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**OUTSOURCING THE HUMAN RESOURCES FUNCTION
An Exploratory Study of the Canadian High-Technology Sector**

by XIMENA DURAN, B.Sc. Industrial Eng.

A thesis submitted to
the Faculty of Graduate Studies
in partial fulfillment of
the requirements for the degree of

MASTER OF MANAGEMENT STUDIES

Carleton University
Ottawa, Ontario
April 21, 1998

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the degree of Master of Management Studies

Supervisor

Chair, School of Business

School of Business
Carleton University

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ABSTRACT

This thesis discusses the findings of a detailed study of the practice of outsourcing human resources (HR) functions or tasks in Canadian small and medium sized high-technology firms. The population from this study included 130 senior-level HR professionals representing small and medium sized firms located in the National Capital Region. Data was collected from 40 of the companies for a response rate of 34%.

Thirty-three of the companies in the sample (83% of respondents) are currently outsourcing at least one HR function or task. The data suggest that reliance on outsourcing to deliver HR services will not increase within the next two years as only 10% of the sample indicated their intent to outsource at least one HR function that is not currently being outsourced. Data suggest that firm size and decentralization of the HR decision-making have impact on outsourcing of HR functions in this sector.

Functions that require specialized knowledge (i.e., training delivery and recruitment and staffing) or technical expertise (i.e., pay-check generation and distribution) appear to be most suitable for outsourcing. Functions that involve a high degree of corporate decision appear to be less suitable for outsourcing (i.e., strategic functions, functions are not performed). Data also indicate that for the majority of the firms sampled HR outsourcing has increased the firms' satisfaction with the quality of HR services. Findings of this research are important for HR managers and HR providers as they increase the knowledge of HR outsourcing practices in Canadian high-technology firms.

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Introduction

Companies who wish to simultaneously grow and maintain their competitive edge in today's global economy have to keep pace with evolving management skills and practices. In the 1990s, a number of organizations are considering outsourcing as one way to control resources, provide quality service, and measure and manage its affairs in a businesslike manner (Axel, 1994; Alexander, 1996; Corbett, 1994; Grupe, 1997; Meyer, 1994; Quinn, 1994; Yeung et al., 1994).

Outsourcing itself is not a new concept as organizations have for years contracted with external suppliers to provide an array of services. The practice of outsourcing, also known as farming out or contracting out, has been around for long time (Lacity and Hirschheim 1993; Leonard 1994; Quinn, 1990; The Economist, 1991; Venkatesan, 1992). In the 1950s, Automatic Data Processing Inc. began taking over companies' payroll functions; Electronic Data Systems Corp. began handling computer and data management for clients in the 1960s; Aramark Corp. has been running cafeterias for companies, colleges, and hospitals since the 1960s (Byrne, 1996). The term "outsourcing" itself however is very recent as it was coined in 1989, when Eastman Kodak Co. handed over its information technology department to outside providers (Wells, 1996, 46). For this thesis outsourcing is defined as "the transfer of operational responsibilities for ongoing services or functions to third parties". This definition was derived from combining relevant concepts from other definitions in the literature.

Since 1989, outsourcing of Information Technology (IT) and Information Systems (IS) has occurred in a number of countries and a variety of organizations. For example,

in 1993, AMP Insurance Company (the largest insurance company in Australia), British Aerospace, and U.K. Inland Revenue Service all outsourced substantial parts of their IT activities (Hubert, 1993). Today, in Somers, N.Y., Pepsi Inc. employees, receive personal financial planning from KPMG Peat Marwick. Denver's TeleTech Holdings Inc. is taking customer-service calls from AT&T customers and booking seat reservations for Continental Airlines and General Motors Corp., is trying to farm out part of its brake production (Byrne, 1996).

While a great deal of information on the topic of outsourcing has recently been published in both the popular press, and the academic literature and there are a number of recent books which discuss the issue of IS outsourcing (i.e., Lacity & Hirschheim, 1993, 1995; Minoli, 1995; Rothery and Robertson, 1995), it should be noted that no definitive study has yet been completed that can tell us exactly how much of today's corporation is outsourced. Data from a number of different studies would however, suggest, that the outsourcing market is large and expected to grow (Dun & Bradstreet Inc., 1997; Grove 1993; The Outsourcing Institute, 1997).

Traditional areas of outsourcing include technical services (i.e. information systems); operations (i.e., facilities management, cafeteria or security services); or new regulations (i.e., environmental regulations, public safety, product safety). Outsourcing practices have recently however been extended to various areas of the organization such as marketing, manufacturing, R&D and Human Resources (HR) (Jones, 1996; The Economist, 1994; Wells, 1996).

Recently, some studies have linked outsourcing to the Human Resource department (i.e. Axel, 1994; Benimadhu, 1995; Dun & Bradstreet Inc., 1997; Harkins et al., 1995; Hewitt Associates LLC., 1997; Jones, 1996; Stewart, 1996; The Outsourcing Institute, 1997). These surveys, most of which were conducted in the United States and Europe, show that many organizations are thinking about outsourcing their HR services. These studies also identify a number of HR services that are already being outsourced in many companies including payroll, benefits administration, temporary and executive search, relocation and training (Benimadhu, 1996; Hewitt Associates LLC., 1997; Knight, 1996; Laabs, 1993a). The studies also shed some light on why organizations might chose to outsource HR. It would appear that these decisions are based not only on financial factors, but also strategic considerations (Axel, 1994; Corbett, 1994; Csoka, 1995; Harkins et al, 1996; Hewitt Associates LLC., 1997; The Outsourcing Institute, 1997).

While these studies provide some insights regarding the trend and practice of HR outsourcing, they do not explore HR outsourcing practices in depth. In addition, most of the data (i.e. extent used, functions outsourced, motivations) come from organizations in the United States. There is little research on HR outsourcing practices in Canadian organizations and very little is known about organizations' experience with outsourcing HR in Canada (Benimadhu, 1996; Harrison, 1996; Johns, 1994; Knight, 1996; S.Chawala, 1995). Such an absence of hard data makes it difficult for organization decision-makers to make an informed decision on whether to keep HR functions in-house or to outsource them.

The purpose of this thesis is to increase the knowledge of HR outsourcing practices in small and medium sized Canadian organizations operating in the High-Technology sector. It examined the following fundamental questions:

1. What HR functions are Canadian small and medium sized High-Technology organizations outsourcing at the present time?
2. What HR functions are Canadian small and medium sized High-Technology organizations considering outsourcing in the near future (i.e. next 2 years)?
3. What factors are associated with the decision to outsource HR function(s) factors in Canadian small and medium sized High-Technology organizations?
4. What factors are associated with the decision to not outsource HR function(s) factors in Canadian small and medium sized High-Technology organizations?
5. What do decision-makers in Canadian small and medium sized High-Technology organizations see as the major advantages of HR outsourcing?
6. What do decision-makers in Canadian small and medium sized High-Technology organizations see as the major disadvantages of HR outsourcing?
7. Does one's view of the above issues vary depending upon:
 - One's previous experiences with outsourcing?
 - The type of organization (i.e. single location, multi location)?
 - The industry sector of the company (i.e. high technology service, high technology manufacturing)?
 - The decision-making structure in the HR area of the company (i.e. centralized, decentralized)?

- The size of the company (i.e. small size, medium size)?

The target population of this study included 130 senior-level HR professionals working for small and medium High-Technology companies located in the Ottawa region. Mail surveys were used to collect quantitative data from these executives to answer the questions listed above.

This thesis is divided into 5 sections. Section 1 provides a review of the outsourcing literature with emphasis on both the IS and HR literature. The research questions to be addressed are given at the end of this section. The methodology used in this study is outlined in section 2. Results of this research are presented in section 3. Section 4 discusses the results of this research presented in previous section. The thesis ends in section 5 with a discussion of the conclusions, relevance and limitations of the study.

1. Literature Review

An extensive review of the available literature indicates that a wide-range of literature that bears on the topic of HR outsourcing (i.e., literature on “farming out” and “contracting out”) has been published. A relatively large amount of empirical work has also been done in the area of IS/IT outsourcing which has some relevance to HR outsourcing. Several authors have discussed IS/IT outsourcing experiences in the 1990s (Gupta, 1992; Lacity & Hirschheim, 1993, 1995; Minoli, 1995). Others have proposed models of IS/IT outsourcing decision-making (Grover, 1993; Meyer, 1994; Willcocks 1995) which may be applicable to HR outsourcing. Finally, empirical research has attempted to identify those factors that contribute to the successful implementation of IS/IT outsourcing practices (Lacity & Hirschheim, 1993, 1995; Minoli, 1995) which may also be partially applicable to the case of HR outsourcing.

Though these prior studies have identified a diversity of factors associated with successful outsourcing practices (Quinn et al., 1990; Rothery and Robertson, 1995; Sunoo, 1994; Venkatesan, 1992) it is only recently, that authors have turned their attention to the study of HR outsourcing practices (Axel, 1994; Benimadhu, 1995; Harkins et al, 1995; Harrison, 1996; Stewart, 1996). A complete review of the outsourcing literature done in conjunction with this thesis reveals that despite the empirical research’s attempt to identify those factors that contribute to the successful implementation of HR outsourcing practices (Harkins et al, 1996; Laabs, 1993b), little is known about how decisions to adopt HR outsourcing practices are made.

This literature review also suggests there is a lack of academic research on HR outsourcing that focuses on Canadian companies. This thesis addresses the above HR outsourcing issues in the High-Technology sector.

The literature review is divided into three major sections. First, in Section 1.1- *Definition of Outsourcing*, different definitions of outsourcing used by different authors in the HR and IS outsourcing literature are reviewed. This is followed by Section 1.2- *The Trend of Outsourcing*, which presents data from a number of different outsourcing studies conducted by consulting companies since 1992. Section 1.2.1- *Human Resource Outsourcing* summarizes relevant data on outsourcing the HR functions. Questions addressed in this section included: Which HR functions are outsourced? Which organizations have outsourced these functions? and What are seen to be the risks and benefits of outsourcing HR? A review of the relevant literature relating to IS outsourcing is then given in Section 1.2.2- *Information Systems Outsourcing* the final section in the literature review. The research questions to be examined are outlined at the end of this review.

1.1. Definition of Outsourcing

Although the concept of outsourcing has been around for a long time, the term “outsourcing” was first coined in 1989, when Eastman Kodak Co. handed its IT department to three outside providers (Wells, 1996, p.46).

Kodak caught the eye of all of us, says Perry Harris- director of management strategies for the Yankee Group in Boston- (...) *Why manage information technology in house when it can be done better and, cheaper, outside? And if Kodak can do it, having overcome the attendant psychological barriers - fear of loss of control, concerns over quality - why can't we?*

Since 1989 many definitions of outsourcing have been used in the popular press and the research literature. The following are the most common definitions of this term. Gupta and Gupta (1992, p.44) refers to outsourcing as “the concept of hiring outside professional services to meet the in-house needs of an organization or agency.” Breibart (1996, p.3), on the other hand states that “Outsourcing is the transfer of the management or administration of a process or function from in-house staff to an outside service provider.” Finally, Harkins et al. (1996, p.7), define outsourcing as follows: “Outsourcing means having an external vendor provide, on a recurring bases, a service that would normally be performed within the organization.”

The term outsourcing as defined above, does not differ from the traditional terms of contracting out, and farming out. For this thesis outsourcing is defined as “the transfer of operational responsibilities for ongoing services or functions to third parties”. This definition was derived from combining relevant concepts from the other available definitions.

1.2. The Trend Of Outsourcing

A number of studies indicate outsourcing is growing with respect to both the number of companies outsourcing and the number of functions outsourced. In this section relevant data from a number of different studies which have been conducted since 1992 are summarized. Topics covered include a discussion of which organizations are adopting outsourcing, which functions are being outsourced in various industry sectors, which organizations are adopting HR outsourcing, and which HR functions are being outsourced.

In 1991, according to Input Corporation of Vienna, Virginia, the outsourcing market in the U.S. was expected to jump from \$10 billion that year to about \$27 billion in 1997 (Grove, 1993). The actual numbers, however, went beyond that prediction. This can be seen by the fact that in 1996, a G2 research study (KPMG Peat Marwick LLP, 1997) predicted that by the year 2000 the outsourcing market in the U.S. would grow from its current \$100 billion per year to \$282 billion per year, with an annual growth rate of 20 percent.

Recently, in a conference of outsourcing vendors held in New York, in June 1997, The Outsourcing Institute said that in 1996, in the U.S., \$100 billion was spent on outsourcing. The Outsourcing Institute expected this amount to grow up to \$318 billion by the year 2001 (Conference for Outsourcing Vendors, June 1997).

The Outsourcing Institute and Frost & Sullivan Market Intelligence, in a 1992 survey (The Outsourcing Institute, 1997) of 1,200 companies in the information technology industry found that 50% of all companies with I/T budgets in excess of \$5

million are either outsourcing or are actively considering it. Similar data was obtained for the banking industry (i.e. 85% of banking and finance companies with I/T budgets in excess of \$5 million are either outsourcing some work or are actively considering it). This study went on to predict that by the end of 1995 one in every \$12 spent in corporate America on I/T will flow through an outsourcing contract and that by the end of 1995 over \$38 billion will be spent in corporate America on information technology outsourcing.

In 1994 Pitney Bowes Management Services conducted a survey of 100 of the FORTUNE 500 Corporations in the business service sector (The Outsourcing Institute, 1997). This study found that in the Business Services industry, 77% of the firms studied had efforts under way to outsource some aspect of their business support services. Of the firms studied 39% outsourced some or all of their electronic imaging, and another 12% expected to within one to two years. Of the firms studied 7% outsourced records management, while another 14% expected to within one to two years.

A study of 309 of Fortune 1000 Corporations in the logistics sector, conducted in 1994 by KPMG-Peat Marwick (The Outsourcing Institute, 1997) found that of the companies surveyed 66% outsourced import/export services; 63% employed freight brokers for transport selection, carrier monitoring, insurance, tariff and customs compliance; 49% outsourced freight audit services; and 48% outsourced warehousing.

In 1995, the Hospitals & Health Network Annual Survey of companies in the Health Care sector (The Outsourcing Institute, 1997) reported that 67% of hospitals use outsourcing providers for at least one department within their operations; of those who

outsource, 90% of these hospitals use outsourcing providers for support services; 77% for clinical services, and 51% for business services.

The results of a survey of 303 multinational companies in North America and Europe were discussed in a recent issue of Maclean's Magazine (Wells, 1996). According to the data presented in this article 85% of these companies presently contract out one or more function, and 93% are likely to do so within three years. Table 1 presents the results of this survey. It describes the percentage of companies among the respondents that were currently outsourcing. It also identifies what aspects of their work were being outsourced and whether or not they intended to increase what they outsource within the next three years.

TABLE 1 - OUTSOURCING IN NORTH AMERICA AND EUROPE

Functions Outsourced	Outsource Now	Will Outsource within 3 Years
Legal	59%	65%
Shipping/Transportation	41%	52%
Information Systems	36%	42%
Financial functions	26%	42%
Employee Benefits	23%	41%
Production/Manufacturing	31%	38%
Warehousing	24%	37%
Marketing	14%	25%
Human Resources	10%	25%

Source: Maclean's Magazine (Wells, 1996)

1.2.1. Human Resource Outsourcing

In the preceding section data was presented indicating that more organizations are adopting outsourcing. Data regarding the various functions they outsource was also

included. This section presents more data, mostly from studies conducted in the United States, in which different industries were asked about their HR outsourcing practices (i.e. services and functions outsourced, benefits and risks of outsourcing).

Some studies suggest that within the last few years HR outsourcing practices are gaining attention and becoming a common practice in HR departments (Ashton, 1995; Axel, 1994; Harkins et al, 1995; Hewitt Associates LLC., 1997). They also suggest that almost all of the different HR functions have been outsourced in one company or another (Axel, 1994; Benimadhu, 1995; Harkins et al, 1995; Hewitt Associates LLC., 1997; The Outsourcing Institute, 1997).

There are many examples of companies that have automated routine HR administrative tasks, especially those in payroll and benefits administration (Axel, 1994; Bash, 1994; Jones, 1996; Lewis, 1996; O'Connell, 1995; Rivers, 1996). In a 1992 study conducted by Broderick and Boudreae (Niehaus et al., 1996) the authors found for example that the majority of the Fortune 500 companies that were surveyed had invested in computer applications to manage basic human resources functions such as record keeping, payroll, and compensations and benefits administration.

In 1994, The Olsten Corporation, conducted a study of 400 Corporations in the United States (The Outsourcing Institute, 1997). They surveyed Financial and Human Resource executives to better understand their current use of and future plans for outsourcing. Of the respondents, 45% stated that they outsource payroll management; 38% were outsourcing tax administration, 35% were outsourcing benefits management; and 34% were outsourcing workers compensation. Olsten also reported that the number

of HR executives in the sample who used outsourcing as part of a flexible staffing strategy increased from 18% to 30% in one year.

According to a Hewitt Associates survey of US firms (Hewitt Associates LLC., 1997) on outsourcing of the human resources function, 93% of large employers reported outsourcing at least some part of human resources. When asked about the amount of HR responsibilities outsourced, 20% was the amount most common cited by employers. Only 12% of companies indicated they are outsourcing more than 50% of the HR functions.

The US Conference Board, in a study of Human Resource Executives from 60 firms in the manufacturing and service industry (Axel, 1994), found that 85% of executives surveyed had personal experience with leading an outsourcing effort; and 67% of the pension departments studied outsource at least one function. In the same study, it was found that the most common functions outsourced are: Savings Plan Administration (61%), EAP/Fitness/Wellness (60%), and Relocation/Career Counseling (40%), followed by Benefits Administration (34%), Management Development (22%), Skills Training (15%) Payroll Administration (14%), Diversity Programs (12%), Benefit Planning (10%), Compensation (9%) and Recruiting (9%).

In the fall of 1995, Harkins et al. (1995) conducted a national survey of Human Resource Executives who represented 121 U.S. organizations representing different industries. The objectives of the study were to get answers to critical questions such as: What is the reality of outsourcing HR? How pervasive is the practice of outsourcing in HR? Who in the human resource world is outsourcing? How much are they outsourcing?

What services and functions are they outsourcing? Why are they outsourcing? And, if they are outsourcing, what problems and issues are they encountering along the way? In the final analysis, the data reveals the following broad, yet critical factors about outsourcing HR:

- Most HR departments are outsourcing at least one service or function.
- Practically every HR service or function is being outsourced some where or other.
- HR leaders are outsourcing services and functions for many different reasons.

The survey also identified the functions or services that HR departments outsource the most: Outplacement (64%), Training Delivery (46%), Training Development (40%), Relocation Services (31%), and Compensation Planning (31%), followed by Pre-employment Testing (23%), Benefits Administration (21%), Organization Development (19%), Recruitment, Employment & Staffing (15%), Health, Safety & Security (12%), HR Information Systems (8%), Training Evaluation (4%), HR Administration (3%), and Training Administration (2%).

The above studies present interesting information on the HR outsourcing trend. They show that a wide range of HR services have been outsourced. The data do not, however, address the situation in Canadian organizations, and leave one wondering how Canadian companies compare with the US counterparts.

Some surveys and publications went further with their research and asked about the reasons why the firms are outsourcing HR services or functions. Relevant findings are presented below. In one survey of US companies conducted by Hewitt Associates

(Laabs, 1993b), the reasons given for outsourcing the benefits function were: to save time (37%), to gain expertise (18%), to save costs (14%), to reduce staffing requirements (14%), to minimize hassles (13%), to avoid complexity (12%), to improve service, (11%), and to concentrate on core business (16%).

In another survey of US companies also conducted by Hewitt Associates (Hewitt Associates LLC., 1997), it was found that the most popular reasons for outsourcing HR are: cost effectiveness (81%), reduction of administrative costs (79%), capitalizing on technology and expertise (77%), improving customer service (75%), focusing on core businesses (75%) and redirection of HR's focus (75%).

The US Conference Board (Axel, 1994) conducted a survey of Human Resource Executives from 60 firms in the manufacturing and service industry. They reported that companies outsourced HR services for the following reasons: to transfer administration to specialists (63%), to off load tasks which were not core functions (61%), to reduce non-labor costs (60%), to reduce HR head count (55%), to improve service consistency (49%), to monitor use of services (4%) and other reasons (10%).

In a 1995 survey of 121 US firms in various industries (Harkins, et al., 1996), it was found that companies outsourced HR services for the following reasons: to access expertise (88%), to save time (54%), to save money (41%), to save on administrative costs (38%), to focus on strategy (30%), because function is not part of Core Business (26%), responsibilities have been increased (21%), to reduce staff (20%), to cut budget (15%), to reduce liability (7%).

There is no comparable data at this date, with respect to why companies are outsourcing HR. Those studies that are available (Axel, 1994; Harkins, 1996; Harrison, 1996; Hewitt Associates LLC., 1997) limit their findings to a list of perceived benefits but present no evidence of realized benefits. Benefits of HR outsourcing presented in these studies included: focus on core functions, access to up-to-date technology, improve quality of services, improve speed of response, eliminate administrative overhead, and reduce salary and occupancy costs.

Similarly, the risks of HR outsourcing have not been explored in depth. Probable risks of HR outsourcing cited in the literature include: loss of control, less flexibility, lack of quality control, legal liabilities, long term commitment, contractor relationship, and privacy issues (Harkins, 1996; Harrison, 1996; Hewitt Associates LLC., 1997; Rivers, 1996; Sunoo et al., 1994;).

