Make or Buy? Professional Designations, Human Capital, and Sustainable Competitive Advantage

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners. I understand that my thesis may be made electronically available to the public.

Abstract

Over the last two decades, the use of professional designations as selection criteria has increased. In order to develop selection criteria, recruiters assess candidates from both job and organizational perspectives (Kristof-Brown 2000). No research exists that examines the degree to which organizational objectives, rooted in considerations that are not job-specific, may be affecting the increase in demand for these designations. This research attempts to close that gap by exploring the relationships among organizational objectives, the design of selection criteria, and the use of voluntary professional designations. The study explores the degree to which organizations use voluntary professional designations to assess person-organization (P-O) fit in environments emphasizing two objectives related to superior firm performance: the acquisition of competencies related to sustainable competitive advantages (SCAs) (Barney 1991; Porter 1985), and the development of characteristics associated with a high performance workplace culture (Huselid and Becker 1997). It also explores the extent to which a needs-supplies selection perspective is related to conceptualizations of P-O fit that are separate from notions of person-job (P-J) fit (Kristof 1996). Data were obtained from a sample of 292 HR professionals, representing a cross section of industries, who completed a Web-based survey. Confirmatory factor analysis revealed the presence of positive and significant relationships between each of three organizational contingencies (i.e., a needs-supplies perspective, a high performance workplace system culture, the desire to acquire competencies perceived to be sustainable competitive advantages) and the construct of P-O fit. Perceptions that the competencies were inimitable had the strongest relationship to P-O fit. As well, a positive and significant relationship was found between the construct of P-O fit and the use of a professional designation. However, study results also indicated that only two dimensions of SCA were positively and significantly related to the use of a professional designation: perceptions that the competencies represented by the designation are rare, and perceptions that they add long-term value.

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Dedication

I would like to dedicate this thesis to my family, in particular my husband, Glenn Scheels; my daughter, Krystin Scheels; and my parents, Harold and Sheila Nummelin, who have been very supportive of my interests and efforts over the last four years even when they could not understand why I would ever want to do this. I would also like to acknowledge the support of my close friends who were always ready to offer positive reinforcement and encouragement. I especially wish to acknowledge the impact that my close friend, the late Dr. Susan Hyde, had on this research. Her life and death showed me that the tenacity, clarity of vision, and purposefulness required to complete a PhD are transferrable skills that can positively affect how we live, and how we may choose to die.

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Chapter 1 Introduction

The quality of an organization's human resources affects its ability to foster sustainable competitive advantages, build distinctive competencies, implement strategies, achieve tactical advantages and operationalize plans and choices (Ulrich 1997a; Ulrich 1997b; Ulrich and Beatty 2001; Ulrich and Lake 1990). One key aspect of human resource quality is the knowledge and skills complement that prospective employees can contribute to the organization. The need for organizations to improve the levels of knowledge and skills possessed by their employees has been identified as an important global economic issue that will only grow more urgent in coming decades:

> A comprehensive pan Canadian consultation involving employers, unions, provinces and territories was carried out by HRSDC officials in 2004. The main focus was the state of workplace skills in Canada. This consultation was in line with global trends whereby many countries were sounding alarm bells about emerging skills gaps, the relative lack of innovation and inadequate productivity in many workplaces, and possibly worrisome demographic trends. Countries like Norway, Ireland, Australia, the U.K., and New Zealand moved quickly to put national strategies into place to deal with these issues, and inform public policy by engaging in partnerships and collaboration with all sectors in their respective societies (Human Resources and Social Development Canada 2007).

One way organizations try to improve the human capital available to the firm is through the selection process. Research into practitioner experiences with the selection process has identified a link between the selection process and organizational performance; well-executed selection decisions can offer up to 11% return on investment (ROI) (Watson Wyatt 1999). Some standardized approaches to selection (e.g. tests and structured assessments) have been shown to have validities that are both higher and more consistent across jobs and organizations than was previously believed (Murphy 2000). As a result, selection research theory is particularly relevant to both researchers and practitioners, since it offers both significant theoretical potential and the ability to directly affect how practitioners make critical selection decisions that affect organizational performance and prospects. One of the key decisions that practitioners make during the selection process concerns the selection criteria against which they will assess candidates. Several researchers have, in fact, identified

rigorous recruitment and selection practices as a key attribute of superiorly performing organizations (Arthur 1994; Huselid 1995; Ichniowski 2003; MacDuffie 1995).

One way firms screen prospective employees during the selection process is through the use of professional designations as selection criteria. Anecdotal evidence suggests that this practice is increasingly common. In considering professional designations as selection criteria, two categories of professional designation are useful: "mandatory designations" and "voluntary designations". "Mandatory designations" are those required by law or imposed by self-regulatory bodies to meet licensing requirements designed to ensure quality of professional practice and to control the supply of new entrants into the profession. "Voluntary designations" are more functionally oriented and are adopted voluntarily, with no legal or licensing imperative to do so. In recent years, minimum qualifications have moved far beyond these legally required mandatory designations (e.g., Eng., L.L.B., R. Arch., M.D., R.N.). A plethora of new professional designations has been developed, sponsored by professional associations or occupational groupings, which name a wide spectrum of specialties (e.g., Certified Human Resources Professional, Certified Purchasing Professional, Certified Payroll Professional, Certified Sales Professional, Certified Benefit Specialist) or competency clusters (e.g., Certified Supply Chain Professional, Certified Graphic Design Professional, Certified Relocation Specialist, Certified Divorce Specialist, Registered Professional Planner, Professional Project Manager, Professional Manager). This paper will limit its analysis to the latter type of professional designations, those I have termed "voluntary".

Anecdotal evidence suggests that over the last two decades, the use of these voluntary professional designations as selection criteria has greatly increased in North America. An examination of any newspaper or job search Web site will soon reveal the extent to which contemporary hiring managers use these voluntary professional designations as selection and screening methods.[1] A recent search

[1] An October 22, 2007 search of the Workopolis Web site for the Kitchener Waterloo region of Ontario revealed that just over 40% of the available vacancies used a designation as a screening device (201 of 498). Most telling is the fact that of these 201 vacancies, only 5.5% required what I have subsequently termed "mandatory designations". Furthermore, these mandatory designations were restricted to only four types: CA, LLB, law clerk and P. Eng. The vast majority of the vacancies (94.5%) employed a wide array of what I have termed "voluntary designations," e.g., CGA, CMA, CHRP, CIP, PMP, PLOG, IFIC, LOMA, RVT, CRSP, PFPC,

of the Human Resources and Social Development Canada (HRSDC) National Occupational Classifications Web site revealed that 13 occupational groups, covering well over 150 separate job titles, required a wide variety of these voluntary designations. Appendix B contains a list of the HRSDC job titles requiring professional designations. Professional associations would not develop these new professional designations unless there existed a perceived demand for them from either the business community or from their members. This trend towards using a voluntary professional designation as a screening mechanism during the selection process will probably continue. For example, recent research conducted by the Human Resources Professionals Association of Ontario forecasts a rosy future for the designation of Certified Human Resource Professional (CHRP) and observes that this credential is increasingly being used as a first-hurdle screening device:

> Although using the CHRP certification is completely voluntary and designation holders must ensure they comply with any applicable laws, many organizations and individuals now use the CHRP designation as a required job specification and incorporate it as a condition of employment. In November 2001, a study by the Human Resources Association of Ontario (HRPAO) revealed that more than 50 per cent of HR positions advertised in the previous two years in Ontario were structured around the CHRP designation as a required or preferred job specification. There is every expectation that this trend will continue to grow over the next number of years (Canadian Council of Human Resources Associations 2008).

Two of the most common voluntary designations in Canada are the Certified Human Resources Professional (CHRP) and the Certified General Accountant (CGA) designations. Costs borne by individuals seeking to acquire them are significant. As shown in 1.3 Practical Justification for This Research, over the last 20 years individuals have spent approximately $16.8 million dollars to acquire the CHRP designation within the province of Ontario alone, and $255 million dollars to acquire the CGA designation. In addition, current organizational hiring premiums approximate 30% for the CPP (Certified Purchasing Professional) designation (PMAC Ontario Institute 2008). Clearly, the

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RSCP, PFP. It is also interesting to note that virtually none of the accounting vacancies differentiated between mandatory and voluntary designations, since they state that the applicant must be *either* a CA *or* a CMA/CGA.

designation proliferation phenomenon has created substantial costs for both individuals and organizations.

However, despite increases in such phenomena as the use of voluntary professional designations as a screening device during the selection process, the costs associated with acquiring designations, and expectations that the trend will continue, the factors associated with this trend have not yet been explored in the research literature. Existing research does provide a number of important models and conceptualizations on which the present study is based. However, while the research is replete with theoretical explanations that might explain this phenomenon from a job or functional perspective, little research explores the phenomenon from an organizational perspective. This dearth has suggested the central research questions investigated in the balance of the paper and discussed in the next section:

- To what extent do organizations use voluntary professional designations as selection criteria because they perceive that the designation holder offers something more to the organization distinct from job-related knowledge and skills?

- To what extent are professional designations used to assess certain types of person-organization fit?

- Does this trend towards proliferation of designations simply reflect an increasing propensity for organizations to buy designation-associated competencies because they perceive that the designation reflects standardized competencies that are easily imitable, substitutable and homogeneous?

- Conversely, does this trend reflect a perception that the designations offer some heterogeneous, unique and valuable components of human capital that can be leveraged into sustainable competitive advantages over the long term?

1.1 The Research Gap – Theoretical Justification

Research findings from the perspectives of labour and institutional economics suggest a number of factors related to human capital that may be spurring the increasing use of professional designations

during the selection process. As suggested by transaction cost theory, because the designation leads to asset specificity, a salary premium may be demanded by the designation holder since he or she has mastered a specific skill level that those without the relevant training have not (Williamson 1998). Recent research suggests that highly skilled workers enjoy a comparative advantage in complex jobs insofar as the substitutability between types of skill sets declines with their skill distance. Skill distance has been defined as " the degree to which they may serve as perfect substitutes for each other when considering both the complexity of the task and individual skill levels" (Teulings 2005, 426). Professional designations offer evidence that the holder has achieved technical mastery over a specific set of capabilities (Johnson, Squires, and Whitney 2002). This enables the designation holder to highlight the credential and demonstrate commitment to the job or field, either on the resume or in the interview, thereby differentiating him or her from candidates lacking the designation. Research also suggests that these designations offer designation holders the potential for higher salaries, clearer accountability, more favorable job-person matches, better opportunities for professional development, and accelerated career progression (Bowman 1999; Carbon 2005; Grant, Horkin, and Melhuish 1998; Johnson, Squires, and Whitney 2002; Robinson and Habben 2003).

It has also been suggested that by increasing the qualification levels needed to perform skilled jobs without increasing the corresponding technological skill requirement, members of licensed occupations may engage in rent skimming when demand conditions are sufficiently strong (Muysen and Zwick 2003). Achieving a professional designation may also be a less expensive option for a candidate when compared to the growing cost of earning a business degree in an environment of increasingly de-regulated post-secondary education. However, despite advancing clear economic arguments that help explain this phenomenon from the perspective of skill differences and asset specificity, this research stream does not identify how the ever-finer differentiation of human resource characteristics through professional designations supports the strategic intent of the firm. Nor does this research identify how the selection process should be designed to select the appropriate type of differentiated human capital. It also fails to address the issue of how criteria are currently being chosen to improve selection decisions. Strategic human resource management theory and selection theory build on this foundation and suggest possible explanations.

Research on strategic human resource management (SHRM), discussed in detail in Chapter 2, offers insight into the factors that may influence the design of the selection system and the development of selection criteria. It suggests that the design of an organization's human resource processes should support organizational goals and reflect organizational contingencies (Ulrich 1997a; Ulrich 1997b; Ulrich and Beatty 2001; Ulrich and Lake 1990). Valuable competencies will consolidate capabilities, resources, and skills, and allow the firm to realize its strategic intent and respond quickly to changing environments (Prahalad and Hamel 1990). However, while useful as a framework to ground analysis, this strategic-alignment perspective fails to address how the use of a professional designation as a selection criterion can further an organization's goals. Nor does it explain the degree to which various organizational contingencies may be related to the use of a professional designation. However, one line of inquiry within this SHRM research stream, Lepak and Snell's HR Architecture Model (1999, 2002), offers a helpful conceptualization of the relationship that may exist between one set of organizational goals and the design of a selection process.

Lepak and Snell's model suggests that different hiring decisions may be made depending on the strategic importance of the human capital under consideration. But although this organizationally specific and job-contingent perspective on the selection process is relevant to the present discussion, their research fails to identify the impact of contingencies apart from the rarity and value of capital on the selection process; nor does it address how these conceptualizations equip the selection process to make the actual assessments of competency and selection that would reflect these contingencies.

As described in detail in Chapter 2 Literature Review, selection theory proposes explanations for the selection of the criteria used to make these assessments of the human capital under consideration. This well-established research stream has identified a number of conceptualizations of fit that are assessed during the selection process. Chief among these are the concepts of person-job (P-J) fit and person-organization (P-O) fit (Kristof-Brown, Zimmerman, and Johnson 2005). Viewed from this perspective, professional designations employed as selection criteria may serve to assess either person-job (P-J) fit or person-organization (P-O) fit. Job-related knowledge, skill, and ability have been shown to be common operationalizations of P-J fit (Kristof-Brown 2000). Because designations are focused on job readiness with respect to a specific function, and are not organizationally specific, professional designations are, by definition, designed to deliver a set of competencies directly focused

on a specific job or role. These knowledge, skill and ability outcomes are emphasized in courses relating to professional designations and form the basis for the curriculum[2]. The designation holder receives job-specific training during the process of acquiring the designation in order to competently perform aspects of a job. Since a professional designation (by its very definition) attempts to provide job-related knowledge, skill and abilities, professional designations have clearly been developed and used to assess P-J fit. As a result, the extant literature may be able to explain the use of professional designations as selection criteria as a means of assessing P-J fit. However, what is less clear in the literature is the degree to which professional designations are used to assess conceptualizations of fit that are not rooted in job-specific knowledge and skill, namely P-O fit. It is this organizational perspective, focused on P-O fit, which has been adopted for the balance of this paper.

Common operationalizations of person-organization fit include broader goals that transcend job-specific considerations (e.g., shared values, shared goals, cultural fit). More important, this organizational perspective is critical to the acquisition and development of human capital that can be leveraged across jobs and functional areas into sustainable competitive advantages available to the entire firm (Barney 1991). As a result, the person-organizational fit perspective is of particular interest when examining the organization-wide human capital potential offered by professional designations. The present paper attempts to close the gap in the research literature by testing the relationship between the use of professional designations as selection criteria and organizational objectives that transcend job-specific requirements and that are reflected in firm-specific conceptualizations of P-O fit.

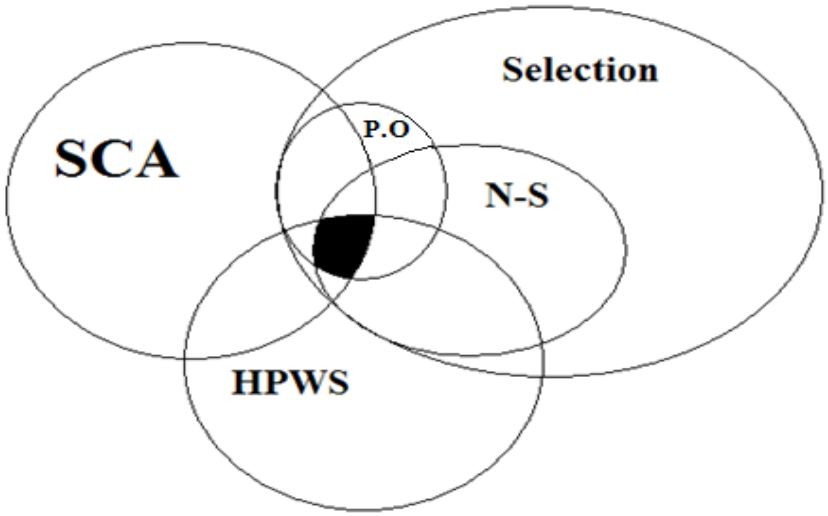
1.2 Theoretical Positioning of this Research

Because this research focuses on differentiating between types of human capital on the basis of a "best fit" contingent strategic alignment perspective, three boundary conditions were selected for this study. Two boundary conditions were selected to reflect organizational contingencies that have been

[2] For example, the CHRP designation is based on a list of essential competencies developed by the Canadian Council of Human Resource Associations and based on research on eight dimensions, called the "Required Professional Capabilities", which define the knowledge, skills, abilities and other attributes required in an HR role. For further information, see: http://www.cchra.ca/Web/certification/content.

found to be related to superior organizational performance in the strategic human resource management literature (Ulrich and Lake 1990). The literature in each of these areas is described in detail in Chapter 2 Literature Review. As a first organizational contingency, the research investigates characteristics of human capital perceived to embody characteristics associated with the development of sustainable competitive advantages for the organization (Barney 1991). As a second organizational contingency, this research examines the organization's desire for a high performance workplace culture as a specific conceptualization of person-organization fit (Huselid and Becker 1997). As a final boundary condition, this research utilizes a needs-supplies orientation (Sekiguchi 2004) as a general perspective affecting selection decisions. As detailed in Chapter 2 Literature Review, a needs-supplies perspective includes organizational considerations related to the ability of the organizational environment to meet the needs of the individual. As such, it requires a broader assessment of fit than that of the more narrowly defined and job-specific skill and ability components typically operationalized as part of the alternative demands-abilities orientation (Kristof-Brown 2000), and which is also described in Chapter 2 Literature Review. Figure 1 Theoretical Positioning of Research illustrates the positioning of this research within the extant literature:

Figure 1 Theoretical Positioning of Research



1.3 Practical Justification for This Research

In addition to the theoretical justification for this research explained in the preceding section, there are a number of practical reasons why this research is both necessary and compelling. As shown in this section, the phenomenon of designation proliferation has created substantial costs for both individuals and organizations. There has also been a dramatic increase in the availability of these voluntary professional designations. To illustrate the practical justification for this research, I will describe typical costs and benefits associated with two of the most common voluntary designations in Canada, the CHRP (Certified Human Resources Professional) and the CGA (Certified General Accountant).

There are currently more than 16,800 Certified Human Resource Professional (CHRP) designation holders in Canada[3] (Canadian Council of Human Resources Associations 2008). The CHRP was one of the first voluntary designations to be recognized by law. In Ontario, this recognition was effected by an act of provincial parliament in 1990[4]. Since its inception, demand for the designation has grown rapidly. As of January 2008, the Human Resources Professionals Association of Ontario had over 11,000 members, of whom 6600 (or 60 %) possessed the CHRP designation. In order to acquire it, candidates must complete prescribed courses at a community college, polytechnic or university[5], and successfully pass two national exams. Assuming average costs[6], the typical Ontario CHRP

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[3]It should be noted that not all provinces share a common process to achieve the designation, although all CHRP candidates must pass both the National Knowledge Exam and National Practice Exam. Some provincial requirements (Ontario) require candidates to take and pass courses. In other provinces (Alberta) candidates can achieve the designation simply by passing the two national exams. Additional information concerning designation requirements is available at: www.cchra.ca

[4] The Human Resources Professionals Act of Ontario, 1990.

[5] As of September 2003, when national standards were enacted requiring all provinces to include the requisite competencies in their educational programs and to ensure candidates were prepared for the two national exams. One exam is based on knowledge and the other is focused on practice.

[6] Average costs assumed are $250 per community college course for each of the 9 courses (or approximately $600 per course at a typical university), in addition to the $300 charge to write the national exams (Human Resources Professionals Association of Ontario 2007).

holder has spent a minimum of $2550 to acquire the designation. Multiply this average cost by the 6600 CHRP holders in Ontario (Morris 2008),[7] and the total individual outlay quickly climbs to just over $16.8 million. Most notable is the fact that this $16.8 million expenditure reflects the direct cash outlay associated with a single designation within a single province.

The situation in the accounting field is similar. There are currently 68,000 CGA holders and students across Canada, and 3500 CGAs and students outside Canada (Certified General Accountants Association 2008). Each one of these 68,000 designation holders had to complete a series of courses and exams in order to qualify for the designation. Assuming a cost of approximately $690 per year for the three years it is likely to take a student to finish the courses, plus costs associated with final exams and transfer credits (Certified General Accountants Association of Ontario 2007)[8], this represents a total expenditure of $3750 per person, or $255 million dollars in total. If one considers the facts that, in addition to these two designations, there are dozens of other voluntary professional designations currently in use[9], and that each designation requires some form of course completion, examination or ongoing annual membership, the total direct expenditure on these voluntary designations by individuals throughout the country over the last 10 to 15 years must climb into the hundreds of millions of dollars, if not billions of dollars.

In addition to direct costs incurred by designation holders, individuals also incur indirect costs in their roles as taxpayers. Designation-oriented courses represent a significant portion of the Continuing Education offerings at most colleges, polytechnics and universities. The decision to offer courses leading to a designation requires these institutions to provide space, staff, and other support systems (e.g., information technology, professional development, registrar's department, curriculum development, association membership fees for faculty) to allow these courses to be delivered. In a

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[7] This is an approximation based on estimates available to the public at the time of writing.

[8] This approximate cost assumes candidates would need to take the full course complement and pay $690 per year for three years (three courses per year), plus two final exams at approximately the same price, plus a one-time fee of $300 for the Application for Transfer Credits (Warner 2008).

[9] It should be noted that several voluntary designations often exist even within the same field, e.g., CGA and CMA within the accounting field, or CPP and CSCP within the logistics/material management field.

time of limited resources, this affects the other post-secondary offerings available to students as deans and administrators struggle to offer a blend of courses and program offerings, not all of which are geared towards attaining a designation. For example, at one leading Ontario polytechnic, designation accredited courses currently represent from 10-75% of the daytime course offerings[10] (Conestoga College Institute of Technology and Advanced Learning 2008). To the extent that these courses are not offered on a cost recovery basis, taxpayers have also indirectly footed the bill for this growing trend.

Clearly, individuals and post-secondary institutions incur costs associated with acquiring and offering professional designations. But what are the costs for organizations? Organizational costs might include such items as higher starting salaries and the incremental costs associated with additional reference checking for the credentialed and reduced applicant pools, possibly resulting in longer lead times. Anecdotal evidence suggests that it is not unusual for organizations to pay salary premiums to designation holders on hiring and for designation holders to expect accelerated career progression. For example, the Certified Purchasing Professionals Web site reports that CPP designation holders make 30% more than their non-designation-holding counterparts (PMAC Ontario Institute 2008). This wage differential is, in fact, advertised by this sponsoring organization as one of the benefits of membership. The Canadian Council of Human Resources Organizations also advertises the fact that acquiring their professional designation "increase[s] your potential for greater personal and financial rewards" (Canadian Council of Human Resources Associations 2008). Clearly, employees who possess these designations offer some kind of value to these organizations, and the organizations are willing to pay for it.

This anecdotal evidence suggests that there are sound practical reasons, in addition to the theoretical reasons explained above, for studying this growing and costly phenomenon.

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[10] In some programs, such as marketing, designation accredited courses represent few course offerings. However, in other programs, such as the Post Graduate HR program, most of the courses are designed to help fulfill designation requirements. The situation is intensified in Continuing Education offerings, where designation oriented offerings can represent up to 100% of course offerings, depending on the discipline. At this institution, while continuing education offerings are offered primarily on a cost recovery basis, daytime offerings are not.

1.4 Methodology and Findings

I generated research data using a Web-based survey that was refined using purposeful sample-derived focus groups. The research instrument surveyed 292 participants drawn from a wide range of industries in southern Ontario. Results of the confirmatory factor analysis indicated that the three sets of organizational contingencies examined are each positively and significantly related to the construct of person-organization (P-O) fit: characterizations of competencies as sustainable competitive advantages, the desire for a high performance work systems culture, and the adoption of a needs-supplies perspective during the hiring process. It was the characterizations of competencies as inimitable that showed the strongest relationship to P-O fit. In addition, a positive association was also discovered between this conceptualization of P-O fit and the use of a professional designation. However, when examining the relationship between P-O fit and the use of a professional designation, only two dimensions related to the construct of sustainable competitive advantage were determined to be positively and significantly associated with the use of a professional designation: perceptions that the competencies are rare, and perceptions that they deliver long-lasting value. These findings suggest that although a number of organizational characteristics are related to person-organization fit for organizations emphasizing these contingencies, professional designations are not used as selection criteria for all of them.

