hill's (1998) model of external work arrangements in the core value-creation areas of the firm. On the other hand, the use of temporary help agencies appears to be driven by price strategy but not to the perceived benefits of extra capacity.

The reasons why firms use consulting firms and temporary help agencies do not seem to depend on the intensity with which they use these employment intermediaries. To try to assess this, we also estimated the models reported in Table 4 separately for "high" and "low" users of external work arrangements. We defined "high" users as those firms in which at least 10 percent

of employees consist of external workers, though we are unable to distinguish whether these are from consulting companies or temporary help agencies. These analyses yielded essentially the same results as those presented in Table 4.

## **CONCLUSIONS AND IMPLICATIONS**

The points of departure of this paper were: 1) the *observation* that the use of employment intermediaries often involves technical and professional expertise, which may contribute critical resources for the client firms; and 2) *theoretical arguments* predicting that client firms will tend to use such arrangements in their core activities when they operate in dynamic environments.

We argued for a dual model of external work arrangements in the core activities, where consulting firms are used to promote an innovation strategy and to contribute to the acquisition of special competence, while temporary help agencies are used to accomplish a price strategy and to meet demands for extra capacity. Our findings support the view that there are different reasons why firms use the two types of employment intermediaries in the core activities. Client firms' use of consulting firms was related to both an innovation strategy and the need for special competence, suggesting that consulting firms help to bring external competence across organizational boundaries and may have an important role for the focal firm's competitiveness (see Matusik & Hill, 1998). By contrast, the use of temporary help agencies was related to price strategy, but we found no relation to the variables connected to numerical flexibility, such as the benefits of extra capacity.

As organizational environments become more dynamic and technological change accelerates, the study of how and why organizations externalize their activities is likely to increase in importance. Future studies on this topic should seek to overcome several limitations of our study. In particular, while we focused on the organization's core activities in order to test

hypotheses about the reasons for using employment intermediaries in these activities relatively precisely, we were not able with these data to examine their use in non-core activities. Thus, we do not know if motives and strategies attributable to the core activities are also applicable to non-core activities. Studies that include information on both the core and support activities are needed to examine how the use of external work arrangements differs between them and to assess the extent to which the use of a *similar* work arrangement (e.g., temporary help agencies) is explained by different mechanisms in different parts (core vs. non-core) of the firm.

Moreover, our sample was drawn from a dynamic industrial environment, information and communication industries. While such industries are most relevant to testing our hypotheses, we do not know whether the use of employment intermediaries in core activities is also prevalent in more stable industrial environments. Future research should include organizations from both dynamic and stable industries, so as to ascertain whether organizations use intermediaries differently in these two kinds of environments.

Research is also needed on the extent to which these findings can be generalized to other dynamic business sectors. Are there similar or different mechanisms in other (customer) sectors or organizational fields? To what extent do differentiation and specialization of the external suppliers of competence matter? Should the firm-centred explanatory model employed here be supplemented by perspectives that emphasize power and dependency relations between external competence providers and client firms, as well as the preferences of the personnel in question?

Another limitation of the study concerns the measurements of our explanatory variables. Further research should develop measures on the intensity of the use of employment intermediaries as well as systematically use multiple items to measure our independent variables.

Our finding that a specific work arrangement is extensively used in core activities suggests that such external competencies aid the development of the firm's competitiveness. It is important to analyze the mechanisms, challenges and pitfalls across permeable organizational boundaries. What are the mechanisms that stimulate inter-organizational learning and knowledge dissemination and creation inside the client firm? What kind of relations and governance mechanisms are instrumental, with respect to both the external personnel as well as the consulting firm involved? Here, we have emphasized an instrumental perspective and strategic considerations on part of the focal firm. Additional insights are likely to be obtained from the use of a more processual approach, which may help to capture incremental emergent patterns of action over time. For example, a client firm may initially use personnel from consulting firms to provide extra capacity. Over time, as they learn more about the competencies of the people involved, they may take on a more strategic role providing key competence for the firm.

Despite their limitations, our results have several implications for issues related to human resource management. First, contrary to conventional wisdom and a number of influential theories, there are often benefits to firms' use of employment intermediaries in their core activities, especially when the firm operates in dynamic environments. In these situations, the use of consulting companies may contribute to the acquisition of competence and knowledge and to the enhancement of innovation.

Second, managers should differentiate between different types of non-standard work arrangements and between different reasons for using employment intermediaries. We have suggested that the use of consulting companies as opposed to temporary help agencies in the core activity, for example, depends on whether the client firm is seeking to compete on the basis of innovation or price. Rather than regarding employment intermediaries and the reasons for their

use as homogenous, researchers and managers should seek a more fine-grained understanding of non-standard work arrangements in general and the use of employment intermediaries in particular.