While the above information clearly supports our contention that there are different motivations for outsourcing various HR functions, it is important to note that no empirical evidence exists on what benefits have actually been realized by outsourcing HR. In other words the question of whether they accomplished what they expected by outsourcing HR remains to be unanswered.

While the above literature review would suggest that HR outsourcing is becoming a more common practice, it should be noted that virtually all of the data which is currently available in this area is American. What is the reality of HR outsourcing in Canadian organizations? What are the reasons why Canadian firms outsource HR functions? What does the decision making process with respect to HR outsourcing

involve? This thesis aims to answer these questions by empirically examining the topic of HR outsourcing in Canada.

1.2.2. Information Systems Outsourcing

A lot of attention has been focused on outsourcing of IS/IT in the 1990s. For the purpose of this thesis it is important to consider the IS/IT outsourcing literature because several authors have conducted in depth studies on how managers decided to outsource IS/IT (Grove et al., 1993; Lacity et al., 1993; Minoli, 1995). This decision making process with regards to IS/IT serves as a useful first step for this research as no such study could be found with outsourcing HR. Models developed for outsourcing IS/IT might also have direct relevance on this research as information systems resources are becoming critical parts of the HR departments. Technology has change the way many HR departments operate and allowed managers to improve the quality of the services they provide (Jones, 1996; Niehaus et al., 1996; O'Connell, 1995). In other words, the two departments are becoming more interdependent.

This section presents information regarding what IS services have been outsourced. It also presents relevant conclusion from these studies on the issues of benefits and risks of IS outsourcing.

Research in this area (Grover et al., 1993; Grover et al., 1996; Minoli, 1995) determined that with respect to IS outsourcing, the services outsourced included human resources (i.e., managers, programmers, analysts, technical specialists), and/or technological resources (i.e., data processing, telecommunications infrastructure, software, hardware).

According to several studies (Grove et al., 1996; Gupta et al. 1992; Lacity et al., 1993; Meyer, 1994; Minoli, 1995), managers considering IS outsourcing should base their decisions on a careful examination of the company's needs and circumstances, as IS outsourcing has been associated with both benefits and risks. The benefits of IS outsourcing have been classified into three categories (Grover et al., 1996): Strategic benefits, economic benefits and technological benefits. Relevant data on each of these types of benefits is given below.

Strategic benefits of outsourcing include: (1) allowing organizations to focus on their core business, (2) enabling organizations to outsource routine IT activities of the IT department (i.e. systems maintenance, systems operation) so that they have more time to focus on strategic uses of IT, and (3) enhancing IT competence and expertise through contractual arrangements with an outsourcer. This last benefit is seen as strategic because the staffing and training of qualified IT personnel is critical for many firms (Grove et al., 1996; Gupta et al. 1992; Lacity et al., 1993; Meyer, 1994; Minoli, 1995).

Economic benefits (Grove et al., 1996; Gupta et al. 1992; Lacity et al., 1993; Meyer, 1994; Minoli, 1995) include:

1. increasing organization's ability to realize economies of scale in both human and technological resources (i.e., the service provider should have the ability to carry out a variety of IT tasks and have a variety of expertise on hand), and
2. increasing a firm's ability to manage its cost structure through unambiguous contractual arrangements (i.e. the costs should become predictable for the firm who is receiving the service)

Technological benefits (Grove et al., 1996; Gupta et al. 1992; Lacity et al., 1993; Meyer, 1994; Minoli, 1995) include the fact that firms that outsource are more able:

1. to gain access to leading-edge IT; and,
2. to avoid the risk of technological obsolescence that results from the dynamic changes in IT.

The literature also cautions potential outsourcers to fully explore the risks of outsourcing and to understand the potential long-term strategic implications of using IS outsourcing before they enter into such arrangements. In other words weigh the benefits against the risks.

Several authors (Grove et al., 1996; Gupta et al. 1992; Lacity et al., 1993; Meyer, 1994; Minoli, 1995) agree on what some of the risks associated with IS outsourcing are. Such risks include:

1. loss of control (i.e. outsourcing reduces the amount of control the firm has over the quality of the services outsourced);
2. difficulty in reversing outsourcing decisions (i.e. long-term contracts make it difficult to change arrangements);
3. concerns regarding security of data;
4. a decrease in the organizations' flexibility and ability to respond to environmental changes (i.e. removing certain services from the firm's premises might result in delays and reduced responsiveness to critical organizational needs);

5. conflicting objectives of the outsourcer vis-a-vis the firm (i.e. both the outsourcing vendor and the company wish to maximize their profit);
6. outsourcer's risks (financial strength, lack of responsiveness, poor service, etc.);
7. an increase in transactional costs associated with negotiating and monitoring the outsourcing contract; and,
8. the risk of technical obsolescence.

1.3. Research Questions

The above review of the literature generated the following set of fundamental research questions which will be addressed in this study within the context of the Canadian small and medium sized high-technology organizations :

1. What HR functions are Canadian small and medium sized High-Technology organizations outsourcing at the present time?
2. What HR functions are Canadian small and medium sized High-Technology organizations considering outsourcing in the near future (i.e. next 2 years)?
3. What factors are associated with the decision to outsource HR function(s) factors in Canadian small and medium sized high-technology organizations?
4. What factors are associated with the decision to not outsource HR function(s) factors in Canadian small and medium sized high-technology organizations?
5. What do decision makers in Canadian small and medium sized high-technology organizations see as the major advantages of HR outsourcing?

6. What do decision makers in Canadian small and medium sized high-technology organizations see as the major disadvantages of HR outsourcing?
7. Does one's view of the above issues vary depending upon:
 - One's previous experiences with outsourcing?
 - The type of organization (i.e. single location, multi-location)?
 - The industry sector of the company (i.e. high-technology service, high-technology manufacturing)?
 - The decision-making structure in the HR area of the company (i.e. centralized, decentralized)?
 - The size of the company (i.e. small size, medium size)?

1.4. Moderating Variables

Rogers' work on diffusion of innovations can be used to justify the inclusion of each of the moderator variables included in research question 7.

Roger's (1995) suggests that organizational structural characteristics (i.e., centralization, complexity, size) were found to be related positively or negatively to organizational innovativeness. Although significant correlations may exist among the moderator variables, this research is interested in examining how these variables affect HR outsourcing practices (i.e., functions outsourced, factors influencing HR outsourcing decisions, advantages and disadvantages of HR outsourcing)

TABLE 2 - MODERATING VARIABLES

Moderating Variable	Groups
Type of Organization	Single location / Multiple location
Experience outsourcing non HR functions	Yes / No
Decision making in the HR area	Centralized / Partially Decentralized
Size of the organization	Up to 100 employees More than 100 employees
Industry type	High Technology – Manufacturing High Technology - Service Provider

Type of organization

While the literature suggest that type of organization (i.e., multi-locations, single location) may be associated with size, larger organizations are not a fashion anymore, and current trends indicate that smaller and leaner forms supplemented by alliances or networking arrangements are now fashionable (Scott, 1998, p.283). Research is interested in looking into how differences in structure (i.e. , multi-location firms and single location firms) affect outsourcing decisions.

Experience outsourcing non HR functions

The literature of diffusion on innovations (specifically literature on trial ability and compatibility) can be used to explain the association between the HR outsourcing decision and experience with outsourcing non-HR functions. Trialability, defined as “the degree to which an innovation may be experimented with on a limited basis” (Rogers, 1995, p.243), is an attribute of innovations that affects the rate of adoption of an innovation. Whether the previous experience is negative or positive, the try-out of an innovation dispels uncertainty about the innovation.

When managers have experience with HR outsourcing they could have a different view (probably a more accurate view) of the relative advantage, complexity and compatibility of HR outsourcing than someone who has no actual experience in this area. Managers who have made the decision to outsource HR functions or tasks in the past are more able to observe the actual results of outsourcing HR (Actual advantages and disadvantages of Outsourcing HR functions).

Decision making in the HR area

Rogers' studies (1995) suggest that "Centralization", defined as "the degree to which power and control in a system are concentrated in the hands of relatively few individuals", has usually been found negatively associated with innovativeness.

Size of the organization

Although Rogers' studies (1995) hypothesized that the size of an organization is positively related to its innovativeness (i.e., larger organizations are more innovative) some research on outsourcing suggest that moderating variables such as firm's size and industry type do not affect the outsourcing strategy (Grover et al., 1996).

Rogers (1995) suggests that size is one of the best predictors of innovativeness because it is easily measured and because size is probably a surrogate of several dimensions that lead to innovation. Some of those dimensions identified by Rogers as having relevance include: total resources, slack resources, technical expertise of employees, organizational structure, and so on. Unfortunately, many of these unidentified and complex variables have not been clearly understood or adequately measured in most empirical studies to date.

Research also suggests that size is associated with organizational structure; “we would expect increased size to be associated with increased structural differentiation” (Scott, 1998, p.269)

Industry type

In the context of research on outsourcing, there is evidence that variables such as industry type do not affect outsourcing strategies (Grover & all, 1996, pp.99). It is important to notice, however, that a different set of literature reports that outsourcing practices had been widely accepted mainly in manufacturing areas (Leonard 1994, Quinn, 1990) before they were considered in IS areas. This would suggest that industry type may influence the decision to outsource HR.

2. Methodology

This section reviews the methodology that was used for this research. Section 2.1 *Sample Design*, describes how the sample was selected for this study. Section 2.2 *Survey Instruments*, describes the instrument that was used to gather the data. Section 2.3 *Statistical Analysis*, outlines the statistical methods to be used in the analysis of the data.

2.1. Sample Design

The population for this study included 130 senior-level HR professionals representing small, and medium size high-technology companies (i.e. those employing up to 500 employees) located in the National Capital Region. These executives were deemed the most suitable group to survey as they are assumed to be in the best position to have a holistic view of all HR functions and their ability to be outsourced. The sample was obtained from the Internet (www.silvan.com/svn-directory/a.html). The list of companies and background information about the organizations (number of employees, sector of the industry, location, HR manager or general manager's name) was gathered through the Internet (Directory of High-Technology Firms in the North SiliconValley). Prior to the distribution of the survey, a call was made to each company in order to obtain the HR manager's name and to verify the company's address.

The study unit of analysis was the High-Technology firm. Reasons for focusing the study on the High-Technology firms located in the National Capital Region are as follows. First, according to "Towards an Innovation Strategy", a report of the Task Group on Sustainable Wealth and Job Creation, published in November 1994, Canada's

economy has changed in the last fifteen years due to the speed of technological progress. The emerging structure is that of new technology-based supplier and service firms which are not solely linked to the industrial sector but are also responding to the needs of numerous sectors. Industries in this sector (High-Technology Service and Supply Industries) include: engineering consulting, telecommunications, software and computer services, scientific laboratories, geomatics and remote sensing, earth observation value-added services, imaging systems, biotechnology, geophysics, oceans technologies, and environmental products and services.

Second, the high-technology sector is a high-growth sector with respect to export markets. For example, the number of Canadian-based environmental products and services firms exporting to world markets has doubled to 600 in the past five years with exports valued at \$1 billion annually (Task Group on Sustainable Wealth and Job Creation, 1994, 11). As such, this sector makes up for a considerable part of the Canada's GNP.

Finally, we considered it appropriate to limit our focus on High Technology firms located in the National Capital Region because, as Mr. Sakas, president of Nortel, expressed in a recent article published in the Ottawa Citizen (September 9, 1997, p. 22):

Ottawa is "the high-tech nerve centre of the country" where \$800 million in telecommunication research is spent annually...software, hardware high-tech manufacturing, Internet, medical device and biotechnology companies "constitute a critical mass that is beginning to support accelerated growth".

In other words, many consider Ottawa as the High-Technology capital of Canada, and the National Capital Region to be analogous to Silicone Valley North. As such it is likely that results obtained from companies in this region can be generalized to high-

technology firms located elsewhere in Canada.

The selection of high-technology companies to be included in the survey was mainly based on size, measured as the number of employees based in the National Capital Region. Both small and medium sized companies were surveyed. For the purpose of this thesis, firms with up to 100 paid employees will be identify as small business. Medium-sized businesses, on the other hand, will employee 100 or more employees (Entrepreneurship and Small Business Office, 1996). The rationale for focusing on SMEs (small and medium sized enterprises) is given below.

According to an Entrepreneurship and Small Business Office 1996 report (this report contains the latest available data as of November 18, 1994) there were 920,729 businesses (with employees) in Canada in 1992, a thirty percent increase since 1982. Of these businesses, ninety-seven percent had fewer than 50 employees and ninety-nine percent had less than 100 employees. Quebec and Ontario had the highest percentage of business in the size groupings. SMEs were estimated to contribute to some 57% of total private sector Gross Domestic Product (GDP) in 1992.

SMEs represent a very significant proportion of the business community in Canada. SME growth trends between 1982 and 1992 demonstrate that small and medium-sized firms are becoming increasingly important to, and prevalent in, Canada's regional economies. Data for 1992 shows that there were 27% more businesses in 1992 than in 1982; 99% of these new businesses were SMEs. Between 1982 and 1992, the latest period for which there are comprehensive data available from Statistics Canada, businesses with less than 100 employees have increased their share of employment from

43.0 percent to 49.3 percent. Conversely, businesses with more than 500 employees experienced the largest decrease in employment share during that same period.

2.2. Survey Instruments

To gather the information for this exploratory study a paper and pencil survey instrument was developed to collect quantitative data. The survey questionnaire was designed: (1) to investigate how organizational decision makers view outsourcing of HR, (2) to determine their previous experiences with outsourcing (if any), (3) to identify which HR functions are most likely to be outsourced within the next two years, (4) to identify the factors that influence the decision to outsource or not to outsource HR functions, and (5) to determine the perceived and actual advantages and disadvantages (if any), achieved by outsourcing HR functions.

2.2.1. Instrument Administration

Data were collected from HR top executives surveyed in the whole population of small and medium-sized service and manufacturing High-Technology industries located in the Ottawa region. To maximize the response rate of the mail survey, the steps suggested by researchers (Dillman, 1978; Emory, 1985) were followed. These included: careful design and pilot testing of the instrument; careful wording of the cover letter; addressing respondents by name; following-up on undelivered questionnaires by calling companies for correct addresses or names; follow-up mailing (reminder letter) three weeks after the first mailing, and personal calls to participants 12 weeks after the survey was sent out.

In total, 44 responses were received from this survey. This represents a response rate of about 34 percent. This response rate is good in light of the fact that Canada Post went on strike for three weeks a week after the reminder letter was sent out and that during the survey administration phase of the research Ottawa was hit by a major ice storm that kept a number of businesses in the Ottawa region closed for several weeks.

2.2.2. Mail Survey

This section describes the specific items that are included in the questionnaire, an explanation as to why each item is included, and an outline of what types of information are desired from the respondents. Separate questionnaires were mailed to the HR manager (or if there was no HR manager in the company, the general manager) of each firm. Reference copies of the cover letter, the questionnaire and the reminder letter are given in Appendix 1.

The questionnaire contained 24 questions and was divided into the following five sections: Section I - *Experiences with Outsourcing*; Section II - *Experience with Outsourcing HR*; Section III - *Factors Influencing the Decision to Outsource*; Section IV - *Advantages and Disadvantages of Outsourcing HR*; and Section V - *Background Information*.

The instrument was pre-tested to verify completeness, and to make sure it could be understood by respondents. Pre-tests also indicated that it took approximately 15 minutes to complete this survey. Details on each section of the questionnaire are given below.

Section I: EXPERIENCE WITH OUTSOURCING. The information gathered in this section relates to “Experience with Outsourcing in General”. Questions were designed to give us information on the respondent’s previous experiences with outsourcing in general (i.e. outsourcing functions other than HR). Respondents were asked to list the functions they had outsourced, the length of time that the company had outsourced these functions for (i.e. years), and the percentage of the function that was/is outsourced.

Open-ended questions were used in this section to reduce the length of the questionnaire. The following three open-ended questions were used to gather more details regarding the outsourcing experience: (1) Why did you outsource the functions/tasks listed above? (2) What benefits did you experience from outsourcing the functions/tasks listed? and (3) What drawbacks did you experience from outsourcing the functions/tasks listed above? The last question in this section, How would you rate your experiences to date with relation to outsourcing the functions/tasks listed in question 2?, was included to assess the respondent’s overall satisfaction with the outsourcing experience in general. Respondents were asked to use a five-point likert-like scale to rate their overall satisfaction with the outsourcing experience in general, with low scores (i.e. 1) indicating a very unsatisfactory experience with outsourcing, and high scores (i.e. 5) indicating a very satisfactory experience. The concept of satisfaction was used in this survey because it is often perceived to be the best surrogate measure for capturing both cognitive and affective components of human actions (Grove et al., 1996).

Data collected in this section is used to distinguish companies who have previous

experience outsourcing from those who have not (needed to answer research question 7).

Section II: EXPERIENCE WITH HR OUTSOURCING. The information gathered in section II of the survey, “Outsourcing the Human Resource Function” collects data which relates to “Experience with HR Outsourcing”. Questions in this section were designed to capture the following information: (1) what HR functions, if any, is the company currently outsourcing, (2) what percentage of each of these functions is being outsourced, and (3) which, if any, of these HR functions is the company considering outsourcing within the next two years. A table was designed to gather this information (see Appendix 3). Included in this table was a complete set of HR functions identified from the literature (Axel, 1994; Bash, 1994; Harkins et al., 1995; KPMG Peat Marwick LLP, 1997) and pre-tested for completeness. Respondents were also asked how many HR outsourcing service providers the company currently deals with on a regular basis.

Data collected in this section is used to provide information that can be used to describe which HR functions companies in the high-technology industry are currently outsourcing (needed to answer research question 1), and to provide information that can be used to describe which HR functions are more likely to be outsourced by this organization in the future (needed to answer research question 2).

Section III: FACTORS INFLUENCING THE DECISION TO OUTSOURCE. The information gathered in section III of the survey (The Decision to Outsource HR) gathers data to help us determine what factors are considered by companies who are deciding whether or not to outsource HR functions or tasks.

Respondents were provided with a list of 18 factors (perceived advantages and disadvantages of outsourcing HR), which were drawn from the IS/IT and HR outsourcing literature (Axel, 1994; Bash, 1994; Harkins et al., 1995; KPMG Peat Marwick LLP, 1997) and asked to indicate how each of these factors contributed to their decision to outsource a particular HR function. A five-point likert-like scale (1= Decreased Likelihood; 3= No Impact; 5= Increased Likelihood,) was used to measure the impact of the factor on the likelihood of outsourcing. Respondents were also given the option of indicating that the factor was (N/A) Not applicable to the decision.

To identify the factors that are encouraging or discouraging the decision to outsource, the mean score for each factor in the list were calculated and interpreted as follows:

1. factors with lower scores (e.g. less than 3) were interpreted as factors that decrease the likelihood that HR will be outsourced (the lower the score the greater the negative impact on the decision);
2. factors with high scores (e.g. greater than 3) were interpreted as factors that increase the likelihood that HR will be outsourced (the higher the score the greater the positive impact on the decision);
3. scores around three (3) are interpreted as not having an impact on the outsourcing decision; and,
4. the response choice N/A (not applicable) was interpreted to mean that the factor did not have an impact on the outsourcing decision (i.e., not considered in the decision making process).

Data collected in this section is used to provide information that can be used to describe which are the factors associated with the decision to outsource or not to outsource HR functions (needed to answer research question 3 and 4).

Section IV: ADVANTAGES AND DISADVANTAGES OF HR OUTSOURCING. The data gathered in this section relate to firms' experience with HR outsourcing. The questions included in this section were designed to determine what the company who had outsourced HR had observed to be the advantages and disadvantages of outsourcing the human resource functions.

Respondents were provided with a list of 11 advantages and disadvantages of HR outsourcing which was drawn from the IS/IT and HR outsourcing literature (Axel, 1994; Bash, 1994; Harkins et al., 1995; KPMG Peat Marwick LLP, 1997) and asked to indicate, using a five-point likert-like scale, what impact outsourcing HR functions/tasks had had on each of these factors. A five-point likert-like scale (1= Decreased; 3= No Impact; 5= Increased) was used to identify the actual impact outsourcing HR had on each of the actual advantages and disadvantages identified from the HR outsourcing literature.

The mean score for each item in the list was calculated to identify which benefits and drawbacks from the literature were experienced by respondents who had outsourced HR functions. The mean scores were interpreted as follows:

1. items with lower scores (e.g. less than 3) were interpreted as being perceived disadvantages of HR outsourcing;
2. items with high scores (e.g. greater than 3) were interpreted as being perceived advantages of HR outsourcing; and,

3. items with scores around three were identified as factors that respondents perceived to be unaffected by the decision to outsource HR.

To get an overall summary of respondents' experience with outsourcing HR to date, they were asked to use a five-point likert-like scale to rate their overall satisfaction with the outsourcing experience in general, with low scores (i.e. 1) indicating a very unsatisfactory experience with HR outsourcing, and high scores (i.e. 5) indicating a very satisfactory experience. The concept of satisfaction was used in this survey because it is often perceived to be the best surrogate measure for capturing both cognitive and affective components of human actions (Grove et al., 1996).