The study is organized as follows. In Chapter 2 Literature Review, I explore the current literature from the perspective of each of these research streams in order to understand the factors that are expected to explain this phenomenon and that influence the design of human resource system processes and the choice of selection criteria at an organizational level. In this chapter I also discuss the research gap that hampers attempts to use professional designations to assess person-organization fit rather than person-job fit. In Chapter 3 Model and Hypotheses, I provide a model that synthesizes the results of the literature review and suggests a model and hypotheses to link the research objectives with the results of the literature review. In Chapter 4 Methodology, I provide an overview of the two-step research process that was employed, including the purposeful sample group used to refine the survey, the recruitment methods, and considerations that affected the design of the survey. In Chapter 5, I discuss the results of the research, including findings from descriptive analysis of the data, exploratory factor analysis, and confirmatory factor analysis. In Chapter 6, I discuss the implications

of the research, its limitations and generalizability, and the importance of these results for both academics and practitioners. In this chapter I also suggest avenues which future research could explore. Chapter 7 offers an overall summary and conclusion.

Chapter 2 Literature Review

In a society increasingly focused on skills and knowledge acquisition, the increasing use of voluntary professional designations within the selection process is not surprising. What is surprising, however, is the fact that despite the growing importance of this phenomenon to employees and employers, the trend has remained largely unexplored by the academic community. Although a number of researchers in sociology and labour economics have started to explore the impacts of credentialism and up-skilling on society in general and on the cost structures associated with various occupational groups in particular (Bills 2004; Borman and Motowidlo 1997; Grimshaw, Beynon, Rubery, and Ward 2002; Green, Felstead, and Gallie 2003; Leigh and Gifford 1999; Piva, Santarellli, and Vivarelli 2005), a search of the business literature uncovers no research specifically devoted to understanding the fundamental factors driving the use of voluntary professional designations as selection criteria. However, the literature review did uncover a significant body of research that provides explanations for individual and job-related demand for voluntary professional designations. More specifically, no research was uncovered that specifically examined some of the organizational considerations, as distinct from job-related considerations, which might lead an organization to require these designations as selection criteria. What has not been addressed to date in the literature are the specific anticipated organizational factors driving this trend towards requiring voluntary professional designations as selection criteria, the focus of the present inquiry. In the next section, therefore, I review literature that provides some insight into organizational factors relevant to this contingency perspective on the use of a voluntary designation as a selection criterion.

In order to better understand the factors affecting the use of voluntary professional designations during the selection process, and to clearly identify the theoretical underpinnings on which I have relied for my hypotheses and model, I examine four research streams: strategy theory, strategic human resource management theory, high performance work systems theory, and selection theory. As will be demonstrated in the following sections, although each stream offers models that provide partial explanations of the organizational factors that might explain this phenomenon, none is sufficient to explain the phenomenon in its entirety. To conclude the literature review, I have synthesized the key constructs derived from each stream that are utilized in Chapter 3 Model and Hypotheses.

2.1 Building Sustainable Competitive Advantage

Building on Porter's development of a typology of generic strategy that might lead to the development of a sustainable competitive advantage (Porter 1985), the strategy literature has attempted to identify how the strategic choices a firm makes can lead to improved business outcomes. Although the ability of Porter's generic strategies to "open up a period…in which a detailed and immensely productive dialogue is established between fact and theory" (Campbell-Hunt 2000, 127) has been questioned, over the last two decades this typology has become a dominant paradigm for both strategy researchers and practitioners alike. Unfortunately, although intuitively appealing and arguably influential as a heuristic among practitioners, Porter's early work failed to define both the concept of a sustainable competitive advantage and the dimensions associated with this construct.

The resource-based view of the firm contributed to this research by broadening the discussion beyond the traditional analysis of strengths, weaknesses, opportunities, and threats that had occupied much of the strategy literature prior to the 1990s (Barney 1991; Wright and McMahan 1992), and the externally focused analyses suggested by Porter (1985), and provided a more detailed exploration of the concept of sustainable competitive advantage (SCA). This view of the firm re-conceptualizes the links among the strategic intent of the firm, the competitive strategies it employs, the external forces affecting it, and its internal resources by suggesting that firms need to actively search for ways to be distinctive. This resource-based view emphasizes resource heterogeneity and firm resource immobility (Conner 1991; Penrose 1958)[11]. In fact, this notion of SCA, first characterized by Barney, and extended by Peteraf, suggests that firms cannot expect to buy or purchase sustained competitive advantages inasmuch as the advantages are apt to be found in superior resources that are rare, imperfectly imitable, non-substitutable, and difficult to move from firm to firm (Barney 1991; Peteraf 1993).

[11] Although a resource-based view of the firm has been adopted for this research, it should be noted that there are a number of alternative theories of the firm, e.g., behavioural, evolutionary, resource based, which differ in their approach to explaining how firms grow and adapt. For discussions of these alternative theories, see Nelson 1982; Pierce 2002; and Teece, Pisano, and Shuen 1997.

Prahalad and Hamel further extended the notion that some competencies are more valuable than others by offering a vision of strategic intent strongly linked to a firm-specific conceptualization of "core competencies". Their initial research identified the fact that core competencies entail an ability to harmonize complex streams of technology, collective learning, and work activity across typical functional areas such that traditional measures of economic rents [12] reflect these "core competencies" or "people embodied skills". They suggested that firms should consolidate capabilities, resources and skills into competencies that allow them to adapt quickly and dynamically to changing opportunities (Prahalad and Hamel 1990, 232).

In conclusion, the strategy literature suggests that not all of a firm's resources will be equally valuable to it and that the firm's strategic intent will help determine which competencies are viewed as core competencies. This literature also identifies the characteristics that define sustainable competitive advantages.

2.2 Strategic Human Resource Management Theory

Drawing heavily on the strategy literature, strategic human resource management (SHRM) theory emerged during the 1990s and has evolved to address how organizational outcomes might be improved through better people management. In this sense, then, the SHRM research stream bridges the gap between the strategy literature and more traditional human resources (HR) or human resources management (HRM) literature[13]. Despite early debate over the definition and objectives of

[12] They further suggest that core competencies reflect the difference between market and book value of assets. In the context of professional designations, the notion of rents applied to human capital may also reflect returns in excess of the resource owner's opportunity costs occurring as a result of owning a scarce and valuable resource or achieving protection in a monopolistic way via government protection or barriers to entry (Mahoney and Pandian 1992).

[13] Although these two terms are used interchangeably in the literature, I use the phrase Human Resource Management (HRM) to represent the functional area, including the traditional activities of planning, recruitment, selection, training, development, compensation, benefits, safety and health, labour and employee relations, since this is an accurate reflection of practitioner and organizational conceptualizations (Human

SHRM research (Wright and McMahan 1992), contemporary conceptualizations of SHRM incorporate elements of the resource-based view of the firm and the notion of strategic intent and core competencies. In contrast to traditional HR research, which adopts a more "horizontal perspective" by focusing on specialization across functions (e.g., recruitment, selection, training, labour relations, compensation, benefits), SHRM focuses on identifying the "pattern of planned human resource deployments and activities intended to enable an organization to achieve its goals" (Wright and McMahan 1992, 298) by attempting to vertically align strategy with HRM activities at the policy, program, or practice level. A recent review of HRM and performance research by Paauwe and Boselie points to a decade's worth of empirical work proving that HRM does, in fact, matter. They suggest that HRM offers significant potential to generate sustainable competitive advantage and improved performance over the long term. They also argue, in fact, for a reverse linkage in their contention that HRM systems enable an entire range of strategic options, unlike the more traditional strategy-to-HRM link (Paauwe and Boselie 2005).

However, although a consensus appears to be emerging that the strategy-HRM-performance linkages can be empirically supported, the mechanisms by which this occurs remain hotly debated. The ability of HRM practices to affect organizational performance has been explored from a wide range of perspectives (Ahmad and Schroeder 2003; Barrette and Ouellette 2000; Barton and Delbridge 2004; Cooke 2001; Fey and Bjorkman 2001; Olson and Schwab 2000; Park, Mitsuhashi, Fey and Bjorkman 2003). But there is still disagreement in the literature about whether the impact of HRM processes on organizational performance is direct or indirect. Paul and Anantharaman (2003) argue against a direct causal connection to performance, identifying only indirect influences between the HRM practices they studied and operating performance measures. Other researchers have found more direct links between HRM processes and organizational outputs (Gould-Williams 2003; Jalette and Bergeron 2002).

However, this debate over the ability of HRM systems to affect performance is not the only issue for SHRM researchers. Differences also exist in fundamental conceptualizations of SHRM. A recent

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Resources Professionals Association of Ontario, 2007). I use the term Human Resources (HR) to refer to the people or employees of the firm.

meta-analysis of the SHRM literature points to two distinct research streams and conceptualizations of SHRM (Paauwe and Boeselie 2005). Paauwe and Boeselie identify one SHRM research stream as that which argues for a set of Human Resource "best practices" that is universally applicable across companies and industries (Pfeffer 1994; Purcell 1999). However, the ability of firm-level HRM "best practices" to be generalized across firms has been questioned (Marchington and Grugulis 2000; Truss 2001). A second research stream is derived from contingency theory and argues for a more contextually appropriate "best fit" HR function. This alignment perspective suggests that a firm's human resource processes should not only be rare, deliver enduring value, and be difficult to imitate or move from firm to firm (in accordance with strategic management theory), but also be aligned with firm-specific objectives and contingencies. This "best fit" perspective also suggests that their competencies should be distinct from those possessed by competitors (Kaplan and Norton 1992; Lepak and Snell 2002; Lepak, Bartol, and Erhardt 2005; Lepak, Marrone, and Takeuchi 2004; Lepak, Bartol, and Gardner 2004; Ulrich 1997b). Since the early 1990s, it is this distinctive-competency alignment perspective that has dominated much of the SHRM research (Paauwe and Boeselie 2005). Attention has been focused on identifying the contingencies that are most likely to affect firm performance and that should, therefore, be considered when designing firm-specific HR systems that are strategically aligned. Chief among these contingencies are job characteristics (Melian-Gonzalez and Verano-Tacorante 2004) and Miles and Snow's conceptualization of generic strategic orientations as elaborated by Rodriguez and Ventura (2003). One additional contingency that has also attracted significant attention in the literature is organizational climate, in particular the desire for high performance, high commitment, or high-skill workplaces (Bou and Beltran 2005; Gelade and Ivery 2003; Minbaeva 2005).

Lepak and Snell's research into employment modes (1999, 2002) provides a set of contingencies that are particularly germane to the discussion of professional designations, since they incorporate considerations from both the strategy and strategic HRM literature. Their model of an "HR Architecture" employs the concept of firm-specific HR system alignment from the SHRM literature and suggests that a firm's staffing processes may also be designed to reflect two additional essential characteristics of human capital derived from the strategy literature, its value and its uniqueness. Lepak and Snell observed that a firm will tend to "make" human capital when it is both unique and

confers high value. Conversely, firms will tend to "buy" human capital when it is less valuable or unique.

Recognizing that employees possess knowledge and skills that differ in their strategic importance to the firm, Lepak and Snell's highly cited and influential framework (1999, 2002) offers support for the notion that human capital characteristics affect both the design and execution of HR systems and are affected by firm-specific conceptualizations of competitive advantage. Their HR Architecture Model posits that the characteristics of human capital under consideration (i.e., its value and uniqueness) will influence the choice to use one of four different employment modes (i.e., internal development, acquisition, alliance, and contracting), which, in turn, will be supported by one of four types of employment relationships (i.e., organizational, symbiotic, transactional, and partnership) and sets of HR practices (i.e., commitment, market-based, compliance, and collaborative). This synthesis of human capital characteristics, employment modes, and employment relationships are all designed to support the strategic characteristics of human capital (i.e., its perceived value and uniqueness). Lepak and Snell suggest that the use of these four employment modes and their consequent employment relationships and HR practices reflects an attempt to maintain equity in the psychological contracts between the individual and the organization. This may result in multiple HR configurations and practices based on a firm's assessment of the contribution that the type of human capital can deliver.

Craig, Colella and Bobko (1993) also support this "best fit" contingency perspective when they suggest that a firm's selection system design should reinforce its strategic priorities. They demonstrate that a firm's strategic considerations can change the focus of personnel selection decisions and hence the design of the selection system. Their research shows that temporal changes in strategic goals must be considered in determining whether a selection system contributes to the alignment of resources required to meet that need.

In conclusion, whether a "best fit" or a "best practice" perspective is adopted, the strategic human resource management (SHRM) literature suggests that there is a link between HRM processes and firm performance. Furthermore, the prevailing model deployed in recent SHRM research is a contingency based, "best fit" perspective which suggests that organizational strategies and goals should be aligned with and affect the design of HR systems and processes. In this vein, the SHRM literature argues for the development of distinctive competencies within the human resources function

that are aligned with firm-specific objectives and strategies. Making use of this contingency perspective, Lepak and Snell's HR Architecture Model further suggests that firms will prefer to invest in human capital, and to develop the employment practices needed to support this investment, only when it possesses valuable and unique characteristics. In this sense, then, the strategic human resource management literature would suggest that the selection system is one of the HR systems that should be redesigned to support firm-specific goals in firms desiring superior performance.

2.3 High Performance Work Systems

Ulrich identified the fact that organizational culture, distinctive competence, and strategic unity are mediators in the link between strategy and competitive advantage (Ulrich 1991). Building on this foundation, SHRM researchers have demonstrated that bundles of human resource practices can be leveraged through cumulative and synergistic effects to achieve superior organizational performance (Arthur 1992; Becker and Huselid 1998; Delaney and Huselid 1996; Huselid 1995; Kalleberg and Moody 1994; Kling 1995; MacDuffie 1995; Pil and MacDuffie 1996). In addition, it has been found that it is the appropriate combination of these practices, and not any one practice in and of itself, which is required to achieve synergistic effects and significant interactions among the practices (Milgrom and Roberts 1995). From a behaviourist perspective, these systems of mutually reinforcing and internally consistent practices are designed to elicit employee behavior consistent with the firm's objectives and broader environmental contingencies (Huselid and Becker 1997). Of particular interest is the bundle of HR practices that has come to be known as a "high performance work system" (HPWS) or a "high performance culture" (Wood and De Menezes 1999). Empirical research has indicated that significant organizational returns are associated with the adoption of this approach to managing human resources.

Early research by Huselid (1995) found that "high performance" organizations delivered statistically significant superior financial returns; a change of one standard deviation in HPWS delivered improvements in the firm's market value ranging from $38,000 to $73,000 per employee. He further suggests that because a HPWS possesses two characteristics that make it difficult to imitate (i.e., path dependency and causal ambiguity), it does possess key characteristics associated with the development of a sustainable competitive advantage. The notion of path dependency refers to "organizational policies which are developed over time and cannot be simply purchased in the market

by competitors. A competitor can understand that a particular policy or practice is valuable and would like to adopt it, but is precluded from immediate imitation by the time required to fully implement the strategy. Causal ambiguity reflects policies that are easily understood in concept, but in practice require numerous and subtle interrelationships that are not readily observed by those outside the firm" (Collis and Montgomery in Huselid, 1995, 3). However, this initial finding of a direct relationship between HPWS and organizational outcomes has been questioned recently. Takeuchi, Wang, Lepak, and Takeuchi note that "Wall and Wood (2005) and Wright and Gardner (2003) . . . suggest that the relationship between HR systems and organizational outcomes might be more complicated than typically is depicted" (2007, 1062). They argue for the inclusion of a social exchange factor as a mediating mechanism that is positively related to the organization's overall performance. They do, however, find empirical evidence of a direct effect of HPWS on relative establishment performance. They find that an increase of one standard deviation in the level of HPWS is associated with a 5.29% improvement in establishment performance when rated by managers, and a 7.02% increase in establishment performance when rated by employees (Takeuchi et al. 2007).

Despite growing interest since the early 1990s in the high performance work system (HPWS), there is little agreement on the specific practices that should be considered as significant indicators of an HPWS and, in fact, on whether or not certain practices are positively or negatively related to firm performance. In their review of research into HPWS, Barnard and Rodgers (2000) find little overlap between the elements of an HPWS as reflected in six often cited studies and the more general category of internally oriented "High Commitment" or "High Involvement" HRM policies. In fact, the authors conclude that not all internally oriented HRM practices need to be bundled together to facilitate a "high performance work system". Of particular interest is the fact that they find no support for including one aspect of internally oriented employment systems, employment security, as an element of an HPWS. Truss (2001) also identifies a controversy surrounding the inclusion or exclusion of another component, variable pay, as a component of an HPWS. Yet another recent analysis of HPWS in the North American automotive industry distills the essential elements of these HR practice bundles into two dimensions: work systems (i.e., the opportunity to work in teams, the provision of training, job quality including task variety, participation in decision making, and job-related autonomy), and human resource policies (i.e., employment security, contingent compensation

and hiring practice). They also include a factor measuring strong and effective leadership (Zacharatos, Hershcovis, Turner, and Barling 2005). This work on the North American automotive sector complements recent research that attempts to determine the extent to which the HPWS research, primarily undertaken within the manufacturing sector, is applicable within service sectors. Examining the Quebec Public Sector, they find a high degree of coherence, and identify job enrichment, training, information sharing, participation in decision making, and linkage of pay to performance as essential components of an HPWS (Beaupre and Cloutier 2007).

In the face of such a prolific research stream, the need to clarify this construct domain is apparent. In his foundational and influential work, Huselid suggests that HPWS should include rigorous recruitment and selection procedures, performance-contingent incentive compensation systems, management development and training activities linked to the needs of the business, and significant commitment to employee involvement (Becker and Huselid 1998). Several recent analyses have helped identify relevant dimensions of this domain. One recent meta-analysis identified selection, training, mentoring, incentives, and knowledge-sharing mechanisms as reflective of an HPWS (Gittell, Seidner, and Wimbush 2007). A recent detailed review of the literature by Chow (2001) finds that the most significant aspects of an HPWS include selective staffing, extensive training to enhance workforce skills, generous pay and benefits, and greater employee participation. A pan-European examination concurs and finds that the most common practices include employee development and training, participation and empowerment, information sharing via performance evaluation, discretion and opportunity to use skills, and an incentive structure (Den Hartog and Verburg 2004).

In summary, there appears to be general agreement across the SHRM literature that the design of HR processes can affect organizational outputs to some degree provided that they are bundled into mutually reinforcing packages that are aligned with organizational objectives. This synergistic effect has been found to be particularly strong when HR systems are knit into a cohesive package known as a high performance work system (HPWS). Although there is some disagreement in the literature about the characteristics such a system should include, recent meta-analyses see clarity in the emerging construct and point to a number of dimensions of the construct that are reflected in much of the literature. One useful categorization is developed by Beaupre and Cloutier (2007), who suggest

that the characteristics common to most of the research include elements designed to elicit employee engagement (e.g., performance feedback, incentive compensation), elements designed to ensure requisite competencies (e.g., selective staffing, training and development), and elements designed to provide opportunities to perform (e.g., participation in decision making). Foundational research, comprehensive literature reviews, and recent meta-analyses of this construct are outlined below in Table 1 Summary of HPWS Construct The bundles of HPWS are believed to embody organizational characteristics derived from causal ambiguity and path dependency, which render them difficult to imitate and hence suitable for the creation of sustainable competitive advantages.

Table 1 Summary of HPWS Construct

Author	Year	Engagement[14]	Competencies	Performance Opportunities
Arthur	1994	• social activities • due process • higher wages and benefits	• general training • skill focus	• decentralization • flatter structure • participation • bonus or incentive
Huselid; Delaney and Huselid	1995, 1996	• job redesign including team-based systems	• extensive employee training	• employee participation and empowerment • performance contingent incentive compensation
MacDuffie	1995	• work systems and job design creating involvement • work in teams	• hiring practices • recruitment • training	• contingent compensation • job quality (task variety, participation in decision making, job-related autonomy)
Becker	1997	• significant commitment to employee involvement	• rigorous recruitment and selection • management development and training linked to business needs	• performance contingent compensation systems

[14] Although items for this category are somewhat arbitrary, I have attempted to select those that are primarily directed towards defining the social contract between employees and the organization. If the dimension related more strongly to output or performance, I placed it in the performance opportunities column.

Author	Year	Engagement[14]	Competencies	Performance Opportunities
Pfeffer	1998	• employment security • self managed teams • reduced status distinctions and barriers • extensive sharing of financial and performance information	• selective hiring	• decentralization of decision making • comparatively high compensation contingent on organizational performance
Chow	2001	• generous pay and benefits to attract better qualified workers	• selective staffing • extensive training to enhance workforce skills	• more employee participation
Batt	2002	• incentive structure that enhances motivation and commitment	• relatively high skill requirements	• work designed so employees have discretion and opportunity to use their skills in collaboration with other workers
Ichniowski	2003	• increase teamwork • job security • information sharing	• rotation of workers across jobs • careful screening and selection • training	• incentive pay • problem solving teams • incentive pay

Author	Year	Engagement[14]	Competencies	Performance Opportunities
Boeslie and Dietz	2003	• participation and empowerment • Information sharing	• employee development and training	• compensation systems
Den Hartog	2004	• provide overarching goal or direction	• employee development • strict selection	
Zacharatos, Hershcovis, Turner and Barling	2005	• providing employment security • team work • reduced status distinctions • sharing information • positive leadership	• selectively hiring new personnel • training	• involving employees in quality management • conducting employee assessments • paying employees contingent on performance • applying principles of job design
Beaupre and Cloutier	2007	• information sharing– know unit objectives	• regular feedback on unit's performance progression • work-related training	• employee participation in management • understanding how contribution is linked to attainment of objectives • results oriented performance management • work reorganization as a sign of employee expertise • pertinent performance indicators in evaluation process
Gittell, Seidner and Wimbush	2007	• knowledge sharing	• selection • training • mentoring	• incentives

Author	Year	Engagement[14]	Competencies	Performance Opportunities
Takeuchi, Lepak, Wang and Takeuchi	2007	• extensive benefits • competitive compensation	• rigorous and selective staffing • extensive training and development	• flexible job assignments • developmental and merit based performance appraisal

Based on categorizations adapted from Beaupre and Cloutier (2007)

2.4 Selection Theory

Research points to a number of organizational outputs affected by the design of the selection process. The better the match between the person, the job, and the organization, the more likely it is that organizational benefits and opportunities will be realized (Borman and Motowidlo 1997; Hambleton, Kalliath, and Taylor 2000; Hattrup, O'Connell, and Wingate 1998). While the recruitment process is designed to attract the maximum number of qualified candidates, the selection process is designed to decrease the likelihood of a "bad fit", i.e., to improve the ability of the organization to predict, using valid and reliable tools, which candidates are most likely to meet individual, job and organizational needs (Borman, Hanson, and Hedge 1997; Dunnette and Borman 1979; Hough, Oswald, and Ployhart 2001; Robertson and Smith 2001; Wagner 1997). Researchers in selection theory have shown that the better the person/job/organizational match, the more likely it is that the new employee will require less training and orientation, require fewer individualized performance interventions, and the less likely it is that the new employee will be fired. Better matches deliver greater organizational capacity and flexibility by creating higher levels of competencies (Bills 2004; Borman and Motowidlo 1997; Grimshaw, Beynon, Rubery, and Ward 2002; Green, Felstead, and Gallie 2003; Leigh and Gifford 1999; Piva, Santarellli, and Vivarelli 2005). Organizations that consistently select candidates with a poor person/job/organizational fit will suffer reduced levels of utility, productivity, efficiency, effectiveness, capacity, employee satisfaction, and morale. These hiring mismatches may increase labour costs by increasing the need for such managerial interventions as training, restructuring, disciplinary action, and either contentious voluntary or involuntary terminations (Griffeth, Steel, and Allen 2005; Marcus and Schuler 2004; Roth and Babko 1997).

