

“WE ONLY ACCEPT ONLINE APPLICATIONS”
THE EFFECT OF HRIS E-RECRUITMENT TECHNOLOGY ON JOB-SEEKER
FAIRNESS PERCEPTIONS IN THE CANADIAN FEDERAL PUBLIC-SECTOR

By

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ABSTRACT

Industrial-organizational psychologist Stephen S.W. Gilliland developed a model for studying job-seeker fairness perceptions in 1993 based on existing research in organizational justice. The model includes several rules which will result in job-seeker perceptions of fairness if satisfied and job-seeker perceptions of unfairness if violated. Given the prominence of this model in the literature as well as changes which have occurred in personnel selection (such as human resource information systems, or HRIS, and e-recruitment), scholars have called for a technological re-envisioning of the original model, especially the explanations/descriptions ascribed to each rule. The present study seeks to understand how HRIS e-recruitment technology impacts job-seeker fairness perceptions and in so doing update the Gilliland (1993) model using a qualitative methodology and website success measures from information systems success theory. It contributes to the literature on applicant fairness perceptions by accounting for technological change, and contributes to the field of Public Administration by studying a governmental e-recruitment portal thereby accounting for the particularities of public-sector HRM which is underrepresented in the organizational justice literature. Over the course of one (1) year, twelve (12) job-seekers participated in a series of focus group interviews where they reflected on their experiences applying for jobs in the Canadian federal civil service using the government's e-recruitment portal. Participants completed profiles, sent applications, communicated with government personnel, and wrote internet tests, among other job-search activities, and reported on their experiences from the perspective of fairness. Results confirm the validity of all original procedural justice rules and offer insight into their application in a recruitment environment where applicants invest considerable time interacting with computerized systems. Two additional rules are also put forth including the ease with which candidates can deceive tests and privacy/trustworthiness using technology. The findings are limited insofar as data gathering took place during a time of reduced hiring activity by the employer and because participation was limited to one (1) specific geographic location.

INTRODUCTION

The success of an organization depends largely on the quality of its workforce. This reality is apparent especially in a public-sector context where civil servants influence the shape and direction of programs and policies affecting a nation and its people (Cleary, 1993; Llorens, 2009; Voinovich, 2001). Personnel selection is the frontline process whereby employers identify and bring talent into their organizations (Anderson et al., 2008; Dodd, 1970). The personnel selection process can include job-seeker submission of candidacy for an advertised employment opportunity, completion of pre-employment evaluations, and participation in job interviews, among others (Roe, 2005). Over the past two (2) decades, increasing research has been conducted on how job-seekers perceive of personnel selection processes with respect to fairness (Anderson et al., 2008; Truxillo et al., 2004). Early scholars sought to discover how specific selection instruments and methods, such as interviews and pre-employment tests (Arvey & Campion, 1982; Schmidt et al., 1977; Schmitt & Coyle, 1976; Rynes & Miller, 1983), impacted applicants and what organizational implications could be drawn from their reactions.

These early scholars did not have access to a comprehensive theoretical framework upon which to ground their research. However, they did successfully recognize that personnel selection processes influence job-seeker attitudes (Breugh, 1981; Harris & Fink, 1987; Liden & Parsons, 1986; Taylor & Bergmann, 1987). Since then, spurred by theoretical developments in the field (Arvey & Sackett, 1993; Gilliland, 1993; Iles & Robertson, 1989; Schuler, 1993), studies have proven that applicant fairness perceptions matter for organizations. Hiring processes that are perceived of as fair by job-seekers will result in benefits for the organization (Folger & Konovsky, 1989; Gilmore, 1989; Johnson et al., 2009; Kohn & Dipboye, 1998; Konovsky & Cropanzano, 1991; Korsgaard et al., 1995; Ployhart & Ryan, 1997; Ryan & Ployhart, 2000; Wang et al., 2010). The reverse has also been proven true as hiring processes that are perceived of as unfair by job-seekers will result in negative consequences for the organization (Cooper & Robertson, eds., 1997; Cowherd & Levine, 1992; Greenberg, 1988; Johnson et al., 2009; Narcisse & Harcourt, 2008; Ryan & Ployhart, 2000).

Included as **Appendix I** to this document is a comprehensive glossary of terms used throughout the document intended to serve as a quick reference for readers.

FAIRNESS PERCEPTIONS THEORY

In 1993, industrial-organizational psychologist Stephen S.W. Gilliland developed the Model of Applicants' Reactions to Employment Selection Systems. His model has become recognized as the dominant theory in the field (Bauer et al., 2004, 2011; Ryan & Ployhart, 2000) and has been subsequently used to successfully inform further studies examining job-seeker fairness perceptions (Anderson & Witvliet, 2008; Bauer et al., 1998, 2004, 2006, 2011; Carless, 2006; Gilliland, 1994, 1995; Gilliland & Steiner, 1999, 2001; Marcus, 2003; McDowall & Fletcher, 2004; Ryan & Chan, 1999; Steiner & Gilliland, 1996, 2001; Steiner, 2001; Steiner et al., 2004; Taxman & Gordon, 2009; Truxillo et al., 2001, 2002, 2004).

The Gilliland (1993) model was developed based on organizational justice theory (Greenberg, 1987) which consolidates distributive justice (Adams, 1965; Homans & Merton, 1961), procedural justice (Leventhal, 1980; Thibaut & Walker, 1975), and interactional justice (Bies & Moag, 1986). The Gilliland (1993) model presents three (3) distributive and ten (10) procedural justice rules. Given that organizations exhibit greater control over selection process than selection outcome (Gilliland & Steiner, 2001; Truxillo et al., 2004; Uggerslev et al., 2004; Walsh et al., 2010), the present study focuses exclusively on the original ten (10) procedural justice rules which include four (4) formal characteristic rules, three (3) explanation rules, and three (3) interpersonal treatment rules thus accounting for interactional justice as a subcategory of procedural justice in line with the literature (Cropanzano, ed., 1993; Lind & Tyler, 1988; Sheppard et al., 1992). The satisfaction of a rule results in job-seeker perceptions of fairness, while the violation of a rule results in job-seeker perceptions of unfairness. Each of the rules also contains an explanatory/descriptive section spanning several paragraphs (Gilliland, 1993, pp. 703-714). Gilliland (1993) intended for these rules to be understood holistically in that the combined violation and satisfaction of all results in an overall perception of fairness of a selection process. This was later confirmed empirically in a landmark pre-employment drug-testing study by Cropanzano and Konovsky (1995) who found that some rules could be justifiably violated if other rules were over-satisfied to create equilibrium.