Data collected in this section is used to provide information that can be used to describe which are the actual advantages and disadvantages of outsourcing HR functions (needed to answer research question 5 and 6).

Section V: BACKGROUND INFORMATION. This section gathered demographic information about the organization being examined and the person answering the survey. This information was used to help us interpret this questionnaire and quantify the moderating variables. Three types of information were included in this section:

(1) Information on the Company: Industry sector; years in operation; type of organization; and number of employees working in the organization;

(2) Information on the Company's HR Function: HR decision making; number of employees working in the HR area; changes, if any, in the last two years regarding the number of employees who work in the HR area; changes, if any, in the last two years

regarding the HR budget in relation to the total budget of the organization; changes expected, if any, in the next two years regarding number of employees in the organization who work in the HR area; and changes expected, if any, in the next two years regarding the HR budget in relation to the total budget of the organization; and,

(3) Information on the Respondent: years of service in the company; years in the present job; gender; and job title.

2.3. Statistical Analysis

Following the survey, related instruments were tested for construct validity using Principal Components Analysis (PCA). Descriptive statistics, chi-square and t-tests were calculated to answer the research questions listed in section 1.3 of this thesis. Relevant details on these methodologies are given below.

2.3.1. Validity of Constructs

Content validity of the survey instrument was established through extensive research of the literature, and pre-testing with experts in the HR field. The questionnaire was given to eight HR managers to complete. Their comments and suggested changes were incorporated to the questionnaire. Two members of the Masters Committee also suggested changes. These were also incorporated into the questionnaire before it was sent out.

2.3.2. Analysis of Data

This section provides an overview of the statistical techniques used in this thesis to analyze the survey data. Table 3 summarizes for each research question the

information gathered to answer the research questions and the statistical technique used to analyse this information. Detail on each of these items is given below.

To describe the population that answered the survey, frequencies, mean scores, standard deviations and valid cases were calculated on all data gathered from section V and section I of the survey questionnaire. The data were used to divide the sample into subgroups (i.e., companies with previous outsourcing experience, firm's HR decision making, firm's industry sector, organizational structure of company, firm's size) and to provide more information on the respondent firms' HR departments (i.e., changes in the HR department, changes in the HR budget with relation to the total budget of the organization).

To answer the first six questions of this research, frequencies for each category, mean scores, standard deviations and valid cases for each question were calculated on all data gathered from sections II, III and IV of the survey questionnaire. Data drawn from section II of the survey questionnaire was used to answer question 1 of this research: What HR functions or tasks are companies currently outsourcing? Data drawn from section II of the survey questionnaire was used to answer question 2 of this research: What HR functions or tasks are firms considering outsourcing in the future?

Data drawn from section III of the survey questionnaire were used to answer research question 3: What are the items associated with the decision to outsource HR functions or tasks? and question 4: What are the items associated with the decision not to outsource HR functions or tasks?

TABLE 3 - ANALYSIS OF DATA

QUESTION	DATA USED TO ANSWER	STATISTICAL TECHNIQUE USED
Description of the population that answered the survey	Data gathered from section V of the survey questionnaire	Frequencies for each category, mean scores and standard deviations
What HR functions or tasks are companies currently outsourcing? (Q1)	Data gathered from section II of the survey questionnaire	Frequencies for each category, mean scores standard deviations,
What HR functions or tasks are firms considering to outsource in the future? (Q2)		
What factors are associated with the decision to outsource a particular HR function or task?	Data drawn from section III of the survey questionnaire	Frequencies for each category, mean scores and standard deviations
What factors are associated with the decision to not outsource a particular HR function or task? (Q3 and Q4)		
What do decision makers in the company see as the major advantages of HR outsourcing?	Data drawn from section IV of the survey questionnaire	Frequencies for each category, mean scores and standard deviations
What do decision makers in the company see as the major disadvantages of HR outsourcing? (Q4 and Q6)		
Does one's view of the above issues vary depending upon: One's previous experiences with outsourcing, firm's HR decision making, firm's industry sector, organizational structure of company, and firm's size?	Data gathered from sections I, III, IV and V of the survey questionnaire	Chi-square (Q1 & Q2) and t-test (Q3 - Q6). PCA used to reduce factors (Q3 & Q4) and Advantages Disadvantages (Q5 & Q6)

Data drawn from section IV of the survey questionnaire was used to answer research question 5: What do decision-makers in the company see as the major advantages of HR outsourcing? and question 6: What do decision makers in the company see as the major advantages of HR outsourcing?

Finally to answer research question 7, a number of variables identified from the literature were examined to see if these had an impact on the findings obtained in research questions 1 to 6. T-test, chi-square and PCA were the statistical techniques used to

answer this question. The first step in this analysis involved using the relevant variables from the demographic section of the questionnaire to divide the sample into the group of interest. Means and frequencies were then calculated for each of these groups. Chi-square or t-test were then calculated to see if the groups differed in these responses to questions 1 through 6 (i.e., did medium size organizations identify different benefits from small organizations). For example, demographic data was used to divide the sample into two groups: those with up to 100 employees and those with more than 100 employees. Means, standard deviations and frequencies were then calculated for medium and small companies for each of the research questions listed in section 1.3. Relevant statistics were then calculated to determine if the groups varied significantly with respect to any of the data being examined.

T-test and chi-square techniques are both appropriate ways to test whether or not differences between groups are real or only due to random sampling fluctuations (whether statistics observed in two simple random samples differ significantly). T-test were used with means and standard deviation while, chi-square was used with categorical data (i.e. frequencies). PCA was used to help interpret the data regarding factors (or constructs) involved in the HR outsourcing decision-making process and the advantages and disadvantages of HR outsourcing. Relevant details on each technique are discussed below.

(1) T-tests. The t-test was used in this thesis to determine if mean scores were significantly differed by group (Hamburg, 1989, 339). It served to answer whether or not the moderators identified in table 2 show significant differences between groups with

respect to:

1. the factors which were considered when the organization decided whether or not to outsource HR function(s) or task(s),
2. the perceived advantages and disadvantages of outsourcing HR

Because the sample size of this research is small ($n=40$), the independent samples t-tests for equality of means were done assuming known standard deviation and normal sampling distribution.

A method designed to maintain the desired overall alpha of the test under control is the Bonferroni inequality. It was used in this analysis to reduce the chances of falsely accepting a difference as significant (Stevens, 1996). Bonferroni requires that the appropriate overall alpha for any test be divided by the number of tests being done. For example, in the case of the factors that have an impact on the HR outsourcing decision the overall alpha of the test was set at 10%. Since there were 18 variables of intent, the use of the Bonferroni inequality would indicate that the alpha for each test be set at 0.005 ($0.1/18$).

(2) Chi-Square Test. When dealing with categorical data (i.e. percentage of firms that outsourced a particular HR function or task, percentage of firms that plan to outsource a particular HR function or task in the future) the chi-square statistic was used to test for significance. This statistic is used to determine whether or not the moderators of interest can be associated with differences between groups with respect to: (1) the HR functions or tasks companies are currently outsourcing, and (2) the HR functions or tasks firms intend to outsource in the future.

Chi-square was chosen because it provides a conclusion on whether a set of observed frequencies differ so greatly from a set of theoretical frequencies that the hypothesis under which the theoretical frequencies were derived should be rejected (Hamburg, 1989, pp.380). It consists of calculating expected frequencies under the hypothesis of independence and comparing the observed and expected frequencies. It is important to note that when d.f. = 1, each expected frequency in each cell should be at least 5 in size.

(3) Principal Components Analysis (PCA) is the statistical technique used in this study to help interpret the data regarding factors (or constructs) involved in the HR outsourcing decision, and the advantages and disadvantages of HR outsourcing.

The purpose of PCA is “to determine factors (i.e., principal components) in order to explain as much of the total variation in the data as possible with a few of these factors as possible” (Dillon et al, 1984). PCA transforms the original set of variables into a smaller set of linear combinations that account for most of the variance of the original set. This technique was chosen for several reasons:

First, PCA is best suited for deriving a small set or linear combinations of the original variables that account for most of the total variance. Thus it allows the researcher to see how relevant items cluster together in a meaningful way (Stevens, 1996, 362). In other words, PCA allows the researcher to gain a better understanding of the interrelationship among variables as the transformed set of linear combinations of variables should be smaller than the original set and thus more interpretable. Second, in PCA the total variation contained in the set of variables is considered (Dillon et al, 1984).

Third, in PCA the scores are exact. The availability of unique components scores is suited for this study as this is an exploratory analysis and the sample size is small ($n=40$) (Dillon et al, 1984).

PCA was employed to generate a reduced set of variables that account for most of the variability in the original data (i.e., factors (or constructs) involved in the HR outsourcing decision, and the advantages and disadvantages of HR outsourcing). These factors could then be used in a subsequent analysis to get a more complete picture of the decision to outsource and the advantages and disadvantages of HR outsourcing. The criteria used for interpretation of the factors was based on Stevens (1996, 371).

“A variety of rules have been suggested in terms of the sample size required for reliable factors ... A recent Monte Carlo study by Guandagnoli and Velicer (1988) indicates, contrary to the popular rules, that the most important factors are component saturation (the absolute magnitude of the loadings) and absolute sample size. Also, the number of variables per component is somewhat important. Their recommendations for the applied researcher were as follows: ... Components with four or more loadings above 0.6 in absolute value are reliable, regardless of sample size. ... An additional reasonable conclusion draw from their study is that any component with at least 3 items' loadings above 0.8 will be reliable.”

This is the criteria used in this thesis for assuring adequate sample size. The criteria for deciding the number of factors (principal components) to extract was: (1) to extract factors whose eigenvalue is larger than 1, and (2) to select the loadings which were the largest in absolute magnitude for each factor (loadings had to be close to or greater than 0.5 in absolute value to be included).

Once the number of principal components (PC) was selected, the coefficients defining each of them were examined in order to assign an interpretation to the components. Then, component scores for each factor were computed by calculating the

mean score of the factors that loaded on each component. Detailed results of all the analysis described in this section will be presented and discussed in the following chapter of this thesis.

3. Research Findings

In this section the main findings of this research are presented and discussed. The chapter is outlined as follows: Section 3.1 *Sample Characteristics*, describes the characteristics of the sample that participated in this study (i.e. characteristics of respondents, characteristics of companies, companies' previous experience with outsourcing). Section 3.2 *HR Outsourcing in Canadian High-Technology Organizations: Present Time*, describes what HR functions or tasks Canadian high-technology organizations are currently outsourcing. Section 3.3 *HR Outsourcing in Canadian High-Technology Organizations: Future Plans*, identifies what HR functions or tasks Canadian High-Technology organizations are not currently outsourcing but intend to outsource within the next two years. Section 3.4 *Factors Associated with the Decision to Outsource or to not Outsource HR Functions or Tasks*, describes what factors are associated with the decision to outsource or to not outsource HR function(s) or task(s) (i.e. factors that increase likelihood HR will be outsourced; factors that decrease likelihood HR will be outsourced; factors that have little to no impact or are not considered in the decision making process). Section 3.5 *Advantages and Disadvantages of HR Outsourcing*, describes what decision makers in the company see as the major advantages and disadvantages of HR outsourcing. Finally, Section 3.6 *Satisfaction with Outsourcing HR Functions or Tasks* describes the decision makers' level of satisfaction with their HR outsourcing experience to date.

3.1. Sample Characteristics

Following three rounds of solicitation, a three week mail strike and a two week ice storm, 44 survey responses were received. This represents a response rate of about 34%. Of these 44 surveys, only 40 could be used for analysis, because the information provided by four surveyed respondents was incomplete (they completed the question indicating that the firm does not outsource at all and left the rest of the survey blank).

Demographic data collected from all subjects was used to describe the respondents and respondents' firm characteristics. This section presents:

1. an overview of the questionnaire survey respondents grouped by gender, years of service in the company, and years in the present job;
2. information on the responding companies grouped by classification of the company with respect to industry sector, years in operation, organizational structure and number of employees working in the organization;
3. information on the companies' HR function; and,
4. the companies' experience with outsourcing non HR functions or tasks.

3.1.1. Characteristics of Survey Respondents

The demographic characteristics of the sample are presented in two ways: as percentages and as means (see table 4). Table 4 presents data on respondents' years of experience working in the company, years in the present job and the respondent firms' years of business operation.

TABLE 4 - EXPERIENCE OF RESPONDENTS

	Mean (n=40)	Standard Deviation
Mean years respondents have worked for the company they are currently with	5.88	6.35
Mean years respondents have had their present job	3.68	3.42
Mean years of business operation	19.85	17.83

Fifty-five percent of the respondents were male and 42.5% female. Data support the assumption that in general respondents might have a sound knowledge of the company they represent as well as the HR policies in place. Typically, they have been working for the company they represent for almost 6 years (mean=5.8 years) and they have been almost 4 years in their current position (mean=3.7years). In addition, data indicated that sampled firms have almost 20 years of operation (mean years=19.9, SD=17.8).

3.1.2. Characteristics of Companies in the sample

The characteristics of the companies represented by the survey respondents are described in table 5.

TABLE 5 - CHARACTERISTICS OF COMPANIES

Company with respect to Industry Sector	Percentage (n = 40)
High Technology – Service	50%
High Technology – Manufacturing	40%
Other	10%
Description that best fits Organization	
Single location - Located in Ottawa	32.5%
Multi location - Head office located in Ottawa	35%
Multi-location - Head office located outside Ottawa	32.5%
Company Size	
Medium	60%
Small	40%

The sample for this study is well distributed with respect to the characteristics of the surveyed firms (i.e., industry sector, type of organization). The data indicates that 50% of the companies defined themselves as High Technology - Service Provider, while 40% classified their company as High Technology - Manufacturing. Only 10% of the respondents indicated their organization was in “other”. Examination of these responses indicates that in all these cases “other” means Engineering or Environment Consulting. For purposes of the analysis (i.e., question 7) these companies were grouped with service organizations. With regards to organizational structure, two thirds of the respondents described their firms as a multi-location organization and 32.5% defined their organization as single location - located in Ottawa. The multi-location companies were

of two types: one third (35%) were a multi-location company with its head office located in Ottawa, and 32.5% were a multi-location company with its head office located outside Ottawa. For purposes of the analysis sampled firms with decentralized HR decision making were grouped with those with partly decentralized/centralized HR decision making to form a group labelled partially decentralized HR decision making. Unfortunately small sample size did not allow to look at each group separately in the analysis.

The responding companies represented a wide variation in size (i.e. number of employees). The size of the responding organizations varied from the very small (2 employees) to the very large (500 employees). Mean organizational size (excluding the maximum) was approximately 193 employees (mean = 192.9, SD= 307.1).

3.1.3. Characteristics of Company's HR Function

With regards to the organizations' HR function there was a good representation from all groups in the sample. With respect to HR decision making, the data indicated that within most of the companies in the sample, strategic HR decisions or all decisions are made in Head Office (87.5%) as shown in table 6. The data also indicate that more than half of the sampled respondents (57.5%) are responsible for HR management issues in the companies.

TABLE 6 - CHARACTERISTICS OF COMPANIES' HR FUNCTION

HR decision making in organization*	
Centralized at head office	55%
Decentralized (Each site makes its own decisions)	10%
Partly decentralized/centralized (Strategic decision made at head office)	32.5%
Other	2.5%
Handles HR management issues within the organization*	
I do	57.5%
My immediate manager does	10%
A V.P. has been given the responsibility for this function	15%
The owner/CEO retains the responsibility	5%
Other	12.5%
Number of employees who work in the HR area (in the past two years)*	
Decreased	15%
Stayed the same	55%
Increased	30%
HR budget in relation to the total budget of the organization (in the past two years)*	
Decreased	15%
Stayed the same	52.5%
Increased	32.5%
Number of employees who work in the HR area (in the next two years)*	
Will decrease	7.5%
Will stay the same	57.5%
Will increase	35%
HR budget in relation to the total budget of the organization (in the next two years)*	
Will decrease	7.5%
Will stay the same	50%
Will increase	42.5%

* N=40

The average size of the HR department (number of HR employees) in the respondents' organizations was approximately three HR employees (mean=2.93 employees, SD=2.6). The data indicate that while the size of the HR department (i.e., employees working in the HR area) in more than half of the firms surveyed (55%) had

stayed approximately the same in the two years prior to the survey; in 30% of the cases, the size of the HR department had increased, and in 15% of the cases the number of employees working in the HR area had decreased.

Findings with respect to anticipated changes in the size of the HR department over the next two years varied. Over half (57.5%) of the respondents indicated that they think the size of the HR department will stay the same; 35% said it will increase during this time period and 15% felt that the number of employees working in the HR area will decrease over the next two years.

With regards to the HR budget in relation to the total budget, the data show that while the HR budget in relation to the total budget in more than half of the sampled organizations (52.5%) had stayed the same in the two years prior to the survey; in 32.5% of the cases the HR budget in relation to the total budget had increased, and in 15% of the cases the HR budget in relation to the total budget had decreased.

Findings with respect to anticipated changes in the HR budget in relation to the total budget over the next two years varied. The data show that while half of surveyed firms expect the HR budget in relation to the total budget of their organization to stay the same, 42.5% of surveyed firms expected the HR budget in relation to the total budget to increase, and only 7.5% expected the HR budget in relation to the total budget to stay the same. Overall, it appears that for the majority of companies in the sample, the size of their HR departments is stable or growing within the next two years.

3.1.4. Experience with non-HR Outsourcing

In the survey questionnaire respondents were given the following definition of outsourcing: “the transfer of operational responsibilities for ongoing services or functions to third parties.” Respondents were then asked to indicate what non-HR tasks or functions are currently being outsourced in their company, the percentage of the function that is being outsourced, the time for which the function has been outsourced and their satisfaction with outsourcing that function.

Table 7 describes the mean number of functions being outsourced, the mean time, in years, for which they have outsourced these functions; the mean percentage of these function(s) outsourced; and the mean satisfaction with outsourcing those functions. Respondents were asked to use a five-point scale to rate their overall satisfaction with the outsourcing experience with low scores (i.e. 1) indicating a very unsatisfactory experience with outsourcing, and high scores (i.e. 5) indicating a very satisfactory experience.

The data suggest that overall the surveyed firms have relevant experience outsourcing non-HR functions. Almost half (45%) of the respondents said the company they represented outsourced at least one non-HR function or task. On average the sampled firms outsourced almost two non-HR function. For each outsourced function, less than half of the functions is kept in house (i.e., 60% of function outsourced). On average, respondent’s organizations have been consistently outsourcing for almost 8 years, a wide range of non-HR services that includes among others, travel, software development, security, legal issues, accounting, product manufacturing and engineering.

TABLE 7 - EXPERIENCE WITH OUTSOURCING NON-HR FUNCTIONS OR TASKS

	Mean	Standard Deviation
Mean number of functions outsourced	2.44	1.58
Mean years the function has been outsourced for	7.88	14.75
Mean percentage of those functions that are outsourced	59.80	36.27
Mean satisfaction with outsourcing those functions	3.60	0.89
Number of vendors	3.82	2.62

***N=18**

3.1.4.1. Reasons for non-HR Outsourcing

In the quest to identify the reasons firms have to outsource a particular function, survey respondents were asked in an open-ended question: Why did you decide to outsource the functions/tasks listed? Answers concerning the reason they had to outsource those functions were consistent among all the respondents and included the following factors:

1. a lack of resources in-house to meet increased demand for the organizations' products or services;
2. a need to improve the quality and reduce costs of in-house processes; and,
3. a lack of in-house expertise in critical areas.

These reasons for outsourcing are consistent with those presented in the literature reviewed earlier.

3.1.4.2. Benefits and Drawbacks of non-HR Outsourcing

Survey respondents were also asked in two open-ended questions to list the major benefits and drawbacks of outsourcing. All respondents who outsourced at least one non-HR function answered this question and 10 benefits and 7 drawbacks of non-HR

outsourcing were given.

The benefits mentioned by respondents can be classify into three main groups:

1. Cost Related: No need to hire expertise that will not be fully utilized, free-up some resources, increase the organization's output without increasing the workforce, elimination of the short term hiring process;
2. Quality of Service Delivered: improve efficiency, speed and quality, better equipped to respond to customers, and increase customer satisfaction;
3. Access Expertise: reduce the need for training

The Drawbacks to outsourcing non-HR functions or tasks noted by respondents could be classified into two main groups

1. Loss of Control: lack of control over timing of activities, loss of control as to who owns different of responsibilities, quality of service
2. Vendors' relationship: lack of support from the provider, educating the service provider because they are not part of the organization and dependence on the provider, and negotiations with vendor

On average, the sampled firms deal with approximately four non-HR outsourcing providers and are moderately satisfied with their experience outsourcing (mean overall satisfaction score=3.58).

3.1.5. Moderating Variables

The sample breakdown for each of the moderating variables examined in this research is described in table 8.

TABLE 8 - SAMPLE DISTRIBUTION

Moderating Variable	Groups *	
Type of organization	Single location 32.5%	Multiple location 67.5%
Experience outsourcing non HR functions	Yes 55%	No 45%
HR Decision Making	Centralized 55%	Partially Decentralized 45%
Size of the organization	Small 40%	Medium 60%
Industry Type	Manufacturing 40%	Service Provider 60%

*N= 40

Data on table 8 indicate that the sample is fairly evenly distributed with respect to each of the moderating variables in the analysis. Fifty-five percent of participants have previous experience with outsourcing non-HR functions; 55% percent of respondents reported they worked for a company with centralized HR decision-making; 60% of respondents classified the firm they represent as high-technology service and 67.5% of respondents said they represent multi-location firms. The sample is well distributed and sufficiently broad to permit empirical examination of the effect of the moderating variables (table 8) on the HR outsourcing practices in Canadian small and medium sized high-technology firms.