In an effort to improve the quality of their workforces, create unique competitive advantages, respond to new technological challenges, and engender flexibility and nimbleness in the face of turbulent business environments, many organizations have redesigned their selection processes to "upskill" the minimum qualification requirements for candidates, i.e., to require higher levels of education, credentials, or competencies. Minimum qualifications have been held to be statements of the minimally acceptable levels of education, experience, and personal attributes needed to perform a job satisfactorily. These minimum qualifications are often used as first-hurdle screening devices, by either the candidate or the organization; they must be met to permit progress to the next step of a

multi-hurdle selection process (Levine, Maye, Ulm, and Gordon 1997; Ryan, Sacco, and McFarland 2000).

For over a hundred years, selection theorists have demonstrated that firms consider a variety of factors when seeking to improve the quality of selection decisions. Chief among them is the perception that compatibility will be achieved when an individual and a work environment possess characteristics that are well matched, a construct that has come to be known as Person-Environment (P-E) fit (Schneider, 2001). Given the potential for fit improvements to generate real organizational benefits, researchers within applied psychology have long sought to unbundle all of the various dimensions of P-E fit that affect selection decisions. Person-environment fit can be accomplished by delivering either complementary competencies, "a mutually offsetting pattern of relevant characteristics", or by delivering supplementary competencies "when the individual and the environment are similar" (Muchinsky and Monahan 1987, 268). Two aspects of P-E fit that have been the focus of much research are the concepts of person-job fit (P-J Fit) and person-organization fit (P-O Fit). [15] Both P-J Fit and P-O Fit have been shown to be separate constructs with discriminate validity (Kristof 1996). There is some evidence that temporal considerations inform the use of these constructs; first interviews are most often used to screen out candidates who do not meet P-J needs, while P-O fit may be used later to narrow the list of candidates who already meet the needs of the job (Kristof-Brown 2000).

Improvements to both person-job and person-organization fit have been found to result in organizational benefits (Kristof-Brown 2000). A review of the P-J Fit literature shows that P-J fit is related to a variety of outcomes, including job satisfaction, low job stress, motivation, performance, attendance, and retention (Edwards 1991). A review of the literature on P-O fit has found this construct to be correlated with a wide variety of outcomes, including job satisfaction, organizational commitment, pro-social behaviour, self-reported teamwork, and objective measures of work performance (Sekiguchi 2004). However, although P-O fit has received significant attention in the literature, recent work by Arthur, Bell, Villado, and Doverspike cautions that, at best, it is correlated

[15] Additional aspects of P-E fit include person-group fit and person-supervisor fit (Holland 1997; Kristof 1996; Pervin 1968; Schneider 1987)

with work attitudes, and that its relationship to performance has not been proved. They conducted a meta-analysis to determine the boundary conditions in which the use of P-O fit in employment decision making is appropriate. The meta-analysis further determined that while P-O fit is a not a good predictor of job performance, it may be a better predictor of turnover. They suggest that P-O fit is best limited to post-hire use (e.g., placement) rather than pre-hire use (e.g., selection) if the goal is to improve organizational outcomes (Arthur et al. 2005).

Person-job fit is commonly defined as the relationship between a person's characteristics and those of the job or tasks performed at work. The research employs two basic conceptualizations of person-job fit: a demands-abilities fit in which the employee's knowledge, skills and abilities are in accord with the job requirements; and a needs-supplies (or supplies-values) fit, which is more broadly defined to include various theories of adjustment, well-being, and satisfaction, and is indicative of the degree to which the employee's needs, desires, and preferences are met by the job (Edwards 1991; Kristof-Brown, Zimmerman, and Johnson 2005). To optimize the person-organizational fit, the selection decision will assess a range of factors, including the degree to which the person and the organization possess similar values, goals, and preferences for systems and structures, and the degree to which the candidate's personality is compatible with the organizational climate. However, it should be noted that congruence of values has become widely accepted recently as a key defining operationalization of person-organization fit (Kristof-Brown, Zimmerman, and Johnson 2005; Sekiguchi 2004).

Despite the prolific nature of selection theory research on the fit between individuals and organizations, and the significant benefits that may accrue from well-executed selection decisions, several problems have been identified with this research. These include a lack of understanding of the impact of fit on individual outcomes, a lack of quantitative analysis, a lack of differentiation among different types of fit, a tendency to focus on single types of P-E fit, and a lack of focus on such emerging types of fit as person-group fit, person-occupation fit, and person-supervisor fit (Kristof-Brown, Zimmerman, and Johnson 2005).

From a practitioner's perspective, the limitations in the research are significant, for they affect the ability of the research to be directly applied. For example, because it is often important that the candidate be able to perform required tasks in a way that meshes with organizational expectations or organizational culture, in many selection decisions firms consider both P-J Fit and P-O Fit. The need

to consider both P-J fit and P-O fit is evidenced by the fact that these separate constructs are also highly correlated (Kristof-Brown 2000).

In conclusion, the design of a firm's selection process—including the identification and prioritization of competencies, the establishment of minimum qualifications, and the assessment of the relative importance of job and organizational matches—is affected by the firm's strategic choices and priorities since these items constitute aspects of the overall environment (P-E fit). The selection decision can deliver value to the organization by improving either the P-J fit or the P-O fit, among other kinds of fit. Firms will, therefore, assess these two separate but related constructs of P-J fit and P-O fit during the selection process as they try to accomplish these objectives. Previous research indicates that the antecedents and factor composition associated with perceived P-J fit and P-O fit differ in that each construct explained unique variance in recruiters' hiring recommendations.

P-E fit can be defined using either complementary or supplementary perspectives. P-J fit can be assessed using either a demands-abilities or needs-supplies perspective. While the demands-abilities perspective emphasizes the knowledge, skills, attitudes, and other attributes (KSAO) required of the job, a needs-supplies perspective emphasizes broader cultural considerations. P-O fit has most typically been operationalized by looking at value congruence. While P-J fit has been linked to specific job-related outcomes, there is currently some discussion about the degree to which P-O fit might be linked to specific organizational outcomes other than attitude and, perhaps, turnover. However, despite the fact that there is widespread agreement in the literature on the fact that both P-O and P-J fit and firm-level priorities and contingencies affect the selection process, little research has been conducted to date on the relationships that might exist among these variables.

2.5 Summary of the Literature Review

Four research streams were used to identify factors that affect the design of the selection system in a way that would be expected to further the organization's objectives. The strategy literature tells us that firms will attempt to develop sustainable competitive advantages and may be expected to develop core competencies and SCAs in areas related to their strategic intent. The Strategic Human Resource literature builds on this foundation and provides support for the notion that HR functions, if properly aligned and bundled, can generate performance benefits and create distinctive competencies. As well,

the SHRM literature points to a number of contingencies that are relevant to the choice of the design of HR systems and processes. Relevant to this discussion are the preferred employment mode and the sets of HR practices used to support the preferred employment mode. These choices concerning making or buying competencies will be driven by the degree to which the human capital is perceived to embody unique and valuable characteristics. The more that competencies offer the potential for rare and valuable organizational benefits, the more likely the firm will want to retain, control, and develop them. A final set of research into high performance work systems identifies a number of unique organizational characteristics that result in improved firm-level financial performance and create significant opportunities to build SCAs. Selection theory emphasizes the fact that firms consider two key constructs (among others) when making selection decisions, P-J fit and P-O fit, although the link of P-O fit to outcomes other than attitude and turnover is questionable. However, improving selection "fit" has been found to deliver a number of individual, organizational and job-specific benefits. Figure 2 Summary of Major Theoretical Constructs summarizes the major constructs on which this research has been grounded:

Figure 2 Summary of Major Theoretical Constructs

Theoretical Perspective	Implications for Selection System Design	Major Constructs
Strategy	A firm's strategic priorities will include the development of core competencies. Competencies require an ability to harmonize complex streams of technology and work activity (Prahalad and Hamel 1990).	distinctive competencies, core competencies
	Not all competencies are equally valuable to the firm. Valuable, rare and appropriable competencies will deliver short-term competitive advantage. In order for competencies to generate sustainable competitive advantage, they must also be hard to imitate, hard to substitute, and difficult to move from firm to firm (Barney 1991, Peteraf 1993).	sustainable competitive advantage (SCA) characteristics, resource-based view of firm
Strategic Human Resource Management	Human capital is one type of resource that offers the potential to generate sustainable competitive advantage. A firm's Human Resource Processes should be aligned with firm-specific objectives and contingencies in order for this to occur (Ulrich 1997).	strategic alignment

	In selection decisions, firms make trade-offs between making and buying human capital depending on the degree to which the human capital is strategically valuable and unique. Human capital can contribute to the firm in one of four ways. Multiple HR configurations are used within firms based on the nature of the contribution the type of human capital can make (Lepak and Snell 1999, 2002).	make or buy employment mode
	Organizational culture mediates the strategy-organizational performance link (Ulrich, 1997). There are bundles of HR practices or cultures which have been shown to lead to superior financial performance (Huselid1995).	high performance work systems (HPWS),
Selection	Firms assess overall Person-Environment (P-E) fit when making selection decisions. Person-Organization (P-O) fit and Person-Job (P-J) fit are two aspects of P-E fit (Holland 1997; Kristof 1996; Pervin 1968; Schneider 1987).	person-environment (P-E) fit, person-job (P-J) fit, person-organization (P-O) fit
	A number of separate constructs are used to assess person-environment fit. Although highly correlated, both P-O and P-J fit are separate constructs with discriminate validity. Demands-abilities and needs-supplies perspectives have been used to assess fit (Kristof-Brown 2000).	demand s-abilities (D-A) perspective, needs-supplies (N-S) perspective

Chapter 3 Model and Hypotheses

As stated in Chapter 1, the phenomenon being explored is the increased use of voluntary professional designations as selection criteria in order to support organizational objectives. As suggested by Lepak and Snell's research into the HR Architecture Model (1999, 2002), this trend might reflect an increasing propensity for firms to buy designation-associated competencies because they perceive that professional designations reflect standardized skill sets and job-related competencies that are easily imitable, substitutable and non-heterogeneous (i.e., not valuable, not unique). Conversely, the trend might also be primarily driven by a desire to own, control, retain, and have the potential to develop unique and valuable components of human capital that can contribute to the core competence of the firm and can be leveraged into distinctive competencies and SCAs. As a boundary condition, this research has focused on organizational contingencies and characteristics of human capital that have been found to deliver superior organizational performance in the SHRM and selection theory literature. In order to explore this phenomenon, several hypotheses were developed to assess the degree to which alternative plausible explanations might be relevant and applicable to explaining it.

3.1 Hypotheses and Model

As shown in the literature review, organizations design selection processes and employ assessment tools and selection criteria in order to improve the validity, reliability and utility of selection decisions. The current literature on selection theory also suggests that there are several conceptualizations and operationalizations of overall person-environment (P-E) fit that have been found to be related to selection decisions. The literature review suggests that selection systems are designed to reflect a range of fit assessments. Chief among these are the constructs of P-O fit and P-J fit (Kristof-Brown 2000). Consequently, if a professional designation is used as a selection criterion during the selection process, it must be perceived by the organization as improving one or more conceptualizations of fit during the selection process.

Both P-J fit and P-O fit have been found to account for separate variance in employment decision making and are two key conceptualizations of fit used by recruiters (Kristof-Brown 2000). Since the focus of this research is to examine the extent to which voluntary professional designations are used to assess P-O fit, the main issue is to determine the extent to which these designations are perceived to embody characteristics associated with the more broadly based organization-wide goals, values,

cultures, or objectives commonly operationalized as P-O fit (Kristof 1996). In other words, to what extent do organizations use voluntary professional designations as selection criteria because they perceive that the competencies associated with the designation reflect aspects of P-O fit that are important to them? If organizations use designations to assess P-O fit, they must perceive that the designation holder offers something to the organization that is distinct from job-based knowledge and skills.

As indicated in the literature review, P-O fit refers to "the compatibility between a person and the organization, emphasizing the extent to which a person and the organization share similar characteristics and/or meet each other's needs" (Kristof 1996,1). Strategic unity theory emphasizes the synergistic outcomes that can occur when HR systems are viewed in their entirety as mutually reinforcing bundles of practices and are designed to support organizational objectives. It suggests that in order to optimize human resource contributions, human resource system design should not focus exclusively on tweaking individual practices or policies, but also and more fundamentally on developing mutually reinforcing mechanisms to support organizational objectives and considerations (Ulrich and Lake 1990). Therefore, from a strategic alignment/strategic unity perspective, organizations may be expected to design selection processes and to develop selection criteria that assess aspects of P-O fit in order to support their own organizational goals and objectives. The literature review also indicates that P-O fit has been operationalized to include perceived fit with organizational goals, values and culture (Kristof 1996). Consequently, professional designations would only be used to assess P-O fit if they were perceived to embody characteristics of human capital representing firm-specific conceptualizations of P-O fit that contribute to meeting organizational contingencies and needs relating to goals, values and culture. Conversely, organizations that do not use professional designations as selection criteria would perceive that the professional designations do not represent aspects of P-O fit that align with organizational contingencies; these designations do not reflect aspects of P-O fit that meet organizational needs. In this instance, organizational needs are defined by the three boundary conditions selected: a desire to create SCAs, a desire to engender an HPWS, and a needs-supplies selection system orientation. Consequently, it is hypothesized that the following relationship will exist between the construct of P-O fit and the use of a professional designation as a selection criterion:

Hypothesis 1:

The more emphasis firms place on P-O fit, the more likely they are to use professional designations.

As suggested by the SHRM literature review, the link between human capital and firm performance requires two components: identification of core competencies required for the firm to achieve its strategic intent, and the creation of sustainable competitive advantages built on the human capital available to the firm. The most effective HRM practice bundles reflect firm-specific contingencies and distinctive capabilities that are difficult to imitate or substitute (Burns and Stalker 1961; Kaplan and Norton 1996; Prahalad and Hamel 1990; Ulrich 1997). As suggested by the literature review, a traditional resource-based view of the firm holds that in order for core competencies to offer sustainable competitive advantages, they must be heterogeneous, immobile, valuable, rare, imperfectly imitable, and non-substitutable. Furthermore, the firm must be organized to exploit the resource (Barney 1991). Sustainable competitive advantages are organizational resources because the tacit knowledge they require is organizationally embedded and must be moderated by specific organizational culture in order to engender distinctive competencies. It is this unique synergistic effect between competencies and culture that is most likely to produce sustained competitive advantage for organizations (Ulrich 1997).

As the literature review also demonstrates, from a strategic HRM perspective, the goal of HRM should be to differentiate human capital in areas congruent with the firm's strategic intent, and to build HRM systems, including the selection process, to support the development of competencies that are unique and valuable. Clearly, depending upon the firm's strategic choices, not all skills or competencies are equally valuable, and so they would be treated differently during the selection process. As suggested by Lepak and Snell's original design of the HR Architecture Model (1999), firms will treat human capital differently in designing HR processes based upon the degree to which competencies are perceived to be heterogeneous (i.e., rare and valuable) or homogeneous (i.e., not rare, not valuable). Heterogeneous resources will be supported by HR practices designed to control them, develop them, and retain them within the firm. With respect to retention, Arthur et al. (2005) suggest that P-O fit (i.e., fit of prospective employees with organizational goals, values or culture) is related to job placement and retention outcomes rather than to job performance outcomes. As a

result, if competencies are perceived to be heterogeneous and embody characteristics associated with SCAs, the firm will wish to retain control over this type of human capital and will emphasize P-O fit during selection decisions. In this case of heterogeneous resources, the need to select prospective employees who are a good organizational fit (P-O fit) i.e., who share the organizational values, buy into organizational goals, fit in with organizational culture, would be emphasized since the organization will be attempting to use these competencies to build long-term sustainable competitive advantages and would wish to minimize the risk of attrition. Consistent with Lepak and Snell's HR Architecture Model (1999, 2002), the firm will design selection criteria to minimize the risk of attrition and fully capitalize on this organizational resource and improve the likelihood that these SCAs can be retained in-house and leveraged across the organization over the long term. In this case of rare, valuable, and inimitable human capital, it would be difficult to buy replacements. Conversely, if the human capital does not embody characteristics associated with SCAs (i.e., is not rare, not valuable, easily imitated), the need for the prospective employee to be a good organizational fit would be de-emphasized. For the organization would be prepared to suffer to consequences of attrition for this homogeneous resource; it could always buy a replacement:

Hypothesis 2:

Competencies that possess characteristics associated with SCAs (i.e., are perceived to be rare, to be hard to imitate and substitute, to confer long-lasting value) will be positively associated with an emphasis on P-O fit in selection decisions.

Because the degree to which competencies have been determined to be unique and valuable has been most closely associated with the choice of an employment mode within the HR Architecture model (Lepak and Snell 1999, 2002), the strongest relationships should occur between these two constructs and P-O fit. Competencies perceived as inimitable will not be related as strongly to the construct of P-O fit as will rare and valuable competencies:

Hypothesis 3a:

A stronger association will exist between rare competencies and P-O fit than between inimitable competencies and P-O fit.

Hypothesis 3b:

A stronger association will exist between competencies perceived to deliver long-lasting value and P-O fit than between inimitable competencies and P-O fit.

Organizational culture, distinctive competence, and strategic unity have been found to mediate the strategy competitive advantage link (Ulrich 1991). One type of culture, a high performance work system or HPWS, has been found to deliver value at an organizational level. Two aspects of HPWS research are relevant to this discussion: the fact that the bundle of HR practices known as an HPWS are difficult to imitate due to path dependency and causal ambiguity, and the fact that key characteristics associated with an HPWS culture cross traditional functional or job boundaries (e.g., team structure, flat structure, decentralized decision making). As a result, this HPWS approach to managing people requires a broader examination of a candidate's potential and abilities than those traditionally mandated by the role or job. In addition, high performance firms with a strong view of employees as organizational resources and assets have been found to strongly believe that human capital should be leveraged throughout the entire organization (Amil, Beatty, Schneider, and Ulrich 1999; Capelli and Neumark 2001).

Therefore, it is expected that organizations possessing HPWS attributes will emphasize P-O fit more than organizations without a strong HPWS orientation:

Hypothesis 4:

Organizational cultural characteristics associated with a "high performance workplace system", or HPWS, will be positively associated with an emphasis on P-O fit in selection decisions.

Finally, selection theory suggests that determinations of a candidate's suitability might be made using one of two approaches. Organizations will attempt to provide for a match between the needs of the

organization and the needs of the person by looking for "mutually offsetting patterns of relevant characteristics between the person and the environment" (Muchinsky and Monahan 1987, 270). As discussed in Schneider's ASA Model, both people and organizations seek out situations that are attractive to them (Schneider 1987). As suggested by the literature review, this matching process can occur in one of two ways, utilizing either a demands-abilities perspective (i.e., the degree to which the individual's skills meet environmental demands) or a needs-supplies perspective (i.e., the degree to which the individual's needs are met by what the organizational environment supplies, such as culture and values [Kristof-Brown, Zimmerman, and Johnson 2005]). The demands-abilities construct has been operationalized by examining the content dimensions of individuals' knowledge, skills and abilities (KSAO) and job or organizational demands. However, the needs-supplies construct has been measured by looking at individuals' needs, preferences, values, goal congruence, organizational systems and structures (Sekiguchi 2004). While the demands-abilities perspective is more closely aligned with the content dimensions of an individual's KSAO, the needs-supplies construct offers a broader measure of fit that includes values and cultural considerations not closely linked to a specific job. Consequently, although the literature has employed this selection perspective within a P-J fit context, the needs-supplies construct might also be related to P-O fit. As a result, it is hypothesized that:

Hypothesis 5:

Characteristics associated with a needs-supplies perspective will be positively associated with an emphasis on P-O fit.

Because the "best fit" perspective of strategic human resource management theory suggests that the design of a selection system should reflect organizational goals and priorities, the criteria used in the selection system to assess fit should also align with organizational goals and priorities (Ulrich 1997a). As the literature review suggests, a number of organizational contingencies have been found to be related to superior organizational performance, including the development of a high performance workplace culture, human capital that embodies characteristics associated with SCA, and improvements in the degree to which a person's needs are met by the environment in which he or she works (i.e., needs-supplies perspective). Because the design of a selection system, including the

criteria used to assess potential employees, should be aligned with organizational goals in accordance with Ulrich's strategic unity theory, it is expected that:

Hypothesis 6:

There will be a positive relationship between the use of a professional designation (PD) and the organizational contingencies related to P-O fit (rare, inimitable, value long lasting, HPWS, needs-supplies perspective).

Organization theory offers another set of considerations that may be affecting the trend towards designation proliferation, the construct of institutional isomorphism. Theorists argue that imitative behaviour is rational since it emulates successful competitors in uncertain environments. Firms often adopt mimetic behaviour as a form of satisficing and a means of accelerating action or learning and reducing uncertainty (Lieberman and Asaba 2006). To the extent that certain social conventions become accepted practices adopted by industry leaders, they tend to define the new social order and actually lead to homogeneity (Cyert and March 1963 in Lieberman and Asaba 2006, 377).

Thus, some organizations may choose to use professional designations as part of the selection process when these credentials have become standard industry practice when filling a job vacancy. A rational firm might conclude that this would be the fastest way to improve immediate performance given the fact that attaining the designations requires extensive training and development and might be rationally viewed as increasing the likelihood of superior performance without the concomitant costs or time lags associated with in-house training. When the requirement for such a credential becomes the norm, the decision to hire someone without a job-related designation might be viewed as taking an unnecessary risk.

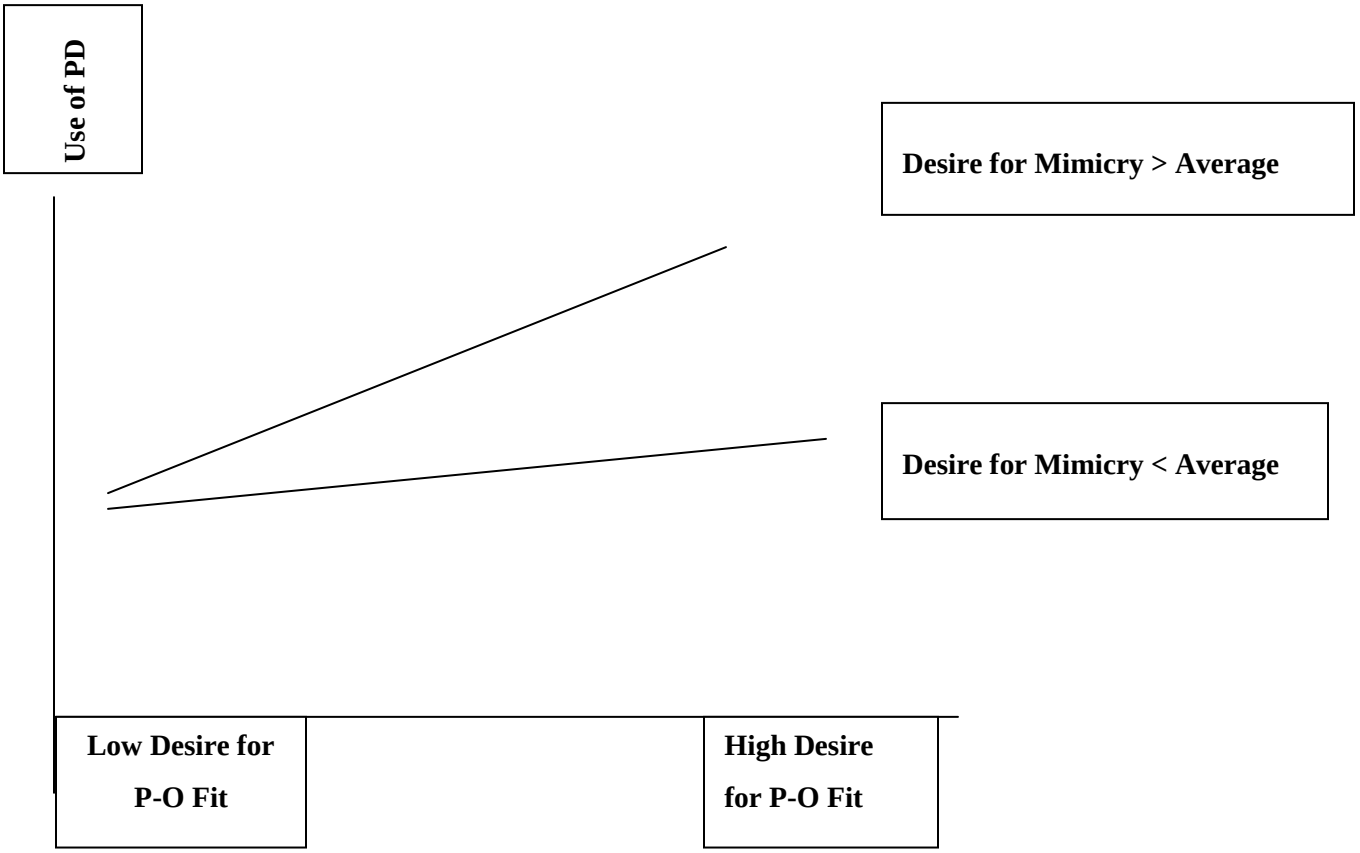
If an organization perceives that a professional designation has become socially accepted or the norm for a specific selection decision, this external pressure may affect behaviour (Lieberman and Asaba 2006). In this case, the behaviour that would be intensified would be the degree to which the organization adopts designation criteria during the selection process. Although selection criteria are primarily developed to reflect firm-specific conceptualizations of fit, the degree to which an organization seeks to engage in mimetic behaviour, whether to reduce uncertainty or to adopt what it

perceives to be socially acceptable behaviour, will influence the relationship between perceptions of P-O fit and the use of a professional designation.