INFORMATION SYSTEMS SUCCESS MODEL

A central topic of research in the present study is information technology. The rationale and context for this is outlined in the following section. While the research seeks to examine fairness perceptions (Gilliland, 1993) with respect to technology, organizational justice is insufficient for appropriate data interpretation. The DeLone and McLean (1992, 2003) information systems success model was adopted to inform the present study and provide additional contextualization to technologically-mediated applicant-employer interaction. The justification for its inclusion in this research is threefold. Firstly, the Van Birgelen et al. (2008) study set the precedent for its relevance in e-recruitment system success research. Secondly, the DeLone and McLean (1992, 2003) model has been influential as a base for a variety of research examining user interactions with the internet including in the context of public-sector website use or e-government (Bhattacharya et al., 2012; Hussein et al., 2007; Rana et al., 2012; Lin, 2011; Shareef et al., 2010, Wang & Liao, 2008). Thirdly and most importantly, the results of information systems success research (including dozens of quantitative website user satisfaction measures; summarized in Table 8) (Ahn et al., 2007; DeLone & McLean, 2004; Keramati & Salehi, 2013; Liu & Arnett, 2000) provide a relevant foundation upon which to interpret and analyze user interactions with the Public Service Commission of Canada e-recruitment portal.

The DeLone and McLean (1992, 2003) 'developmental' categories of information, system, and service quality are used throughout the present study to account for job-seeker experiences with navigation (Hernandez et al., 2009), visual/aesthetic façade (Zusman & Landis, 2002), and interaction with organizational representatives (Seddon, 1997), among other experiential dimensions. The relevance of

the DeLone and McLean (1992, 2003) model is further maintained on the basis of apparent overlaps with many procedural justice rules (Gilliland, 1993). Among theories of information technology use, DeLone and McLean (1992, 2003) also offer the most universally applicable interpretation of information system success without focusing exclusively on user choice between systems as in the Technology Acceptance Model (Davis, 1989). Unlike customers selecting from a variety of business-to-consumer (B2C) e-commerce websites, job-seekers in the Canadian federal public-sector are compelled to use the official Government of Canada e-recruitment portal without any other alternative.

THE PRESENT STUDY

RATIONALE AND CONTEXT

The Gilliland (1993) model reached its twentieth (20th) anniversary at the time of data gathering of the present study. Over this time, technological developments have significantly transformed the personnel selection process (Ensher, 2002; Lytras et al., 2010; Troshani et al., 2011; Wesolowski, 2014; Yoon Kin Tong & Sivanand, 2005) and how organizations administer and manage the hiring of new talent (Coursey, 2010; Iwu & Benedict, 2013; Kim & O'Connor, 2009; Llorens & Kellough, 2007; Zusman & Landis, 2002). Among these changes are the proliferation of personal computing and greater at-home internet accessibility and functionality for job-seekers (Ellis et al., 1999; Ryan, 2010; Whitacre & Mills, 2007; Van Rooy et al., 2003) and the adoption of human resource information systems (HRIS) by organizations (Aswathappa, 2007; Lippert & Swiercz, 2005; Tansley & Watson, 2000) including in the public-sector (Cober et al., 2000; Kim & O'Connor, 2009; Llorens & Kellough, 2007; Pfielfelman et al., 2010; Selden & Orenstein, 2011; Troshani et al., 2011). HRIS technology use has been fueled by projections of added organizational benefits including claims of increased efficiency and reduced cost (Beadles et al., 2005; de Pablos, 2004; Iwu & Benedict, 2013; Kassim et al., 2012; Lippert & Swiercz, 2005; Rodriguez & Ventura, 2003).

While HRIS technology can influence all of an organization's broader human resources management strategy (Aswathappa, 2007), of particular concern to personnel selection is the development of e-recruitment technology. E-recruitment technology refers to the use of information technology, specifically the internet, in the administration of personnel selection processes (Cushway, 2012). Research has supported the added value of e-recruitment to organizations with respect to various factors (Bingham et al., 2002; Breaugh & Starke, 2000; Brewster & Mayrhofer, 2012; Cober et al., 2000; Faliagka et al., 2012; Galanaki, 2002; Landers & Sackett, 2012; Maurer & Liu, 2007; Pollitt, 2008; Tong, 2009). Some studies have also recognized drawbacks associated with e-recruitment technology use in organizations (Amare & Manning, 2008; Cappelli, 2001; Chapman & Webster, 2003; Cullen et al., 2006; Galanaki, 2002; Kehoe et al., 2005; Lievens & Harris, 2003; Makransky & Glas, 2011; Pearlman, 2009; Tippins et al., 2006). It is reasonable to conclude that technology has altered the hiring process with respect to application and screening processes (Bauer et al., 2004; Beard et al., 2012; Becker, 2005; Bryen et al., 2010; Cockerham, 1996; Cullen et al., 2006; Grieve & de Groot, 2011; Ployhart et al., 2003; Salgado & Moscoso, 2003).