TABLE 9 - CORRELATION COEFFICIENTS

	Experience outsourcing non HR functions	HR Decision Making	Type of Organization	Size	Industry Type
Experience outsourcing non HR functions	1.00	0.2929 P= .67	0.1985 P= .220	0.2872 P= .072	-0.3898 P= .013
HR Decision Making		1.00	0.6276 P= .000	0.0821 P= .615	-0.0821 P= .615
Type of Organization			1.00	0.1307 P= .421	-0.1307 P= .421
Size				1.00	-0.375 P= .017
Industry Type					1.00

Closer examination of the sample (table 9) indicated that there are significant negative correlations between: (1) experience outsourcing non-HR functions and industry sector of organization ($p=0.013$) and (2) industry sector of organization and size ($p=0.017$). Closer examination of negative correlations indicate that 68.5% of sampled manufacturing firms have experience outsourcing non-HR functions while only 29.17% of sampled service providers firms do so. It appears from these data that manufacturing firms tend to outsource more often than service provider firms in the sample. With respect to size, data indicate that most small firms in the sample (75%) are service providers.

There is also a significant positive correlation between HR decision-making structure and organizational structure ($p=0.000$). Closer examination of the positive correlation indicates that all single location firms have centralized HR decision-making

structure, while two thirds of the multi-location firms in the sample (66.66%) have partially decentralized HR decision-making structure. Data suggest that single locations firms tend to have centralized HR decision-making structure, while multi-locations firms tend to have partially decentralized HR decision-making structure. That means one only needs to look at one of them (i.e., HR decision making structure, type of organization) to complete the analysis.

3.2. HR Outsourcing in Canadian High-Technology Organizations:

The Present

The purpose of this section is to answer question 1 of this research: What HR functions and tasks are Canadian small and medium sized high-technology organizations outsourcing at the present time?

This section is divided in two parts. The first part, Section 3.2.1 *What is being outsourced*, presents findings regarding the functions currently being outsourced by respondents. These data are presented in the following order: (1) Functions most commonly outsourced; (2) Functions outsourced by 20 to 50% of the sample and (3) Functions rarely outsourced. The second part, Section 3.2.2 *Firms Presently Outsourcing These Functions*, provided a between groups comparison with respect to who is outsourcing the various HR functions (i.e., examines impact of the moderating variables identified earlier).

3.2.1. What is Being Outsourced

Table 10 presents data outlining what HR functions or tasks are currently being outsourced in the Canadian High-Technology sector. The data are presented as follows. Respondents were asked to indicate, for each of the 25 HR functions or tasks listed what percentage of this function/task they currently outsource. Column 1 represents the percentage of sample firms who are presently outsourcing this function. The mean percentage of the function that is being outsourced by those firms who are outsourcing was calculated and is shown (with the standard deviation) in columns 2 and 3.

TABLE 10 - HUMAN RESOURCES FUNCTIONS SMALL AND MEDIUM SIZED HIGH-TECHNOLOGY COMPANIES ARE CURRENTLY OUTSOURCING

Function	Yes (%)*	Mean(%)* Outsourced	SD*
Pay-check generation and distribution	60.00	85.20	20.45
Training Delivery	60.00	54.37	30.04
Recruitment and Staffing	52.50	28.57	16.66
Pension/Retirement Plan administration	37.50	88.33	14.47
Executive Recruitment	36.00	80.00	27.62
Employee Assistance Program	32.50	90.38	19.19
Management Development	32.50	63.46	33.44
Training Development	32.50	39.23	25.72
Benefits Planning	30.00	62.50	31.15
Benefits Administration	27.50	70.45	24.64
Outplacement	25.00	85.50	32.35
Organization Development	20.00	33.12	37.95
Preemployment Testing	17.50	42.85	39.24
Job Description & Job Evaluation	17.50	30.00	25.82
Compensation Planning	12.50	51.00	29.66
Administration of Training	12.50	54.00	26.78
Health, Safety & Security	10.00	76.25	20.56
Relocation/Career Counselling	7.50	83.33	28.86
HR Information Systems	7.50	23.33	23.09
Human Rights & Harassment Investigation	7.50	53.33	37.85
Labour relations	5.00	40.00	14.14
Contract Negotiation	5.00	50.00	42.42
Fitness/Wellness	2.50	10.00	-
Early dispute resolution	2.50	10.00	-

*n=40

3.2.1.1. Functions Most Commonly Outsourced

Although every HR function included in this survey is being outsourced by at least one organization in the sample, only three HR functions are being outsourced by a majority of the sample: pay-check generation and distribution (60%), training delivery (60%) and recruitment and staffing (52.5%). These results would suggest that small and medium sized high-technology companies are prepared to outsource HR functions which are technology intensive (i.e., pay-check generation and distribution) or require specialized knowledge (i.e., training delivery, recruitment and staffing).

It is also interesting to note that with one exception the companies who outsource these three functions keep very little to do with these functions in-house (i.e., 85.2% of pay-check generation and distribution is outsourced, and 54.4% of training delivery). While more than half the sample outsourced recruitment and staffing (53% of the sample) they outsource only a limited amount of the task in this area (29% of the function outsourced), the rest is kept in-house.

3.2.1.2. Functions Outsourced by 20% to 50% of Sample

While only 3 HR functions are outsourced by more than half of the companies in the sample, many are outsourced by a substantial minority of respondents (i.e., 20% to 40% of sample). Functions included in this grouping were: executive recruitment (36%), pension/retirement plan administration (37.5%), employee assistance program (32.5%), management development (32.5%), training development (32.5%), benefits planning (30%) benefits administration (27.5%), outplacement (25%), and organization

development (20%). Examination of these functions suggests that many of them are fairly specialized HR functions or tasks. Data indicate that 20 – 40% of small and medium sized high-technology organizations prefer to outsource to those who are experts rather than having that specialized knowledge in-house.

Companies who outsource these HR functions keep very little of the function in-house (i.e. 88.3% of pension/retirement plan administration is outsourced, 65.5% of management development, and 62.5% of benefits planning). Exceptions to this observation include training development (39% of the function outsourced) and organization development (33% of the function outsourced).

3.2.1.3. Functions rarely Outsourced

HR functions that involve a high degree of corporate decision-making appear to be the least frequently outsourced in this sample. Of the responding firms, few said they outsource Pre-employment testing (17.5%), job description & job evaluation (17.5%), compensation planning (12.5%), administration of training (12.5%), health, safety & security (10%), labour relations (5%), contract negotiation (5%), early dispute resolution (2.5%) and fitness/wellness (2.5%). There are two possible interpretations of these data: (1) small and medium sized high-technology firms prefer to keep strategic HR functions in house (i.e., compensation planning, health, safety & security, labour relations, contract negotiation, early dispute resolution, fitness/wellness), or (2) companies in this sample (small and medium sized high-technology companies) do not perform these HR functions or tasks (i.e., don't outsource because don't perform pre-employment testing, job description & job evaluation).

Although it is interesting to note that the firms outsource training development and delivery, data suggest that sampled firms prefer to control development of training policy and activities such as analysis and assessment of training needs in house.

3.2.2. Firms Presently Outsourcing These Functions - Comparison between Groups

While identifying which HR functions and tasks Canadian small and medium sized high-technology firms are currently outsourcing is very important, it is also important to be able to identify who is outsourcing which HR functions and who is not. Chi-square tests were calculated to explore the effect of type of organization, experience outsourcing non HR functions, decision making in the HR area, size of the organization, and industry sector have on which HR functions or tasks companies choose to outsource and which they keep in house. Complete results of the analysis are presented in Appendix 2. Table 11 summarizes the significant results for each group comparison.

TABLE 11 - COMPARISON BETWEEN GROUPS

HR Function Outsourced	% of firms that outsourced			
Industry Sector	Manufacturing	Serv. Provider	Alpha	X²
Recruitment and Staffing	42.86%	57.14%	0.020	5.41
Size	Small	Medium		
Management Development	38.46%	61.54%	0.054	3.72
Training Development	30.77%	69.23%	0.009	6.86
Executive recruitment	37.50%	62.50%	0.018	5.63
Recruitment and Staffing	47.62%	52.38%	0.093	2.82
Employee Assistance Programme	30.77%	69.23%	0.009	6.86
Type of Organization	Single loc.	Multiple loc.		
Pay-check generation & distribution	16.67%	83.33%	0.009	6.86
Executive recruitment	12.50%	87.50%	0.027	4.86
Recruitment and Staffing	19.05%	80.95%	0.056	3.65
HR Decision Making	Centralized	Part. Decent.		
Employee Assistance Programme	23.08%	76.92%	0.005	7.93

* d.f in all cases = 1

The tendency to outsource some HR functions (i.e. management development, training development, executive recruitment, recruitment and staffing, employee assistance programme, pay-check generation & distribution, and benefits planning) is significantly associated with firm's **HR Decision-Making, Type of Organization, Industry Sector** and **Size** of the sampled firms.

The percentage of sampled medium sized firms that outsource some HR functions was significantly greater than that of small firms that outsource the same functions. Almost two thirds of medium sized firms outsource employee assistance programme (69.2%), training development (69.2%), executive recruitment (65.5%), management development (61.5%) and recruitment and staffing (52.4%). By comparison approximately one third of small firms outsourced these functions.

Similarly, the percentage of multi-location firms who outsource some functions was significantly greater than that of sampled single location firms. Almost all multi-

location firms outsource: executive recruitment (87.5%), pay-check generation & distribution (83.3%), and recruitment & staffing (81%). By comparison less than 20% of single location firms outsourced these functions.

The data suggest that medium sized and multi-location high-technology firms tend to outsource HR functions and tasks that require specialized knowledge (i.e., executive recruitment, recruitment & staffing, training development, management development) or technical expertise (pay-check generation & distribution).

It is also possible that medium size firms and multi-location firms are more likely to need to perform these functions (i.e., more people, more locations) than are small and single location companies. In other words medium sized and multi- location firms have a greater need for specialized HR functions than small, and single location firms. They meet this need by outsourcing (small firms may just not perform the function or alternatively may be able to do it, on a smaller scale, in-house). These data suggest that those companies view outsourcing as more feasible way to meet their increasing HR needs without committing more human or financial resources (i.e, their HR needs can be met without hiring staff to perform the functions in-house). This is consistent with finding reported by others as illustrated by the following quote: "Outsourcing is a natural outgrowth of the temporary services concept of balanced staffing, whereby a flexible ring of temps is added to basic core of permanent employees on an as-needed basis" (Laabs 1993a, 93).

3.3. *HR Outsourcing in Canadian High-Technology Organizations: The Future*

It is said that the HR outsourcing trend is growing with respect to the number of functions outsourced. This issue is addressed in this research through the following question: What functions are high-technology organizations intending to outsource in the near future (i.e. next two years)? (Research question 2). Data pertaining on this issue are presented below.

Respondents were asked to consider each of the 25 HR functions or tasks listed, and indicate whether their company is considering outsourcing the functions they are not currently outsourcing within the next two years. Table 12 presents the following data: Column 1 presents the percentage of companies in this sample who are not currently outsourcing a particular HR task or function (No %). Column 2 (% Future) represents the percentage of firms (not outsourcing this function) that intend to outsource a particular HR function within the next two years.

Data suggest that only a small percentage of the companies in the sample intend to outsource new HR functions within the next two years. Those firms who intend to outsource a new HR function within the next two years appear to give priority to outsourcing of specialized HR functions such as: pension/retirement plan administration (10%), employee assistance program (7.5%), benefits administration (7.5%), relocation/career counselling (7.5%), and HR information systems (7.5%).

The data also suggested that the tendency for small and medium sized high-technology companies to not outsource HR functions that involve a high degree of

corporate decision-making will not change in the near future as most of the organizations in the sample are not considering outsourcing these types of functions in the near future: administration of training (0%), labour relations (0%), early dispute resolution (0%), and human rights & harassment investigation (0%).

TABLE 12 - HUMAN RESOURCES FUNCTIONS CANADIAN SMALL AND MEDIUM SIZED HIGH-TECHNOLOGY COMPANIES PLAN TO OUTSOURCE IN THE FUTURE

Function	No (%) (N=40)	Yes (%) Future
Fitness/Wellness	97.50	2.50
Early dispute resolution	97.50	-
Contract Negotiation	95.00	2.50
Labour relations	95.00	-
Relocation/Career Counselling	92.50	7.50
HR Information Systems	92.50	7.50
Human Rights & Harassment Investigation	92.50	-
Health, Safety & Security	90.00	2.50
Compensation Planning	87.50	5.00
Administration of Training	87.50	-
Job Description & Job Evaluation	82.50	7.50
Pre-employment Testing	82.50	2.50
Organization Development	80.00	5.00
Outplacement	75.00	5.00
Benefits Administration	72.50	7.50
Benefits Planning	70.00	2.50
Employee Assistance Program	67.50	7.50
Management Development	67.50	5.00
Training Development	67.50	5.00
Executive Recruitment	64.00	5.00
Pension/Retirement Plan administration	62.50	10.00
Recruitment and Staffing	47.50	5.00
Pay-check generation and distribution	40.00	5.00
Training Delivery	40.00	5.00

3.4. Factors Influencing the HR Outsourcing Decision

The decision to outsource HR services instead of keeping them in-house is critical. The data presented in this section were collected to answer questions 5: What factors are associated with the decision to outsource HR function(s)? and 6: What factors are associated with the decision to not outsource HR function(s)? The data discussed in this section are presented in Table 12.

The survey instrument in section III included 18 factors that the research literature suggested might be involved in the decision to outsource or not to outsource HR functions or tasks. Survey respondents were asked to indicate how those items affect the likelihood of the HR outsourcing using a scale ranging from 1(decreased likelihood) to 5(increased likelihood). Respondents were also given the option of N/A to indicate the factor was not considered during the decision-making process. Responses were recoded and four categories were defined for the analysis: N/A responses were recoded as 0, 1 and 2 scores were coded as 1 (decreased likelihood), 3 scores were coded as 2 (no impact), and 4 and 5 scores were coded as 3 (increased likelihood). To calculate the mean score for each factor N/A responses were recoded as 3 (i.e., assumed if not considered, would have no impact).

Table 13 summarises descriptive statistics (mean scores, SD and frequencies) calculated for the data used in this section. Table 12 is organized as follows:

- The mean score and the standard deviation for each factor were calculated and are shown in column 1 and 2;
- Decreased (%) (column 3) represents the percentage of the sample who

assigned a low score to the factor (e.g. less than 3);

- No impact (%) (column 4) represents the percentage of the sample who assigned a 3 score to the factor;
- Increased (%) (column 5) represents the percentage of the sample who assigned a high score to the factor (e.g. more than 3); and
- N/A (%) (column 6) represents the percentage of the sample who assigned N/A to the factor

Section 3.4.1 *Factors Considered by HR Outsourcing Decision Makers* identifies which factors: (1) increase the likelihood of outsourcing HR, (2) decrease the likelihood of outsourcing HR, and (3) have little impact on the HR outsourcing decision making process. In section 3.4.2 *Differences between Groups*, between group differences in responses to each of these questions are examined.

TABLE 13 - FACTORS INFLUENCING THE HR OUTSOURCING DECISION

FACTORS	Mean N=40	SD	(%) DECREASE	(%) NO IMPACT	(%) INCREASE	(%) N/A
Need to access HR expertise not available internally	4.37	0.67	0.00	10.00	85.00	5.00
Need to improve HR service delivery	4.06	0.81	2.50	17.50	65.00	15.00
Need to improve the company's focus by outsourcing tasks that are not core business functions	3.86	0.81	0.00	35.00	52.50	12.50
Previous experience with the outsourcing service provider	3.76	0.71	2.50	25.00	55.00	17.50
Need to stay current with technical advances in HR	3.74	0.95	7.50	22.50	57.50	12.50
Service provider offered an attractive deal	3.68	0.95	0.00	32.50	52.50	15.00
Function is difficult to manage internally	3.65	0.81	7.50	25.00	52.50	15.00
Availability of good HR outsourcing service providers	3.62	0.70	2.50	27.50	55.00	15.00
Need to control HR overhead costs	3.62	1.07	10.00	25.00	50.00	15.00
Need to reduce HR overhead costs	3.54	1.04	10.00	37.50	40.00	12.50
Availability of performance measures in this area	3.47	0.73	2.50	42.50	30.00	25.00
Availability of fall back options if outsourcing fails	3.21	0.86	10.00	40.00	22.50	27.50
Job security of companies' HR employees	3.10	0.66	5.00	57.50	12.50	25.00
Potential legal issues (confidentiality, ownership)	3.07	1.07	20.00	22.50	30.00	27.50
Management views the function as critical	3.06	1.03	15.00	42.50	20.00	22.50
Need to increase control over HR function	2.91	0.73	20.00	45.00	15.00	20.00
Security of companies' human resources data	2.83	1.20	27.50	22.50	22.50	27.50
Competitors were outsourcing this function	2.78	0.75	12.50	50.00	5.00	32.50

3.4.1. Factors Considered by HR Outsourcing Decision Makers

Results indicate that the decisions to outsource or not to outsource are based on various factors. Although respondents choose various combinations of these factors, the following factors appear to be considered (i.e., decrease, no impact, increase) by most organizations making decisions with respect to outsourcing HR:

- “Need to access HR expertise not available internally” was considered by 95% of the sample;
- “Need to stay current with technical advances in HR”, “Need to improve the company's focus by outsourcing tasks that are not core business functions” and “Need to reduce HR overhead costs” were all considered by 87.5% of the sample;
- “Need to improve HR service delivery”, “Availability of good HR outsourcing service providers”, “Function is difficult to manage internally”, “Service provider offered an attractive deal” and “Need to control HR overhead costs” were all considered by 85% of the sample; and
- “Previous experience with the outsourcing service provider” was considered by 82.5% of the sample.

Rules Used to Clarify Data

The following rules were established to analyse the information gathered with regards to the factors that influence the HR outsourcing decision-making process (see table 13):

1. Factors which had a mean score close to or higher than 3.5, and a percentage in column 5 (“increase”) which was equal or greater than 50% were identified as factors that had increased the likelihood that firms would outsource HR functions or tasks.
2. Factors that had a mean score lower than 3, and a percentage in column 3 greater than 50% were identified as factors that had decreased the likelihood that firms would outsource HR functions or tasks.

3. Factors that had a mean score around 3 and whose columns 4 (no impact) and 6 (N/A) when added together yielded a percentage equal or greater than 50% were identified as factors that had no impact on the likelihood that firms would outsource HR functions or tasks.

3.4.1.1. Factors that increase likelihood of HR outsourcing

The results shown in table 13 suggest that some factors are positively associated with the decision to outsource. The following 9 factors were identify as increasing the likelihood that a decision-maker in the high-technology sector would outsource HR functions:

- “Need to access HR expertise not available internally” (85%)
- “Need to improve HR service delivery” (65%)
- “Need to stay current with technical advances in HR” (57.5%)
- “Availability of good HR outsourcing service providers” (55%)
- “Previous experience with the outsourcing service provider” (55%)
- “Need to improve the company's focus by outsourcing tasks that are not core business functions” (52.5%)
- “Function is difficult to manage internally” (52.5%)
- “Service provider offered an attractive deal” (52.5%)
- “Need to control HR overhead costs” (50%)

These findings suggest that the majority of the respondents would select to outsource HR functions if they felt it would improve their ability to be competitive. Competitiveness in this case could be explained not only as better quality of HR services

but also as access to HR expertise in a wide range of specialised services (i.e. technical advances), reduced HR costs and ability to concentrate on core business functions.

3.4.1.2. Factors that decrease likelihood of HR outsourcing

The results shown in table 13 suggest that there is no clear consensus within the sample as to the barriers to outsourcing HR. None of the factors in this study met the criteria to be interpreted as factors that decrease likelihood of HR outsourcing.

3.4.1.3. Factors that have little impact on the HR outsourcing decision-making process

This group consists of factors that ultimately did not have an impact on the decision to outsource or not to outsource as the decision-makers in the sample indicated that these factors did not have an impact on the decision to outsource or not to outsource (i.e., factors considered during the decision-making process that have no impact, factors not considered during the decision-making process). These factors include:

- “Job security of companies’ HR employees” considered by 82.5% as a factor having no impact on the HR outsourcing decision;
- “Competitors were outsourcing this function” considered by 82.5% as a factor having no impact on the HR outsourcing decision;
- “Availability of fall back options if outsourcing fails” considered by 67.5% of the sample as a factor having no impact on the HR outsourcing decision;
- “Need to increase control over HR function” considered by 65% of the sample as a factor having no impact on the HR outsourcing decision;

- “Management views the function as critical” considered by 65% of the sample as a factor having no impact on the HR outsourcing decision;
- “Security of companies' human resources data” considered by 50% of the sample as a factor having no impact on the HR outsourcing decision; and
- “Potential legal issues (confidentiality, ownership)” (20%)

The above factors would be problems that could arise as a result of excessive reliance on the provider, underestimation of costs and lack of careful design of the contracting process (i.e., determining procedures; awarding, negotiating, writing and monitoring contracts).