Finally, the use of employment intermediaries in the core activities of the firm constitutes a challenge to the management of such relations. In order to achieve the potential benefits with regard to innovation and knowledge development of hiring consultant companies, for example, the client firm has to manage the contract with the consulting firm as well as the relations with the consulting firm's often highly qualified personnel. The task of human resource management is not restricted to coordinating the people employed by the firm, and requires a differentiated approach, depending on the category of human resources in question. The challenges are especially great when externals work closely together with the employees of the focal firm. Here, management issues such as developing a common culture, balancing distance to and inclusion of externals, assigning interesting tasks to internals as well as externals, and enabling knowledge development and transformation while avoiding knowledge leakage (Matusik & Hill, 1998; Nesheim, Nesheim & Garnæs, 2003) are formidable concerns for managers as well as researchers.

## Appendix

Table A-1 gives an overview of the sampling frames, sample size and response rates in the six sectors.

-- Insert table A-1 about here --

## REFERENCES

- Abraham, K. G. & Taylor, K.T. (1996). Firms' use of outside contractors: Theory and evidence. *Journal of Labor Economics*, 14, 394-424.
- Atkinson, J.G. (1984). The flexible firm and the shape of jobs to come. Labour market issues No. 5. Oxford: Ruskin College Oxford.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17, 99-120.
- Bergström, O. & Storrie, D. (2003). Contingent employment in Europe and the United States. Cheltenham, UK: Edward Elgar.
- Davis-Blake, A. & Uzzi, B. (1993). Determinants of employment externalization: A study of temporary workers and independent contractors. *Administrative Science Quarterly*, 38, 195-223.
- Dyer, J.H. & Singh, H. (1998). The relational view: How firms minimize transaction cost and minimize transaction value. *Academy of Management Review*, 23, 660-679.
- Fjeldstad, Ø. & Stabell, C. (1998). Configuring value for competitive advantage: On chains, shops and networks. *Strategic Management Journal*, 19, 413-437.
- Ghoshal, S., Moran, P & Bartlett, C.A. (2001). Employment security, employability and sustainable competitive advantage, in Gual, J. and J.E. Ricart (eds.): *Strategy, Organization and the changing nature of work*. Cheltenham, UK: Edward Elgar.
- Grandori, A. (2001). *Organization and Economic Behavior*. London: Routledge.
- Harrison, B. & Kelley, M. (1993). Outsourcing and the search for 'flexibility'. *Work, Employment and Society*, 7, 213-235.

- Hill, C.W. & G.R. Jones (2001). *Strategic management theory: An integrated approach*. Boston, MA: Houghton Mifflin.
- Houseman, S. N. (2001). Why employers use flexible staffing arrangements: evidence from an establishment survey. *Industrial and Labor Relations Review*, 55, 149-170.
- Kalleberg, A. L., J. Reynolds, & Marsden, P.V. (2003). Externalizing employment: Flexible staffing arrangements in U.S. organizations. *Social Science Research*, 32, 525-552.
- Kalleberg, A.L. & Marsden, P.V. (2005). Externalizing organizational activities: Where and how U.S. establishments use employment intermediaries. *Socio-Economic Review*, 3, 389-415.
- Kogut, B. & Zander, U. (1992). Knowledge of the firm, combinative capabilities and the replication of technology, *Organization Science*, 7, 502-518.
- Lepak, D.E. & Snell, S.A. (1999). The human resource architecture: Toward a theory of human capital allocation and development. *Academy of Management Review*, 24, 31-48.
- Leonard-Barton, D. (1992). Core capability and core rigidities: A paradox in managing new product development. *Strategic Management Journal*, 13, 111-125.
- Liebeskind, J.P. et al (1996). Social networks, learning and flexibility: Sourcing scientific knowledge in new biotechnology firms. *Organization Science*, 7, 428-443.
- Løwendahl, B. (1997). *Strategic management of professional service firms*. Copenhagen: Handelshøjskolens forlag.
- Mangum, G., Mayall, D., & Nelson, K. (1985). The temporary help industry: A response to the dual internal labor market. *Industrial and Labor Relations Review*, 38, 599-611.
- Masters, J. K. and Miles, G. (2002). Predicting the use of external labor arrangements: A test of the transaction costs perspective. *Academy of Management Journal*, 45, 431-442.