The Gilliland (1993) fairness perceptions model has been slow in adapting to these technological changes. This is true both for its overall structure (the rules themselves) and the explanatory/descriptive component of each rule. This is despite recognition from scholars in the field that additional theoretical reflection is needed for the procedural justice rules to account for HRIS e-recruitment technological developments in human resources management practice and in doing so remain relevant and sustainable for future research (Gilliland & Steiner, 2012; Lievens & Harris, 2003; Truxillo et al., 2004). Some recent quantitative studies have attempted to consider fairness perceptions based on the Gilliland (1993) model from a technological perspective (Bauer et al., 2006[CD/SDR], Dineen et al., 2004 [CD]; Konradt et al., 2013 [CD]; Sylva & Mol, 2009 [SDR]) but suffer from either one (1) or two (2) flaws: a contrived design [CD] (Gilliland & Chan, 2001) or the socially-desirable response bias problem [SDR] also as a result of design (Matthews et al., 2003). Despite their flaws, the studies provide valuable results including applicant preference for human rather than automated screening (Dineen et al., 2004) and a technological revival of the propriety of questions rule (Gilliland 1993) which Gilliland and Steiner (2012) suggest in potential error may be no longer relevant. The present study intends to address some of the weaknesses of its predecessors and provide essentially a technological equivalent to the Gilliland (1995) study to qualitatively explore the 1993 model with an emphasis on HRIS e-recruitment.

The overall research question of the present study asks: how does HRIS e-recruitment technology influence job-seeker perceptions of fairness? The research question is addressed through the development of several propositions stemming from the original ten (10) procedural justice rules as well as one (1) additional rule hypothesized but not included in the original model by Gilliland (1995) and one (1) new e-recruitment-specific rule addressing privacy/trustworthiness. Therefore, in response to the research question, the structure of the Gilliland (1993) model is expanded with these two (2) rules and the explanatory/descriptive component is significantly updated to account for technological change.

Besides the summarizing Introduction and Conclusion, this dissertation is composed of seven (7) chapters broadly outlining the research process and results. First, *Methodology* describes the processes involved in gathering and analyzing data based on the particularities of the chosen topic. Second, *Presentation and Discussion of Theory* explains the interpretive bases selected for analysis of the data. Third, *Existing Literature and Implications* summarizes relevant works and topics while making note of limitations and further analysis required. Fourth, *Public-Sector E-Recruitment Fairness Perceptions* explores the results of the study from the perspective of the job-seekers interviewed. Fifth, *20 Years Later: Impact of Technology on Gilliland's Rules* re-introduces each of the original Gilliland (1993) rules, as well as two (2) additions, from a technological perspective. Sixth, *Impact of Results for HRM Practices in the Public-Sector* highlights the practical aspect of the research for today and tomorrow with relevance to Public Administration. Finally, *Unforeseen Drawbacks and Limitations* unearth the unique characteristics surrounding the study that should be taken into consideration by readers. Combined, these chapters present how job-seekers interested in a career with

the Federal Government of Canada perceive the country's e-recruitment system in terms of fairness.

METHODOLOGY

The present study adopts a qualitative research design. Scholars of fairness perceptions have strongly encouraged additional qualitative research based on a need to complement the saturation of extant quantitative studies (Bauer et al., 2001; Hausknecht et al., 2004; Narcisee & Harcourt, 2008; Ryan & Huth, 2008; Ryan & Ployhart, 2000). A qualitative design is also appropriate because matters of fairness and justice are abstract concepts that are inherently difficult to quantify (Dolbeare & Gardiner, 1975; Sexton, 2013; Van Thiel & Leeuw, 2002; Wilson, 1997; Wilson, 2012). Choosing a qualitative design allowed for the capture of new insights about the narrative and experiential dimensions of technologically-mediated selection, in line with the methodological literature (Brower et al., 2000; Creswell, 1998; Merriam, 2009; Polkinghorne, 2005; Stake, 2010).

A series of focus group interviews were conducted in the City of Ottawa, which is Canada's national capital and the country's major civil service hub (Graham & Swimmer, 2009). The appropriateness of focus group interviewing to qualitative research design has been acknowledged (Wilkinson, 2004) as has its effectiveness in gathering a variety of participant experiences and observations (Calder, 1977; Engelbrektsson & Soderman, 2004; Linda, 1982; Merton, 1987) with the added benefit of interpersonal communication and group dynamics (Carey & Smith, 2004; Johnson, 1996; Kidd & Parshall, 2000; Kitzinger, 1994; Wibeck et al., 2007). Twelve (12) participants who self-identified as active job-seekers based on search frequency (Layard et al., 2005; Tso et al., 2010) were recruited through an internet-based recruitment technique using a job-search website in combination with snowball sampling. This process was based on research supporting internet recruitment for the purposes of targeting a specific population (Beck & Konner, 2007; Cargan, 2007; Trier-Bieniek, 2012). Participants were divided into two (2) equal-sized groups meeting in-person for a semi-structured interview once (1) approximately every three (3) months over the course of one (1) year. This approach was selected to account for a high probability of delays traditionally associated with the public-sector e-recruitment selection process (Barber et al., 1994; Puritano, 1975; Schleicher et al., 2006; Walker et al., 2008; Wanberg, 2012) in order to account for a full range of experiences. Consistent with rigorous adherence to methodology, focus group size was small (Breen, 2006; Duhovnik et al., 2006; Murdoch et al., 2010; Sandelowski, 1995) and participant makeup was diverse by gender, age, race, and professional background (Kitzinger, 1995; Linhorst, 2002; Litosseliti, 2003).

Focus group interviews adopted a semi-structured approach in alignment with the qualitative study design (Bryman, 2012; Cribb, 2003; Jarratt, 1996; Sampson, 1972). Interview questions were formulated based on the Madigan and Macan (2005) simplified categories of the Gilliland (1993) model. Matters related to interaction with technology were interpreted based on information system success theory (DeLone and McLean, 1992, 2003) in conjunction with the Gilliland (1993) model. Interview data gathering consisted of the focus group moderator dual note taking approach (Bertrand

et al., 1992) with attention to verbal responses and affective/emotional reactions (Hennink, 2010; Sink, 1991). Post-interview data analysis was conducted in accordance with interpretative thematic analysis (Braun & Clarke, 2006) using the King and Horrocks (2010) three (3) stage interdisciplinary model of thematic analysis. This process was conducted with use of In vivo coding (Lindlof & Taylor, 2011; Strauss & Corbin, 1998).