3.4.1.4. Factors difficult to classify

To conclude this analysis it is important to point out that neither “Availability of performance measures in this area”, nor “Need to reduce HR overhead costs” fits under any category previously defined. Further analysis will provide more information to better understand these results. Although cost may be a reason for outsourcing HR functions, it is not clear that “need to reduce HR overhead costs” is a factor driving the decision to outsource HR functions as a similar percentage indicates that this factor had no impact on the HR outsourcing decision.

3.4.2. Comparison between groups – HR Outsourcing Decision

Different factors influence the final outsourcing decision regarding whether to outsource a particular function or to keep it in house. This research is interested in determining how each of the moderators discussed earlier affects the sampled

respondents' opinions with respect to these factors. T-test analysis was used to examine between group differences in the factors considered in the decision to outsource HR functions.

Results of the t-test analysis of the 18 factors indicated that there were few significant between group differences in the data (i.e. mean scores did not differ significantly by group) when the Bonferroni adjusted was used. Complete results of this analysis are shown in Appendix 4. Significant results are discussed below.

Availability of performance measures in this area, appear to be the only factor showing group mean scores that differ significantly (p-value = 0.005). This factor was ranked by sampled firms with decentralized HR decision making as a factor that had increased the likelihood of HR outsourcing (mean score = 3.66); while sampled firms with centralized HR decision making ranked it as a factor that had not had an impact (mean score=3.09) on the HR outsourcing decision.

This finding is not surprising. Organizations with partially decentralized HR decision-making who have shifted decision-making power from higher levels to lower levels of the organization (i.e., business units) need a performance system amongst the business units to measure business units' performance. Such measures are used to allow management from a distance (i.e., empowerment of lower level to make more decisions).

3.4.2.1. PCA of the Factors Influencing Adoption

This section presents the results of PCA of the 18 factors associated with the HR outsourcing decision. Also included in this section is a discussion of how the components to be used in the next stage of the analysis were created. The section

concludes with a discussion on the between group differences in the PCA factors.

Principal Components analysis of the 18 decision-making factors yielded six principal components which accounted for 71.3% of the total variance in the data. Because the PC matrix of factor loadings did not allow clear interpretation of the data the matrix of factor loadings was rotated (Varimax rotation) to obtain more easily interpretable factors. This methodology is consistent with that suggested by Dillon et al. (1985, p. 88) who suggested that the rotated matrix of factor loadings offered an alternative interpretation of the data, which in a mathematical sense is equally valid. The difference between rotated and not rotated matrix is with respect to interpretability. The varimax method was used because this is the most popular method used to rotate PC solutions as it often facilitates interpretation. Varimax rotation was designed to clean up the factors. “That is, each factor tend to load high on a smaller number of variables and low or very low on other variables. This will generally make interpretation of the resulting factors easier” (Stevens, 1996, p. 368). Also, in rotating, the maximum variance property of the original components is destroyed. The rotation reallocates the loadings (...) Even though this is somewhat unfortunate, it is more important to be able to interpret the factors” (Stevens, 1996, p. 369).

Results of these PCA and the rotated factors matrix are given in Appendix 3. In each factor, items whose loadings were close to 0.5 in absolute value or greater (shown in bold in Appendix 3), were retained and used to construct the six factors described below:

FACTOR 1: Manager’s Perceptions. The following variables loaded on this factor: Potential legal issues (confidentiality, ownership) (0.85), Security of companies’

human resources data (0.94), and Management views the function as critical (0.61). Examination of these items suggest that decision-makers' confidence in HR vendors' ability to manage a critical HR function affects the likelihood of outsourcing (i.e. if the firm is not confident that information is confidential, they have ownership of the data or that the data is secure they may be less likely to outsource).

FACTOR 2: Need to Improve Service. The following variables loaded on this factor: Need to improve HR service delivery (0.82), Function is difficult to manage internally (0.67), Need to stay current with technical advances in HR (0.67), Need to access HR expertise not available internally (0.52), and Availability of good HR outsourcing service providers (0.58). Examination of these items suggest that a firm which feels it can improve HR services performance by dealing with people/firms outside the company (i.e. expertise, technology) will be more likely to outsource.

FACTOR 3: HR Overhead Costs. The following variables loaded on this factor: Need to control HR overhead costs (0.91), Need to reduce HR overhead costs (0.90). Examination of this factor suggests that a decision-maker who associates outsourcing HR functions with a reduction in costs and an increased ability to control overhead costs will be more likely to outsource.

FACTOR 4: Dependence on HR Provider versus Business Focus. The following variables loaded on this factor: Job security of companies' HR employees (0.7), Availability of fall back options if outsourcing fails (0.54) and Need to improve the company's focus by outsourcing tasks that are not core business functions (-0.77). Examination of these items suggest that this factor relates to the firm's concern with the

dependence on the HR vendor versus the firm's need to improve focus on core business functions. This factor suggests that a company which does not have a fall back position will be less likely to outsource for it could mean dependence on the vendor if outsourcing causes their HR people to leave. However, companies who have the need to focus on their core business functions will be more likely to outsource regardless of whether or not they have to depend on the HR vendor.

FACTOR 5: HR Providers' Credibility. The following variables loaded on this factor: Service provider offered an attractive deal (0.68), Previous experience with the outsourcing service provider (0.87) and Availability of performance measures in this area (0.49). Careful examination of the above items suggest that the "HR providers' credibility" factor groups issues related to vendors' capability to do a non-critical task better and cheaper. This factor suggests that firms, who know that the HR provider can prove (by measuring it) they do a better job, will be more likely to outsource.

FACTOR 6: Control. The following variables loaded on this factor: Need to increase control over HR function (0.78) and Competitors were outsourcing this function (-0.66). Examination of this factor suggests that if the firm needs to control the HR function they will not outsource HR functions regardless of whether or not their competitors are outsourcing.

3.4.2.2 Between Group Differences in the factors having an impact on the HR outsourcing decision

As a first step in this phase of the analysis, scores for each of the PCA factors were computed by calculating the summed mean score of the factors that loaded on each

component. T-tests were used to see how each of the moderating variables presented earlier affected these composite scores. The alpha for significance in this case was 0.017 (0.1/6). Complete results of the t-tests are presented in Appendix 3. Table 14 summarizes the significant between group results.

TABLE 14 - SUMMARY OF DIFFERENCES BETWEEN GROUPS USING PCA RESULTS

Factors *	t-value	alpha	Mean Scores by Groups	
Type of organization			Single loc. (n=13)	Multiple loc. (n=27)
Need to improve service	-0.6	0.031	3.5	3.9
HR providers' credibility	2.6	0.014	3.3	3.7
Experience outsourcing			Yes (n= 18)	No (n=22)
HR providers' credibility	-3.03	0.02	3.8	3.4
HR Decision making			Centralized (n= 22)	Partially Dec. (n= 18)
HR providers' credibility	2.35	0.00	3.4	3.8

*d.f = 38 for all the tests presented

Since this is an exploratory study factors whose p-value was smaller or close to our individual alpha were included in the discussion for completeness sake.

Data on table 14 suggest that the **HR Providers' Credibility** factor and the **Need to Improve Service** factor are the primary drivers for outsourcing decisions in Canadian small and medium sized High-Technology firms.

Multi—location firms, firms with partially decentralized HR function and firms who had pervious experience outsourcing were significantly more likely than their counterparts (i.e., single location firms, firms with centralized HR function and firms without any previous outsourcing experience) to say that having access to a credible HR outsourcing vendor would increase the likelihood they would outsource HR (though this factor did increase the likelihood of outsourcing HR for all groups in the study). This finding is consistent with the fact that organizations who could not keep close watch over

the HR function to be outsourced (i.e., different location, HR done elsewhere) have a greater need for trust in the vendor looking after the function.

It also supports the idea that the relationship between the outsourcing vendor and the company is critical to the “success” of the outsourcing experience. People who have previous experience outsourcing seem to be particularly aware of this fact (mean of 3.9 on this factor).

It is also important to note that this finding is also consistent with the ideas of trialability, compatibility and observability as presented by Rogers (1995). These data suggest that managers who have experience with outsourcing non-HR services are more willing to outsource HR functions or tasks, because they have a better understanding of this strategy and its try-out dispels uncertainty about HR outsourcing.

It is also important to note here that the need to improve service is more important for multi-location than single location firms. This suggests that as an organization increases the number of locations it has, the HR function becomes more difficult to manage internally and there is a greater need for more specialized HR services. It would also appear from the study that outsourcing is considered by decision-makers in multi-location high-technology firms to be a viable way to meet their HR needs.

3.5. Advantages and Disadvantages of Outsourcing HR Functions or Tasks

According to the outsourcing literature, a number of organizations consider outsourcing as one way to control resources, provide quality service and cut costs. The question remains however: “What do Canadian small and medium sized high-technology firms who have experience with outsourcing HR find to be the advantages of outsourcing and what do they see as the disadvantages? The data presented in this section was collected to answer research question 3: What do decision-makers in the company see as the major advantages of HR outsourcing? and question 4: What do decision makers in the company see as the major disadvantages of HR outsourcing? The data discussed in this section are presented in two ways: as Percentages and Means (see table 15).

Based on an extensive review of the literature, the survey instrument in section IV included 11 factors that the research literature suggested might be advantages and disadvantages of outsourcing. Survey respondents were asked to rate the effect of HR outsourcing on a number of advantages and disadvantages of outsourcing assembled from the literature using a scale ranging from 1 (decreased) to 5 (increased). Responses were recoded and three categories were defined for the analysis: 1 and 2 scores were coded as 1 (decreased), 3 scores were coded as 2 (no impact), and 4 and 5 scores were coded as 3 (increased). Except for cost related issues, high scores were interpreted as advantages of outsourcing HR functions or tasks, and low scores were interpreted as disadvantages outsourcing HR functions or tasks. For cost issues high scores indicated outsourcing was seen as a disadvantage.

Table 15 summarizes the advantages and disadvantages of HR outsourcing perceived by decision-makers in the sample:

- The mean score and standard deviation for each factor were calculated and shown in column 1 and 2,
- Decreased (%) (column 3) represents the percentage of the sample who assigned a low score to the factor (e.g. less than 3);
- No impact (%) (column 4) represents the percentage of the sample who assigned a 3 score to the factor; and
- Increased (%) (column 5) represents the percentage of the sample who assigned a high score to the factor (e.g. more than 3)

This section is organized as follows. The first part, section *3.5.1 Advantages and Disadvantages of HR Outsourcing*, identifies (1)the advantages of HR outsourcing as perceived by decision-makers in the sample; (2)the disadvantages of HR outsourcing cited by decision-makers in the sample; (3) the aspects that are neither advantages nor disadvantages and (4) the aspects that were hard to classify. In section *3.5.2 Differences between Groups*, between group differences in reponses to each of the advantages and disadvantages of outsourcing HR examined in previous sections are presented.

TABLE 15 - ADVANTAGES AND DISADVANTAGES OF HR OUTSOURCING

ADVANTAGE	Mean (n=40)	SD	(%) DECREASE	(%) NO IMPACT	(%) INCREASE
Ability to acquire specialized HR capabilities	4.28	0.77	-	18.80	81.30
Focus on core business functions	3.78	0.83	3.10	37.50	59.40
Ability to provide high quality customer service	3.65	0.93	12.50	28.10	59.40
Employee satisfaction with delivery of HR services	3.50	0.88	12.50	37.50	50.00
Managerial satisfaction with delivery of HR services	3.40	0.91	15.60	31.30	53.20
Ability to manage the HR function	3.31	0.93	12.50	43.80	43.80
Ability to control HR overhead expenses	3.28	0.92	12.50	46.90	40.70
Ability to monitor the function	3.28	0.77	9.40	53.10	37.50
Ability to control the HR function	3.09	0.89	18.80	50.00	31.20
HR overhead costs	3.06	1.13	31.30	31.30	37.50
Costs of HR services delivery	3.06	1.13	31.30	31.30	37.50

3.5.1. Classification of Advantages and Disadvantages

The following rules were established to analyse the information gathered with regards to the advantages and disadvantages of HR outsourcing (see table 15):

1. Items which had a mean score equal to or greater than 3.5 and a percentage in column 3 (% increased) greater than 50% were considered in this analysis to be advantages of HR outsourcing
2. Items which had mean score lower than 3 and a percentage on column 4 (% decreased) greater than 50% were interpreted considered in this analysis to be disadvantages of HR outsourcing

3. Items which had mean scores between 3.0 and 3.5 and a percentage on column 5 (% decreased) greater than 50% were considered in this analysis to be factors that respondents perceived to be unaffected by the decision to outsource HR

3.5.1.1. Advantages of HR Outsourcing

In general, Canadian small and medium sized high-technology firms perceptions of the advantages and disadvantages of outsourcing HR functions or tasks vary somewhat (see frequencies data, table 15). The data do however suggest that there does exist a consensus among sampled respondents with respect to the primary advantages of outsourcing HR functions and tasks. The following are the advantages of outsourcing HR services or tasks as perceived by decision-makers in the sample:

- firm's ability to acquire specialized HR capabilities increased (81.3%),
- firm's ability to provide high quality customer service increased (59.4%),
- firm's ability to focus on core business functions increased (59.4%),
- managers' satisfaction with delivery of HR services increased (53.2%), and
- employee satisfaction with delivery of HR services (50%)

These findings suggest that in other words, people who have experience outsourcing HR seem to agree that outsourcing HR functions or tasks leads to a better quality of service and increases satisfaction with the delivery of HR services.

3.5.1.2. Disadvantages of HR Outsourcing

Data suggest that there is no consensus among Canadian small and medium sized high-technology firms with respect to the disadvantages of outsourcing HR functions and tasks. None of the advantages or disadvantages considered in this analysis met the criteria used to define this category.

3.5.1.3. Aspects unaffected by the decision to outsource HR

Respondents in the sample felt that:

- outsourcing did not affect the firm's ability to monitor the function (53.1%)
- outsourcing did not affect the firm's ability to control the HR function (50%)

Although these had been identified in other studies as a pro and a con of outsourcing, the people in this sample did not share this view.

3.5.1.4. Aspects difficult to classify

Four of the advantages and disadvantages of HR outsourcing included in this section could not be classified using the criteria previously defined.

The Popular press suggests one advantage of HR outsourcing is costs savings, however one third of the respondents of this survey felt that HR overhead costs and the costs of HR services delivery decreased after they had outsourced. Another 31.3% of the sampled respondents felt that outsourcing had no impact here while 37.5% of the sampled respondents felt that costs had increased.

A similar situation was observed with respect to the firm's ability to control HR overhead expenses and the firm's ability to manage the HR function. Other studies

suggest that one problem that may arise with outsourcing is lost of control. Analysis of the data obtained in this study indicate that firms currently outsourcing HR functions rarely see control issues as a disadvantage; 46.9% of the sampled firms reported that firm's ability to control HR overhead expenses remained the same while 43.8% reported it increased. With respect to firm's ability to manage the HR function, sampled firms reported it remain the same in 43.8% of the cases and it increased in 40.7% of the cases.

Findings from this study suggest that advantages and disadvantages of HR outsourcing can not be generalized, and they may vary depending upon the particular situation of the firm doing it and or the outsourcing provider.

3.5.2. Comparison between groups – Advantages & Disadvantages

This research is interested in learning about Canadian small and medium sized high-technology firms' experiences with outsourcing of HR functions or tasks. To determine how respondents' opinions with respect to the advantages and disadvantages of outsourcing HR functions or tasks are affected by type of organization, experience outsourcing non HR functions, decision making in the HR area, size of the organization, and industry sector t-test analysis was used.

For each variable, between groups differences were examined using a t-test for equality of mean scores calculated assuming equal variance for all groups as test of the data showed this assumption to be true. T-tests were calculated on each one of the 11 items listed on section IV of the survey questionnaire. Overall alpha was set at 0.1 for a confidence interval of 90%. Then, using Bonferonni to maintain overall alpha under

control, individual alpha for each test was set at 0.009 (0.1/11). Complete results of the analysis are in Appendix 4. Table 16 summarizes the significant between group results. Given the exploratory nature of this study factors whose p-value was smaller or close to the individual alpha were selected.

TABLE 16 - SUMMARY DIFFERENCES BETWEEN GROUPS

Advantages and Disadvantages	t-value*	Alpha	Mean Scores by Groups	
Type of organization Managerial satisfaction with delivery of HR service	-3.2	0.003	Single loc. 2.62 (n= 8)	Multiple loc. 3.66 (n= 25)
HR Decision making Managerial satisfaction with delivery of HR services	2.8	0.009	Centralized 3.0 (n= 17)	Partially Dec. 3.8 (n= 16)

*d.f = 30 for all the tests presented

Data indicate that **managerial satisfaction with delivery of HR services** is the only advantage/disadvantage that varies significantly between groups (i.e. significantly different results depending on type of organization, and HR decision-making).

A significant difference in the mean scores was noted between single location firms (2.62) and multi-location firms (3.66); and firms with centralized HR decision making (3.0) and firms with decentralized HR decision making (3.8). It appears that for multi-location firms and firms with decentralized HR decision making outsourcing HR functions or tasks had increased manager's satisfaction with the delivery of HR services.

No such increase was noted for single location firms or organizations with centralized HR decision-making

This finding suggests that firms with decentralized HR decision making and multi location firms received benefit from outsourcing HR functions or tasks more than their counterparts (i.e. firms with centralized HR decision-making and single-location firms) as

decision-makers reported their satisfaction with delivery of HR services had increased by outsourcing.

3.5.2.1. PCA Results – Advantages and Disadvantages

Given the exploratory nature of this research, and the size of our sample, variable reduction was done in order to see how the 11 items that the HR outsourcing literature suggested are perceived as the advantages and disadvantages of outsourcing, clustered together. Once again, Principal Components Analysis (PCA) was the technique used to reduce the number of items that will be tested. This section concludes with a discussion of the between group differences in the PCA factors used to describe the advantages/disadvantages of outsourcing HR functions as perceived by those who have experience outsourcing HR tasks or functions.

PCA yielded 4 principal components which accounted for 76.1% of the total variance in the data. Component scores for each factor on the 4 components were computed by calculating the summed mean score of the factors that loaded on each component. In each factor, items whose loadings were close to 0.5 in absolute value or greater (shown in bold in Appendix 3) were retained and used to construct the four factors described below.

FACTOR 1: Satisfaction with Service Delivery. The following variables loaded on this factor: Employee satisfaction with delivery of HR services (0.76), Managerial satisfaction with delivery of HR services (0.75), Ability to monitor the function (0.79), Ability to manage the HR function (0.8), Ability to control the HR function (0.79) and Ability to acquire specialized HR capabilities (0.53). Examination of these items suggest

that high scores on this factor suggest that a firm's satisfaction with the outsourced HR increased proportionately to its ability to manage it.

FACTOR 2: Cost. The following variables loaded on this factor: HR overhead costs (0.91), Costs of HR services delivery (0.89). Examination of this factor suggests that the costs of HR outsourcing could be explained in terms of HR overhead costs and cost of HR service delivery. Low scores on this factor indicate that firms reduce HR overhead costs and HR service delivery costs by outsourcing. A high value on this component indicates that by outsourcing HR functions or tasks the firm had increased its costs.

FACTOR 3: Customer Service. Only one variable loaded on this factor: Ability to provide high quality customer service (0.56). High scores on this factor indicate that a firm's satisfaction with the outsourced HR increased proportionately to its ability to provide high quality customer service.

FACTOR 4: Leverage of Resources. The following variables loaded on this factor: Ability to control HR overhead expenses (0.6), Focus on core business functions (0.58). Examination of these items suggest that high scores on this factor indicate that a firm's satisfaction with the outsourced HR task or function increased proportionately to its ability to shift money from HR to core business functions by outsourcing.

3.5.2.2. Differences by groups - PC Analysis

Using the results of PCA, t-tests were calculated on 4 factors instead of the initial 11 items (advantages and disadvantages of HR outsourcing). Using Bonferonni with the new set of items and maintaining the original overall alpha (10%), the alpha used to

determine significance moved from 0.009 (0.1/11) to 0.025 (0.1/4). Complete results of the t-tests are presented in Appendix 4. Table 17 summarizes results on the aspects that differed significantly between groups under each category. This time we performed t-tests on 4 factors instead of the 11 relevant items (advantages and disadvantages of HR outsourcing). Having a new set of items and maintaining the original overall alpha, the new confidence interval moved up to 97.5% as a result of the increase in the individual alpha (0.025).

TABLE 17 - SUMMARY DIFFERENCES BETWEEN GROUPS - PCA

Advantages and Disadvantages	t-value	Alpha	d.f	Mean Scores by Groups	
Type of organization				Single loc.	Multiple loc.
Satisfaction with Service Delivery	2.04	0.05	31	3.0 (n=8)	3.6 (n=25)
HR Decision making				Centralized	Partially Dec.
Satisfaction with Service Delivery	-0.6	0.016	31	3.2 (n= 17)	3.8 (n= 16)
Customer service	2.69	0.012	30	3.3 (n= 16)	4.1 (n= 16)

Factors whose p-value was smaller or close to the individual alpha were included in the table. Data indicate that the real advantages of outsourcing HR services or tasks are once again related to an increased satisfaction with customer service and increased satisfaction with delivery of HR services. It appears that multi-location firms and firms with partially decentralized HR decision-making had attained more benefits by outsourcing HR functions or tasks than their counterparts.