This intervening variable, level of desire for institutional mimicry, will change the strength of the main effect between P-O fit and use of a professional designation at two levels (above and below the centered mean group value) and create an interaction effect. It is hypothesized that the impact of desire for P-O fit on the use of a professional designation will depend on the level of the desire for institutional mimicry.[16] A linear interaction effect is expected because the change in the use of professional designations produced by increasing the desire for P-O fit by one unit will be the same across all levels of P-O fit. When the level of desire for institutional mimicry is below the group average, there will be no interaction effect between P-O fit and the use of a professional designation. However, when the desire for institutional mimicry is above the group average, there will be a positive and significant interaction effect that increases the frequency of use of a professional designation, as shown below in Figure 3 Anticipated Interaction Effect:

[16] The decision to center the variable on the mean group value when testing interaction effects for moderators reflects concerns about possible multi-collinearity between the variables, makes the coefficients easier to interpret, and has been found to leave the r^2 intact (Cronbach 1987).

Figure 3 Anticipated Interaction Effect



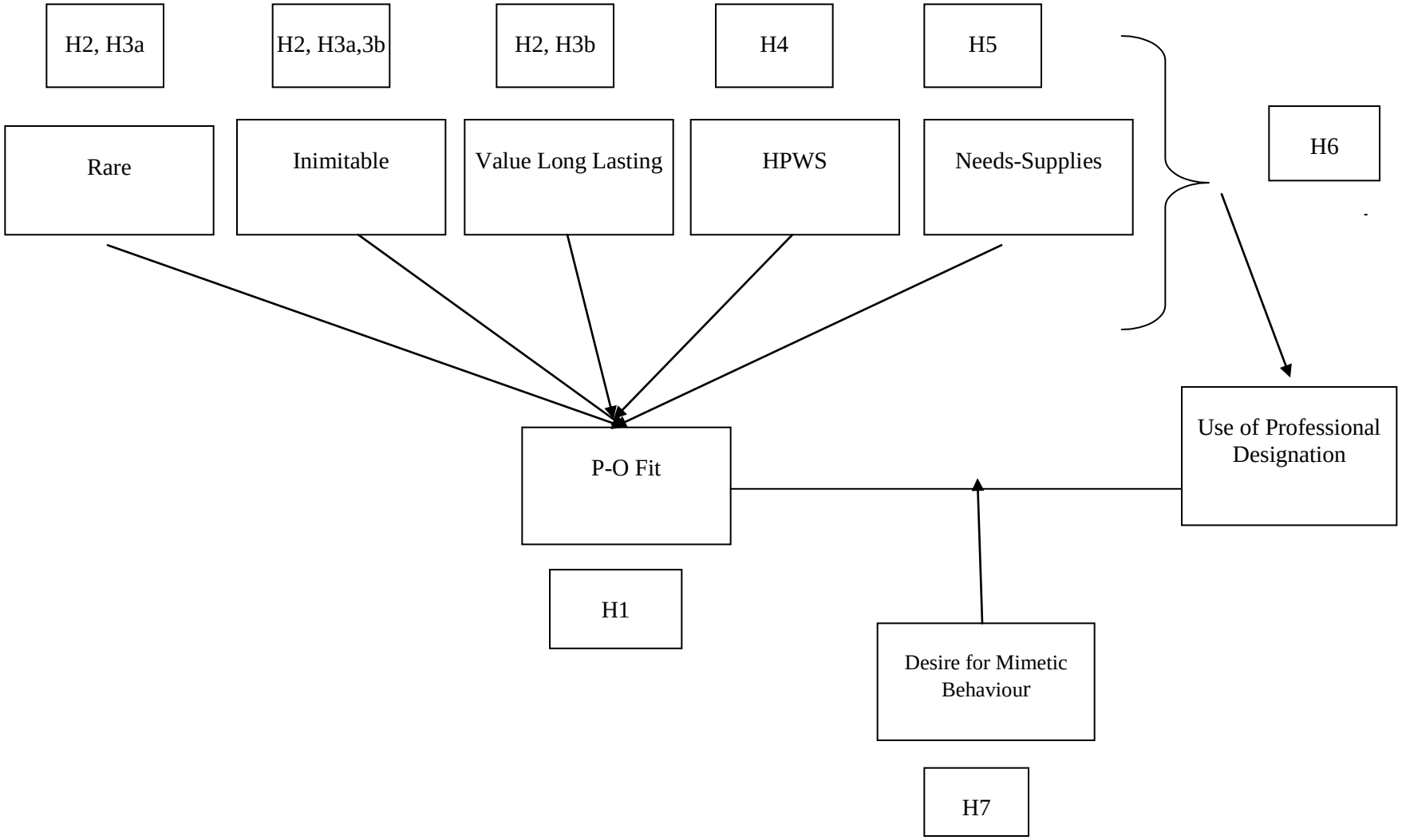
Hypothesis 7:

Higher levels of organizational desire to engage in mimetic behavior will enhance (make more positive) the relationship between desire for P-O fit and the use of professional designations.

The association between P-O fit and the use of professional designations will be modified by the desire to engage in mimetic behaviour. Little to no interaction effect will occur between P-O fit and use of a professional designation for values of desire for institutional mimicry that are lower than average. Higher than average levels of organizational desire to engage in mimetic behaviour will create a positive interaction effect and make it more likely that the organization will use a professional designation.

Figure 4 Model and Hypotheses illustrates the relationship among the major constructs under consideration and the hypotheses described above.

Figure 4 Model and Hypotheses



Chapter 4 Methodology

4.1 The Population

An on-line survey was conducted using 841 members of a professional association of Human Resource practitioners in southern Ontario representing 500 organizations. This association offers local Human Resources executives, managers, consultants, generalists, specialists, and administrators[17] opportunities to network and share information on a broad range of Human Resources Management topics, and to enhance their professional knowledge and skills through regular meetings, seminars, and workshops. Human Resource practitioners are a particularly effective group with which to conduct this research given their involvement with the two processes that are central to it, i.e., selection process design and selection decision making. As a normal part of their job, Human Resource practitioners support organizational objectives in designing selection processes, help line managers to identify appropriate selection criteria, facilitate the development of desired organizational cultures, and develop selection systems appropriate to different job types. Moreover, since the late 1980s, many Human Resource practitioners and departments have become increasingly involved with the strategic planning process of their organizations, particularly with respect to conducting internal scanning to identify core and distinctive competencies currently residing in the organization (Lengneck-Hall and Lengnick-Hall 1988).

In strategic HRM literature, a firm-level system analysis of HRM practices has been advocated as the proper unit of analysis for understanding and evaluating the impact of various HRM practices and system designs on organizational performance (Jalette and Bergeron 2002; Ramsay, Scholarios, and Harley 2000). The analysis was conducted at a firm level because the goal is to examine the firm's selection process across the organization and whether there are linkages between the use of professional designations and conceptualizations of person-organization fit. This approach to conducting strategic human resource management research (using a firm or organizational level unit of analysis) is in keeping with recent trends that distinguish it from the approach of more traditional

[17] Of the 841 members, almost half (395) describe themselves as either HR generalists or HR managers with responsibility for all typical functional areas of HR. The rest are HR specialists working in functionally specific roles (e.g., recruitment, employee relations, organizational development, compensation, benefits, health and safety) (Grand Valley Human Resources Professionals Association 2007).

human resource management research, which is often conducted at an individual level (Datta, Guthrie, and Wright 2005).

4.2 The Sample

The Board of Directors of this association agreed to provide access to their members. Its regional chapter is the second largest in Ontario. The membership of 841 HR practitioners is spread across four major municipal areas and a number of geographically dispersed, smaller communities. The members represent 500 different organizations in manufacturing, public, and service sectors. Of the 500 organizations, 94 organizations (18.8%) have multiple members. Of the 94 multiple member organizations, the majority (61 or 12.2% of the total organizations) have only two members.[18] The association is located in one of Ontario's most broadly based and diverse economies, which includes a strong concentration of high technology manufacturing, financial services firms, automotive manufacturers, automotive parts suppliers, and post-secondary educational institutions (Region of Waterloo 2007). Local firms range in size from small one- or two-person businesses to large multi-national organizations.

4.3 Purposeful Sample Review

Prior to finalizing the design of the self-administered, Web-enabled[19] survey, a prototype was reviewed with a pilot group. Foddy observes that this practice can help researchers understand how respondents are likely to interpret questions and enable researchers to observe and investigate respondent behaviour and understanding first-hand (1993). Wood and Christy also support the use of pilot groups for a slightly different purpose, possibility sampling. They suggest that at the initial stage of research, even before questionnaire construction, there is often a need to sample for possibilities to ensure that all issues likely to be of interest or relevant to respondents are included.

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[18] Of the remaining 33 organizations (6.6% of the total organizations) with more than two members, 17 have three members, four have four members, three have five members, four have six members, one has seven members, one has eight members, one has nine members, one has 11 members, and one has 20 members.

[19] The survey was designed and hosted using Survey Monkey. All reports were gathered using Survey Monkey standard reports.

They further suggest that the results of this purposeful possibility sampling should affect the design of a sampling survey or questionnaire (Wood and Christy 1999). Therefore, prior to launching the live survey, a pilot study was conducted with a sample group. In this pilot study, semi-structured interviews were conducted with representative participants in order to ensure the adequacy of the theoretical framework from an external validity perspective, provide an opportunity for respondents to challenge the researcher's assumptions, decrease sampling error by ensuring that questions worked as intended, obtain first-hand information about any design problems that could affect survey completion or data obtained, improve the overall reliability and validity of results, and ensure that the survey could be understood by respondents (Cook and Campbell 1979). The review also ensured that questions that are too invasive, given the potentially sensitive nature of training, development, and promotion, would be identified early on (Foddy 1993). This pilot study also ensured clarity of the navigational path and of information organization—two issues that have plagued self-administered surveys (Jenkins and Dillman 1995; Jenkins and Dillman 1997). To ensure that any adverse contextual influences were minimized, a clear explanation of key concepts and terminology used in the survey was provided in an introductory paragraph and covering letter. This explanation was reviewed with pilot study participants to ensure that the intended meaning of survey terms and concepts was well understood. This increases the likelihood that participants will share a similar response framework (Foddy 1993).

Participants chosen to pilot the survey had to meet several criteria to ensure the requisite authenticity and representativeness. Some participants had general management experience at a senior level of their organization and some were more junior with more limited experience. They had a mix of exposures to designing and completing questionnaires and surveys in the past. They all had or had had responsibility for the HR function or have worked in HR. They represented a mix of ages, industries, and years of experience, and three were actively involved in the strategic planning process of their organization. Seven interviewees were selected to reflect these criteria and to represent the four main industry groups that would be found in the full sample frame: financial services, automotive, manufacturing, services, post-secondary education and high technology (BMO Capital Markets 2008). A set of structured and semi-structured interview questions were developed to obtain feedback on both the survey design and survey content. In addition to this pilot study, a copy of the prototype survey was also sent to the board of directors of the association to solicit open-ended and

unstructured feedback on the survey's design, layout, and content. As a result of this process and the feedback received from the seven interviewees and six board members, revisions were made to the survey layout and design (e.g., information provided to participants, physical position of the "Not Applicable box", length of survey, column headings, question wording, examples, question clustering, font size) and to its content (e.g., additional information concerning participant characteristics to make the results more useful to both the researcher and the association). The design of the final survey is shown in Appendix A.

4.4 Recruitment Method

Because past surveys of this group tended to produce a fairly low participation rate, I modified Dillman's Tailored Design Method and used a three-contact strategy to distribute the survey and increase participation rates (Dillman 2000). When first contacted, all members of the association were invited to participate in the survey by means of an introductory letter sent to them by email. (Each member of the association has access to the internet; members regularly use the internet and email, are accustomed to receiving correspondence in this manner, and would expect association correspondence to occur using email, particularly from this association.) As part of this initial contact, participants received a letter of introduction from the president of the association supporting the research and outlining some of the benefits that could arise both for participants and for the association. The letter also stated the purpose of the research, the procedure by which survey feedback would be given to participants, and contact information for members of the research team. Participants were also encouraged to communicate any concerns about confidentiality or other aspects of the survey content or process. Participants were also told how they could access the results of the survey when it was completed.

The introductory letter and survey were emailed to each member organization in early July 2007. Each member of each organization in the association received an invitation to participate in the survey. The history of this group indicated a high degree of communication within the HR department; only one survey had to be conducted when previous organizational-level research (a

member satisfaction survey) was undertaken. Participants were advised that the self-administered survey might take 15 to 20 minutes to complete.[20]

The survey was distributed in the summer since this season is traditionally a slower time for HR departments, which might improve participation rates. To ensure that vacation absences would not impair response rates and create a source of non-response bias, the survey remained available for a relatively long period (two and a half months, from July to mid-September). After one month, a reminder letter was emailed from the association president and the researcher encouraging them to participate, stressing the importance of their contribution to the research, stressing that we would like a response from each organization, and reiterating the benefits that could result from the research. A week before the end of the survey period, a final reminder was emailed to association members encouraging them to participate if they had not already done so, reminding them of the deadline and thanking those who had participated. Also one week before the deadline, this final email reminder was supplemented by a formal verbal announcement at a well attended annual breakfast meeting (Dillman 2000).

4.5 Survey Design

An on-line survey was chosen for several reasons. Previous researchers have shown that on-line surveys result in fewer missing values than do more traditional manual "paper and pen" surveys, safeguard against coerced responses, reduce costs, enable wider distribution, enable automated data entry, improve turnaround times, reduce error, and reduce response-style bias motivated by social desirability factors (Roztocki and Morgan 2002; Stanton 1998). As shown in Appendix A, the survey was designed in two distinct sections. To reduce survey fatigue, respondents were required to deal

[20] In order to guarantee anonymity and confidentiality in deference to the somewhat sensitive nature of questions about the relative importance of various functions within the organization, IP addresses could not be checked and screened. The risk of oversampling was felt to be minor. Of the 500 organizations in the association, 94 have multiple members (18.8%) while 406 (81.2%) have a single member. Of those with multiple members, 61 (64.8%) have only two members, while 33 (35.1%) have more than two members. Applying these membership statistics to the actual response rate of 292 surveys, single responses would be expected from 238 organizations (81.2% of the responses), and multiple responses would be expected from a maximum of 54 organizations (18.8% of surveys received). Of the 54 organizations with multiple members, 35 (64.8%) would have only two members and 19 (35.1%) would have more than two members.

with only one section of questions at a time. In addition, information was provided to respondents indicating the percentage of the survey they had completed. Data were automatically collected and stored in an on-line repository, reducing the possibility of transcription error. The first section captured data about the organization, the respondent, and the frequency with which designations are used. The second section captured data about the perceptions or attitudes of participants towards the selection process in general and three functional areas in particular: Human Resources, Accounting, and Operations Management. These three areas were chosen to reduce participants' response burden (an issue uncovered during the survey design stage) and to represent the range of typical job vacancies in which a designation is required. In order to further substantiate the choice of these three areas, online job postings were monitored for two weeks during the fall of 2007. These three designations represented over 99% of the voluntary designations used as selection criteria in three of the most popular on-line posting sources in the geographic region from which survey participants were drawn. Feedback from the board of directors of the association indicated that these are the three most popular sites for job postings in the region.[21]

In his seminal work on conducting social research, Foddy (1993) reports that properly distinguishing between behaviour and attitudes remains a challenge for many social researchers. He recommends that researchers collect attitudinal data that clearly differentiates the extremity of judgments, the importance of topics, and the certainty or sureness of responses. In the present study, participants are primarily responsible for staffing decisions in their organizations, so they can be expected to be familiar with organizational practices and consequently to be sure of their responses. The importance of topics was not felt to be relevant to this research, because all questions were designed to focus on

[21] Jobs vacancies reviewed were posted from October 22, 2007 to Novermber11, 2007 on either Monster.ca, Workopolis.ca, or the HRSDC job site. This period represents a key hiring window for HR departments. During this period, there were 937 jobs posted on Monster.ca within the regional area in which survey organizations were found. Of these, 52 required a designation or credential. There were 498 jobs posted on "Workopolis.com". Of these, 201 required a designation or credential. There were 83 jobs posted on the HRSDC Web site requiring a designation or credential (total unavailable). Of these, 69 required a voluntary designation. Over 99% of required designations were related to either Accounting (CGA, CMA, RVT, ACCA, ACPA, CFP, PFPC), Operations Management (PMAC PLOG, CPP, CSCP), or Human Resources (CHRP, CPP). Only four instances of voluntary designations did not fall into one of these three groups (PMP, CIP, IFIC, LOMA).

the same phenomenon, the use of professional designations, and not to elicit more general opinions about a broad spectrum of topics. However, care was taken to ensure that the wording was clear and that separate questions were devised to measure both behavior (what their organizations do or have done) and attitudes (the respondents' perceptions). These two separate objectives were not confounded in question wording by using a "funneling technique" (Foddy 1993) that would lead to incorrect inferences by the respondent as a result of prior questions. In the first part of the survey, the objective was to obtain frequency data concerning the presence of certain behaviours. In the second part, the objective was to obtain data on the extremity of participants' judgments and attitudes. Both sections used a five point Likert-style scale with changes to the terminal anchors to reflect the appropriate context. For the initial frequency and behavioural information, the scale was: Always, Usually, Sometimes, Seldom, and Never. For the Attitudinal Section, the scale was: Strongly Agree, Somewhat Agree, Neither Agree nor Disagree, Somewhat Disagree, Strongly Disagree.

Although Miller argues strongly for the use of a seven-point scale when conducting social-psychological research, Foddy contends that the number of distinctions respondents can reliably make decreases when they are dealing with ill-defined social stimuli and that the "magic number seven" may be more suited to experiments conducted under the more tightly controlled conditions of a psychological laboratory (1993). I relied upon feedback from the pilot group, which indicated that five is the maximum number of categories that participants might reasonably be expected to differentiate for this topic. Because up to 20% of respondents will answer a question in a substantive fashion when a non-substantive option is not explicitly offered (Foddy 1993), I also provided both a neutral middle option ("Sometimes" for the frequency portion and "Neither Agree nor Disagree" for the attitudinal portion) and a "Not Applicable" option.

4.6 Operationalization of Key Constructs

Construct domains were developed using a three-step process. First, a search of the literature identified the construct domain and generated a sample of items. This approach resulted in constructs driven primarily by theory established in the relevant literature. The literature search also revealed only one validated scale that had been used to assess P-O fit. However, use of this scale was not felt

to be appropriate for this research since it focuses exclusively on one dimension of P-O fit[22]. As a result, I reviewed the relevant literature[23] with particular attention to meta-analyses that included the relevant constructs, and generated a pool of items that could be tapped for the domain of each construct and provide content validity. Particular attention was also given to recent research that had achieved a significant citation history or prominence. Research has shown that experts can enhance scale reliability and validity and that any research using new, changed, or previously unexamined scales should (at a minimum) be judged for face validity by a panel of experts (Hardesty and Bearden 2004). Therefore, as a second step to ensure face validity, the general scales developed from the literature were reviewed with the pilot group (as noted above), including how I had operationalized each item as a survey question, as shown in Table 2 Model to Survey Design Linkages, to ensure that terminology was clear and the construct had face validity. After making changes in areas suggested by the pilot group, primarily to clarify wording and reduce confusion, the scales were again reviewed with the board of directors of the association to ensure face validity. Finally, the purification and dimensionality of the scales were assessed via EFA, CFA, Cronbach's Alpha, and inter-construct correlation analysis, as explained in Chapter 6 Results. Orthogonality of constructs and dimensions was assured via the multi-collinearity analysis shown in Table 6 Correlation Matrix for Constructs - Test for Multi-collinearity, which provided evidence that these constructs were orthogonally related to each other. Nomological validity of the scale was assessed as a form of construct validity to ensure that all constructs behaved as expected within the nomological set. This was assured via structural equation modeling, as detailed in Chapter 6 Results. The construct to survey question operationalizations are as shown in Table 2 Model to Survey Design Linkages below:

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[22] It should be noted that there is a validated scale to measure Organizational Culture (O'Reilly, Chatmak and Caldwell 1991). However, the primary consideration was to sample a variety of dimensions that could be associated with P-O fit and not to assess culture in isolation.

[23] Literature searches were conducted on such major data bases as Proquest, Web of Science, and Ebsco, using the following key search words: professional designations, credentialism, up-skilling, and each of the separate constructs noted in the summary of the literature review. Sources were examined for the number of citations they had received in order to determine key items of foundational research and to ensure that the meta-analyses had face validity. Particular attention was given to meta-analyses from 1990-2008 and research from 2000-2008.

Table 2 Model to Survey Design Linkages

Dependent Variable	Variable Name	Survey Question:
Frequency of Use of PD during Selection Process	PD	My organization requires prospective employees to possess a professional designation before they are hired.
Observed Variables	**Theoretical Operationalizations**	
Needs-supplies (Kristof 1996; Sekiguchi 2004)		
Desires of the person and attributes of the job (needs-supplies)	PN	When comparing candidates, the job should meet the needs of the person (e.g., personal goals, personal values, personal interests).
Congruence between individual and organizational values	PV	When comparing candidates, an important consideration is to select people who possess personal values which align with our organizational values.
Goal congruence with	GM	When comparing candidates, an important consideration is to select people whose goals

organizational leaders		align well with the goals of our organization's leaders.
Characteristics of individual personality and organizational systems and structures	PM	When comparing candidates, an important consideration is to ensure that their personality is a good fit with our organization.

High Performance Work Systems (Becker and Huselid 1998; Chow 2001; Gittell, Seidner, and Wimbush 2007)

Rigorous recruitment and selection	SCC	Our selection criteria for jobs are in keeping with the selection criteria used in other organizations (negative)
Performance-contingent incentives	PMS	My organization has a process in place to identify and correct performance gaps.
	RIP	My organization rewards individual performance.
	IBP	My organization provides opportunities for incentive or bonus-based pay.
Management development and training	JRT	My organization provides job-related training for new employees.
	OA	My organization provides orientation for new employees.
	MP	My organization has a process in place to identify employees who could be further developed or promoted into other roles.
Linked to business	IA	My organization has specific processes and mechanisms in place to improve accountability.