CONTRIBUTION TO KNOWLEDGE

The way job-seekers search for employment opportunities, apply to openings, and converse with organizational representatives with regards to their application status, among other factors inherent to selection, have changed drastically in the last twenty years (Ensher, 2002; Lytras et al., 2010; Yoon Kin Tong & Sivanand, 2005). Besides job applicants themselves, organizational HRM processes have been greatly impacted by the shift towards technology, including widespread personal computing and Internet access (Coursey, 2010; Kim & O'Connor, 2009; Llorens & Kellough, 2007; Zusman & Landis, 2002). Lievens and Harris (2003) specifically outlined a pressing need for researchers to consider the impact these technological changes have on the Gilliland (1993) model. Gilliland and Steiner (2012) included a detailed review of a range of existing literature in the field with some hypothetical conclusions drawn for each rule. However, the authors encouraged further empirical research for the purposes of determining rule validity in the modern technological context.

Some researchers have responded to this call and their conclusions have made an important contribution to the direction of the present study (Bauer et al., 2006, Dineen et al., 2004; Konradt et al., 2013; Sylva & Mol, 2009). It is possible, however, to identify some significant limitations in each of these works that reflect the challenges inherent to designing empirical quantitative research capable of gauging real fairness perceptions in simulated environments. The present study provides an innovative contribution to knowledge to the existing literature on applicant fairness perceptions by adopting a qualitative framework, which is important for two overarching reasons. First, it addresses a demonstrated scarcity of fairness perceptions studies conducted using a qualitative design (Bauer et al., 2001; Hausknecht et al., 2004; Narcisee & Harcourt, 2008; Ryan & Huth, 2008; Ryan & Ployhart, 2000). Second, it seeks to engage research participants who are all actual, so-called 'real-life' job-seekers using a 'real-life' e-recruitment system. This provides a unique benefit over studies recruiting generic participants responding to surveys based on their experience using a simulated e-recruitment system. The selected e-recruitment system allows the present study to contribute to knowledge not only in the organizational justice literature, but more specifically to the field of Public Administration.

There is a tendency in the organizational justice literature to emphasize private-sector and corporate human resources as opposed to HRM in government departments and agencies. Accordingly, some authors have recently characterized this development as a clear and observable bias in the field, according to Choi (2011); "little research in public administration has explored the impacts of organizational justice in public organizations" (p. 97). With a few recent exceptions (Miceli et al., 2012; Suliman & Al Kathairi, 2013) spurred by the recognition of this trend, justice remains a

consistent focal point of study from the perspective of manufacturing firms, retail operations, and corporations, among others, but less so in the context of government.

Researchers who discuss public-sector fairness perceptions frequently do so in the context of employees who are presently employed in various levels of government, with little attention placed on job-seekers. Bregm (2008) contends that most public-sector fairness studies surround workplace processes such as pay distribution or performance management. Research surrounding job applicant fairness perceptions is relegated to those interested in finding employment with the private-sector.

Further contributing to the study of HRM in the public-sector is the decision of the present study to consider a government-managed e-recruitment portal. E-recruitment portals have now become ubiquitous to public-sector hiring (Kim & O'Connor, 2009; Llorens & Kellough, 2007). But as Llorens explains, the characteristics of public-sector e-recruitment portals have rarely represented a central topic of inquiry in the literature: "To date, there have been no research efforts that have attempted to comprehensively and simultaneously assess public sector e-recruitment efforts across all levels of government" (2011, p. 416). The author explains that one of the challenges facing researchers who want to study governmental HRIS is the considerable variation between municipalities and states. This is certainly true in the United States where the Office of Personnel Management oversees a federal e-recruitment portal (USAjobs) alongside departmental e-recruitment portals across federal agencies. In Canada, however, the PSC portal is government-wide and truly serves as a gateway for Canadian applicants from coast to coast looking for federal openings.

In studying the fairness perceptions of a government e-recruitment portal, the present research contributes to the literature on public-sector HRM. Besides rare exceptions, like job-seekers who have a disability impeding them from using a personal computer, the only way Canadians can apply to federal postings is through the PSC portal: "the Government of Canada conducts external recruitment almost exclusively online" (Catano, 2005, p. 270). Historically in the field of Public Administration, objectivity in the hiring process was defended by proponents of a meritocracy against systems of patronage: "Candidates are selected on the basis of technical qualifications. In the most rational case, this is tested by examination or guaranteed by diplomas certifying technical training, or both" (Weber, 1947, p. 333). More recently, Denhardt and Denhardt (2013) echo a similar perspective in Public Administration regarding the responsibility to hire candidates through a process that is fair: "Recruitment efforts in the public sector must also be concerned with assuring fairness, openness, and representativeness" (p. 296). However, the authors dedicate but solely a handful of pages to discussing what this entails and without the adoption of a rigorous theoretical framework or any sort of empirical research.

In adopting concepts from organizational justice theory (Greenberg, 1987) and employing empirical research based on the experiences of actual job-seekers, the present study builds the foundation for future discourses of 'fair hiring processes' in the public-sector; a topic that has been scarcely explored but meriting considerable further investigation. Itself a branch of the social sciences, Public Administration represents an interdisciplinary field that concerns the 'functioning' of government (Naidu, 2005). As

government departments and agencies would be but empty buildings without employees, the present study maintains that public-sector HRM is among the core domains within Public Administration (Rosenbloom, 2010). By focusing its object of inquiry on a government e-recruitment portal, this study contributes to the specific nuances of public-sector HRM which are underrepresented in the literature yet differ enough from the private-sector to merit independent study.

The present study contributes to fairness perceptions literature in the field of organizational justice as well as human resource management (HRM) in the field of Public Administration. This combination is appropriate based on a precedent of past studies having reflected on HRM topics within Public Administration (Chiang, 2011; Farnham & Horton, 1992; Grant & Toch, 1984) and, more broadly, the interpretation of Public Administration as concerned with matters related to government (Box, 1999; Bourgon, 2007; Denhardt et al., 2013; Government of Canada, 2010; Kelman, 2007; Khan, 2008). Personnel selection is considered a legitimate branch of HRM (Lievens et al., 2003; Sanyal & Guvenli, 2005; Schmitt & Chan, 1998).