This finding suggests that firms with decentralized HR decision-making and multi-location firms may be more likely than their counterparts, in firms with centralized HR decision making or in single location firms, to feel that outsourcing HR functions or tasks had increased their ability to manage and control the HR function and to acquire

specialized HR capabilities. This in turn appears to have increased their satisfaction with the delivery of this function.

Multi-location firms and firms with partially decentralized HR decision-making in the high-technology sector have a great need for control and specialized HR capabilities to watch over the HR functions (monitoring). As the goal of increased ability to manage (i.e., control, monitor) the HR function and acquire specialized HR capabilities to provide a better service is reached by outsourcing the function firms meet their expectations (provide better quality customer service), and their overall satisfaction with service delivery increases.

3.6. Satisfaction with Outsourcing HR Functions or Tasks

This section describes and discusses how satisfied companies are with their experience with HR outsourcing to date. At the end of section V of the survey questionnaire, respondents were asked to rate their overall satisfaction with the HR outsourcing experience using a five-point likert-like scale, with low scores (i.e., 1) indicating a very unsatisfactory experience with HR outsourcing, and high scores (i.e., 5) indicating a very satisfactory experience.

Data suggests that Canadian small and medium sized High-Technology firms in the sample are satisfied with their HR outsourcing experience to date (i.e., the mean overall satisfaction with experience of HR outsourcing was 3.87). This high satisfaction scores would also suggest that this companies may continue outsourcing the functions that are currently being outsourced.

T-test analysis was used to examine between group differences in the satisfaction with the HR outsourcing experience. Results of the test indicated that there exist no significant between groups differences in the data (i.e., satisfaction mean scores did not differ significantly by group). This finding suggest that in general high-technology firms in Canada are satisfied with their HR outsourcing experience regardless of size, industry sector, HR decision-making structure, and type of organization.

4. Discussion of Research Findings

While the literature suggests that outsourcing of non-HR functions is growing, and it is a common practice in various organizations, only half of the surveyed firms do it. The data also indicate that for the group of firms that outsourced non-HR functions, this practice is fairly well established and an important component of their business operation. On average these firms have outsourced almost 3 functions during the last eight years. Less than half of the function that they have outsourced has been kept in-house. On average they deal with 4 providers on regular base and are satisfied with this experience.

Findings of this research with regards to the HR functions outsourced in Canadian small and medium sized high-technology firms indicate that HR outsourcing is a common and accepted practice among Canadian HR executives in High-Technology firms. Nearly 83% of responding firms indicated that they were outsourcing at least one HR function or task and every function listed in the survey questionnaire is currently being outsourced in one firm or another. This finding is consistent other with studies conducted in the US which suggested that almost all of the different HR functions have been outsourced in one company or another (Axel, 1994; Benimadhu, 1995; Harkins et al, 1995; Hewitt Associates LLC., 1997; The Outsourcing Institute, 1997;).

Data analysis suggests that certain characteristics of a HR function or task may make it more or less suitable for outsourcing. It appears that Canadian High-Technology firms tend to outsource specialized HR functions (i.e., training delivery, recruitment and staffing, executive recruitment, pension/retirement plan administration, employee

assistance program, management development, and training development) or HR functions that are technology intensive (i.e., pay-check generation and distribution). These results are consistent with studies that present examples of U.S. companies that have automated administrative HR tasks, especially those in payroll and benefits administration (Axel, 1994; Bash, 1994; Jones, 1996; Lewis, 1996; O'Connell, 1995; Rivers, 1996). In a 1992 study conducted by Broderick and Boudreae (Niehaus et al., 1996) the authors found that the majority of the Fortune 500 companies that were surveyed had invested in computer applications to manage basic human resources functions such as record keeping, payroll, and compensation and benefits administration. HR functions involving high degree of corporate decision making such as early dispute resolution and labour relations are the least frequently HR function outsourced.

The tendency to outsource specialized HR functions (i.e., Management Development, Training Development, Executive recruitment, Recruitment and Staffing, Employee Assistance Programme, Benefits planning) is also significantly associated with the following characteristics of the company: a firm's HR decision-making structure, type of organization, industry sector and size. Medium sized firms, firms with decentralized HR decision making and multi location firms are more likely to outsource HR functions than are small firms, firms with partially centralized HR decision making, and single location firms. This finding is consistent with the fact that there exist a significant correlation between a firm's HR decision-making structure and type of organization.

It is difficult from this data to determine exactly why medium, multi-location firms with decentralized HR outsource HR while smaller, and single location location

firms do not. It may be that the increased complexity of these firms (i.e., larger, different location, decentralization of decision making) increase their need for specialized HR services. Alternatively, it may be that smaller single location high-technology companies do not perform these functions at all – and therefore have no need to outsource. In any case, these data would suggest that as high-technology firms grow in size and complexity, and as this need for specialized HR services grow, HR outsourcing could become more prevalent in this sector.

Data suggest that Canadian small and medium sized high-technology firms who are not outsourcing do not plan on doing so within the next two years. However, a closer examination of this issue indicates that single location firms and most small firms in the sample who are not outsourcing do not plan on doing so within the next two years. It would appear that single location firms in the high-technology sector have no need for services now – nor do they perceive that that they will have a need soon. Data also suggest that the need for specialized HR services is dependent on the firms growth within the next two years; therefore growth of outsourcing, in this sector may be confined to larger, more complex companies who have need for these services.

Despite what the literature said, there appears to be no one set of factors decision makers consider when making the decision to outsource. While the literature identified 18 factors, which could be considered important in the HR outsourcing decision, only 9 had relevance in this sector. It seems that the drivers of outsourcing in small and medium sized Canadian high-technology organizations are: “Need to access HR expertise not available internally” (85%); “Need to improve HR service delivery” (65%), “Need to stay

current with technical advances in HR” (57.5%), “Availability of good HR outsourcing service providers” (55%), “Previous experience with the outsourcing service provider” (55%), “Need to improve the company's focus by outsourcing tasks that are not core business functions” (52.5%), “Function is difficult to manage internally” (52.5%), “Service provider offered an attractive deal” (52.5%), and “Need to control HR overhead costs” (50%).

From this study it appears that HR outsourcing decisions have some similarities to IS outsourcing decisions. According to the IS literature important drivers of IS outsourcing decisions are need to access expertise (i.e., knowledge, up-to-date technology) and need to improve quality of service. These similarities could be explained by the fact that as government regulations increase and companies grow, HR departments must support more complex and larger organizations. One way of satisfying this need is through the use of information technology to better manage their HR area and respond to the organizational needs the company requires. The HR function is, however, different from the IS function, as the functions performed in each of those areas are characterized by different goals, clients and problems. IS functions are more capital intensive therefore cost savings may be a bigger factor influencing IS outsourcing than it is in HR outsourcing decisions. Thus, findings of this study suggest that the quality and effectiveness of HR services appear to be more important than whether they cost less.

It is interesting to note that organizations with decentralized HR decision making ranked **Availability of performance measures in this area** as a factor that had increased the likelihood of HR outsourcing. This finding is consistent with the fact that an

organization, which has several levels of decision-making, needs to standardize performance expectations amongst its various business units and implement systems to determine when a business units' performance is substandard. Such measures will allow managers to evaluate the impact of decisions on business performance (i.e., costs, productivity, efficiency) and decide whether or not specific HR functions should be performed in-house to better support the organization's needs.

It appears that firms with experience in outsourcing non-HR services, multi location firms and firms with decentralized HR decision making will be more likely to outsource HR functions or tasks if they know the HR provider and know they can do a better job. This finding is consistent with that reported by Rogers (1995). It appears from this study that outsourcing of HR functions is more likely to occur in firms who have experienced outsourcing of non-HR functions as they have a better understanding and knowledge of this practice, and are more aware of its complexities.

On the other hand, data suggest that variables such as size of the organization and industry type do not have a significant impact on how the decision to outsource is made or one's view of the advantages and disadvantages of outsourcing. This result is consistent with the argument that, in the context of research on outsourcing there is evidence that control variables such as industry type and organizational size do not affect outsourcing strategy (Grover & all, 1996, pp. 99).

The HR outsourcing literature does not provide a lot of data with respect to the actual benefits and risks of outsourcing HR. Respondents in the sample reported that they felt that the ability to acquire specialized HR capabilities is the major advantage of

HR outsourcing. The other four advantages most frequently mentioned were related to satisfaction with service delivery (i.e., ability to provide high quality customer service, ability to focus on core business functions, managerial satisfaction with delivery of HR services and employee satisfaction with delivery of HR services).

These results may be supported by other studies (Broderick, 1992) that identified cost leadership, quality/customer satisfaction, and innovation as the drivers of HR competitive objectives.

“In a cost leadership strategy, a firm strives to become the low-cost producer in its industry. Sources of cost advantage include economies of scale, proprietary technology, or favoured access to important supply sources. A quality/customer satisfaction strategy emphasises improving existing work methods, products/services, and customer relations as a means of commanding premium prices. This strategy like the cost leadership strategy is concerned with cost reduction, but only in areas that do not directly affect customers perceptions’ of quality or value. The innovation strategy emphasises differentiation through the creation of new operations and management methods, technology, or products/services (Broderick, 1992, 9).”

Findings with regards to the advantages and disadvantages of HR outsourcing suggest that multi location firms and firms with decentralized HR decision making feel outsourcing HR functions had increased their satisfaction with delivery of HR functions (i.e., employees satisfaction with service delivery, ability to monitor the function, ability to acquire specialized HR capabilities).

Many studies show examples of firms that outsourced routine and administrative HR functions, which resulted in a reduction of HR headcount as well as freeing up resources for attention to more strategic matters. However, despite what the IS outsourcing literature said, there does not appear to be strong evidence from this study of cost reduction (i.e., HR overhead costs, cost of HR service delivery) due to outsourcing of

HR services. Opinion on this matter varied among the respondents. Findings of this research suggest that the firms in the high-technology sector in Canada do not feel outsourcing HR services is always a mean of saving money (i.e., reduction of HR overhead costs, reduction of cost of HR service delivery). This is not an unexpected finding as cost is not the factor driving HR outsourcing decisions in this sector. Although many organizations considered cost issues in the decision making process, it was not a factor that increased the likelihood of outsourcing HR functions.

5. Conclusions

This research has addressed the issue of HR outsourcing practices in Canadian small and medium sized high-technology firms. This concluding chapter will highlight the major findings of this research in an effort to answer the research questions.

The task of identifying suitable functions for HR outsourcing begins by noting that outsourcing of HR functions in small and medium sized Canadian high-technology firms is not expected to grow as much as has been reported with respect to the other sectors (Maclean's 1996). For example, Canadian small and medium sized high-technology firms expect outsourcing of pension/retirement plan administration to have a 10% increase within the next two years (the largest growth in outsourcing of HR functions), while results of a survey of 303 firms in North America and Europe indicate that HR outsourcing is expected to have a 25% increase within the next three years (Maclean's 1996).

This research also suggests that HR outsourcing is associated with type of organization as the percentage of multi-location firms that outsource some HR functions was greater than that of single location firms. In general, as organizations increase the number of locations they manage, they can be considered to become more complex. This should, in turn increase, the need for additional financial and human resources and outsourcing appear to offer an alternative way to meet firms' growing needs.

Evidence from this study and other studies in the outsourcing literature suggests that HR functions suitable for outsourcing are those in which expertise and technical knowledge is required. On the other hand, functions that involve a high degree of

corporate decision making appear to be not suitable for outsourcing. Most commonly outsourced functions in Canadian small and medium sized firm in the high-technology sector are pay-check generation and distribution (60%), training delivery (60%) and recruitment and staffing (52.5%), executive recruitment (36%), pension/retirement plan administration (37.5%), employee assistance program (32.5%), management development (32.5%), training development (32.5%), benefits planning (30%) benefits administration (27.5%), outplacement (25%). Some differences were found between this study and those conducted in the US regarding the HR functions firms outsourced.

Data suggest that HR functions such as: Training, payroll and recruitment & staffing are better candidates for outsourcing in this study than they are in the literature. One possible explanation may be the fact that firms operating in the high-technology sector require very specialized people in their operations and it may be more efficient to outsource this task to specialized companies rather than doing it in-house. Another possible explanation may be that the life cycle of high-technology products is so short that outsourcing may offer them a good option to better deal with constant changes in the human resources required to operate and to provide services.

On the other hand, HR functions such as: EAP, outplacement, relocation, compensation planning appear to be better candidates for outsourcing in the literature. These differences could be again explained by the fact that this study focus on small and medium sized firms in the high technology sector. It appear that large and non-high technology companies are more likely to re-structure and downsize in order to be more

efficient and reduce operational costs, therefore their need for relocation, outplacement and compensation planning services is greater

Evidence from many studies indicate that recently, HR has been automating as many transaction processes as possible in order to reduce its HR staff significantly and improve service delivery (Axel, 1994; Bash, 1994; Jones, 1996; Lewis, 1996; O'Connell, 1995; Rivers, 1996). The HR environment is changing rapidly and expectations are increasing. These changes taken together imply that HR executives understand the business they support and recognize that HR departments must be managed in a business-like manner. For example, setting standards, establishing quality control and performance measures in this area become key elements in the transformation of the HR environment.

Although HR outsourcing is supporting the transformation process in some HR departments, estimating the true value added and evaluating the performance of the HR outsourcing strategy requires concrete measures of their benefits and costs. By outsourcing HR functions Canadian high-technology firms can access specialized expertise and technical knowledge that is required to improve service delivery of some HR functions. They appear to be concerned with improving service delivery of HR functions that will lead to increased satisfaction at all levels of the organization. Therefore, Canadian high-technology firms may be more interested in outsourcing HR functions if they know that the HR outsourcing provider can prove to do a good job.

One issue of great relevance for the HR outsourcing decision-makers appears to be the availability of measures of the HR function. Data from this study suggest that

these firms will be more likely to outsource if the HR outsourcing provider can prove they do a better job. The only way firms can prove performance (i.e., service quality, efficiency of service) is by showing concrete measures and standards that would allow the firm to ensure that HR providers are producing the kinds of services and results desired by the firm i.e., managers, employees). The firm should be able to evaluate service delivery and consumers of HR services should have means to express their needs, suggestions, and complaints. Firms who do not have adequate mechanism to monitor contracts and conduct periodic evaluations may be less likely to outsource HR functions.

Taken together these results suggest that the role of the HR provider appears to be very important in the HR outsourcing decision within this sector. Providers should be able to offer a service that can be measured in terms of quality of service delivered, access to expertise, and good fit within the organization. Providers who are able to meet these expectations will have a greater chance to succeed in becoming part of the new HR function by supporting and facilitating the process. In fact, medium firms and multi location firms tend to rely somewhat more on providers for specialized HR functions (i.e., management development, training development, executive recruitment, recruitment and staffing, and employee assistance programme) than small and single location firms.

Findings of this research suggest that outsourcing providers with a solid marketing function may be able to open new markets (i.e., small firms) for their HR services. Sampled firms indicated that providers with good reputation (i.e., quality of HR service delivery, experience with HR outsourcing) and good expertise (i.e., technical

capabilities, HR expertise) will be able to meet firms HR needs. Thus, the likelihood of HR outsourcing may increase.

Suitable conditions for HR outsourcing in the high-technology sectors may vary among the firms as it depends upon firms' goals and expectations of the service. While this research suggest that the best quality of services is a common goal firms expect to achieve by outsourcing HR; cost reduction is not a goal itself when firms decide to outsource HR functions or services as suggested in the literature.

Limitations of this Research and Directions for future Research

The limitations of this study constrain the interpretation of the findings and point to several issues for future research. First, the sample selected for this study was constrained to those small and medium sized firms. Although outsourcing of some HR functions appear to be a common practice in the Canadian high-technology sector; data from this study suggest that medium sized firms tend to do more HR outsourcing than small firms. Future studies should look at whether small high-technology firms do not outsource because they perform these HR functions in-house or because they do not even do them. Lack of outsourcing in small firms may be due to lack of need for performing these functions, instead of disinterest in this practice.

Second, this study explicitly examine the high-technology industry in the National Capital Region as opposed to many locations. This focus was a conscious decision. Nevertheless, future research should be directed at clarifying and mapping the distinctive characteristics of HR outsourcing practices across North America in this sector. Although HR outsourcing literature does not make a distinction by industry sector,

research needs to be done to more fully understand the specific dimensions and implications of HR outsourcing practices in this critical sector.

Fourth, this study looked at the moderating effects of firms' size, organizational structure and HR decision-making structure. Although there exist a high correlation between firm's organizational structure and HR decision-making structure; it is suggested that future research explore in depth the reasons why multi-location firms appear to outsource more than their counterparts, single location firms and firms with centralized HR decision making.

Finally, the small sample size of the study limited the type of statistical analysis that could be done on the data. Future research may expand the geographical scope to increase the chances of greater response rate and also look at why people keep some of the function in-house and outsource only a percentage of it.

Relevance of this Research

A significant difference between this study and its US predecessors is its scope and content. Firstly most studies available in the literature have focused on IS outsourcing. Very few studies have been conducted on HR outsourcing despite evidence suggesting that there is growing trend in this area. Secondly most outsourcing research has been done with US companies while this study examines HR outsourcing in Canadian firms.

This study offers the additional benefit of providing details on outsourcing in the high-technology sector, a growing sector in the Canadian economy. As such it should provide academics and practitioners with insights about the perceptions, motivations and

experience of Canadian High-Technology companies in this area. It should also help vendors identify barriers to the outsourcing of HR and help managers working for small and medium size companies to make decisions.

Finally, it is hoped that the instrument developed in this study can be used to extend research to other sectors.

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Appendix 1 – Cover Letter

Date

Name

Address

Dear

Outsourcing, a practice where organizations transfer operational responsibilities for ongoing services or functions to third parties, is not a new phenomenon. Consultants around North America are advocating it as a viable option for HR professionals to consider. Because Outsourcing of Human Resources practices in Canada is recent and evolving, there is little research devoted specifically to this topic.

We are presently conducting an exploratory study on "Outsourcing of Human Resources in Canadian Organizations". We are interested in your perceptions and experiences with outsourcing of HR. This research is being undertaken for a thesis in the Master of Management Studies Program in Carleton University's School of Business, under the supervision of Dr. Linda Duxbury with the sponsorship of KPMG.

This study requires the participation of managers in charge of making HR decisions in the company. We would very much appreciate your taking the time to fill in this questionnaire, it should take you less than 15 minutes to complete. If you feel that the questionnaire should be answered by someone else in your company who deals more directly with HR decisions, please do not hesitate to pass it on to that person. You can be assured that your answers will be completely confidential and analyzed without identification. The completed questionnaire is to be mailed in the enclosed postage paid return envelope.

Learning about the experiences of Canadian organizations on HR outsourcing is important to HR Executives and Managers. If you would like a summary of the results, please attach your business card to the questionnaire.

Knowing the heavy demands on your time, we appreciate your help in this project very much. If you have any questions or comments, please do not hesitate to contact me at (613) 725 5119 or by e-mail at xduran@business.carleton.ca; or my supervisor, Dr. Linda Duxbury at (613) 520 2385 or by e-mail at lduxbury@ccs.carleton.ca. We would be pleased to answer any questions you might have.

We thank you in advance for your participation in this survey.

Sincerely,

Ximena Duran
Graduate Student, Master of Management Studies

Reminder Letter

Date

Name

Address

Dear

****Reminder****

Will you please help us complete the study on **Outsourcing of Human Resources**?

About two weeks ago we asked you to participate in a survey of HR Executives and Managers about **Outsourcing of Human Resources in Canadian Organizations**, carried out under the supervision of Dr. Linda Duxbury, Associate Professor, Faculty of Business, with the sponsorship of KPMG. If you have already completed and returned the questionnaire, please accept our sincere thanks and ignore this reminder notice. If not, could we kindly ask you to return the questionnaire as soon as possible? Whether you outsource or not, your response is crucial to the success of the study and the completion of my Master's thesis.

If you feel that the questionnaire should be answered by someone else in your company who deals more directly with HR decisions, please do not hesitate to pass it on to him or her. You can be assured that your answers will be completely confidential and analyzed without identification. The completed questionnaire is to be mailed in the return envelope.

Learning about the experiences of Canadian organizations on HR outsourcing is important to HR Executives and Managers. If you would like a summary of the results, please attach your business card to the questionnaire.

Knowing how busy you are, we all appreciate your help in this project very much. If you have any questions or comments, please do not hesitate to contact me at (613) 725 5119 or by e-mail at xduran@business.carleton.ca, or my supervisor Dr. Linda Duxbury at (613) 520 2385 or by e-mail at lduxbury@ccs.carleton.ca. We would be pleased to answer any questions you might have.

Sincerely,

Ximena Duran
Graduate Student
Master of Management Studies Program,
Carleton University's School of Business

Survey Questionnaire

OUTSOURCING THE HUMAN RESOURCE FUNCTION

Please be assured that your responses will be held in **confidence** by the researchers.

Please answer all the questions and return the questionnaire in the envelope provided.

Thank you for taking the time to fill out this questionnaire. Your response is greatly appreciated.