	SA	In my organization, managers and supervisors are personally accountable for improving the performance level of their subordinates.
Employee involvement	DDM	My organization emphasizes decentralized decision making.

SCA Assessment (Barney 1991; Peteraf 1993)

Valuable - Long lasting advantages	LLHR LLA LLOM	This department or function provides organizational advantages which are likely to be long lasting.
Rare	UHR UA UOM	This department or functional area offers unique services to our organization—you wouldn't find our processes and policies in other organizations.
Hard to imitate or substitute; tacit/organizationally embedded	SHR SACC SOM	This department or function requires organizationally specific knowledge which is rooted in a deep understanding of our business, customers and strategy.

Mimetic Behaviour (Lieberman and Asaba 2006)

	LMA	The most important criterion used to determine if a professional designation will be required is the fact that one is available in the labour market.
	TOC	My organization requires candidates to have professional designations mainly because this is the trend in other companies.

Chapter 5 Results of Data Analysis

5.1 Non-Response Bias

Of the 500 organizations in the population, at least one response was received from each of 292 organizations (up to 58.4% of the organizational population or 34.7% of individual members). Given the nature of this research, four major potential sources of bias were identified: survey fatigue, data that was not missing at random, respondents who were not representative of the sampling frame, and differences in responses due to the length of time the survey was live (i.e., early respondents with answers significantly different from those of late respondents). ANOVA analysis was undertaken using SPSS software to determine whether any of these sources of bias affected the data set.

With respect to survey fatigue, of those who responded, 231 (79.1% of all respondents) completed all questions. To further ensure that survey fatigue was not an issue and that listwise deletion would be an appropriate analytical technique for dealing with incomplete data, ANOVA analysis was performed on missing responses to ensure that they could be assumed to be missing at random (MAR) and that survey fatigue, unclear wording, or other systematic problems were not at fault. In order to properly use listwise deletion methods, MAR assumptions argue that the missing data is independent of both the observed values and the unobserved values (Byrne 2001). ANOVA analysis was conducted for each indicator variable, comparing surveys fully completed (231) to surveys only partially completed (61) to ensure that the data were missing at random (i.e., the assumption that their absence could be linked to other observed values in the data) on each of the other variables (Hair, Anderson, Tatham, and Black 1998). The MAR analysis suggests that these two groups likely belong to the same population[24]. There was no indication of any systemic non-randomness in the missing data (Little and Rubin 1989).

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[24] Tests were conducted comparing the mean responses of those who completed all survey questions and those who completed some survey questions. One-way ANOVA analysis did not reveal significant differences in the main dependent variable under consideration, the use of professional designations between these two groups ($F_{1,262}$=.155 p=.694). Subsequent one-way ANOVA analysis conducted on each variable revealed only two variables in the data set with significant differences between the two groups: CHR ($F_{1,253}$ = 5.720 p=.018) and LLA ($F_{1,251}$ = 6.198 p=.013). Despite these significant mean differences, no theoretical explanations were felt to exist which could attribute these differences to social desirability or other pressure. Because these two questions (35 and 38) appeared at the end of the survey, survey fatigue was likely to be the primary reason for the

In addition to examining the missing data, industry comparisons were also made between the members of the association who had completed the survey and regional statistics in order to ensure that the organizations sampled were representative of the region. Regional data were used since association data which identified member organizations by industry was not available. Table 3 Participation Breakdown , which is shown below, summarizes the industry categorizations for the organizations which participated in the survey. Compared to the region in which this association is found, survey responses were more heavily weighted towards manufacturing organizations, finance and insurance and real estate and contained fewer organizations from the retail and wholesale sectors and information and cultural industries. This difference in participation is representative of the fact that HR positions are more common in manufacturing firms and financial institutions, which also tend to be larger in size and form a significant part of the largest employers in the area (BMO Capital Markets 2008) as compared to smaller retail establishments (e.g., a store that might only employ one or two people). The typical responding organization was a manufacturing firm with over 500 employees whose business is international in scope with a mix of employees with and without voluntary professional designations[25].

Finally, the survey responses were divided into two groups based on the date on which the surveys were completed. An examination of the data revealed two clusters of responses centered around either the summer vacation period (early July to late August) or the early fall period (mid-September to late September). As a result, the respondents were divided into two groups, early respondents (153 respondents from July 9 to August 30) and late respondents (78 respondents from September 19 to September 27)[26]. One-way ANOVA analysis was conducted on the two groups for each variable in

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differences. They were left in the data set because they affected only 20.9% of 39 variables or 8% of the data set. These were not main dependent variables that were central to the analysis.

[25] Of these organizations, 93.8 % currently had at least some employees who possessed voluntary professional designations. The responses may be broken down as follows: 2.1% indicated that all of their employees had professional designations, 8.9% indicated that most employees had voluntary professional designations, 82.9 % indicated that some employees had professional designations, and 6.2% indicated that they had no employees with voluntary professional designations.

[26] There was a 19-day period from August 30 to September 19 during which no online responses were received. This created a natural break around which to structure this analysis.

the data set in order to determine whether there were any significant differences in the means between the two groups[27]. There were only two variables for which significant mean differences existed between the two groups, GM ("When comparing candidates, an important consideration is to select people whose goals align well with the goals of our organization's leaders") (W=.023, p=.05) and CHR ("Compared to other areas of the company, the HR function provides services and expertise which are critical to the future success of our organization" (W=.018, p=.05), which suggests that there are significant differences between early and late respondents on these two measures. However, in determining whether this difference was material to the research, Borg and Tuten (2003) suggest that the key issue is not whether there are statistically significant differences among individual variables, but whether the variables differ systematically according to demographic considerations material to the study (e.g., age, education, income level, job satisfaction) and affect the key variables under analysis.

> Theoretically, it is of course not convincing to study the relationship of just any variable to the time of responding. It would be much better to look at variables where the content of the item is related in some way to the psychology of providing an answer. Consequently, other researchers have limited the examination of differences to the variable of interest in the study (Borg and Tuten 2003, 135).

Because the primary variable of interest in this study was the use of professional designations, which was not found to be significantly different between the two groups, and because the unit of analysis was organizational and did not concern itself with demographic information specific to the respondents as a key analytical focus, the two groups belong to the same population on the key variable of interest for purposes of this study. The results comparing respondents to the regional statistics are shown in Table 3 Participation Breakdown as shown below:

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[27] Because the two groups are of unequal size, a weighted analysis was used to compare means for this unbalanced design. An initial examination of the Levene statistic for homogeneity of variance revealed five variables for which the assumption of homogeneity of variance was not justified. Therefore, Welch and Brown-Forsyth statistics were used for significance testing of mean differences.

Table 3 Participation Breakdown

Industry[28]	**Survey**	**Region**	**Participant Size**		**Region Size**[29]	**Participant Scope**		**Region Scope**[30]	
Manufacturing	32.5%	23.4%[31]	**>500**	44.9%	37.14%	**International**	50.2%	**Export**	29.60%
Professional Services and Scientific and Technical	30.2%	34.3	**100 to 499**	36%	28.25%	**Non-International Sub-Total:**	49.8	**Not Export**	70.40%
Finance and Insurance and Real Estate	13.3%	7.4%	**20 to 99**	11.3%	22.66%	**National**	18.9%		
Transportation and Warehousing and Public Utilities	4.8%	4.2%	**<20**	7.9%	11.95%	**Provincial**	11.7%		
Wholesale Trade	1.7%	4.5%				**Regional**	12.0%		

[28] Some NAICS categories were combined in order to facilitate comparisons with the Region of Waterloo data. These categories included Scientific and Technical (15.1% of respondents), Public Administration (3.5% of region), Public Utilities (.7% of survey respondents), and Real Estate (.3% of survey respondents). Regional data were not available for Information and Cultural Industries, which represented 1.0% of survey respondents. Where more recent data were available in the 2008 BMO report for a specific category, these data were used.

[29] Category data received from Canada's Technology Triangle were totaled in order to approximate the categorizations used in the survey (Gerhard 2008).

[30] This information is the closest approximation available at the date of writing. It should be noted that no direct comparative information is available in the region that deals with business scope apart from data concerning exports and imports (Gerhard 2008).

[31] The percentage of the workforce in the area employed in manufacturing has been declining in recent decades, from 32% in 1987 to 27% in 1997 to 23% in 2007 (BMO Capital Markets 2008). However, manufacturing membership in GVHRPA has held fairly constant, reflecting strong HR presence in manufacturing firms and the above average manufacturing presence that has historically been found in the area (Region of Waterloo 2007).

Retail Trade	1.4%	15.8%				**Municipal**	7.2%		
Info and Cultural Industries	1.0%	4.0%							
Agriculture, Forestry	1.0%	.9%							

Regional statistics are adapted from Region of Waterloo, Workforce By Major Industry, 2007 and Canada's Technology Triangle, Waterloo Region and Guelph, February 2008. Percentages do not total 100 due to elimination and combination of some categories that are not common to both sources.

5.2 Descriptive Analysis of the Data

Table 4 Descriptive Analysis of Data displays descriptive statistics (mean, standard deviation) associated with the observed data as well as reliability ratings (Cronbach's α) for the latent constructs in the model. Two critical assumptions associated with structural equation modeling (SEM) are that the data are interval or continuous in scale and that they have a multivariate normal distribution. In her research on Structural Equation Modelling, Byrne (2001) notes that the normality assumption is often either ignored or violated and that many researchers are oblivious to the fact that they have violated this assumption. She notes that in research conducted by Breckler (1990) on violations of the normality assumption when SEM was used, "only 19% actually acknowledged the normal theory assumptions and fewer than 10% explicitly tested for their possible violation". Violation of multivariate normality "may encourage researchers to seek further modification of their hypothesized model in an effort to attain adequate fit to the data. However, given the spuriously high value of the χ^2 value, these efforts can lead to inappropriate and non-replicable modifications to otherwise theoretically adequate models" (Byrne 2001, 268).

Skewness and kurtosis measures for these data indicated a highly non-normal distribution, with only eight of 39 variables falling within the conventional range for skew and only 13 of 39 kurtosis scores falling within the conventional range for kurtosis. Kline advocates upper boundaries of 3.0 for skewness and 8.0 for kurtosis as indicators of multivariate normality (Kline 1998). Excessive skew and kurtosis scores[32] were both primarily positive, indicating a right leaning distribution with few cases in the tails showing a strong central tendency with high peaks.[33] In order to further assess the degree to which the data were non-normal, visual representations of quartile-quartile plots (Q-Q) were obtained for each variable that compared the expected and observed values of the data plotted

[32] In addition to calculating adjusted skew and kurtosis scores, a Shapiro-Wilks W test (since n<2000) was conducted in order to assess the correlation of the data with their normal scores. The resulting W was significantly smaller than 1 indicating that the assumption of normality was not met. This finding was confirmed with visual inspection of both box plots and a histogram of the distribution with the normal curve overlay for each of the variables, which showed significant visual differences from a normal distribution.

[33] Both measures exceeded the +2 to -2 range normally found acceptable. Adjusted skew values for observed variables ranged from -20. 27 to 32.16 (when values were divided by standard error), and kurtosis ranged from -1.15 to 86.90 (again, raw scores were adjusted by dividing by standard error).

against evenly spaced percentiles for a normal distribution. Results obtained are as shown in Appendix C. In the individual (Q-Q) plots for each variable in the data set, when percentiles of the standard normal distribution were plotted against percentiles of the data, they confirmed the non-normal nature of the data. Subsequent attempts to normalize the data[34] failed to achieve skew and kurtosis levels that fell within acceptable ranges and so the data were used without transformation. However, as a result of this multivariate non-normal data, bootstrapping was used to estimate standard error and significance in subsequent analysis.[35] Using this method, 200 random samples[36] were taken from the data set with replacement in order to generate information on the variability of parameter estimates and fit indices based on the empirical sample and not on assumptions about probability theory of normal distributions[37].

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[34] Various data transformations were undertaken, including square root, inverse, and logarithmic transformations. Results generated did not fall within conventional ranges for skew and kurtosis. In addition, data were examined for outliers that might have contributed to the non-normal distribution and that may have resulted from errors of data entry. No outliers were detected in the data set.

[35] Because the bootstrapping method was used to deal with multivariate non-normal data, the Bollen-Stine p value rather than the usual maximum likelihood based p value was used to assess overall model fit in subsequent analysis (Byrne 2001).

[36] Two hundred samples is the default number of samples to be used for bootstrapping in AMOS 5.0. To ensure that this sample size did not significantly affect results, chi-square measures for the subsequent SEM model were obtained using both the default number of bootstrap samples and 1000 samples. Model fit statistics were identical.

[37] One key issue associated with the use of bootstrapping with non-normal data is the degree to which the sample is reflective of the population. Because there were no significant systemic problems identified with missing data (Table 4 Descriptive Analysis of Data) and because the sample has been shown to be reflective of actual population parameters (see 4.2), this assumption appears to be reasonable and the technique suitable for this data set.

Table 4 Descriptive Analysis of Data

Latent Variable	Cronbach α	Observed Variable	Mean	s.d.
Rare	.796	UHR	2.67	1.246
		UA	2.97	1.176
		UOM	2.48	1.216
Inimitable	.690	SHR	1.79	.955
		SACC	2.07	1.025
		SOM	1.44	.793
Value Long lasting	.722	LLHR	1.62	.806
		LLACC	1.93	.879
		LLOM	1.59	.050
High Performance Work System	.828	PMS	2.20	.068
		IA	2.60	.074
		IBP	2.32	.094
		MP	2.33	.077
		RIP	2.43	.085
		DDM	2.74	.079
		JRT	1.89	.060
		SA	2.30	.071
		OA	1.51	.056
		SCC	2.50	.067
Needs-Supplies	.739	PV	1.42	.042
		PM	1.43	.043
		GM	1.80	.047
		PN	1.73	.053

In addition to assumptions of multivariate normality, SEM also contains two other assumptions that were both explicitly assessed: independence of observations and randomness of data. Durbin-Watson coefficients and runs tests indicated that the survey data were both independent and random. The Durbin-Watson coefficient suggests that the data set contains independent observations (DW = 2.098, falling within the critical range of 1.5 to 2.5). In order to assess the randomness of the data, I used a runs test to check for unusual, non-random periodicities in the sample. The resulting value of .132 provided support for the assumption that the data are randomly ordered ($p<.05$). The reliability of the scale measuring each construct was evaluated using Cronbach α assessments, which guided my decision as to which scales to keep and ensured that the observed variables were measuring their intended constructs (see Table 4 Descriptive Analysis of Data for Cronbach α for each construct). I tested for discriminant validity by examining the correlations between constructs to ensure that multi-collinearity was not an issue. Results indicated that the constructs provided evidence of discriminant validity.

Table 6 Correlation Matrix for Constructs - Test for Multi-collinearity shows the results of this analysis, which supply evidence of strong construct independence and no evidence of multi-collinearity. Kline suggests that inter-correlations between constructs should be less than .85. Kline also suggests that evidence of convergent validity is provided when items specified to measure a construct all have relatively high path coefficients in CFA analysis (Kline 1998). These path loadings are discussed in detail in 5.5 and are shown in Table 8 Standardized Path Coefficients Model SEM1 and Table 9 Standardized Path Coefficients Model SEM2, which provide evidence of convergent validity.

5.3 Exploratory Factor Analysis

Prior to construction of the confirmatory factor analysis (CFA) models, exploratory factor analysis (EFA) was used to assess the strength of relationships between variables, to identify the number of factors present in the data, and to identify items that either did not load on the expected factor (convergent validity) or that loaded on more than one factor and which might cause problems in the subsequent CFA. EFA was also used to check for construct independence in the sense that I also checked to see whether the variables would load cleanly on the construct they were designed to measure in order to ensure both construct validity and discriminant validity. A variety of rotations (e.g., varimax, direct oblimin) were used to determine the number of factors present in the data, to

identify items that consistently loaded together, and to identify items whose loadings were sensitive to rotation methods. The measure of sampling adequacy (Kaiser-Meyer-Olkin = .772) indicated that enough common variance existed to make the data suitable for EFA. The fact that the Bartlett's Test of Sphericity was significant ($p<.05$) suggested that the data are suitable for factor analysis, since this is not an identity matrix and there are significant correlations to explore. I first performed principal components analysis in order to examine the total amount of variance (unique and common) that could be explained by my data set, and then I used principal axis factoring to examine just the common variance and ensure that all observed variables extracted from the theory were contributing to the variance explanation.[38]

Two commonly used tests were employed to determine the factors revealed by the Principal Axis Factoring, the scree plot (Cattell 1966) and the Kaiser-Guttman approach (Kaiser 1960). The final rotated solution was obtained using maximum likelihood extraction. The rotation method was Varimax with Kaiser normalization. The scree plot shows (at Cattell's elbow) which eigenvalues fall to a level indicating background noise rather than real information. The Kaiser-Guttman approach shows the number of factors present in a dataset by identifying those that explain more than the average amount of variation, as shown by eigenvalues having a value greater than 1. In these data, Cattell's elbow falls at 12 factors with an eigenvalue >1.[39] In addition to employing these two tests, I looked for factors with at least two observed variables loading onto them in which all factor loadings met the conventional test of >.40 (Ford, MacCallum, and Tait 1986). I also examined the loadings for any cross loadings which were apparent and not easily explained by theory. I performed two iterations of the Principal Axis Factoring. In the first iteration I used all observed variables present that the literature reviews suggested might load onto the construct under investigation. Although most variables loaded cleanly onto separate factors and seemed to be theoretically related, two

[38] By way of comparison, For the 6 factor model, Principal Components Analysis explained 67.210% of the total (both the common and unique) variance in the data. Principal axis factoring suggested that 53.053% of the common variance could be explained.

problems with the data set were noticed. Some variables were not contributing to the variance explanation or loaded with only one observed variable, and three cross loadings were apparent in the data set. As a result, in the second iteration, eight variables were dropped. Each of the eight dropped variables had extraction communality coefficients <.40[40]. The loadings were lower than the permissible minimum of .40 advocated in factor analysis (Ford, MacCallum, and Tait 1986). These eight variables contributed little to explaining the common variance in the subsequent analysis[41]. Dropping them reduced the factors solution from 12 to ten. Of particular note is the fact that two observed variables relating to the construct of Institutional Isomorphism did not contribute significantly to explaining the variance, so this construct was dropped from subsequent analysis. The issue of cross loadings was not a serious concern. There were three cross loadings in the data and one single observed variable loading, each of which could be explained theoretically[42]. The results of this second iteration EFA using principal axis factoring thus suggested a model with ten factors. The rotated factor matrix is shown below:

[40] The dropped variables were RJ (Related to Job), LMA (Labour Market Availability), PN (Personal Needs), OCS (Overall Cost Sensitivity), AI (Attrition Issue), AP (Attrition Process), TOC (Trend in Other Companies), SCC (Selection Criteria Comparable), Critical (HR, OM, Accounting).

[41] The reliability of two measurement scales affected by these deletions (High Performance Work Systems [HPWS] and Demands-Abilities [DA]) was retested after dropping the nine variables. Although they decreased slightly, both fell within acceptable limits (HPWS Cronbach α = .739; DA Cronbach α= .724)

[42] Each of the three affected variables would form part of the same construct SCA in the CFA.

Table 5 Results of Principal Axis Factoring - Rotated Factor Solution

	1	2	3	4	5	6	7	8	9	10
IA	.713									
PMS	.690									
IBP	.675									
MP	.649									
RIP	.649									
UHR		.833								
UA		.769								
UOM		.622	*.541*							
SHR		.444								
SOM			.660							
LLOM			.654	*.417*						
COM			.646							
LLHR				.933						
CHR				.433		*.431*				
LLA				.416						
PV					.728					
PM					.609					
GM					.589					
CA						.955				
JRT							.918			
OA							.560			
SACC								.911		
RL									.874	
RF									.610	
FS										.666
DDM										.631

5.4 First and Second Order Confirmatory Factor Analysis

Since my objective was to test the co-variances and correlations among the hypothesised factors derived a priori from theory, and since I had multiple observed variables loading onto a single latent factor, I used maximum likelihood confirmatory factor analysis (CFA). My objective was to use CFA to establish a model with a close fit to the data and measure the degree to which the factor model reproduced the empirical covariance matrix. I began by fitting a number of models of the data as suggested by theory. A single indicator (factor loading) was arbitrarily selected to be set at unity to define the scale of the factor and ensure the model was properly identified. In the CFA, I also wanted

to know whether the factors are distinct from one another. The results suggest that they are not perfectly correlated; they are distinct and should not be measured in a single construct.

The latent factors were all allowed to co-vary as is typical in CFA models. I used AMOS 5.0 software (an add-on to SPSS) to build and trim several iterations of each model in accordance with the Modification Indices suggested by the software until a reasonable fit to the data was achieved in the most parsimonious manner possible. I modified the model using an iterative process in which items contributing the most to model misspecification were removed individually in a systematic fashion (Bollen 2002). I compared a number of factors to determine whether the model was an improvement over the previous version of the model, including measures of absolute fit, measures of relative fit, and measures of model parsimony (the significance of the change in chi-square, the relative ECVI, CFI, RMSEA and PRATIO). I employed multiple fit indices and conventional fit values, including CFI >.95 and RMSEA <.05, to achieve a superior fit and minimize the likelihood of both Type I and Type II error (Hu and Bentler 1999). Theoretically supportable modifications were made until the model reached a level that adequately fit the data in the most parsimonious manner possible (Byrne 2001). In this way, differences among the models were judged to be not only theoretically but also empirically distinguishable. To ensure discriminant validity, I examined the estimated correlations between factors to ensure that they were significantly different from and not highly correlated with each other. Correlations in excess of .6 might provide evidence of multi-collinearity and suggest combining these factors into a single factor. This lack of multi-collinearity supports the notion that these are distinct concepts and not significantly related to each other.

The findings shown in Table 6 Correlation Matrix for Constructs - Test for Multi-collinearity below provide evidence of discriminant validity:

Table 6 Correlation Matrix for Constructs - Test for Multi-collinearity

	Rare	Inimitable	Value LL	HPWS	Needs-supplies
Rare	1.00	.565	.249	.270	.195
Inimitable	.565	1.00	.488	.372	.308
Value LL	.249	.488	1.00	.379	.425
HPWS	.270	.372	.379	1.00	.389
Needs-supplies	.195	.308	.425	.389	1.00

All correlations significant p<.001

A number of models were tested and refined in this manner. The baseline model (Model 1) was a ten factor model suggested by the EFA analysis. However, because recent evidence suggests that EFA usually overstates the true number of factors when employing the Kaiser-Guttman rule, I did not use it exclusively when determining alternative plausible models to test (Lance, Butts, and Michels 2006). Because strategy theory suggests that the characteristics of the SCA construct include competencies that are rare, inimitable and valuable over the long term, a second four factor model, which allowed these three elements of SCA to load onto a single factor (Model 2),[43] was also tested. The literature review suggests, as well, that some of these constructs relate more to the organization (Sustainable Competitive Advantage [SCA], High Performance Work System [HPWS]), and some to the person (Needs-Supplies). So a third model was tested that contained two factors, one combining organizational concerns (i.e., SCA, HPWS) and one relating to the person (i.e., Needs-Supplies) (Model 3)[44]. Finally, a fourth (five factor) model (Model 4) was tested that best reflected the theoretical notion that SCA characteristics are each separate constructs but that also dropped the

[43] The combined SCA scale was tested before testing this model and found to be reliable (Cronbach α .811).

[44] The combined SCA and HPWS scale was tested before testing of the model and found to be reliable (Cronbach α = .852).

Demands-Abilities construct in accordance with the results of the EFA analysis, which demonstrated that these observed variables contributed little to explaining the common variance.