The rationale for analyzing e-recruitment fairness perceptions from a public-sector perspective is strategic and timely. A vast majority of studies in organizational justice account for selection in the private-sector with a recognized lack of complementary public-sector work (Choi, 2011). This is important because Mareschal and Rudin (2011) proved the existence of differences with respect to technological characteristics of e-recruitment portals in the private- and public-sectors. Scholars have also speculated upon differences between the private- and public-sector (Raadschelders, 2003; Fry & Raadschelders, 2008) and that these differences may influence personnel selection fairness (De Schrijver et al., 2010).

The Federal Government of Canada's e-recruitment portal was selected as the e-recruitment portal of study because it is universally accessible to job-seekers nationwide as long as they have access to a functioning computer with an Internet connection (Government of Canada, 2011). It also provides for a broad and in-depth examination of various aspects of technologically-mediated personnel selection including pre-employment evaluation (Banki & Latham, 2010; Becker, 2005; Cullen et al., 2006; Ployhart et al., 2003; Weekley & Ployhart, eds., 2006), pooling/roster management (Hays, 2004; Ingle & Rutledge, 2010; Marschke et al., 2007; Wilkson, 2007), and automated candidate screening (Cullen et al., 2006; Galanaki, 2002).

RESULTS

PRESENTATION

The results of this study are presented in two (2) complementary sections. Firstly, participant observations are organized topically based on overarching themes emergent from the focus group interviews and presented in such a manner as to reflect the voices and priorities of participants consistent with the qualitative focus group methodology (Krueger & Casey, 2000; Parker & Tritter, 2006; Van Eyk & Baum, 2003; Warr, 2005). This section also provides additional interpretation of data using the

DeLone and McLean (1992, 2003) information systems success theory with implications for fairness perceptions (Gilliland, 1993). It is also relevant to public-sector e-recruitment technology use among job-seekers in a public-sector context and contains a variety of important observations from which practical considerations are ultimately drawn.

Secondly, a thorough interpretation of data is conducted against the original Gilliland (1993) procedural justice rules. Several propositions are put forth addressing how e-recruitment technology may influence job-seeker perceptions of fairness throughout various steps of the selection process. Following the rationale for qualitative study development, these propositions may be used in whole or in part to inform future quantitative research (Taylor & Trumbull, 2005) in organizational justice and job-seeker perceptions of hiring process fairness.

FINDINGS

Validity was confirmed for all of the original ten (10) Gilliland (1993) procedural justice rules. Two (2) new procedural justice rules are introduced. The first concerns “ease of faking”, a rule hypothesized by Gilliland (1995) and supported in later research (Alliger & Dwight, 2000; Gilliland & Hale, 2005; Rolland & Steiner, 2007) but never formally integrated into the original 1993 model. Importance for the ease of faking rule is increased in an e-recruitment context due to increased use of unsupervised internet testing (UIT) (McBride, 1998; McDonald, 2008; Meade et al., 2007; Pearlman, 2009). The second rule is new and relates to e-recruitment portal perceptions of user privacy and trustworthiness. Privacy concerns have been raised as an important factor related to technology and personal internet use (Harris, 2005; Keramati & Salehi, 2013; Piller, 1993; Yoon Kin Tong, 2009). Some fairness perceptions researchers have recognized privacy as a potential factor in influencing user perceptions of fairness during interaction with e-recruitment technology (Bauer et al., 2006) but this claim is not universally accepted (Harris et al., 2003; Sinar & Reynolds, 2001). Privacy is assessed based on e-government literature (Hung et al., 2013; Parent et al., 2005; Shareef et al., 2008, 2011) and it is suggested that user perceptions thereof may be affected by organizational reputation (Jarvenpaa et al., 2000; Joinson et al., 2010; McKnight et al., 2002b) which is particularly strong for a public-sector HRIS.

Homogeneity of the Gilliland (1993, p. 700) model is supported; as is the concept of Cropanzano and Konovsky (1995) of procedural justice rule interrelationship and justifiable rule violation. It is also proposed that the ‘explanation’ dimension of the Gilliland (1993) model is of particular importance in an e-recruitment personnel selection context in those instances where opportunity for human interaction and two-way communication is limited, such as in the case of UITs. Inclusion of the ‘propriety of questions’ rule is defended based on public-sector e-recruitment tendency to include options for job-seeker participation in preferential hiring schemes and programs on the basis of technologically-mediated interaction with matters of a potentially sensitive nature. Support is also provided legitimizing the appropriation of interactional justice elements (Bies & Moag, 1986) to communication transpiring over technological means (Konradt et al., 2013). Results also confirm an important finding originally discovered by Dineen et al. (2004) that e-recruitment users demonstrate a preference for interaction

with human organizational representatives rather than messages which appear to have been auto-generated by a computer. Despite a tendency for public-sector websites to have conservative visuals/aesthetic façades (Elling et al., 2007; Kaisara & Pather, 2011; Wang & Chen, 2012), this did not appear to result in fairness-related attitudes with the exception of imagery promoting diversity and multiculturalism the emphasis on which was found to be in line with the literature (McKay & Avery, 2005; Rubaii-Barrett & Wise, 2008; Ryan et al., 2000; Singh & Point, 2004).

LIMITATIONS

The study was undertaken at a time of reduced employment opportunities throughout the Canadian federal public service due to the implementation of measures stressing increased fiscal responsibility (Government of Canada, 2012; 2013d). For 2012-2013, overall Government of Canada hiring declined by 30.1% (Government of Canada, 2013f). This causes a possibility for increased feelings of job-seeker stress and potentially feelings of resentment towards the hiring organization (McFadyen, 1997; Schaffer & Taylor, 2012; Song, 2009). However, the limitation was circumvented by a focus on user interaction with e-recruitment technology exclusively and not the broader job-search stressors resultant of current economic priorities.

Shortly before the start of the focus group interviews, the official Government of Canada e-recruitment portal underwent a substantial visual facelift. The timing of these events caused some focus group participants to mistakenly assume that the advent of the facelift was known to the researcher and therefore the main object of inquiry. This is a legitimate potential study limitation because it may have distracted some participants away from the intended purpose of the research, which involved studying the e-recruitment portal from a greater variety of perspectives beyond only visual/aesthetic façade. The visual evolution of the e-recruitment portal became an object of discourse but beliefs that the study was centered on the theme of visual/aesthetic façade were dispelled. The researcher qua moderator provided regular clarifications and facilitated discussion to ensure theoretical relevance.