- Matusik, S. F. & Hill, C.W.L. (1998). The utilization of contingent work, knowledge creation, and competitive advantage. *Academy of Management Review*, 23, 680-697.
- Moran, G. & Ghoshal, S. (1996). Theories of economic organization: The case for realism and balance. *Academy of Management Review*, 21, 58-72.
- Nergaard, K. & Nicolaisen, H. (2002). *Utleie av arbeidskraft*. Oslo: Fafo.
- Nesheim, T. (2003). Using external work arrangements in core value-creation areas. *European Management Journal*, 21, 528-537.
- Nesheim, T., Nesheim, A. & Garnaes, S. (2003). Ekstern arbeidskraft i bedriftens kjernevirksomhet: En utfordring til konvensjonell visdom om bedriftens effektive grenser. *Magma*, 6, 93-112.
- Peck, J. & Theodore, N. (2001): *Contingent Chicago: Restructuring the spaces of temporary labor*. *International Journal of Urban and Regional Research*, 25, 471-496.
- Pfeffer, J. (1994). *Competitive Advantage through People: Unleashing the Power of the Work Force*. Boston, MA: Harvard Business School Press.
- Pfeffer, J. and Baron, J.N. (1988). Taking the workers back out: Recent trends in the structuring of employment, *Research in Organizational Behavior*, 10, 257-303.
- Poppo, L. & Zenger, T. (1998). Testing alternative theories of the firm: Transaction cost, knowledge-based and measurement explanations of make-buy decisions in information services, *Strategic Management Journal*, 19, 853-877.
- Porter M. (1985). *Competitive advantage*. New York: The Free Press.
- Powell, W.W. et al (1996). Interorganizational networks and the locus of innovation: Networks of learning in biotechnology, *Administrative Science Quarterly*, 41, 116-145.

Reve, T. (1990). The firm as a nexus of internal and external contracts, in I Aoki, M.B.

Gustafsson & O.E. Williamson (eds.): The firm as a nexus of contracts. London:

Sage: 133-161.

Thompson, J. D. (1967). Organizations in Action: Social Science Bases of Administrative

Theory. New York: McGraw-Hill.

Williamson, O. E. (1985). The Economic Institutions of Capitalism. New York: Free Press.

**Table 1: Hypotheses: A Dual Model of the Use of Employment Intermediaries in the Core Activities**

	Consulting Firms	Temporary Help Agencies
<i>Dimensions</i>		
Strategy	Innovation (H1)	Cost Leadership (H2)
Type of Flexibility	Qualitative	Numerical
Motive	Special Competence (H3)	Extra Capacity (H4)

**Table 2: Descriptive Statistics and Correlations**

	N	Mean	Std. Dev.	1	2	3	4	5	6	7				
<i>Dependent variables</i>														
1. Consulting Firms (yes=1, no=0)	501	0,33	0,47											
2. Temporary Help Agencies (yes=1, no=0)	501	0,21	0,41	0,188	**									
<i>Explanatory variables</i>														
3. Innovation Strategy	494	3,54	1,10	0,164	**	0,033								
4. Price Strategy	498	3,15	1,18	0,049	-	0,139	**	0,118	**					
5. Special Competence	324	10,58	3,10	0,256	**	0,226	**	0,041	0,118	*				
6. Extra Capacity	327	3,91	1,38	0,017	-	0,060	0,014	0,020	0,027	-				
7. Org. Size (ln)	501	2,90	1,32	0,177	**	0,361	**	0,079	0,015	0,161	**			
8. Org. Age	501	22,93	29,69	0,017	-	0,204	**	0,047	0,124	**	0,133	*		
											0,115	*	0,313	**

\* p<0.05, \*\* p<0.01

Note: Price strategy, innovation strategy, and extra capacity are ordinal variables, which are coded in the following way: agree completely (=5), disagree completely (=1). Special competence is measured on an additive scale. See also data section.

**Table 3: Percentage of Firms that Use Employment Intermediaries by Sector**

	Consulting Firms	Temporary Help Agencies
<i>Industry Sector</i>		
Total sample (N=501)	33	21
ICT-industry (N=50)	30	24
ICT-wholesale/retail (N=50)	24	16
Telecom (N=23)	38	29
ICT-services (N=150)	48	22
Media (N=150)	24	19
Other (N=78)	28	23

**Table 4: Determinants of Firms' Use of Personnel From Consulting Firms and Temporary Help Agencies in Core Activities** (\* p <, 05, \*\* p<,01)