Table 7 Results of First Order CFA shows the results of the first order CFA for these four models. As shown below, I referred to several fit statistics to assess each model, drawing from absolute fit measures, fit measures dealing with parsimony, and relative fit measures. These measures included the overall chi-square measure as an absolute measure of fit[45], the comparative fit index (CFI) as an incremental measure, the incremental index of fit (IFI) as a measure of parsimony that also addresses the issue of sample size, the root mean squared error of approximation (RMSEA) to assess how well each model would fit the population co-variance (if known), and the ECVI as a relative measure to assess the extent to which each model would cross-validate with other samples from the same population (Bollen and Long 1993). Although there were no significant differences among Models 1, 2 and 3, Model 4 was significantly different and also best fit the data. The chi-square was the lowest, and significantly different[46] from the other models; the CFI was the highest, and also had the lowest relative ECVI. In addition, since acceptable model fit is indicated by a higher chi-square probability, the higher the chi-square probability, the closer the fit between the hypothesized model under the null hypothesis $H_{o,}$—which hypothesizes that the loadings, variances, covariances and error variances for the model under study are valid—and the perfect fit (Bollen 2002). Model 4 also had the highest probability.

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[45] Although the ability of a proposed CFA model to account for the observed co-variance matrix is usually evaluated using the goodness-of-fit chi-square, the sensitivity of this measure to sample size is well known. It is therefore considered an over-stringent criterion. As a result, additional goodness-of-fit measures were used (Bentler 1990).

[46] $\Delta \chi^2$ was significantly different when compared to the other models: Model 1 and Model 4 = 108.505 ; Model 2 and Model 4 = 47.643; Model 3 and Model 4 43.425 = all $p<.005$.

Table 7 Results of First Order CFA

Model	X^2	DF	p	CFI	IFI	RMSEA	ECVI
Model 1 10 Factor (EFA)	327.136	226	.000	.950	.952	.044	2.501
Model 2 4 Factor (SCA)	266.274	199	.001	.966	.967	.038	2.027
Model 3 2 Factor (Org-Job)	262.056	199	.002	.968	.969	.037	2.009
Model 4 5 Factor (separate SCA)	**218.631**	**167**	**.004**	**.973**	**.973**	**.037**	**1.690**

I then conducted a second order CFA, since my additional goal in SEM was to test the direct effects of the organizational contingency latent constructs on the use of a professional designation without the construct of P-O fit in order to determine if all latent constructs were significantly related to the use of a professional designation. For this analysis, I employed five first order factors from the previous analysis (Rare, Inimitable, Value Long Lasting, HPWS, Needs-Supplies) and one second order factor (P-O fit). The first order factors were treated as unobserved endogenous (dependent) variables, and the second order factor was treated as an unobserved exogenous (independent) variable (Byrne, 2001). Results from this second order model showed an acceptable fit to the data ($\chi 2$=235.188, df=171, p=.001, CFI=.970, RMSEA=.040). Path coefficients from the first order factors to the second order factor (P-O fit) were as follows: Rare β=.59, Inimitable β=.83, Value Long-lasting β=.60, HPWS β= .49, Needs-Supplies β=.46. All but three paths from the first order factors to the second order factor were significant at the .001 level[47].

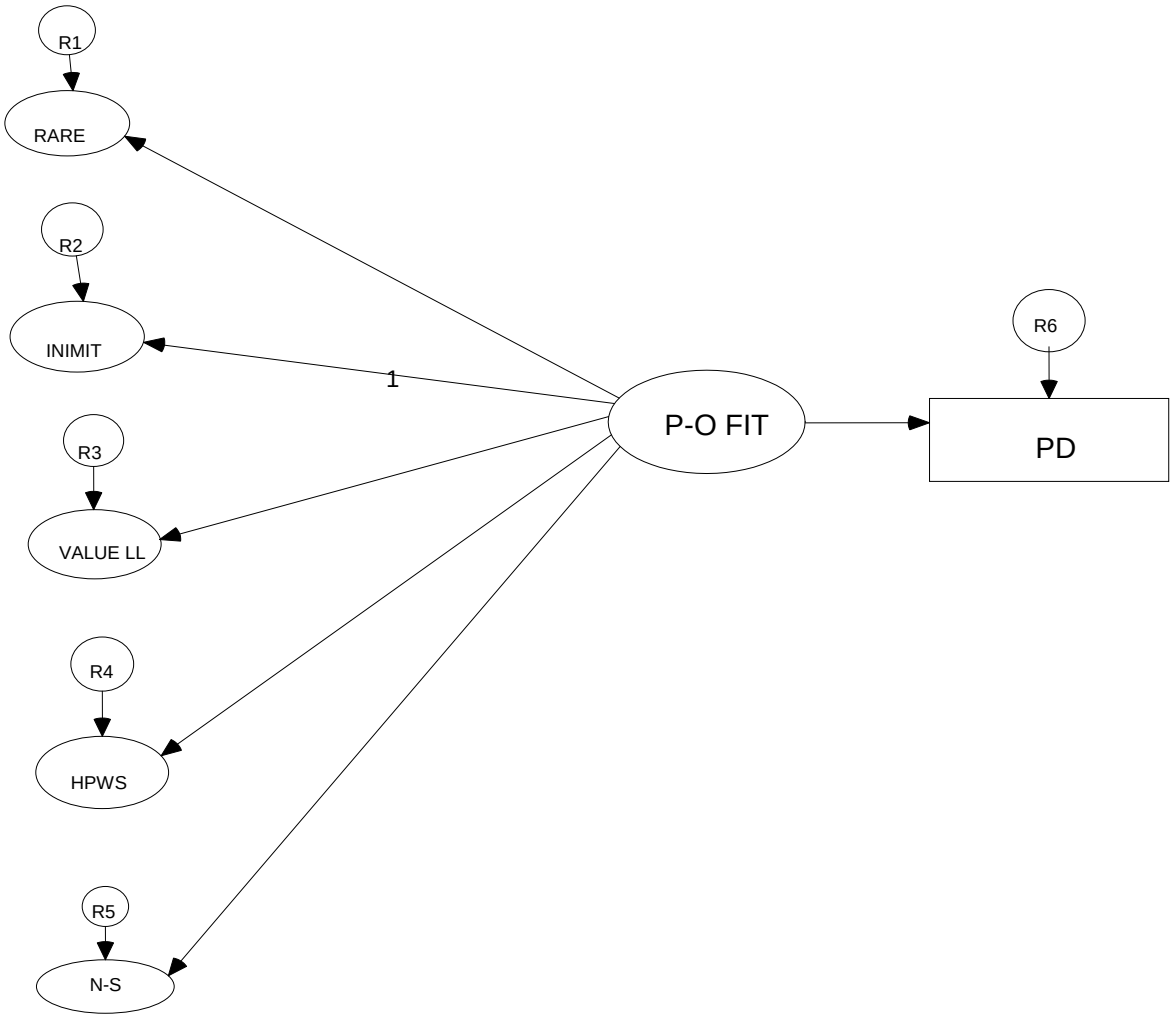
[47] Three paths were significant at the p<.05 level.

5.5 Results of Structural Equation Modeling

Having completed the first and second order confirmatory factor analysis, I then used Structural Equation Modeling to test the full models for my hypotheses, again employing the software AMOS 5.0 to estimate all models (Byrne 2001).

I began by transforming Figure 4 Model and Hypotheses into the full structural equation model. In this initial model, SEM1, which is shown below in Figure 5 Model SEM1, there is one dependent endogenous variable, frequency of use of a professional designation (PD), with one latent construct (P-O fit) treated as an independent exogenous latent factor hypothesized as exerting an influence on the use of a professional designation. P-O fit was hypothesized as being explainable by five dependent endogenous first order factors as shown below, each of which was measured by the observed variables reflected in Table 2 Model to Survey Design Linkages:

Figure 5 Model SEM1



Model SEM1 was estimated first and served as my baseline model for comparison purposes. The SEM results (standardized path coefficients) show that this model fitted the data well with all fit indexes exceeding conventional criteria ($\chi 2$ =258.004, df = 190, p=.001, CFI =.964, RMSEA =.039, ECVI=1.861). Results are shown below in Table 8 Standardized Path Coefficients Model SEM1:

Table 8 Standardized Path Coefficients Model SEM1

			Estimate	P
RARE	<---	P-O FIT	.607	***
INIMIT	<---	P-O FIT	.805	***
VALUE LL	<---	P-O FIT	.603	***
HPWS	<---	P-O FIT	.502	***
N-S	<---	P-O FIT	.452	***
RIP	<---	HPWS	.579	***
MP	<---	HPWS	.721	***
IBP	<---	HPWS	.564	***
PMS	<---	HPWS	.820	***
IA	<---	HPWS	.748	***
GM	<---	N-S	.661	***
PM	<---	N-S	.589	***
PV	<---	N-S	.731	***
SA	<---	HPWS	.790	***
DDM	<---	HPWS	.408	***
JRT	<---	HPWS	.567	***
OA	<---	HPWS	.298	***
UHR	<---	RARE	.716	***
UA	<---	RARE	.907	***
UOM	<---	RARE	.634	***
SHR	<---	NON-IMIT	.700	***
SACC	<---	NON-IMIT	.827	***
SOM	<---	NON-IMIT	.535	***
LLHR	<---	VALUE LL	.746	***
LLA	<---	VALUE LL	.738	***
PMS	<---	VALUE LL	-.129	.021
OA	<---	N-S	.176	.007
LLOM	<---	VALUE LL	.669	
PD	<---	P-O FIT	.250	.003
SA	<---	N-S	.129	.016

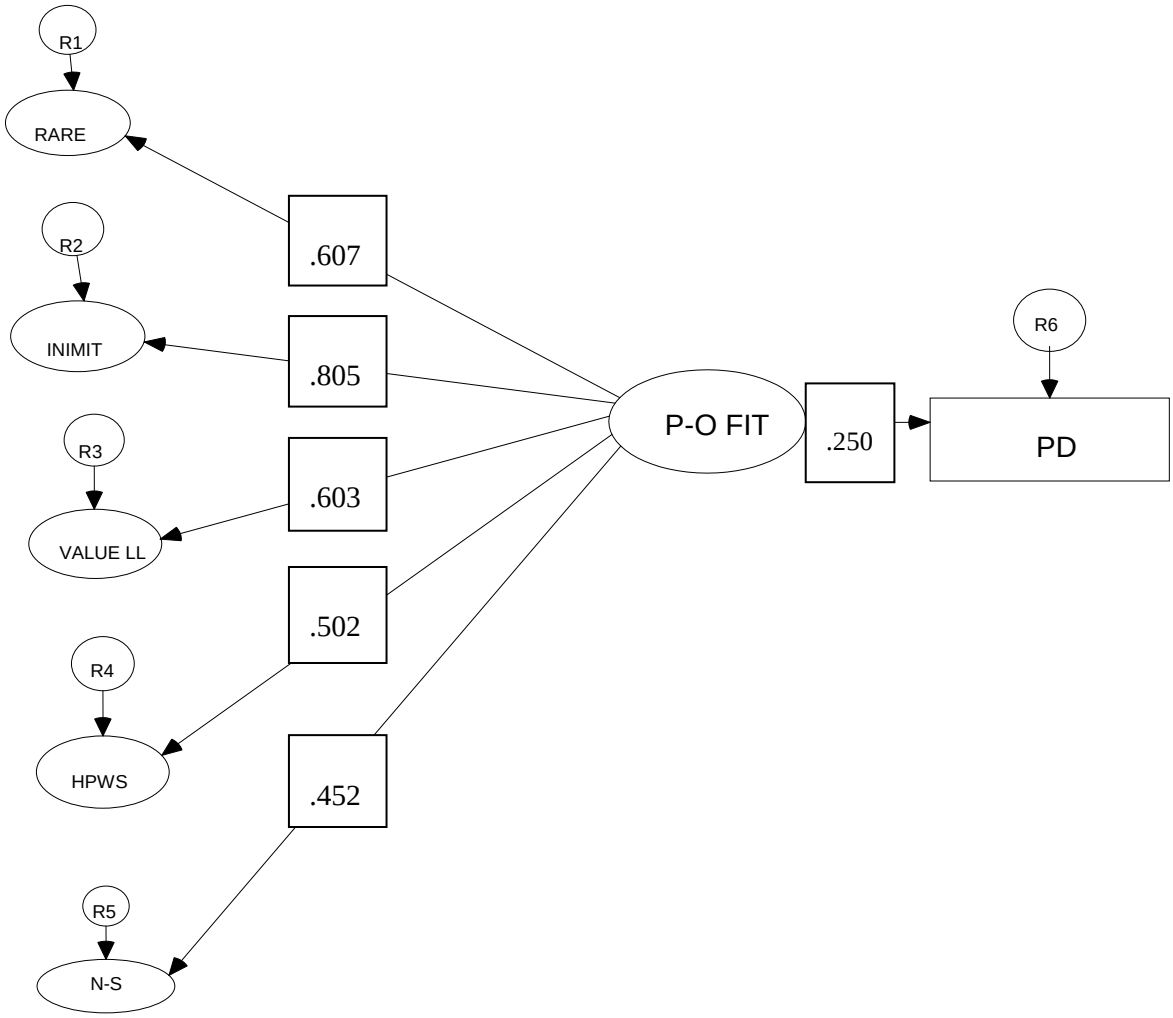
*** results significant p<.001.

The path from PO fit to Use of a Professional Designation is significant in Model SEM1 (β=. 25, p<.001), which supports Hypothesis 1: The more emphasis firms place on P-O fit, the more likely they are to use PD. There is a positive and significant correlation between these two variables. The path coefficients from each of the three characteristics associated with SCA to P-O fit were positive and significant (Rare β=. 61, p<.001, Inimitable β=. 81, p<.001, Value Long Lasting β=. 60, p<.001) and thus they supported Hypothesis 2: organizational competencies possessing characteristics associated with SCAs were positively associated with P-O fit. Hypotheses 3a and 3b, which suggested that two constructs (Unique and Value Long Lasting) would have the strongest relationships with P-O fit, were not supported. The strongest relationship was determined to be the relationship between Inimitable and P-O fit (β = .81, p<.001), and the second strongest relationship was with Rare (β = .61, p<.001) and P-O fit; although it should be noted that this correlation was only marginally higher than that for Value Long Lasting and P-O fit (β=.60, p<.001). Hypothesis 4 was also supported (β=.50, p<.001): cultural characteristics associated with HPWS were positively associated with P-O fit. Hypothesis 5 was supported as well (β=.45, p<.001): characteristics associated with a Needs-Supplies Orientation during the selection process were associated with P-O fit. These standardized path loadings coefficients for constructs relating to P-O fit ranged from .45 to .81 which provides evidence of strong convergent validity (Kline 1998).

It is also worth noting that the presence of a performance management system (PMS) has a significant and negative relationship with the perception that the value of the competency is long lasting (β=-.129, p=.021). This finding might suggest that organizations emphasize long-term results and de-emphasize short-term job performance for competencies viewed as long lasting. This finding will be discussed in more detail later in the paper, in the discussion section.

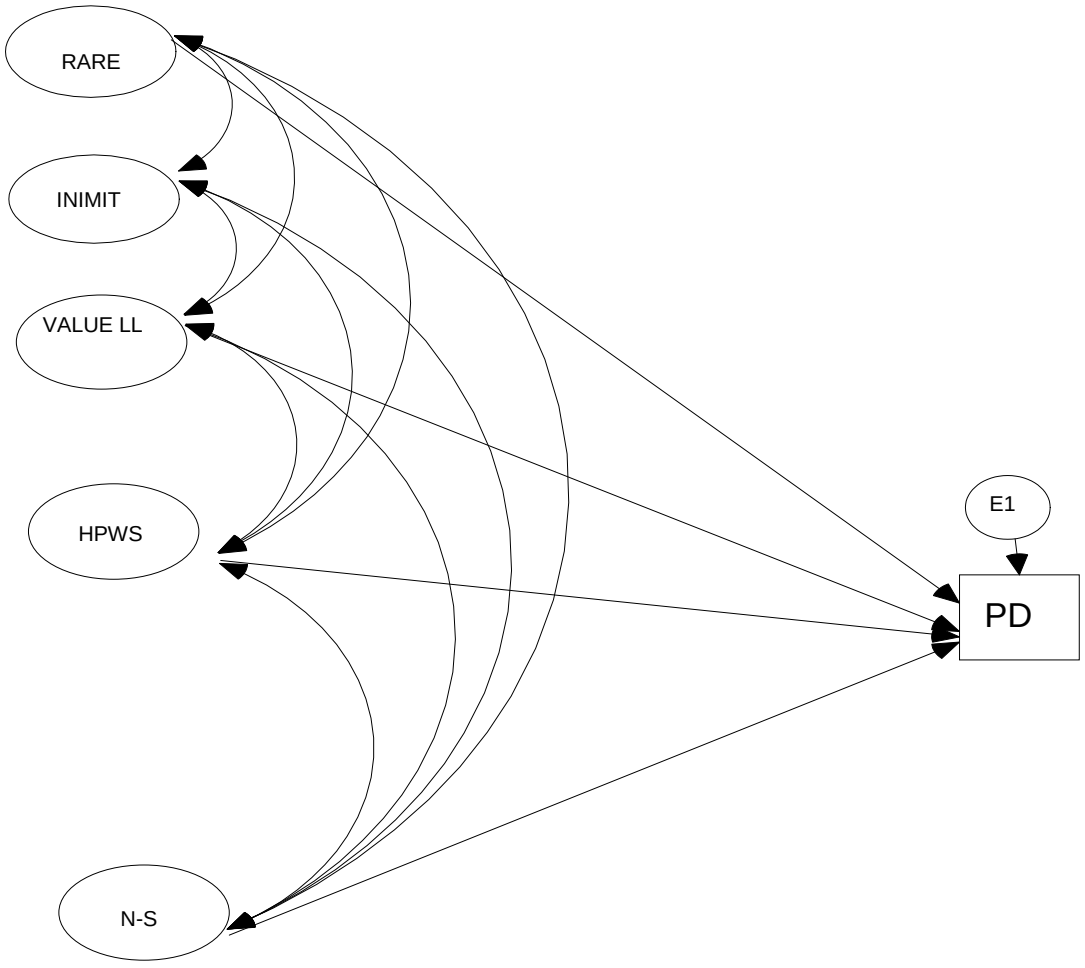
Figure 6 Model SEM1 with Standardized Path Coefficients summarizes these key findings and superimposes them onto the model SEM1 described above.

Figure 6 Model SEM1 with Standardized Path Coefficients



I also devised a second SEM Model without the variable P-O fit in order to examine the relationships among my five contingency driven first order factors on Use of Professional Designations (Model SEM2). In this model there was one dependent endogenous variable, use of professional designations (PD), which was hypothesized to be related to five first order latent constructs, each treated as an independent exogenous variable measured by the observed variables referred to in Table 2 Model to Survey Design Linkages.

Figure 7 Model SEM2



In the second model, I explored the direct effects of each of the exogenous variables on Use of a PD without the intervening variable of P-O fit in order to determine the significance and strength of the relationships between the first order factors and the Use of PD. Again, the SEM results demonstrate that this model fits the data well with all fit indexes meeting conventional criteria ($\chi 2$ =242.527, df =186, p=.003, CFI =.970, RMSEA =.036, ECVI=1.828)[48]. Standardized path coefficients associated with model SEM2 are shown below in Table 9 Standardized Path Coefficients Model SEM2:

[48] Because preliminary results indicated that only two factors had a direct effect on Use of PD that was significant at the p<.05 level, Rare and Value Long Lasting, the final model was re-specified to eliminate these non-significant paths. This trimmed model eliminated the paths between Inimitable and PD, HPWS and PD, and Needs-Supplies and PD.

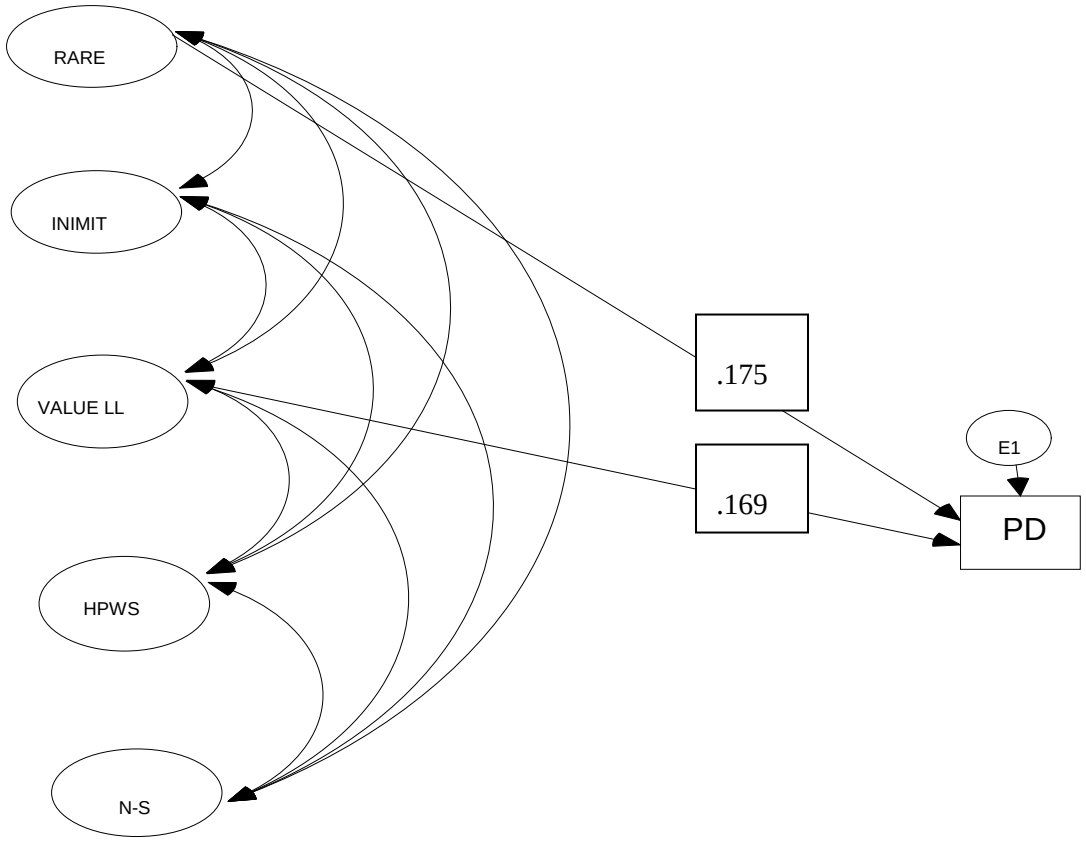
Table 9 Standardized Path Coefficients Model SEM2

			Estimate	P
RIP	<---	HPWS	.580	***
MP	<---	HPWS	.714	***
IBP	<---	HPWS	.565	***
PMS	<---	HPWS	.828	***
IA	<---	HPWS	.749	***
GM	<---	N-S	.620	***
PM	<---	N-S	.615	***
PV	<---	N-S	.763	***
SA	<---	HPWS	.831	***
DDM	<---	HPWS	.413	***
JRT	<---	HPWS	.568	***
OA	<---	HPWS	.289	***
UHR	<---	RARE	.711	***
UA	<---	RARE	.915	***
UOM	<---	RARE	.629	***
SHR	<---	NON-IMIT	.706	***
SACC	<---	NON-IMIT	.824	***
SOM	<---	NON-IMIT	.532	***
LLHR	<---	VALUE LL	.745	***
LLA	<---	VALUE LL	.725	***
LLOM	<---	VALUE LL	.658	***
PMS	<---	VALUE LL	-.151	.011
OA	<---	N-S	.178	.010
PD	<---	VALUE LL	.169	.024
PD	<---	RARE	.175	.015

*** = results significant p<.001

In this model, only two exogenous variables were found to have a significant relationship with Use of PD, competencies viewed as rare (β=. 175, p=.015) and competencies viewed as generating long-lasting value (β=.169, p=.024). As a result, Hypothesis 6 was not supported. No significant correlation was discovered between HPWS and the use of a professional designation; nor was one found between a needs-supplies perspective and use of a professional designation. These results are shown on the figure below:

Figure 8 Trimmed Model SEM2 with Standardized Path Coefficients



Comparison of these results from Model 2 to the results from Model 1 suggests that although all four constructs are significantly related to conceptualizations of P-O fit (Rare, Inimitable, Long-Lasting Value, HPWS, Needs-Supplies), and although the construct of P-O fit is related to the use of a professional designation, only two of the exogenous variables associated with SCA characterizations (competencies viewed as either rare or long lasting) have a significant relationship with the use of a professional designation. Although each of the four organizational contingencies were found to be positively related to the construct of P-O fit, the use of a professional designation is not related to all constructs used to assess P-O fit. A comparison of the initial hypotheses with the results from the SEM analysis is shown in the following section in Table 10 Hypothesis Results.