Despite recruiting diversely, participants were limited to computer-literate English-speakers without any known disabilities from Canada's national capital region. Therefore, views particular to some job-seekers (those in remote locations, the disabled, Francophones, etc.) do not form part of the research findings. However, the purpose of this study was to explore and inform rather than generalize and, given the data from which the propositions were drawn, the process was successful in this regard.

Finally, due to the distinct recruitment methodology (Wesolowski, 2014b), approximately half of the study participants were registered active members of an online community. This raises a possibility that participants may have been potentially unrepresentative of the 'typical' or 'average' Canadian job-seeker. However, the diverse makeup of both focus groups as well as the inclusion criteria ensured that participants who could evoke the most in-depth experiential narratives of e-recruitment fairness perceptions were selected in accordance with the research objectives.

The research findings remain valid, however, despite these potential limitations. The study responded to calls for analysis of the Gilliland (1993) fairness perceptions rules from a technological perspective (Gilliland & Steiner, 2012; Lievens & Harris, 2003; Truxillo et al., 2004). The diverse focus group participants were given the opportunity to, in their own words; describe their interactions and resulting experiential dimensions related to using the Public Service Commission of Canada Portal. While some off-topic discussions resulted, relevant feedback can be organized into each of the rules to allow researchers to bring technology into considerations of applicant fairness perceptions.

I. RESEARCH PROBLEM

The present study seeks to respond to the research question regarding how HRIS e-recruitment technology impacts job-seeker perceptions of fairness. The Research Problem section explores, firstly, the theoretical foundations used to underpin the study including the Gilliland (1993) fairness perceptions rules and their evolution in organizational justice as well as the information systems success theory used to interpret the technological aspects of the e-recruitment portal itself. Second, a review of the literature is presented highlighting some of the recent attempts at bridging fairness perceptions to a modern hiring context, as well as offering a business case for updating the Gilliland (1993) model. As the Gilliland (1993) model is comprised of rules with corresponding explanations/descriptions, the update focus is placed on the latter although an update to the original rule structure is also proposed through the suggestion of adding two (2) additional rules. Finally, the third chapter of the Research Problem section outlines the qualitative methodology adopted for the study and presents a justification for the selected research techniques.

I.1. THEORETICAL FOUNDATIONS: JUSTICE, FAIRNESS, AND INFORMATION SYSTEMS

Job-seeker fairness perceptions are studied based on the Gilliland (1993) *Applicants' Reactions to Employment Selection Systems* model, which is based on knowledge in the Organizational Justice literature. In order to account for the technological aspect stemming from the HRIS e-recruitment portal, interpretation of findings follows information systems success theory (DeLone & McLean, 1992, 2003). By updating the Gilliland (1993) model through a qualitative methodology, the present research serves to complement the Gilliland (1995) qualitative study of fairness perceptions.

Included as **Appendix II** to this document is a visualization of the theoretical frameworks adopted for this study showing historic developments and conceptual interrelationships.

ORGANIZATIONAL JUSTICE

The bulk of fairness perceptions literature today owes its history to Greenberg (1987, 1993) and his development of the theory of Organizational Justice. According to Greenberg (1987), organizational justice deals with a variety of processes within the professional context including constructs related to human resource management: "questions about justice still arise in many organizational milieus, among them contexts as diverse as pay plans (comparable worth) [...], grievance procedures, selection and placement practices, and evaluation policies" (p. 19). But the concept of justice is itself not a new phenomenon, dating back to the ancient works of Aristotle in philosophical discussions surrounding justice and its relationship to virtue in the *Nicomachean Ethics* (Ward, 2011). Sandel (2007) provides a thorough overview of the philosophical traditions of justice which includes thoughtful summaries of some classical and modern interpretations. Of greater concern to this research, however, is justice not in terms of a

normative ideal but rather in its descriptive sense of what individuals consider or perceive to be just and unjust. This is the interpretation of justice that is, traditionally, of greatest concern to the theoretical traditions in the social sciences (Cohen, 1987).

Many disciplines within the social sciences have engaged the concept of justice. How individuals perceive of justice has been studied from the perspectives of education (Chory, 2007; Kapustka et al., 2009), international affairs (Marar, 2011), and politics (Pankaj, 2009), among many other fields and works that could span across several volumes of text. With some rare and interesting exceptions that allude to principles of managerial right and wrong (Taylor, 1911), organizational justice remains a relatively new phenomenon only emergent out of the mid twentieth (20th) –century. Greenberg (1990) provides an in-depth review of some of the developmental triggers behind early conceptions of organizational or workplace justice. He cites some early examples of research that dealt in basic ways with what is more formally understood as organizational justice in the modern workplace: “Consider, for example, the significance management scholars have accorded such organizational activities as the fair use of employment tests (Block & Dworkin, 1976), equitable payment (Jacques, 1961), the just resolution of grievances (Aram & Salipante, 1981), and the right to democratic decision-making in the workplace (Locke & Schweiger, 1979)” (1990, p. 399). Eventually, these interpretations and considerations of justice were theorized to reflect different fundamental principles and were thus categorized to better reflect the nature of the organizational processes under scrutiny.

Greenberg (1987) undertook this task of classification and categorization in developing his Taxonomy of Organizational Justice Theories. Greenberg (1987) noticed that in any study of justice or perceptions thereof, individuals consider or evaluate justice in any one (1) of three (3) possible ways. Firstly, in the case of “distributive justice”, employees can share perceptions of justice surrounding the allocation of resources (Homans & Merton, 1961). Resources can include not only material compensation such as pay and benefits but also less tangible constructs such as promotions and managerial validation (Adams, 1965). Distributive justice is based in large part on Adams’ (1965) research on equity theory (Cook & Hegtvedt, 1983). Secondly, in the case of “procedural justice”, employees can have interpretations of justice not only on how resources are distributed but on the processes, decisions, and factors that ultimately shaped the outcome (Leventhal, 1980; Thibaut & Walker, 1975). Thirdly, in the case of “interactional justice”, employees can share perceptions of justice based on their interactions and interpersonal relationships with others within the workplace environment (Bies & Moag, 1986). While all of these different justice theories existed independently of one another, Greenberg (1987) coined the term organizational justice to refer to them in combination and suggested that while some may be more relevant to specific research endeavors than others, each forms one third (1/3) of the theory of organizational justice.