	Consulting Firms								
	Total Sample			Limited Sample					
	<i>Model 1</i>			<i>Model 1</i>			<i>Model 2</i>		
	B	S.E.	Odds-ratio	B	S.E.	Odds-ratio	B	S.E.	Odds-ratio
Innovation Strategy	0,237 *	0,100	1,268	0,245 *	0,115	1,278	0,242 *	0,122	1,274
Price Strategy	-0,151	0,089	0,860	0,079	0,107	0,924	0,039	0,113	0,962
Special Competence							0,193 **	0,044	1,213
Extra Capacity							0,031	0,095	1,032
Org.Size	0,366 **	0,088	1,442	0,302 **	0,105	1,353	0,351 **	0,109	1,421
Org.Age	0,000	0,004	1,000	0,000	0,005	1,000	0,001	0,005	1,001
ICT-industry	0,233	0,419	1,262	0,161	0,487	0,851	0,301	0,513	0,740
ICT-wh/retail	0,472	0,452	1,604	0,387	0,571	1,473	0,305	0,604	1,357
Telecom	0,724	0,564	2,062	0,094	0,640	1,099	0,072	0,665	1,075
ICT-services	1,214 **	0,340	3,366	1,122 **	0,418	3,071	1,016 *	0,434	2,763
Media	0,141	0,344	1,151	0,591	0,400	0,554	0,699	0,419	0,497
Constant	-2,712 **	0,631	0,066	1,700 *	0,735	0,183	4,047 **	0,998	0,017
N		483			323			319	
-2 Loglikelihood		573,08			393,09			366,36	
Nagelkerke R <sup>2</sup>		0,144			0,208			0,282	
	Temporary help agencies								
	Total Sample			Limited Sample					
	<i>Model 1</i>			<i>Model 1</i>			<i>Model 2</i>		
	B	S.E.	Odds-ratio	B	S.E.	Odds-ratio	B	S.E.	Odds-ratio
Innovation Strategy	0,128	0,117	1,137	0,153	0,132	1,165	0,226	0,138	1,254
Price Strategy	0,294 **	0,110	1,342	0,485 **	0,128	1,624	0,488 **	0,132	1,630
Special Competence							0,149 **	0,048	0,862
Extra Capacity							0,078	0,111	1,081
Org.Size	0,672 **	0,105	1,958	0,710 **	0,130	2,035	0,700 **	0,135	2,013
Org.Age	0,009 *	0,004	1,009	0,018 **	0,006	1,019	0,019 **	0,006	1,019
ICT-industry	0,665	0,480	1,945	0,382	0,558	1,465	0,493	0,578	1,638
ICT-wh/retail	0,842	0,548	2,322	1,072	0,663	2,921	1,203	0,680	3,329
Telecom	1,172	0,648	3,227	0,741	0,725	2,099	0,746	0,739	2,108
ICT-services	0,973 *	0,420	2,647	0,782	0,492	2,187	1,016 *	0,513	2,762
Media	0,758	0,410	2,135	0,019	0,489	1,020	0,112	0,504	1,119
Constant	-5,810 **	0,827	0,003	5,973 **	0,996	0,003	5,102 **	1,162	0,006
N		493,00			323,00			319,00	
-2 Loglikelihood		433,10			314,32			300,10	
Nagelkerke R <sup>2</sup>		0,23			0,35			0,38	

**Table A-1 Sampling frame, sample size and response rates.**

<i>Sector</i>	<i>NACE categories</i>	<i>Sampling Frame</i>	<i>Sample Size</i>	<i>Response Rates</i>
1. ICT-industry	Manufacturing of computers and other information processing equipment (30.020), manufacture of insulated wire and cable (31.3), manufacture of electronic valves and tubes and other electronic components (32.1), manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy (32.2), manufacture of television receivers, sound or video recording or reproducing apparatus and associated goods, (32.3), manufacture of instruments and appliances for measuring, checking, testing, etc (33.2), and manufacture of industrial process control equipment (33.3)	116	97	50 (52 %)
2. ICT-wholesale and retail	Wholesale of office machinery and equipment (51.64), retail sale of electrical household appliances, radio and television goods (52.451), and retail sale of computers, office equipment and telecommunication equipment (52.485)	569	351	50 (13 %)
3. Telecommunications	Telecommunications (64.2)	73	51	21 (41 %)
4. ICT-services	Hardware consultancy (72.1), software consultancy and supply (72.2), data processing (72.30), and data base activity (72.4)	650	466	150 (32 %)
5. Media	Publishing of newspapers (22.12), publishing of journals or periodicals (22.13), publishing of sound recordings (22.14), printing of newspapers (22.21), reproduction of video recording (22.32), reproduction of computer media (22.33), advertising (74.4), motion picture and video activities (92.1), and radio and television activities (92.2)	623	470	150 (32 %)
6. Other	See description in text	326	220	80 (26 %)

Total		2357	1655	501 (30%)
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## ENDNOTES

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<sup>1</sup> Qualitative flexibility is a broader concept than Atkinson's notion of functional flexibility, since it encompasses assessing, creating and implementing new knowledge.

<sup>2</sup> Probabilities are computed based on the Logit-model:  $P(y=1|L)=\exp(L)/1+\exp(L)$ , for Model 1, total sample.