Linda Duxbury
Associated Professor
School of Business
Carleton University
Ottawa, Ontario
K1S 5B6
Tel: (613) 788-2385

Ximena Duran
Graduate Student
Master of Management Studies
School of Business
Carleton University
Ottawa, Ontario
K1S 5B6
Tel: (613) 725- 5119

SECTION I: EXPERIENCE WITH OUTSOURCING

Outsourcing is the transfer of operational responsibilities for ongoing services or functions to third parties. The following questions ask about your experiences with outsourcing. Please **CIRCLE** the most appropriate answer for each question or **FILL IN** the requested information.

1. Has the company you work for ever outsourced any of its non Human Resources (HR) function(s) or tasks?
 NO ⇒ (If no, Please skip to Section II, page 3)
 YES
2. Could you please indicate, in the table given below 1) what functions, other than HR, you have outsourced, 2) how long in years have you outsourced these functions for, 3) what percentage of the function was/is outsourced, and 4) how satisfied you were/are with each of these outsourcing experiences. (See example given below)

Satisfaction with Outsourcing Experience							
Function/Task Outsourced	Time (Years)	Percentage Outsourced	Very Unsatisfied		Neutral		Very Satisfied
<u>Example:</u> Marketing	2 years	30%	1	2	3	4	5
Help desk	1 year	100%	1	2	3	4	5
			1	2	3	4	5
			1	2	3	4	5
			1	2	3	4	5
			1	2	3	4	5
			1	2	3	4	5
			1	2	3	4	5
			1	2	3	4	5
			1	2	3	4	5
			1	2	3	4	5

3. Why did you decide to outsource the functions/tasks listed in question 2?

4. What have been the major **benefits** of outsourcing the functions/tasks listed in question 2?

5. What have been the major **drawbacks** of outsourcing the functions/tasks listed in question 2?

6. How many outsourcing service providers do you deal with on a regular basis, for the functions/tasks listed on question 2?

_____ PROVIDERS

7. Overall, how would you rate your outsourcing experiences to date with relation to outsourcing the functions/tasks listed in question 2?

**Very
Unsatisfactory**

Neutral

**Very
Satisfactory**

|

|

|

|

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1

2

3

4

5

SECTION II: OUTSOURCING THE HUMAN RESOURCE FUNCTION 115

Listed below are a number of tasks that are traditionally considered to make up the Human Resource function. We are interested in knowing which of these, if any, you *currently* are outsourcing, and which, if any, you are *considering* outsourcing within the next two years. Please **CHECK** the most appropriate answer for each question or **FILL IN** the requested information.

Function	Percentage of Function Outsourced 0% ----> 100%	If Zero, Are you considering outsourcing this function within the next two years?	
		No	Yes
Pension/Retirement Plan administration		N	Y
Employee Assistance Program		N	Y
Fitness/Wellness		N	Y
Health, Safety & Security		N	Y
Relocation/Career Counselling		N	Y
Outplacement		N	Y
Benefits Administration		N	Y
Benefits Planning		N	Y
Compensation Planning		N	Y
Management Development		N	Y
Pay-check generation and distribution		N	Y
Training Delivery		N	Y
Training Development		N	Y
Administration of Training		N	Y
Preemployment Testing		N	Y

Function	Percentage of Function Outsourced 0% -----> 100%	If Zero, Are you considering ¹¹⁶ outsourcing this function within the next two years?	
		No	Yes
Organization Development		N	Y
Executive Recruitment		N	Y
Recruitment and Staffing		N	Y
HR Information Systems		N	Y
Job Description & Job Evaluation		N	Y
Labour relations		N	Y
Early dispute resolution		N	Y
Contract Negotiation		N	Y
Human Rights & Harassment Investigation		N	Y
Others (Please Specify)		N	Y

8. How many HR outsourcing service providers do you currently deal with on a regular basis?

_____ PROVIDERS

SECTION III: THE DECISION TO OUTSOURCE HR

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This section seeks to determine what factors play a role in the decision to outsource some or all of the HR function. Please consider the decision making process in your organization with respect to outsourcing HR and indicate how each of these factors contributed to your decision to outsource or not outsource a particular HR function. Please **CIRCLE** the most appropriate answer for each question.

9. How has this factor impact your decision to outsource HR function/task	Impact on Decision to Outsource					
	Decreased Likelihood		No Impact	Increased Likelihood		
Need to control HR overhead costs	1	2	3	4	5	N/A
Need to reduce HR overhead costs	1	2	3	4	5	N/A
Need to increase control over HR function	1	2	3	4	5	N/A
Need to access HR expertise not available internally	1	2	3	4	5	N/A
Need to improve HR service delivery	1	2	3	4	5	N/A
Need to stay current with technical advances in HR	1	2	3	4	5	N/A
Competitors were outsourcing this function	1	2	3	4	5	N/A
Need to improve the company's focus by outsourcing tasks that are not core business functions	1	2	3	4	5	N/A
Function is difficult to manage internally	1	2	3	4	5	N/A
Availability of good HR outsourcing service providers	1	2	3	4	5	N/A
Service provider offered an attractive deal	1	2	3	4	5	N/A
Previous experience with the outsourcing service provider	1	2	3	4	5	N/A
Availability of performance measures in this area	1	2	3	4	5	N/A
Management views the function as critical	1	2	3	4	5	N/A
Job security of companies' HR employees	1	2	3	4	5	N/A
Availability of fall back options if outsourcing fails	1	2	3	4	5	N/A
Potential legal issues (confidentiality, ownership)	1	2	3	4	5	NA/
Security of companies' human resources data	1	2	3	4	5	N/A

N/A = Not applicable

SECTION IV: ADVANTAGES AND DISADVANTAGES OF OUTSOURCING HR

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In this section we are interested in knowing what you have found to be the advantages and disadvantages of outsourcing the human resource functions listed in section II. Please indicate the extent to which you agree or disagree with the following statements. If you are not outsourcing any HR function please skip to Section V, page 7.

10. Impact of outsourcing HR function/task on:	Decreased		No Impact		Increased
HR overhead costs	1	2	3	4	5
Costs of HR services delivery	1	2	3	4	5
Ability to control HR overhead expenses	1	2	3	4	5
Employee satisfaction with delivery of HR services	1	2	3	4	5
Managerial satisfaction with delivery of HR services	1	2	3	4	5
Ability to provide high quality customer service	1	2	3	4	5
Ability to monitor the function	1	2	3	4	5
Ability to manage the HR function	1	2	3	4	5
Ability to control the HR function	1	2	3	4	5
Ability to acquire specialized HR capabilities	1	2	3	4	5
Focus on core business functions	1	2	3	4	5

11. Overall, how would you rate your HR outsourcing experiences to date?

Very Unsatisfactory		Neutral		Very Satisfactory	
1	2	3	4	5	

SECTION V: BACKGROUND INFORMATION

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We need some demographic information about you and the organization you represent to help us interpret this questionnaire. To answer the following questions, please **CIRCLE** the most appropriate answer for each question or **FILL IN** the information requested.

12. How would you classify your company with respect to Industry Sector membership?

- A. High technology - Manufacturing
- B. High technology - Service Provider
- C. Other (Please Specify) _____

13. How many years has your business been in operation? _____ YEARS

14. Which of the following descriptions best fits your organization:

- A. Single location - Located in Ottawa
- B. Multi location - Head office located in Ottawa
- C. Multi location - Head office located outside Ottawa
- D. Other (Please specify) _____

15. Is HR decision making (in your organization):

- A. Centralized at the head office location
- B. Decentralized (Each site makes its own decisions)
- C. Partly decentralized / Partly centralized (Strategic decisions made at head office)
- D. Other (Please specify) _____

16. Who handles human resource management issues within your company?

- A. I do
- B. My immediate manager does
- C. A V.P. has been given responsibility for this function
- D. The owner/CEO retains the responsibility for this function
- E. Other (Please Specify) _____

17. How long have you worked for the company you are currently with? _____ YEARS

18. How long have you had your present job? _____ YEARS

19. What is your Gender?

- A. Male

20. What is your job title ? _____ TITLE

Please consider your Ottawa location only when answering the rest of the questions in this section

21. How many employees are there working in your organization? _____ EMPLOYEES

22. How many employees are there working in the HR area? _____ EMPLOYEES

23. In the past two years	Significantly Increased		Stayed the Same		Significantly Decreased	
the number of employees who work in the HR area in our organization has	5	4	3	2	1	
the HR budget in relation to the total budget of the organization has	5	4	3	2	1	

24 It is anticipated that in the next two years	Significantly Increase		Stay the same		Significantly Decrease	
the number of employees in our organization who work in the HR area will	5	4	3	2	1	
the HR budget in relation to the total budget of the organization will	5	4	3	2	1	

Would you be willing to be interviewed in order to contribute to a better understanding of outsourcing the human resource function? If so, please insert your business card in the envelope when you return the questionnaire.

Thank you for completing this questionnaire.

Please be assured that your responses will be held in confidence by the researchers. Only aggregate responses will be reported. The information on the business cards will not be linked to the questionnaire responses.

Appendix 2 – Chi-square test of current Outsourcing Human Resources Functions vs. Moderating Variables

A2.1 - Employee Assistance Program

Currently outsourcing			DMHR		Total
			Centraliced	Decentraliced	
	Count		19	8	27
NO	Expected Count		14.85	12.15	27.00
	% of F2		70.37	29.63	100.00
	% of DMHR		86.36	44.44	67.50
	Count		3	10	13
YES	Expected Count		7.15	5.85	13.00
	% of F2		23.08	76.92	100.00
	% of DMHR		13.64	55.56	32.50
Total	Count		22	18	40
	Expected Count		22.00	18.00	40.00
	% of F2		55.00	45.00	100.00
	% of DMHR		100.00	100.00	100.00

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	7.93	1	0.005

A2.2 - Recruitment and Staffing

		Type Organization		Total
Currently outsourcing		Single loc.	Multiple loc.	
	Count	9	10	19
NO	Expected Count	6.18	12.83	19.00
	% of F18	47.37	52.63	100.00
	% of Type Organization	69.23	37.04	47.50
	Count	4	17	21
YES	Expected Count	6.83	14.18	21.00
	% of F18	19.05	80.95	100.00
	% of Type Organization	30.77	62.96	52.50
Total	Count	13	27	40
	Expected Count	13.00	27.00	40.00
	% of F18	32.50	67.50	100.00
	% of Type Organization	100.00	100.00	100.00

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	3.65	1	0.056

A2.3 - Executive Recruitment

		Type Organization		Total
Currently outsourcing		Single loc.	Multiple loc.	
	Count	11	13	24
NO	Expected Count	7.80	16.20	24.00
	% of F17	45.83	54.17	100.00
	% of Type Organization	84.62	48.15	60.00
	Count	2	14	16
YES	Expected Count	5.20	10.80	16.00
	% of F17	12.50	87.50	100.00
	% of Type Organization	15.38	51.85	40.00
Total	Count	13	27	40
	Expected Count	13.00	27.00	40.00
	% of F17	32.50	67.50	100.00
	% of Type Organization	100.00	100.00	100.00

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	4.86	1	0.027

A2.4 - Pay-check Generation & Distribution

		Type Organization		Total
Currently outsourcing		Single loc.	Multiple loc.	
	Count	9	7	16
NO	Expected Count	5.20	10.80	16.00
	% of F11	56.25	43.75	100.00
	% of Type Organization	69.23	25.93	40.00
	Count	4	20	24
YES	Expected Count	7.80	16.20	24.00
	% of F11	16.67	83.33	100.00
	% of Type Organization	30.77	74.07	60.00
Total	Count	13.00	27.00	40.00
	Expected Count	13	27	40
	% of F11	32.50	67.50	100.00
	% of Type Organization	100.00	100.00	100.00

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	6.86	1	0.009

A2.5 - Employee Assistance Program

Currently outsourcing		SIZE		Total
		<=100 emp.	>100 emp.	
	Count	20	7	27
NO	Expected Count	16.20	10.80	27.00
	% of F2	74.07	25.93	100.00
	% of Size	83.33	43.75	67.50
	Count	4	9	13
YES	Expected Count	7.80	5.20	13.00
	% of F2	30.77	69.23	100.00
	% of Size	16.67	56.25	32.50
Total	Count	24	16	40
	Expected Count	24.00	16.00	40.00
	% of F2	60.00	40.00	100.00
	% of Size	100.00	100.00	100.00

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	6.86	1	0.009

A2.6 - Recruitment and Staffing

Currently outsourcing		SIZE		Total
		<=100 emp.	>100 emp.	
	Count	14	5	19
NO	Expected Count	11.40	7.60	19.00
	% of F18	73.68	26.32	100.00
	% of Size	58.33	31.25	47.50
	Count	10	11	21
YES	Expected Count	12.60	8.40	21.00
	% of F18	47.62	52.38	100.00
	% of Size	41.67	68.75	52.50
Total	Count	24	16	40
	Expected Count	24.00	16.00	40.00
	% of F18	60.00	40.00	100.00
	% of Size	100.00	100.00	100.00

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	2.82	1	0.093

A2.7 - Executive Recruitment

Currently outsourcing		SIZE		Total
		<=100 emp.	>100 emp.	
	Count	18	6	24
NO	Expected Count	14.40	9.60	24.00
	% of F17	75.00	25.00	100.00
	% of Size	75.00	37.50	60.00
	Count	6	10	16
YES	Expected Count	9.60	6.40	16.00
	% of F17	37.50	62.50	100.00
	% of Size	25.00	62.50	40.00
Total	Count	24	16	40
	Expected Count	24.00	16.00	40.00
	% of F17	60.00	40.00	100.00
	% of Size	100.00	100.00	100.00

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	5.63	1	0.018

A2.8 - Training and Development

Currently outsourcing		SIZE		Total
		<=100 emp.	>100 emp.	
	Count	20	7	27
NO	Expected Count	16.20	10.80	27.00
	% of F13	74.07	25.93	100.00
	% of Size	83.33	43.75	67.50
	Count	4	9	13
YES	Expected Count	7.80	5.20	13.00
	% of F13	30.77	69.23	100.00
	% of Size	16.67	56.25	32.50
Total	Count	24	16	40
	Expected Count	24.00	16.00	40.00
	% of F13	60.00	40.00	100.00
	% of Size	100.00	100.00	100.00

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	6.86	1	0.009

A2.9 - Management Development

Currently outsourcing		SIZE		Total
		<=100 emp.	>100 emp.	
NO	Count	19	8	27
	Expected Count	16.20	10.80	27.00
	% of F10	70.37	29.63	100.00
	% of Size	79.17	50.00	67.50
YES	Count	5	8	13
	Expected Count	7.80	5.20	13.00
	% of F10	38.46	61.54	100.00
	% of Size	20.83	50.00	32.50
Total	Count	24	16	40
	Expected Count	24.00	16.00	40.00
	% of F10	60.00	40.00	100.00
	% of Size	100.00	100.00	100.00

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	3.72	1	0.054

A2.10 - Recruitment and Staffing

			Industry Type		Total
Currently outsourcing			Service	Manufacturing	
	Count		4	15	19
NO	Expected Count		7.60	11.40	19.00
	% of F18		21.05	78.95	100.00
	% of Type		25.00	62.50	47.50
	Count		12	9	21
YES	Expected Count		8.40	12.60	21.00
	% of F18		57.14	42.86	100.00
	% of Type		75.00	37.50	52.50
Total	Count		16	24	40
	Expected Count		16.00	24.00	40.00
	% of F18		40.00	60.00	100.00
	% of Type		100.00	100.00	100.00

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-tailed)
Pearson Chi-Square	5.41	1	0.020

Appendix 3 - Factors Having an Impact on the Decision to Outsource HR Functions

A3.1- HR Decision-Making

Factor that Have an Impact on the Decision to Outsource	DMHR	N	Mean	SD
Need to control HR overhead costs	Central.	22	3.41	1.14
	Decent.	18	3.67	0.84
Availability of good HR outsourcing service providers	Central.	22	3.45	0.80
	Decent.	18	3.61	0.50
Service provider offered an attractive deal	Central.	22	3.45	0.51
	Decent.	18	3.72	0.67
Previous experience with the outsourcing service provider	Central.	22	3.36	0.66
	Decent.	18	3.94	0.64
Availability of performance measures in this area	Central.	22	3.09	0.43
	Decent.	18	3.67	0.77
Management views the function as critical	Central.	22	3.05	0.72
	Decent.	18	3.06	1.11
Job security of companies' HR employees	Central.	22	3.00	0.62
	Decent.	18	3.17	0.51
Availability of fall back options if outsourcing fails	Central.	22	3.05	0.65
	Decent.	18	3.28	0.83
Potential legal issues (confidentiality, ownership)	Central.	22	2.95	0.90
	Decent.	18	3.17	0.92
Security of companies' human resources data	Central.	22	2.95	0.95
	Decent.	18	2.78	1.11
Need to reduce HR overhead costs	Central.	22	3.45	1.10
	Decent.	18	3.50	0.86
Need to increase control over HR function	Central.	22	3.00	0.62
	Decent.	18	2.83	0.71
Need to access HR expertise not available internally	Central.	22	4.27	0.77
	Decent.	18	4.33	0.69
Need to improve HR service delivery	Central.	22	3.77	0.81
	Decent.	18	4.06	0.87
Need to stay current with technical advances in HR	Central.	22	3.50	1.10
	Decent.	18	3.83	0.62
Competitors were outsourcing this function	Central.	22	2.73	0.70
	Decent.	18	3.00	0.49
Need to improve the company's focus on core business Functions	Central.	22	3.68	0.89
	Decent.	18	3.83	0.71
Function is difficult to manage internally	Central.	22	3.41	0.80
	Decent.	18	3.72	0.75

A3.2.- Experience with Outsourcing

Factor that Have an Impact on the Decision to Outsource	Exp-O	N	Mean	SD
Need to control HR overhead costs	NO	23	3.61	1.03
	YES	17	3.41	1.00
Availability of good HR outsourcing service providers	NO	23	3.70	0.56
	YES	17	3.29	0.77
Service provider offered an attractive deal	NO	23	3.43	0.51
	YES	17	3.76	0.66
Previous experience with the outsourcing service provider	NO	23	3.48	0.51
	YES	17	3.82	0.88
Availability of performance measures in this area	NO	23	3.26	0.45
	YES	17	3.47	0.87
Management views the function as critical	NO	23	2.96	0.77
	YES	17	3.18	1.07
Job security of companies' HR employees	NO	23	3.17	0.72
	YES	17	2.94	0.24
Availability of fall back options if outsourcing fails	NO	23	3.13	0.69
	YES	17	3.18	0.81
Potential legal issues (confidentiality, ownership)	NO	23	3.00	0.90
	YES	17	3.12	0.93
Security of companies' human resources data	NO	23	2.83	1.03
	YES	17	2.94	1.03
Need to reduce HR overhead costs	NO	23	3.57	1.04
	YES	17	3.35	0.93
Need to increase control over HR function	NO	23	3.04	0.71
	YES	17	2.76	0.56
Need to access HR expertise not available internally	NO	23	4.26	0.81
	YES	17	4.35	0.61
Need to improve HR service delivery	NO	23	4.00	0.80
	YES	17	3.76	0.90
Need to stay current with technical advances in HR	NO	23	3.74	1.10
	YES	17	3.53	0.62
Competitors were outsourcing this function	NO	23	2.83	0.78
	YES	17	2.88	0.33
Need to improve the company's focus on core business functions	NO	23	3.61	0.78
	YES	17	3.94	0.83
Function is difficult to manage internally	NO	23	3.43	0.79
	YES	17	3.71	0.77

A3.3 – Type of Organization

Factor that Have an Impact on the Decision to Outsource	ORG	N	Mean	SD
Need to control HR overhead costs	Single-L.	13	3.38	1.12
	Multi-L.	27	3.59	0.97
Availability of good HR outsourcing service providers	Single-L.	13	3.23	0.83
	Multi-L.	27	3.67	0.55
Service provider offered an attractive deal	Single-L.	13	3.31	0.48
	Multi-L.	27	3.70	0.61
Previous experience with the outsourcing service provider	Single-L.	13	3.31	0.48
	Multi-L.	27	3.78	0.75
Availability of performance measures in this area	Single-L.	13	3.15	0.38
	Multi-L.	27	3.44	0.75
Management views the function as critical	Single-L.	13	3.00	0.41
	Multi-L.	27	3.07	1.07
Job security of companies' HR employees	Single-L.	13	3.15	0.55
	Multi-L.	27	3.04	0.59
Availability of fall back options if outsourcing fails	Single-L.	13	3.08	0.49
	Multi-L.	27	3.19	0.83
Potential legal issues (confidentiality, ownership)	Single-L.	13	3.15	0.90
	Multi-L.	27	3.00	0.92
Security of companies' human resources data	Single-L.	13	3.15	0.90
	Multi-L.	27	2.74	1.06
Need to reduce HR overhead costs	Single-L.	13	3.38	1.19
	Multi-L.	27	3.52	0.89
Need to increase control over HR function	Single-L.	13	3.08	0.64
	Multi-L.	27	2.85	0.66
Need to access HR expertise not available internally	Single-L.	13	4.08	0.86
	Multi-L.	27	4.41	0.64
Need to improve HR service delivery	Single-L.	13	3.69	0.75
	Multi-L.	27	4.00	0.88
Need to stay current with technical advances in HR	Single-L.	13	3.38	1.04
	Multi-L.	27	3.78	0.85
Competitors were outsourcing this function	Single-L.	13	2.69	0.75
	Multi-L.	27	2.93	0.55
Need to improve the company's focus on core business functions	Single-L.	13	3.54	0.88
	Multi-L.	27	3.85	0.77
Function is difficult to manage internally	Single-L.	13	3.23	0.60
	Multi-L.	27	3.70	0.82