The combined interpretation of organizational justice theory as comprised of distributive, procedural, and interactional justice has also been referred to in the literature as the “fourth wave” or “integrative wave” of justice theory (Bies, 2005). This is because, chronologically, fourth wave or integrative organizational justice theory (Greenberg, 1987) is the most recent interpretation of justice theory. Distributive justice

was the earliest interpretation of justice and, as Fleischacker (2004) notes, can be seen most explicitly in the historical texts from ancient philosophers to classical economic theory in Adam Smith. In the modern sense, however, distributive justice was articulated by Adams (1965) who adapted some of his conclusions from cognitive dissonance theory (Festinger, 1957). Employees who perceive of an organizational outcome as unfair in fact perceive it to be out of balance and will feel psychological anxiety and emotional burden until equilibrium is restored (Tornblom, 1977).

Distributive justice is relevant in the organizational setting not only because it deals with the distribution of resources such as benefits and pay, but also because these benefits are often limited (Greenberg & Lind, 2000). Distributive justice is limited in that it is concerned exclusively with the outcome of decisions and not the processes that were used in its attainment (Adams, 1965; Homans & Merton, 1961). Thus, Folger and Cropanzano (1998) define the concept simply as “perceived fairness of the outcomes or allocations that an individual receives” (p. xxi). An influential model of distributive justice built on the prior work of Homans and Merton (1961) was Adams’ (1963, 1965) equity theory. It was based on input/output comparison between individuals. For example, if an individual feels comparatively under-rewarded for their work as compared to another employee, he or she will react by, for instance, decreasing the quality or speed of their work (Coldwell & Perumal, 2007). Equity theory faced criticism, however, for over-simplifying distributive justice and thus being incomplete (Weick, 1966).

In response to critiques of equity theory as an insufficient attempt to account for distributive justice, Deutsch (1975, 1985) proposed a series of distributive justice rules or allocation principles. The idea was that distribution will be perceived of as fair provided that certain criteria are satisfied and unfair if these criteria are violated (Leventhal et al., 1980). The principles are summarized in the table below:

<u>RULE</u>	<u>DESCRIPTION</u>
Equity	If a reward is proportionate to an employee’s contribution, distribution will be considered fair.
Equality	If allocation is based on criteria relevant to employee work contribution, distribution will be considered fair.
Need	If distribution amount is prioritized on the basis of employee needs, distribution will be considered fair.

Table 1. Distributive Justice Rules (Deutsch, 1985). Adaptation.

Traditionally, the equity rule which borrows heavily from Adams (1965) is considered the standard distributive justice measure where organizational goals are productivity or economic growth whereas the rules of equality and need serve mostly to foster or maintain positive social relations between persons (Kashyap et al., 2008). Distributive justice proved useful for organizational researchers predominantly concerned with studying perceived injustices with regards to the allocation of employee compensation (Cook & Hegtvedt, 1983; Walster et al, 1978).

Following the popularity of distributive justice in the 1960s and 1970s, Leventhal (1980) suggested that distributive justice alone was not sufficient in accounting fully for individuals' perceptions of justice. A major analysis of procedural justice specifically in the legal field published by Thibaut and Walker (1975) gave rise to broader procedural justice and was the first to introduce the dimension of fairness into the justice dialogue; that is, justice depends on what individuals perceive of to be fair. Leventhal (1980) however believed this interpretation of procedural justice to be incomplete and set out to define specific parameters for its evaluation. The result was his development of six (6) rules of procedural fairness the satisfaction or violation of which would determine if a person finds a given process to be fair or unfair, respectively (Zapata-Phelan et al., 2009).

<u>RULE</u>	<u>DESCRIPTION</u>
Consistency	If processes are consistent from person to person and over time, they will be perceived of as fair.
Bias Suppression	If there is no personal or subjective bias, processes will be perceived of as fair.
Accuracy	If processes are based on accurate and correct information, they will be perceived of as fair.
"Correctability"	If people are given second chances or the ability to return to their decisions, processes will be perceived of as fair.
"Representativeness"	If processes reflect values of participants, they will be perceived of as fair.
Ethicality	If processes are governed by mutually agreed upon ethical values and do not engage in deception, they will be perceived of as fair.

Table 2. Rules of Procedural Fairness. (Leventhal, 1980). Adaptation.

It is important to note, however, that these initial procedural justice rules were not developed or even intended for use in an organizational or workplace milieu, nor were they related to the hiring process and personnel selection (Blader & Tyler, 2003). The procedural justice rules were general and applicable to determine perceptions of justice in any process, further; Leventhal (1980) supposed that there was fluidity among the rules and that their relevance would be dependent on circumstance: "In some situations, one procedural rule may be considered much more relevant than others, in which case judgments of procedural fairness may be dominated by that rule. In other situations however, several procedural rules may be applicable" (p. 39). Perceptions of unfairness result upon the violation of any of the six (6) rules although these are based on context (Gilliland et al., eds., 2001, p. 12). For example, individuals participating in a formal exam may not necessarily consider the lack of second chances to be in violation of the "correctability" rule nor would they consider the allocation of additional time to disabled test-takers a violation of the consistency rule due to the nature of each situation. Although the relevance of technology will be discussed later, Ambrose and Schminke (2001) suggest that new developments in computing, like earlier achievements in manufacturing automation, have the potential to significantly and radically alter the context of these justice rules to the extent that in some settings their impact and relevance is permanently shifted.