Chapter 6 Discussion

The results from the SEM analysis point to five main findings:

1. Two key constructs from the SHRM literature that have been identified as organizational contingencies associated with superior organizational performance, perceptions of competencies as sustainable competitive advantages and a desire for a high performance work system, were found to be positively and significantly associated with conceptualizations of P-O fit.

2. A needs-supplies perspective was positively and significantly associated with this conceptualization of P-O fit.

3. Competencies perceived as inimitable had the strongest relationship with the construct of P-O fit.

4. There is a significant positive relationship between the construct of P-O fit and the use of a professional designation.

5. Not all of the organizational contingencies related to perceptions of P-O fit are positively and significantly associated with the use of a professional designation. It is only the degree to which competencies are perceived as rare and the degree to which competencies are perceived to contribute long-lasting value that are positively and significantly related to the use of a professional designation during the selection process.

Table 10 Hypothesis Results

Hypothesis	**Result**
Hypothesis 1: The more emphasis firms place on P-O fit, the more likely they are to use professional designations.	*Supported* P-O fit and the use of a professional designation had a significant and positive relationship.
Hypothesis 2: Competencies that possess characteristics associated with SCAs (i.e., are perceived to be rare, to be hard to imitate and substitute, to confer long-lasting value) will be positively associated with an emphasis on P-O fit in selection decisions.	*Supported* All three dimensions of a SCA were found to have positive and significant relationships with P-O fit.
Hypothesis 3a: A stronger association will exist between rare competencies and P-O fit than between inimitable competencies and P-O fit. *Hypothesis 3b:* A stronger association will exist between competencies perceived to deliver long-lasting value and P-O fit than between inimitable competencies and P-O fit.	*Not supported* The strongest association was found between the model constructs of Inimitable and P-O fit. Although the constructs of Rare and Long-lasting value had strong and significant correlations, they were not the strongest.
Hypothesis 4: Organizational cultural characteristics associated with a "high performance workplace system" or HPWS, will be positively associated with an emphasis on P-O fit in selection decisions.	*Mostly supported* Strong and positive relationships were found between all dimensions of HPWS except one, the presence of a performance management system. This relationship was significant but negative.

Hypothesis 5: Characteristics associated with a needs-supplies perspective will be positively associated with an emphasis on P-O fit.	*Supported* All dimensions of needs-supplies perspective had a positive and significant relationship with P-O fit.
Hypothesis 6: Dimensions of SCA (rare, inimitable, long-lasting value), HPWS and needs-supplies will all have a positive relationship with use of a professional designation.	*Partially supported* Only two dimensions of SCA (rare and long lasting) had a significant positive relationship with the use of a PD. Neither HPWS nor needs-supplies had a significant relationship with use of a PD.
Hypothesis 7: Higher levels of organizational desire to engage in mimetic behavior will enhance (make more positive), the relationship between desire for P-O fit and the use of professional designations.	*Not Supported* EFA revealed that variables related to this construct did not significantly explain any variance in the use of a professional designation and so they were dropped from subsequent SEM analysis.

This study contributes to both the selection and SHRM research literature by suggesting that the use of a professional designation during the selection process is more than an attempt to improve P-J fit. Use of a designation is also related to this conceptualization of P-O fit. In fact, as this research demonstrates, the use of a professional designation during the selection process is significantly and positively related to certain organizational objectives and requirements. The findings suggest that, for organizations emphasizing performance through the development of an HPWS and the development of a SCA and which also attempt to engender a match between the person and the environment from a needs-supplies perspective, professional designations are used to assess P-O fit (Kristof 1996; Sekiguchi 2004) to a limited extent. However, the relationship between P-O fit and the use of a professional designation should not be over-emphasized; given these organizational contingencies, only 6% of the variance in the use of a professional designation can be assigned to factors relating to

P-O fit. Other possible sources of variance are discussed in Chapter 7 Conclusion. The finding that the degree to which the SCA is inimitable has no direct effect on the use of PD is much more surprising. Using a resource based framework and resource heterogeneity perspective, one could argue against a positive relationship by arguing that designations are homogeneous commodities. As a consequence, a significant, but negative, relationship might have been expected. However, the lack of any significant relationship, either positive or negative, might suggest that the determination of imitability is not a consideration when managers are determining selection criteria under these circumstances.

The finding that only competencies perceived as rare and valuable drive the use of a professional designation provides empirical support for the HR Architecture model of Lepak and Snell, who suggested that the design of HR architectures are driven primarily by perceptions of the rareness and uniqueness of human capital (1999). However, the finding that only 6% of the variance in the use of professional designations can be explained by organizational perceptions might suggest a more contingent and situational re-conceptualization of their model. Lepak and Snell posit that employment mode, employment relationships, and HR configurations will vary based on the extent to which the human capital is perceived as valuable and unique (1999, 2002). However, as these findings demonstrate, not all organizational contingencies thought to create sustainable competitive advantages and distinctive environments affected the design and deployment of this specific HR system (i.e., selection system) to the same extent; neither the need for an HPWS nor a needs-supplies perspective were significantly related to the use of professional designation. Overall, only 6% of the variance in the design of selection criteria from a P-O perspective could be attributed to organizational contingencies. As a result, within each employment mode (i.e., decision to make or buy human capital), there may be some HR practices, policies or functions that are affected to a greater or lesser degree by organizational contingencies. For example, it may be that the training, development, and compensation systems are highly influenced by employment mode choices since these functions are more organizationally specific and less legislatively constrained, while HR policies or programs in areas such as recruitment and selection, employee and labour relations, and health and safety are affected to a lesser extent by employment mode since these areas are more heavily governed by legislation and therefore less discretionary.

The finding that the presence of a performance management system is significantly but negatively related to perceptions of person-organization fit might be explained by the fact that P-J and P-O fit are separate but highly correlated constructs (Kristof-Brown 2000). As identified in the literature review, common operationalizations of P-O fit include a focus on a match between employee personality traits, values and goals and aspects of leadership, culture and organizational goals and values and have been shown to have very little correlation with individual job performance (Arthur et al. 2005). However, performance management systems typically focus on resolving issues associated with job performance. Against this backdrop, then, the negative correlation between the presence of a performance management system and P-O fit would seem to be consistent with prior research, since the underlying immediate focus of performance management has been on closing job-related deficiencies (improving P-J fit) and not on improving job satisfaction or organizational "fit" (improving P-O fit). Organizations might be more willing to overlook short-term performance gaps in employees viewed as possessing critical organizational resources able to deliver long-term value consistent with a "make" employment mode than they are to overlook such gaps in employees who do not possess these competencies and are able to be "bought". Furthermore, performance management systems have become ubiquitous in organizations, so perhaps there was not enough variance within and between the groups for meaningful analysis of this variable.

The finding that all three dimensions of SCAs were positively and significantly related to conceptualizations of P-O fit but that competencies characterized as inimitable had the strongest relationship was not expected. However, research into the tacit characterization of knowledge might provide a partial explanation for this finding. Williams (1992) suggests that not all resources felt to be SCAs offer the same level of resource sustainability. He suggests that there is a continuum of sustainability predicated on the dimension of imitability, with slow-cycle resources that are shielded by tacit knowledge, patents, geography or strong brand names offering longer lasting organizational benefits than fast-cycle resources without the same degree of "stickiness" characterized by a lack of transparency, transferability, and replicability. Tacit knowledge that is deeply rooted in the experiences of employees or in corporate culture is particularly difficult to imitate (Wheelen and Hunger 2008) and would suggest that organizational considerations are particularly important when assessing imitability, providing support for the finding of a strong relationship between P-O fit and inimitability.

The additional determination that the variables relating to institutional isomorphism did little to explain the variance in the initial EFA may be explained by the fact that organizations attempt to juggle various aspects of fit, at different points in time, in making hiring decisions. Kristof-Brown suggests that temporal considerations enter into the sequence of decision making about hiring in that organizations initially attempt to assess P-J fit before they assess P-O fit (2000). This notion of temporal considerations affecting perceptions of fit would be consistent with these findings. In assessing risk, then, proximal risk associated with job non-performance as measured by P-J fit might be seen as a more immediate threat that the more distant risk associated with poor cultural or P-O fit. As a result, although the desire for institutional isomorphism may be related to selection decisions, it may be related primarily to P-J fit and not P-O fit, and, as such, would not be significantly related to P-O fit.

The finding that perceived value and rarity have the strongest association with the use of a professional designation is of particular interest to designation sponsoring associations. From a marketing perspective, if the sponsoring association wishes to encourage the adoption of their designation as a key hiring criterion (and thus help to guarantee their own survival and longevity), it should work to ensure that the designations deliver, and are perceived to deliver, long-term value and rarity more than any other attribute. Although this research has provided examples of situations in which organizations have paid hiring premiums to attract and retain designation holders (Human Resources Professionals Association of Ontario 2007; PMAC Ontario Institute 2008), in an increasingly tight labour market, this tendency may abate unless the designation holders and their sponsoring organizations can convincingly show how designation holders add value to the business when compared to non-designation holders, particularly those who may share similar work or educational backgrounds and claim to possess similar degrees of job readiness (e.g., CGA designation holder versus unadorned accounting degree graduate).

6.1 Generalizability and Limitations

Although these results are informative, it is important to note some important limitations to this research; a number of factors should be assessed in order to determine the extent to which these findings can be generalized. The survey population used in this research is among the most highly educated in Canada and also contains several industry clusters (high technology, financial services,

post-secondary education and research) that are not typical of other similar-sized communities (BMO Capital Markets 2008; Statistics Canada 2007). For example, the strong concentration of post-secondary institutions has meant a stronger than average pool of highly skilled labour from which to draw within industrial sectors that place a premium on highly specialized technical skills and not on more generic designations. This might lead to understatement of the effects obtained. In addition, the region experiences higher than average levels of entrepreneurship, foreign ownership, and manufacturing, which might also militate against the use of designations in situations where personal skills or contacts, manufacturing knowledge, product specific knowledge, and industry contacts are highly valued (BMO Capital Markets 2008). Finally, the region also experiences higher than average immigration rates, which could also artificially depress the results insofar as many accredited immigrants experience difficulty having their credentials recognized (Communitech 2007; Region of Waterloo 2007). All of these factors might serve to depress the actual use of professional designations in the region, suggesting that these results might be lower than those typically found in other geographic areas. These results might then be viewed as conservative estimates of the associations between the constructs under consideration.

6.2 Future Research

This research represents the first attempt to assess the relationships among firm-specific contingencies related to superior organizational performance, P-O fit, and the use of professional designations. It is also the only research that specifically examines factors influencing the use of a voluntary professional designation during the selection process. Given the exploratory nature of this research, the findings provide only a first step in understanding the extent to which organizations consider organizationally contingent conceptualizations of P-O fit, predicated on factors relating to superior organizational performance, during hiring decisions. While this is a useful first step for exploratory research, and is consistent with both strategic human resource management and selection theory, many other issues must be explored to develop a fuller appreciation of this phenomenon.

The first consideration is the fact that only 6% of the variance can be explained by this conceptualization of P-O fit. Clearly, there are other factors at work. In order to explore the unexplained variance, it would be important to remove or alter the boundary limitations on this research, which focused on two performance-oriented contingencies. Future research could examine

the degree to which the positive relationship between P-O fit and the use of designations can be supported under other circumstances and contingencies explored in the strategic human resource management literature (e.g., different organizational cultures, different industries, different generic strategies, different job designs) might be particularly fruitful lines of research. Temporal considerations might be affecting the variance as well. For example, P-O fit might be more important in second interviews, typically held with department managers to assess fit, than it is during first interviews, typically held with an HR department representative or recruiter to ensure minimum qualifications are met (P-J fit). Thus, future research could explore the extent to which P-O fit considerations vary at different times in the selection process.

In addition to a firm-specific conceptualization of P-O fit, there is a need to determine the degree to which other conceptualizations of fit (e.g., Person-Group, Person-Supervisor, Person-Vocation) affect the use of professional designations. Exploring the community of practice research stream, it would be interesting to examine the degree to which alternative conceptualizations of fit involving various definitions of community (e.g., the work team or group, the function, the vocation) affect the use of a professional designation. The community of practice research stream has identified the fact that knowledge, identify, and learning tend to reside within specific communities due to ethical and epistemic factors. Duguid (2005) finds that various communities of practice tend to emphasise their differences rather than their similarities. In addition, recent research into the mediating role of professionals determines that they could deter innovation (Ferlie, Fitzgerald, Wood, and Hawking 2005). Professional designations, then, might serve to define specific communities of practice and, by extension, limit the spread of innovation throughout the organization. This research also suggests that peer involvement in the selection process tends to overemphasize Person-Group, Person-Function or Person-Vocation fit (Kristof-Brown, Zimmerman, and Johnson 2005) at the expense of knowledge transfer or other organizational outcomes.

Research into hiring biases, particularly the propensity of a supervisor to hire in his or her own image, would be another fruitful line of inquiry. For example, it would be particularly useful to identify the degree to which a supervisor's own background and training might lead to a bias towards hiring those who share a similar designation. This predisposition towards one's own designation might influence the use of a professional designation as a selection criterion. Perhaps much of the designation

explosion of the last 15 years has been driven more by supervisors attempting to hire in their own image and likeness than by conscious choices concerning P-J or P-O fit. The designation might be valuable to the supervisor but, perhaps, have little to do with either P-J or P-O fit.

From an organizational outcome perspective, causal research needs to be undertaken that would examine the effects of these designations on organizational outcomes. Many courses and exams associated with the acquisition of the designation have been formulated to approximate "real life" challenges and situations. This is typified by the inclusion of internship opportunities or professional practice exams (Canadian Council of Human Resources Associations 2008). To the extent that preparation for a professional designation might serve as a partial proxy for a realistic job preview (RJP), it might be related to higher job performance, lower attrition from the recruitment process, more realistic initial expectations, reduced voluntary turnover, and reduced total turnover (Phillips 1998). Future research could explore the extent to which these organizational outcomes associated with realistic job previews are also experienced by designation holders.

One of the most interesting findings is the positive and significant relationship between competencies perceived to be rare and valuable and the use of a professional designation. Future research needs to be undertaken to determine what aspects of a professional designation are perceived to be rare and valuable, particularly when compared to other educational credentials (e.g., degrees, diplomas, certificates). Perhaps the tenacity, drive, or single-mindedness with which many designation holders pursue these additional credentials, often while working full time over several years, are the valuable competencies perceived to be attached to the designation and not the job-related knowledge and skill. Or, alternatively, the difficult to replace asset might be the networking opportunities or social contacts afforded by the association, or perhaps the more tacit way of thinking or problem solving represented by the designation acquisition process or internship. This research would need to explore the full range of competencies and resources thought to be possessed by designation holders that are separate and apart from more narrowly construed job-related capabilities.

Although this research has focused on P-O fit, P-J fit should not be forgotten. The extant literature offers a plausible explanation for the use of a professional designation in order to assess P-J fit in the sense that the designation is designed to represent job specific knowledge and skills. But the relationship between professional designations, P-J fit, and job performance remains to be explored

empirically. In fact, job performance "remains the most widely used criterion in personnel selection in general and employment decision making in particular" (Arthur et al. 2005, 787). Although the use of professional designations as selection criteria appears to have been primarily directed towards improving P-J fit by using the designation as a type of proxy mechanism that replicates approximate bundles of knowledge, skills and behaviours required by the job, no empirical evidence at present shows that this is, in fact, the case. Empirical research could be undertaken to determine whether these designations do approximate job-related knowledge and skills.

Finally, this research has been undertaken using the organization as a unit of analysis. The designation explosion has also been driven from the demand side, with sponsoring organizations suggesting a number of individual benefits to be gained by having a designation (e.g., higher salaries, improved job opportunities, improved job performance). Research needs to be conducted from both causal and correlational perspectives to determine whether, in fact, these claims can be empirically substantiated. It might be, for example, that highly motivated, cognitively blessed and conscientious employees are the individuals most likely to pursue designations. Clearly, achieving a professional designation, outside of mandated work hours, in addition to juggling personal, community and professional responsibilities, requires a high degree of conscientiousness. The prolific research conducted on the "Big Five Personality Traits" [49] (Thurstone 1934) and their impact on selection decisions and job performance has identified conscientiousness as one of the "Big Five" personality traits most related to superior job performance (Hurtz and Donovan 2000). Furthermore, a recent meta-analysis examining the impact of conscientiousness on job performance observed that the relationship between them "is the most valid personality predictor of job performance" and is "positively related to performance across many job performance criteria and occupational groups. . . . [A]verage corrected criterion-related validity for the relationship between global conscientiousness and job performance is .22" (Dudley, Orvis and Lebiecki 2006, 40). These findings suggest that conscientious individuals are likely to experience strong career and salary advancement with or without the credential. It would be important to control for some of these factors in order to isolate the direct causal effect that designations have on individual performance and career progression.

[49] These five personality traits are conscientiousness, agreeableness, neuroticism, openness, and extraversion.

Chapter 7 Conclusion

There is little doubt that both individuals and organizations will continue to refine selection systems and selection criteria in an ongoing effort to improve the quality of new hires. Moreover, the "best fit" perspective on strategic human resource management suggests that organizations will continue to do this to support organizational goals and priorities. A positive relationship has been found between a number of firm-specific contingencies related to superior performance and the concept of person-organization fit. However, as this research has demonstrated, not all of these aspects of person-organization fit are linked to the use of a professional designation. This construct (P-O fit) only explains 6% of the variance associated with the use of a professional designation. Other factors—including temporal factors mediating the relative importance of P-J of P-O fit at different points in the selection process, supervisory hiring biases, other conceptualizations of fit, the presence of conscientiousness in the applicant pool, and the influence of communities of practice on hiring processes—may account for other portions of this variance.

Two key constructs from the SHRM literature, identified as organizational contingencies associated with superior organizational performance, were found to be associated with conceptualizations of P-O fit, perceptions of competencies as sustainable competitive advantages, and a desire for a high performance work systems. A needs-supplies perspective was also positively and significantly associated with the construct of P-O fit. Competencies perceived as inimitable had the strongest relationship with the construct of P-O fit. Furthermore, this research demonstrates that there is a significant positive relationship between the construct of P-O fit and the use of a professional designation. However, not all of the organizational contingencies related to perceptions of P-O fit are also associated with the use of a professional designation. It is only the degree to which competencies are perceived as rare and the degree to which the competency is perceived to contribute long-lasting value that are related to the use of a professional designation during the selection process.

Additional research needs to be undertaken to explore the impact of other organizational contingencies on the use of professional designations as well as the impact of designations on measures of organizational performance. Further research should also be undertaken to confirm that designations are, in fact, a useful proxy for P-J fit, and to determine whether they do improve individual performance.

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Appendix A - Survey

(Note: All choices were made available to respondents via pull-down menus)

Please read before you begin the questionnaire:

A number of organizations, vocational groups or professional associations offer "professional designations". For purposes of this survey, the phrase "professional designations" represents credentials which signify the completion of a prescribed set of educational courses, exams and/or work experiences, sponsored by an occupationally focused association or group, which are geared towards a specific role, functional area or job. These abbreviations typically appear on a business card after the person's name and are achievements separate and apart from the completion of a degree or diploma.

Some designations are required for legal or licensing reasons, e.g., professional engineer (P.Eng.), registered nurse (R.N.), chartered accountant (C.A.), lawyer (L.L.B.), Insurance Broker (R.I.B.O), insurance salesperson (A.I.I.C.). However, there are also a number of other designations, which aren't required for legal or licensing reasons, but which have become increasingly common, e.g., Certified Human Resources Professional (C.H.R.P), Certified Professional Purchaser (C.P.P.), Project Management Professional (P.M.P), Chartered Financial Analyst (C.F.A.), Chartered Business Valuator (C.B.V.), Certified Financial Planner (C.F.P.), Registered Professional Urban Planner (R.P.P.), Certified in Management (C.I.M), Certified Management Consultant (C.M.C.), Certified Sales Professional (C.S.P).

Please consider ONLY the latter category (designations NOT required for legal/licensing reasons) when answering this survey.

Participant Identifier Code: For Researcher Use Only Organization Code: (System Generated)
N/A 1. Thinking about your organization's structure or hierarchy, the organizational level of the job which you (personally) perform is best described as: Production/labourer Skilled trade Clerical/administrative support Marketing/sales Supervisor Professional/technical Manager executive Other

N/A 2. Do you have at least one VOLUNTARY professional designation (CHRP or other)?
Yes No

N/A 3. The functional area in which you work is best described as:
Human Resources Operations/Manufacturing Sales/Marketing Accounting/Finance
General Management Research and Development Information Technology Quality Control
Customer Service Strategic Planning Business Development Logistics
Supply Chain Management Other

N/A 4. Your total number of years of full time work experience are (please round to nearest year):
up to two three to five six to ten eleven to fifteen
sixteen to twenty over twenty

N/A 5. In order to assist us in analyzing and categorizing your responses, we need to also collect some information on your organization. Please select the NAICS/ Statistics Canada Industry Code from the menu which best describes the industry in which your firm operates. Please consider only the firm with which you are currently working:

11 Agriculture, Forestry, Fishing and Hunting
21 Mining and Oil and Gas Extraction
22 Utilities
31T Manufacturing
41 Wholesale Trade
44T Retail Trade
48T Transportation and Warehousing
51 Information and Cultural Industries
52 Finance and Insurance
53 Real Estate and Rental and Leasing
54 Professional, Scientific and Technical Services
55 Management of Companies and Enterprises
56 Administrative and Support, Waste Management and Remediation
61 Educational Services
62 Health Care and Social Assistance
71 Arts, Entertainment and Recreation
81 Other Services (except Public Administration)
91 Public Administration

N/A 6. Your company size is (please estimate the total number of full time employees you currently employ):
less than 20 employees 20 to 99 employees
100 to 499 employees 500 or more employees

N/A 7. The scope of your company's business (i.e. the geographic area over which you provide products or services and tend to draw your customers) is best described as:
municipal regional provincial national international

For each question below, click on the word to the right which best reflects your opinion. If none of the responses appears to reflect your opinion, please click on the Not Applicable N/A box to the left of the question or leave it blank.