A3.4 - Industry Sector

Factor that Have an Impact on the Decision to Outsource	Industry	N	Mean	SD
Need to control HR overhead costs	Service	24	3.58	1.06
	Manufac.	16	3.44	0.96
Availability of good HR outsourcing service providers	Service	24	3.50	0.78
	Manufac.	16	3.56	0.51
Service provider offered an attractive deal	Service	24	3.50	0.59
	Manufac.	16	3.69	0.60
Previous experience with the outsourcing service provider	Service	24	3.54	0.66
	Manufac.	16	3.75	0.77
Availability of performance measures in this area	Service	24	3.46	0.66
	Manufac.	16	3.19	0.66
Management views the function as critical	Service	24	3.17	0.96
	Manufac.	16	2.88	0.81
Job security of companies' HR employees	Service	24	3.13	0.74
	Manufac.	16	3.00	-
Availability of fall back options if outsourcing fails	Service	24	3.13	0.74
	Manufac.	16	3.19	0.75
Potential legal issues (confidentiality, ownership)	Service	24	3.17	0.92
	Manufac.	16	2.88	0.89
Security of companies' human resources data	Service	24	3.04	1.08
	Manufac.	16	2.63	0.89
Need to reduce HR overhead costs	Service	24	3.50	1.06
	Manufac.	16	3.44	0.89
Need to increase control over HR function	Service	24	2.96	0.75
	Manufac.	16	2.88	0.50
Need to access HR expertise not available internally	Service	24	4.42	0.78
	Manufac.	16	4.13	0.62
Need to improve HR service delivery	Service	24	4.00	0.93
	Manufac.	16	3.75	0.68
Need to stay current with technical advances in HR	Service	24	3.67	1.05
	Manufac.	16	3.63	0.72
Competitors were outsourcing this function	Service	24	2.79	0.78
	Manufac.	16	2.94	0.25
Need to improve the company's focus on core business functions	Service	24	3.83	0.82
	Manufac.	16	3.63	0.81
Function is difficult to manage internally	Service	24	3.50	0.88
	Manufac.	16	3.63	0.62

A3.5 - Size

Factor that Have an Impact on the Decision to Outsource	SIZE	N	Mean	SD	SE Mean
Need to control HR overhead costs	<=100	24	3.33	1.09	0.22
	>100	16	3.81	0.83	0.21
Availability of good HR outsourcing service providers	<=100	24	3.46	0.72	0.15
	>100	16	3.63	0.62	0.15
Service provider offered an attractive deal	<=100	24	3.63	0.58	0.12
	>100	16	3.50	0.63	0.16
Previous experience with the outsourcing service provider	<=100	24	3.54	0.78	0.16
	>100	16	3.75	0.58	0.14
Availability of performance measures in this area	<=100	24	3.21	0.59	0.12
	>100	16	3.56	0.73	0.18
Management views the function as critical	<=100	24	3.25	0.85	0.17
	>100	16	2.75	0.93	0.23
Job security of companies' HR employees	<=100	24	3.08	0.72	0.15
	>100	16	3.06	0.25	0.06
Availability of fall back options if outsourcing fails	<=100	24	3.00	0.59	0.12
	>100	16	3.38	0.89	0.22
Potential legal issues (confidentiality, ownership)	<=100	24	3.17	0.82	0.17
	>100	16	2.88	1.02	0.26
Security of companies' human resources data	<=100	24	3.00	0.93	0.19
	>100	16	2.69	1.14	0.28
Need to reduce HR overhead costs	<=100	24	3.33	1.05	0.21
	>100	16	3.69	0.87	0.22
Need to increase control over HR function	<=100	24	2.88	0.74	0.15
	>100	16	3.00	0.52	0.13
Need to access HR expertise not available internally	<=100	24	4.21	0.83	0.17
	>100	16	4.44	0.51	0.13
Need to improve HR service delivery	<=100	24	3.92	0.83	0.17
	>100	16	3.88	0.89	0.22
Need to stay current with technical advances in HR	<=100	24	3.58	1.02	0.21
	>100	16	3.75	0.77	0.19
Competitors were outsourcing this function	<=100	24	2.88	0.68	0.14
	>100	16	2.81	0.54	0.14
Need to improve the company's focus on core business functions	<=100	24	3.83	0.82	0.17
	>100	16	3.63	0.81	0.20
Function is difficult to manage internally	<=100	24	3.29	0.75	0.15
	>100	16	3.94	0.68	0.17

A3.6 – Principal Components Analysis

Factors Having an Impact on the HR Outsourcing Decision	Communality	Eigenvalue	Pct of Var	Cum Pct
Need to control HR overhead costs	1	3.31	18.40	18.40
Availability of good HR outsourcing service providers	1	3.10	17.20	35.60
Service provider offered an attractive deal	1	1.91	10.60	46.20
Previous experience with the outsourcing service provider	1	1.75	9.70	55.90
Availability of performance measures in this area	1	1.48	8.20	64.10
Management views the function as critical	1	1.30	7.20	71.30
Job security of companies' HR employees		0.95	5.30	76.60
Availability of fall back options if outsourcing fails		0.70	3.90	80.50
Potential legal issues (confidentiality, ownership)		0.62	3.50	83.90
Security of companies' human resources data		0.59	3.30	87.20
Need to reduce HR overhead costs		0.55	3.00	90.30
Need to increase control over HR function		0.48	2.70	92.90
Need to access HR expertise not available internally		0.36	2.00	94.90
Need to improve HR service delivery		0.30	1.70	96.60
Need to stay current with technical advances in HR		0.26	1.40	98.00
Competitors were outsourcing this function		0.18	1.00	99.00
Need to improve the company's focus by outsourcing tasks that are not core business functions		0.12	0.70	99.70
Function is difficult to manage internally		0.06	0.30	100.00

A3.7 - Rotated Factor Matrix

Varimax Rotation

FACTORS	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Security of companies' human resources data	0.94	(0.03)	(0.02)	0.09	(0.04)	(0.04)
Potential legal issues (confidentiality, ownership)	0.85	0.04	(0.03)	0.13	(0.06)	(0.18)
Management views the function as critical	0.61	(0.11)	(0.23)	(0.06)	0.33	0.23
Availability of fall back options if outsourcing fails	0.45	0.29	(0.04)	0.54	0.15	0.12
Competitors were outsourcing this function	0.31	0.07	(0.35)	0.14	0.08	(0.66)
Availability of performance measures in this area	0.27	0.12	0.43	0.16	0.49	0.33
Need to stay current with technical advances in HR	0.25	0.67	0.02	0.12	0.05	(0.33)
Need to access HR expertise not available internally	0.16	0.52	0.51	(0.34)	(0.04)	0.17
Job security of companies' HR employees	0.14	0.15	(0.06)	0.70	0.27	(0.21)
Need to increase control over HR function	0.09	0.33	0.00	(0.04)	0.04	0.78
Previous experience with the outsourcing service provider	0.05	(0.08)	(0.02)	0.08	0.87	0.09
Function is difficult to manage internally	0.01	0.67	0.03	0.22	(0.01)	0.18
Need to control HR overhead costs	(0.01)	0.01	0.91	0.03	0.02	0.15
Need to improve the company's focus by outsourcing tasks that are not core business functions	(0.05)	0.07	0.04	(0.77)	0.36	(0.02)
Service provider offered an attractive deal	(0.11)	0.18	0.04	(0.16)	0.68	(0.41)
Need to improve HR service delivery	(0.11)	0.82	(0.00)	(0.16)	(0.02)	0.19
Need to reduce HR overhead costs	(0.28)	0.05	0.90	(0.09)	0.01	(0.06)
Availability of good HR outsourcing service providers	(0.28)	0.58	0.13	0.41	0.17	(0.03)

A3.8 - Experience Outsourcing Non-HR Functions

Group Statistics

	EXP_O	N	Mean	S.D	S.E Mean
FACTOR 1	Yes	18	3.04	0.88	0.21
	No	22	2.95	0.73	0.16
FACTOR 2	Yes	18	3.72	0.45	0.11
	No	22	3.84	0.61	0.13
FACTOR 3	Yes	18	3.42	0.84	0.20
	No	22	3.57	1.04	0.22
FACTOR 4	Yes	18	3.11	0.50	0.12
	No	22	3.11	0.62	0.13
FACTOR 5	Yes	18	3.75	0.54	0.13
	No	22	3.43	0.31	0.07
FACTOR 6	Yes	18	2.83	0.24	0.06
	No	22	2.93	0.42	0.09

Independent Samples Test							
				t-test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Diff.
FACTOR 1		0.78	0.38	0.32	38	0.75	0.08
FACTOR 2		1.29	0.26	-0.66	38	0.51	-0.11
FACTOR 3		1.30	0.26	-0.50	38	0.62	-0.15
FACTOR 4		0.10	0.76	-0.01	38	0.99	0.00
FACTOR 5		2.42	0.13	2.35	38	0.02	0.32
FACTOR 6		0.82	0.37	-0.89	38	0.38	-0.10

A3.9 - HR Decision Making

Group Statistics

	DMHR	N	Mean	S.D	S.E Mean
FACTOR 1	Central.	22.00	2.98	0.69	0.15
	Decent.	18.00	3.00	0.92	0.22
FACTOR 2	Central.	22.00	3.68	0.63	0.14
	Decent.	18.00	3.91	0.37	0.09
FACTOR 3	Central.	22.00	3.43	1.09	0.23
	Decent.	18.00	3.58	0.75	0.18
FACTOR 4	Central.	22.00	3.02	0.61	0.13
	Decent.	18.00	3.22	0.49	0.12
FACTOR 5	Central.	22.00	3.40	0.35	0.07
	Decent.	18.00	3.79	0.47	0.11
FACTOR 6	Central.	22.00	2.86	0.35	0.07
	Decent.	18.00	2.92	0.35	0.08

Independent Samples Test							
				t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.
FACTOR 1		1.86	0.18	-0.06	38	0.95	-0.02
FACTOR 2		4.66	0.04	-1.35	38	0.18	-0.23
FACTOR 3		2.73	0.11	-0.50	38	0.62	-0.15
FACTOR 4		0.55	0.46	-1.12	38	0.27	-0.20
FACTOR 5		0.28	0.60	-3.03	38	0.00	-0.39
FACTOR 6		0.25	0.62	-0.47	38	0.64	-0.05

A3.9 - Type of Organization

Group Statistics				
	ORG	N	Mean	S.D
FACTOR 1	Multi-L.	27	2.94	0.86
	Single-L.	13	3.1	0.64
FACTOR 2	Multi-L.	27	3.91	0.51
	Single-L.	13	3.52	0.53
FACTOR 3	Multi-L.	27	3.56	0.87
	Single-L.	13	3.38	1.12
FACTOR 4	Multi-L.	27	3.11	0.59
	Single-L.	13	3.12	0.51
FACTOR 5	Multi-L.	27	3.69	0.46
	Single-L.	13	3.33	0.31
FACTOR 6	Multi-L.	27	2.89	0.38
	Single-L.	13	2.88	0.3

Independent Samples Test							
				t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.
FACTOR 1		2.891	0.092	-0.611	38	0.545	-0.164
FACTOR 2		0.151	0.700	2.242	38	0.031	0.388
FACTOR 3		0.955	0.335	0.530	38	0.599	0.171
FACTOR 4		0.107	0.745	-0.022	38	0.982	-4E-03
FACTOR 5		1.107	0.299	2.590	38	0.014	0.368
FACTOR 6		0.259	0.614	0.036	38	0.972	-4E-03

Appendix 4 - Advantages and Disadvantages of Outsourcing HR Functions

A4.1 – Experience with Outsourcing

ADVANTAGES & DISADVANTAGES	Exp-O	N	Mean	SD
HR overhead costs	No	18	2.94	1.26
	YES	14	3.21	0.97
Ability to acquire specialized HR capabilities	No	18	4.22	0.65
	YES	14	4.36	0.93
Focus on core business functions	No	18	3.78	0.73
	YES	14	3.79	0.97
Costs of HR services delivery	No	18	2.89	1.23
	YES	14	3.29	0.99
Employee satisfaction with delivery of HR services	No	18	3.17	0.99
	YES	14	3.43	0.85
Managerial satisfaction with delivery of HR services	No	18	3.44	0.86
	YES	14	3.57	0.94
Ability to provide high quality customer service	No	18	3.39	1.09
	YES	14	3.43	0.65
Ability to monitor the function	No	18	3.44	0.92
	YES	14	3.93	0.92
Ability to manage the HR function	No	18	3.33	0.49
	YES	14	3.21	1.05
Ability to control the HR function	No	17	3.29	0.77
	YES	15	3.33	1.11
Ability to control HR overhead expenses	No	18	3.11	0.76
	YES	14	3.07	1.07

A4.2 - Type of Organization

ADVANTAGE	ORG	N	Mean	SD
HR overhead costs	Single-L.	8	3.38	1.30
	Multi-L.	24	2.96	1.08
Ability to acquire specialized HR capabilities	Single-L.	8	3.88	0.64
	Multi-L.	24	4.42	0.78
Focus on core business functions	Single-L.	8	3.50	0.76
	Multi-L.	24	3.88	0.85
Costs of HR services delivery	Single-L.	8	3.13	1.25
	Multi-L.	24	3.04	1.12
Employee satisfaction with delivery of HR services	Single-L.	8	3.00	0.93
	Multi-L.	24	3.38	0.92
Managerial satisfaction with delivery of HR services	Single-L.	8	2.88	0.64
	Multi-L.	24	3.71	0.86
Ability to provide high quality customer service	Single-L.	8	2.63	0.92
	Multi-L.	24	3.67	0.76
Ability to monitor the function	Single-L.	8	3.38	0.92
	Multi-L.	24	3.75	0.94
Ability to manage the HR function	Single-L.	7	3.00	-
	Multi-L.	25	3.36	0.86
Ability to control the HR function	Single-L.	8	2.88	0.83
	Multi-L.	24	3.46	0.93
Ability to control HR overhead expenses	Single-L.	8	2.75	0.89
	Multi-L.	24	3.21	0.88

A4.3 - HR Decision Making

ADVANTAGE	DMHR	N	Mean	SD
HR overhead costs	Decent.	15	2.87	1.06
	Central.	17	3.24	1.20
Ability to acquire specialized HR capabilities	Decent.	16	4.50	0.73
	Central.	16	4.06	0.77
Focus on core business functions	Decent.	16	3.94	0.85
	Central.	16	3.63	0.81
Costs of HR services delivery	Decent.	15	3.00	1.13
	Central.	17	3.12	1.17
Employee satisfaction with delivery of HR services	Decent.	15	3.33	0.98
	Central.	17	3.24	0.90
Managerial satisfaction with delivery of HR services	Decent.	16	3.81	0.83
	Central.	16	3.19	0.83
Ability to provide high quality customer service	Decent.	16	3.81	0.54
	Central.	16	3.00	1.03
Ability to monitor the function	Decent.	16	4.06	0.93
	Central.	16	3.25	0.77
Ability to manage the HR function	Decent.	16	3.50	0.82
	Central.	16	3.06	0.68
Ability to control the HR function	Decent.	16	3.56	0.89
	Central.	16	3.06	0.93
Ability to control HR overhead expenses	Decent.	15	3.27	0.88
	Central.	17	2.94	0.90

A4.4 - Industry Type

ADVANTAGE	Industry	N	Mean	SD
HR overhead costs	Service	17	3.00	1.22
	Manufact.	15	3.13	1.06
Ability to acquire specialized HR capabilities	Service	17	4.18	0.73
	Manufact.	15	4.40	0.83
Focus on core business functions	Service	17	3.71	0.92
	Manufact.	15	3.87	0.74
Costs of HR services delivery	Service	17	3.12	1.22
	Manufact.	15	3.00	1.07
Employee satisfaction with delivery of HR services	Service	17	3.47	0.94
	Manufact.	15	3.07	0.88
Managerial satisfaction with delivery of HR services	Service	17	3.41	1.00
	Manufact.	15	3.60	0.74
Ability to provide high quality customer service	Service	17	3.41	1.12
	Manufact.	15	3.40	0.63
Ability to monitor the function	Service	17	3.47	1.01
	Manufact.	15	3.87	0.83
Ability to manage the HR function	Service	17	3.35	0.70
	Manufact.	15	3.20	0.86
Ability to control the HR function	Service	16	3.38	1.02
	Manufact.	16	3.25	0.86
Ability to control HR overhead expenses	Service	17	3.06	0.97
	Manufact.	15	3.13	0.83

A4.5 - SIZE (Number of employees)

ADVANTAGE	SIZE	N	Mean	SD
HR overhead costs	<=100	18	2.94	1.21
	>100	14	3.21	1.05
Ability to acquire specialized HR capabilities	<=100	17	4.12	0.78
	>100	15	4.47	0.74
Focus on core business functions	<=100	17	3.82	0.81
	>100	15	3.73	0.88
Costs of HR services delivery	<=100	18	3.00	1.24
	>100	14	3.14	1.03
Employee satisfaction with delivery of HR services	<=100	18	3.11	1.02
	>100	14	3.50	0.76
Managerial satisfaction with delivery of HR services	<=100	17	3.53	0.80
	>100	15	3.47	0.99
Ability to provide high quality customer service	<=100	17	3.53	1.07
	>100	15	3.27	0.70
Ability to monitor the function	<=100	17	3.65	0.86
	>100	15	3.67	1.05
Ability to manage the HR function	<=100	18	3.22	0.73
	>100	14	3.36	0.84
Ability to control the HR function	<=100	18	3.22	1.00
	>100	14	3.43	0.85
Ability to control HR overhead expenses	<=100	18	2.94	0.87
	>100	14	3.29	0.91

A4.6 – Principal Components Analysis Results

ADVANTAGE	Communality	Eigenvalue	Pct of Var	Cum Pct
HR overhead costs	1	3.69	33.50	33.50
Ability to acquire specialized HR capabilities	1	2.23	20.30	53.80
Focus on core business functions	1	1.42	12.90	66.70
Costs of HR services delivery	1	1.04	9.40	76.10
Employee satisfaction with delivery of HR services		0.85	7.70	83.90
Managerial satisfaction with delivery of HR services		0.66	6.00	89.90
Ability to provide high quality customer service		0.39	3.50	93.40
Ability to monitor the function		0.28	2.60	95.90
Ability to manage the HR function		0.25	2.20	98.20
Ability to control the HR function		0.12	1.10	99.30
Ability to control HR overhead expenses		0.08	0.70	100.00

PC extracted 4 factors

Skipping Rotation

ADVANTAGE	Factor 1	Factor 2	Factor 3	Factor 4
Ability to control HR overhead expenses	0.34	(0.11)	(0.53)	0.61
Focus on core business functions	0.31	0.31	0.31	0.58
Employee satisfaction with delivery of HR services	0.76	(0.01)	0.49	0.20
HR overhead costs	0.05	0.91	0.16	0.12
Ability to provide high quality customer service	0.50	(0.48)	0.56	0.06
Managerial satisfaction with delivery of HR services	0.75	(0.37)	0.03	(0.04)
Costs of HR services delivery	0.05	0.90	0.06	(0.05)
Ability to manage the HR function	0.81	(0.01)	(0.35)	(0.06)
Ability to control the HR function	0.79	0.15	(0.42)	(0.09)
Ability to monitor the function	0.72	0.26	(0.23)	(0.29)
Ability to acquire specialized HR capabilities	0.53	0.16	0.33	(0.41)

A4.7 - HR Decision Making

Group Statistics					
	DMHR	N	Mean	SD	SE Mean
FACTOR1	1	16	3.75	0.54	0.14
	0	17	3.15	0.77	0.19
FACTOR2	1	15	2.93	1.02	0.26
	0	17	3.18	1.17	0.28
FACTOR3	1	16	4.06	0.93	0.23
	0	16	3.25	0.77	0.19
FACTOR4	1	16	3.69	0.75	0.19
	0	17	3.38	0.67	0.16

Independent Samples Test							
			t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.
FACTOR1		0.52	0.48	2.56	31.00	0.02	0.59
FACTOR2		0.31	0.58	-0.62	30.00	0.54	-0.24
FACTOR3		0.00	0.97	2.69	30.00	0.01	0.81
FACTOR4		0.38	0.54	1.23	31.00	0.23	0.31

A4.8 - Type of Organization

Group Statistics					
	NORG	N	Mean	SD	SE Mean
FACTOR1	1	25	3.58	0.74	0.15
	0	8	3.01	0.46	0.16
FACTOR2	1	24	3.00	1.05	0.21
	0	8	3.25	1.25	0.44
FACTOR3	1	24	3.75	0.94	0.19
	0	8	3.38	0.92	0.32
FACTOR4	1	25	3.62	0.78	0.16
	0	8	3.25	0.38	0.13

Independent Samples Test							
			t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.
FACTOR1		0	0.55	2.04	31.00	0.05	0.57
FACTOR2		0	0.53	-0.56	30.00	0.58	-0.25
FACTOR3		0	0.89	0.98	30.00	0.34	0.38
FACTOR4		4	0.05	1.28	31.00	0.21	0.37

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1653 East Main Street
Rochester, NY 14609 USA
Phone: 716/482-0300
Fax: 716/288-5989

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