N/A 8. Within my organization at the present time, "voluntary" professional designations (i.e. professional	All employees ☐	Most employees ☐	Some employees ☐	None of the employees ☐

designations which are not required for legal or licensing reasons) are possessed by:					
If you answered NEVER or N/A to this question, please go to Question 14, otherwise continue on to Question 9 below:					
In answering the remaining questions, please think ONLY about these professional designations which are NOT required for legal or licensing reasons but which may be related to a specific functional area or skill set (e.g. CHRP, CPP, PMP, CFA, CBV, RPP, CMC, CSP)					
N/A 9. My organization requires prospective employees to possess a professional designation before they are hired.	Always ☐	Usually ☐	Sometimes ☐	Seldom ☐	Never ☐
N/A 10. If a professional designation is required, it is related to the area in which they will be working immediately after hire.	Always ☐	Usually ☐	Sometimes ☐	Seldom ☐	Never ☐
N/A 11. Our requirements for a professional designation vary based on the level of the job vacancy (i.e. entry level to senior management).	Always ☐	Usually ☐	Sometimes ☐	Seldom ☐	Never ☐
N/A 12. Our requirements for a professional designation vary based on the functional area in which the job is located (e.g. operations versus HR versus accounting).	Always ☐	Usually ☐	Sometimes ☐	Seldom ☐	Never ☐
N/A 13. The most important criterion used to determine if a professional designation will be required is the fact that one is available in the labour market.	Always ☐	Usually ☐	Sometimes ☐	Seldom ☐	Never ☐
In answering the remaining questions, please think ONLY about these "voluntary" professional designations (e.g. CHRP, CPP, PMP, CFA, CBV, RPP, CMC, CSP					

N/A 14. When comparing candidates, an important consideration is their immediate ability to do the job for which they are being considered	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 15. When comparing candidates, the job should meet the needs of the person (e.g. personal goals, personal values, personal interests).	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 16. When comparing candidates an important consideration is to select people who possess personal values which align with our organizational values.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 17. When comparing candidates, an important consideration is to select people whose goals align well with the goals of our organization's leaders.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 18. When comparing candidates, an important consideration is to ensure that their personality is a good fit with our organization.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 19. Wherever possible, my organization tries to minimize the immediate costs associated with filling job vacancies (e.g. recruitment costs, selection costs, training costs, hiring bonuses).	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 20. My organization has a process in place to ensure new employees receive job-related training.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 21. My organization has a process in place to provide orientation for new employees.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 22. My organization has a process in place to identify employees who could be further developed or promoted into other roles.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 23. My organization has a process in place to equip employees with skills to help them move into new roles in the future.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 24. My organization has a process in place to identify and correct performance gaps.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐

N/A 25. In my organization, managers and supervisors are personally accountable for improving the performance levels of their subordinates.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 26. Attrition is a concern for my organization.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 27. My organization takes actions to minimize attrition.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 28. My organization requires candidates to have professional designations mainly because this is the trend in other companies.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 29. Our selection criteria are in keeping with the selection criteria used in other organizations.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 30. My organization emphasizes decentralized decision making.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 31. My organization has a flatter organizational structure than our competitors.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 32. My organization provides opportunities for incentive based pay.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 33. My organization rewards individual performance.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 34. My organization has processes and mechanisms in place to improve accountability.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
Please consider ONLY the Human Resources department or personnel (e.g. staffing, training and development, compensation, benefits, employee and labour relations, health and safety) within your organization in the next section of questions:					

N/A 35. Compared to other areas of the company, the HR function provides services and expertise which are critical to the future success of our organization.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 36. The HR function offers unique services to our organization- you wouldn't find our HR processes and policies in other organizations.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 37. The HR function requires organizationally specific knowledge which is deeply rooted in knowledge of our business, customers and strategy.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 38. The HR function organizational advantages which are likely to be long lasting.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
Please consider ONLY the Accounting department or personnel (e.g. cost accounting, financial accounting, accounts payable and receivable) within your organization in the next section of questions:					
N/A 39. Compared to other areas of the company, the Accounting function provides services and expertise which are critical to the future success of our organization.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 40. The Accounting function offers unique services to our organization- you wouldn't find our HR processes and policies in other organizations.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 41. The Accounting function requires organizationally specific knowledge which is deeply rooted in knowledge of our business, customers and strategy.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 42. The Accounting function provides organizational advantages which are likely to be long lasting.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
Please consider ONLY the Operations department or personnel (e.g. production, inventory control, quality control, logistics, supply chain management) within your organization in the final section of questions:					
N/A 43. Compared to other areas of the company, the Operations function provides services and expertise which are critical to the future success of our organization.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 44. The Operations function offers unique services to our organization- you wouldn't find our HR processes and policies in other organizations.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐

N/A 45. The Operations function requires organizationally specific knowledge which is deeply rooted in knowledge of our business, customers and strategy.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐
N/A 46. The Operations function provides organizational advantages which are likely to be long lasting.	Strongly Agree ☐	Somewhat Agree ☐	Neither Agree nor Disagree ☐	Somewhat Disagree ☐	Strongly Disagree ☐

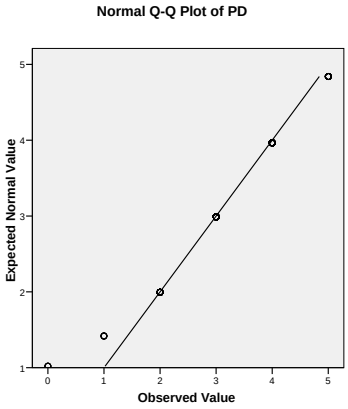
Thank you for taking the time to complete this survey!

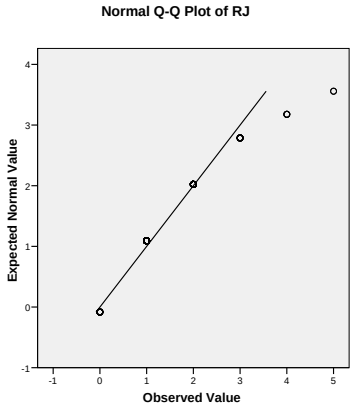
Appendix B – HRSDC National Occupational Classifications Job Titles

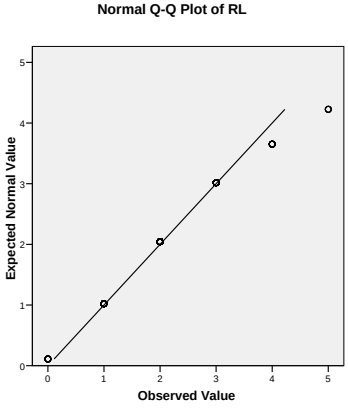
Specific occupational classifications (in NOC numerical order), which contained job titles requiring designations, include:

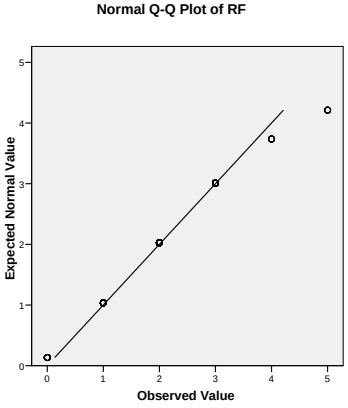
0013 Senior Managers - Financial, Communications and Other Business Services
0014 Senior Managers - Health, Education, Social and Community Services
0015 Senior Managers - Trade, Broadcasting and Other Services,
0016 Senior Managers - Goods Production, Utilities, Transportation and Construction
0111 Financial Managers
0113 Purchasing Managers
0114 Other Administrative Services Managers
0121 Insurance, Real Estate and Financial Brokerage Managers
1112 Financial and Investment Analysts
1114 Other Financial Officers
4151 Psychologists
4164 Social Policy Researchers, Consultants and Program Officers
5124 Professional Occupations in Public Relations and Communications

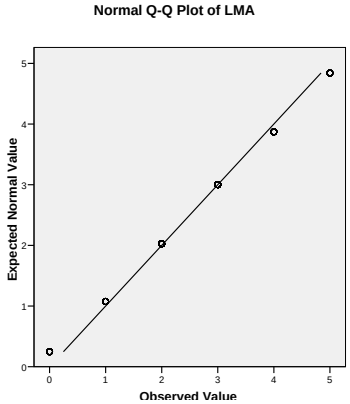
Appendix C – Q-Q Plots

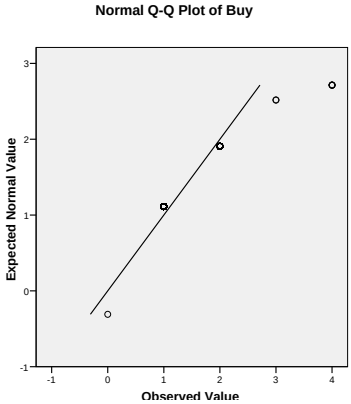


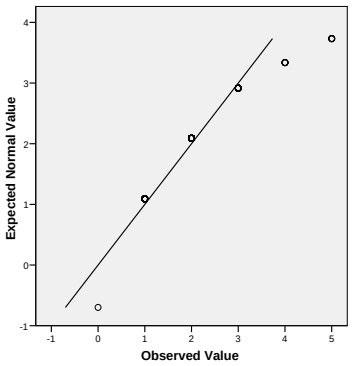







Normal Q-Q Plot of LMA
Expected Normal Value
Observed Value


Normal Q-Q Plot of Buy
Expected Normal Value
Observed Value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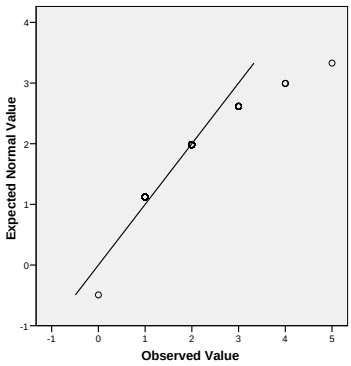
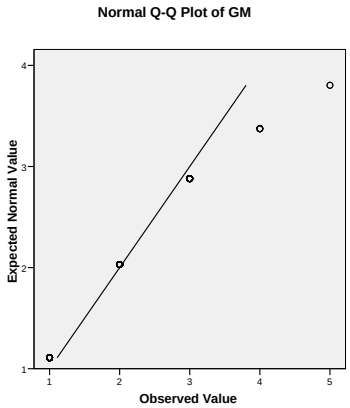
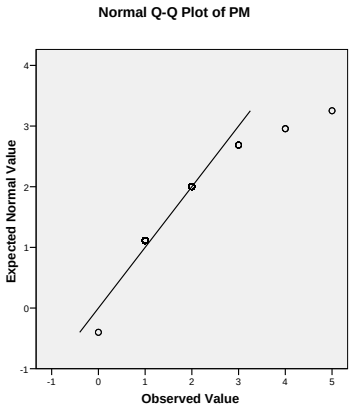
Expected Normal Value
Observed Value


Normal Q-Q Plot of PV
Expected Normal Value
Observed Value


Normal Q-Q Plot of GM
Expected Normal Value
Observed Value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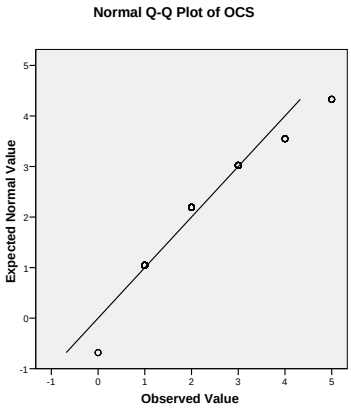
Expected Normal Value
Observed Value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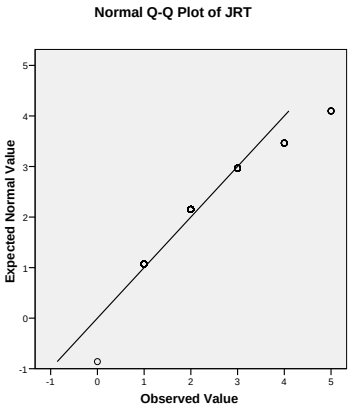
Expected Normal Value
Observed Value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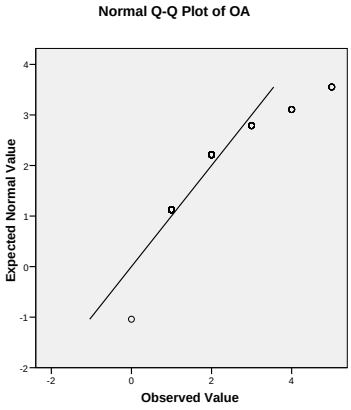
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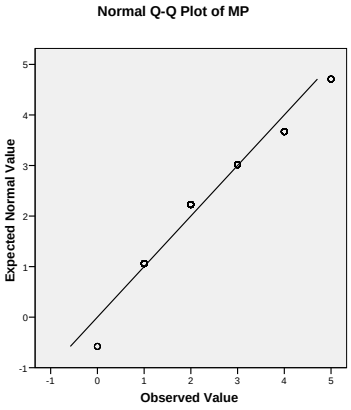
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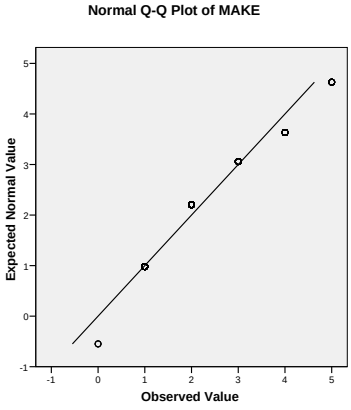
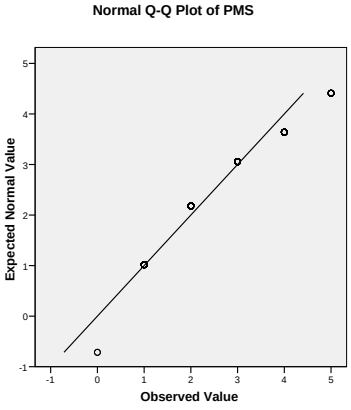

Normal Q-Q Plot of MAKE
Expected Normal Value
Observed Value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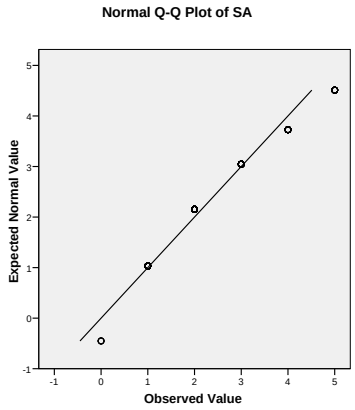
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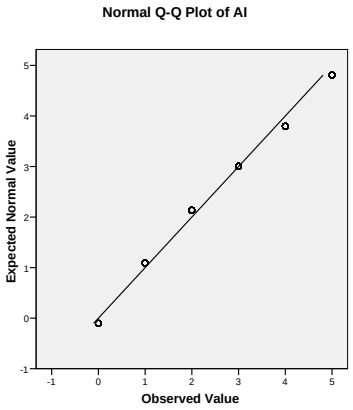
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Expected Normal Value
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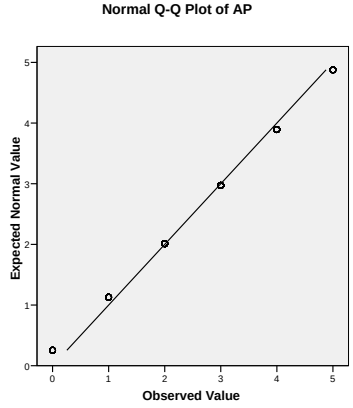
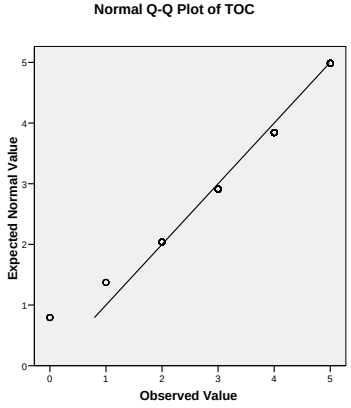

Normal Q-Q Plot of AP
Expected Normal Value
Observed Value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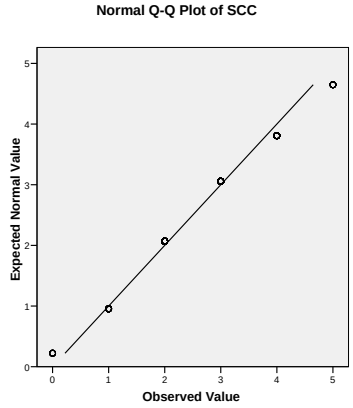
Observed Value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Expected Normal Value
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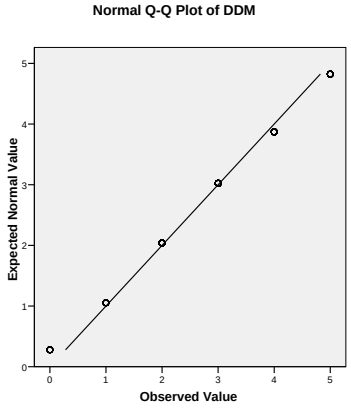
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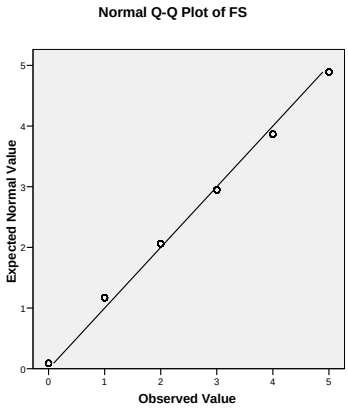
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Expected Normal Value
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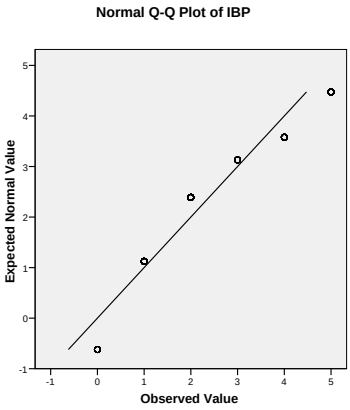
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Expected Normal Value
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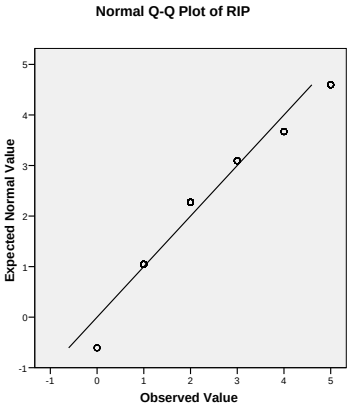
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Expected Normal Value
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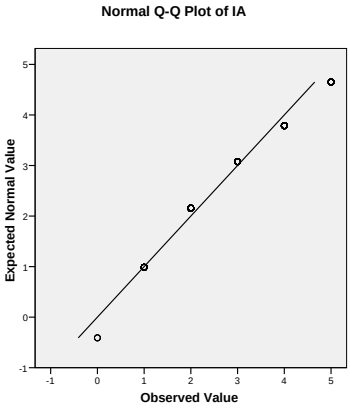
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Expected Normal Value
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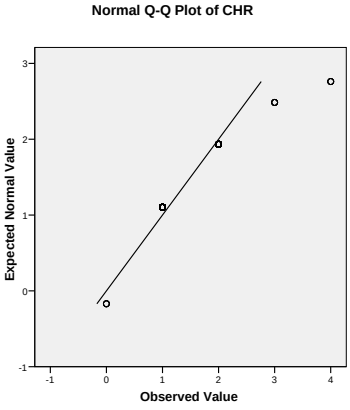
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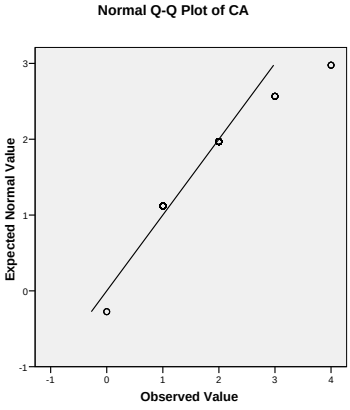
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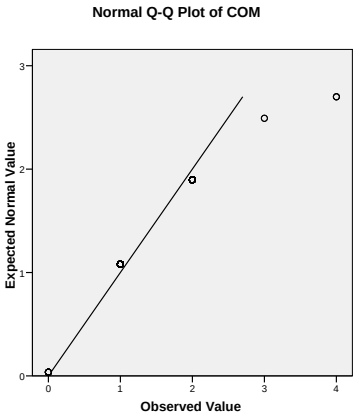
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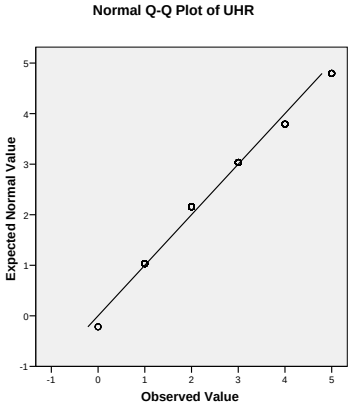
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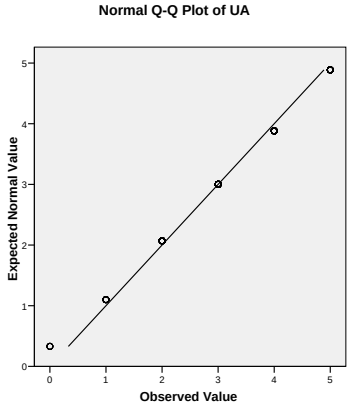
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Expected Normal Value
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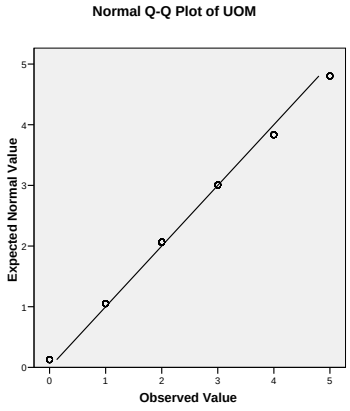
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Expected Normal Value
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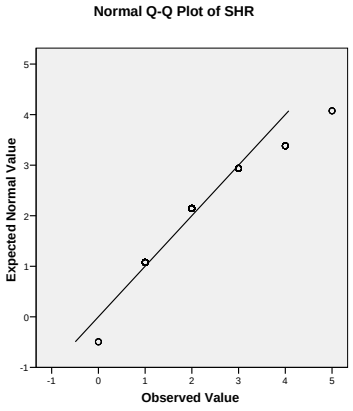
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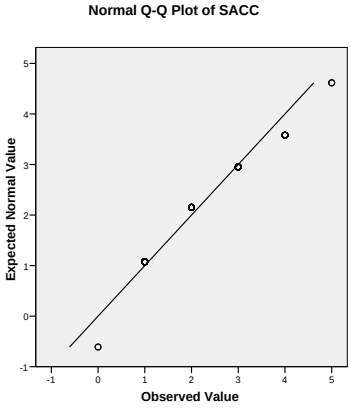
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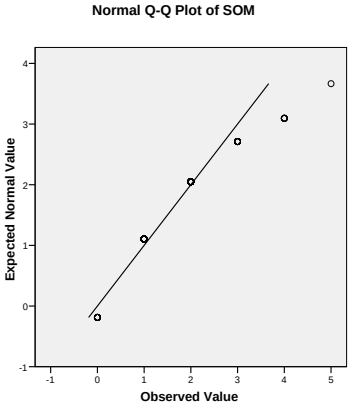
Expected Normal Value
Observed Value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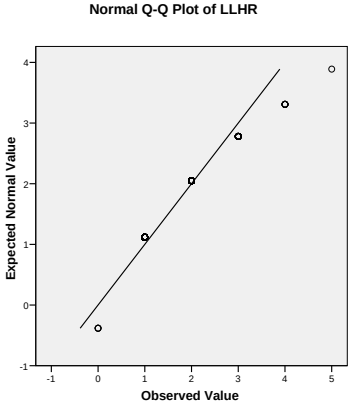
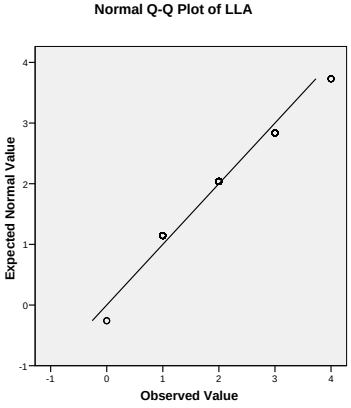
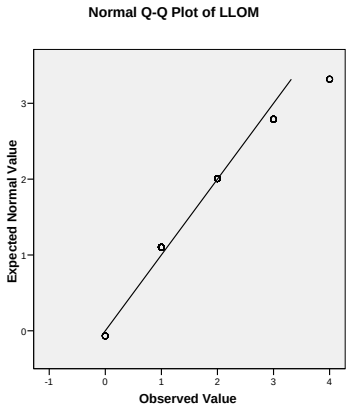
Expected Normal Value
Observed Value


Normal Q-Q Plot of LLHR
Expected Normal Value
Observed Value


Normal Q-Q Plot of LLA
Expected Normal Value
Observed Value


Normal Q-Q Plot of LLOM
Expected Normal Value
Observed Value