Folger and Greenberg (1985) were the first to apply the work of Thibaut and Walker (1975) and Leventhal (1980) to human resources management and organizational settings. However, they did not focus on the personnel selection process. Instead, human resource procedural justice dealt with the processes inherent to employee performance evaluation as well as compensation and pay (McDowall & Fletcher, 2004; Greenberg, 1990; Hartmann & Slapnicar, 2012). Lind and Tyler (1988) wrote an in-depth book tracing the roots of procedural justice in the history of law and similarly advocated for its heightened consideration in an organizational context based on relevance: "Like courts and political institutions, organizations must make decisions concerning the evaluation of individuals and groups, the allocation of resources and outcomes, and the resolution of disputes" adding that "Procedures are a ubiquitous feature of organizations" (p. 173). Borrowing from early conceptualizations including Thibaut and Walker (1975) and Folger (1977), the authors give prominence to "voice" as a predominant construct of procedural justice. That is to say that processes will be considered as being more fair if employees are given an opportunity to share their views and opinions regarding a decision or situation (Greenberg, 1986; Korsgaard & Robertson, 1995). Folger et al. (1979) originally coined the phrase Fair Process Effect to describe the phenomenon of voice in perceptions of justice. However, the idea that procedural justice was complete with its rules and considerations of 'voice' would ultimately lead to a delineation of another justice construct. To follow the example suggested earlier of test-takers writing a formal exam, researchers thus ultimately recognized that there may be more at stake in the examination room during the taking of an exam with respect to justice; namely, the treatment test-takers receive from examiners and their perceptions of these interactions.

Bies and Moag (1986) were among the first authors to put into doubt the completeness of procedural justice. They suggested that the interactions individuals have in the scope of communication within an organizational setting will not only weigh significantly on perceptions of justice but that it should be considered as separate from procedural justice altogether. Bies and Moag (1986) attributed the term interactional justice for this new construct, defining it as "the quality of interpersonal treatment they receive during the enactment of organizational procedures" (p. 44). Similar to the procedural justice rules, the authors developed their own four (4) rules of interactional justice following along a similar pattern in that their violation or satisfaction would depend on interactions as being perceived of as unjust or just, respectively. The four (4) rules are summarized in the table below:

<u>RULE</u>	<u>DESCRIPTION</u>
Truthfulness	If people are given accurate and honest information in good faith, they will perceive of interpersonal treatment as fair.
Respect	If people are treated courteously and respectfully, they will perceive of interpersonal treatment as fair.
Propriety	If people are not asked inappropriate questions or discriminated against, they will perceive of interpersonal treatment as fair.

Justification	If people are provided with a good explanation for why a decision was made, they will perceive of interpersonal treatment as fair.
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Table 3. Interactional Justice rules (Bies & Moag, 1986). Adaptation.

It was later posited that interactional justice could rightfully be divided into two (2) parts: interpersonal and informational (Bies, 2001; Cropanzano & Randall, 1993). Whereas interpersonal interactional justice reflects instances of politeness, respect, and overall treatment; informational interactional justice deals more with explanations and details provided (Patient & Skarlicki, 2010; Zapata et al., 2013). Interactional justice has since been used to successfully study a variety of unique issues in organizational justice including on-the-job privacy concerns (Bies, 1993) and even non-smoking policy implementation (Greenberg, 1994). The appropriateness of interactional justice to hiring process fairness has also been explored in the literature (Harris, 2000; McMillan-Capehart et al., 2009).

The Bies and Moag (1986) interactional justice rules model would later experience some additional development and theoretical expansion. Tyler and Lind (1992) developed their relational model of authority based largely on the perceptions of justice individuals have based on how they interact and perceive of authority figures. However, there is – and continues to be – continued disagreement about the ‘place’ of interactional justice in broader organizational justice. Bies and Moag (1986) argue that the construct should be considered as fully independent from distributive and procedural justice. Bies (1987) maintains that consolidating interactional justice does a disservice to organizational justice as the two previously-mentioned constructs are insufficient and do not adequately account for this communicative dimension. Bies (1987) suggests that including interactional justice as a sub-domain of procedural justice is inappropriate because it confounds the theory, but once again, this view has been the subject of criticism.

Contrary to the view that interactional justice is a third and altogether different dimension of organizational justice is the idea that it should be considered as a sub-domain of procedural justice. Supporters of this view explain that while its importance should not be diminished, it is conceptually more appropriate to consider interpersonal dimensions as undercurrents or components of procedural justice (Cropanzano, ed., 1993; Lind & Tyler, 1988; Sheppard et al., 1992). Greenberg (1993) in fact suggested in his development of the two (2) tiered interpretation of interactional justice that it is neither a completely independent construct nor a sub-domain of procedural justice but rather a “social determinant” underpinning both distributive and procedural justice (p. 79).

Mikula et al. (1990) sided with Bies and Moag (1986) and Bies (1987) in support of a standalone interactional justice. Citing the Messick et al. (1985) study which characterized a variety of interpersonal constructs linked to perceptions of fairness, Mikula et al. (1990) concluded that the encounters shared among people, their communications, dialogues, and so on are so broad and complex that “it seems better to regard the manner of interpersonal treatment as an independent subject of justice evaluations rather than to subsume it under the concept of procedure. Otherwise, this latter concept [...] would be inflated and therefore lose its usefulness” (p. 149).

Konovsky (1990) provides a good explanation of some of the additional factors influencing the debate. Over the past decade, continued research in organizational justice (Ambrose et al., 2002; Colquitt, 2001) has further entrenched the debate: “the empirical evidence provides a loud and clear answer to the question of whether interactional justice is merely a form of procedural justice – and that answer is “no” (Bies, 2005, pp. 94-95). Cohen-Charash and Spector (2001) maintain that while distributive, procedural, and interactional justice are different they are highly related constructs actually capable of influencing one another. For instance, a seemingly unequal distribution may be considered fair if the processes used to arrive at the decision were themselves fair and all parties were treated respectfully and given the opportunity to provide input on the decision. Regardless of where interactional justice should be considered conceptually within the broader organizational justice framework, it is clear even by common logic that the interactions individuals have with others including how they are treated, whether they are discriminated against or prejudicially excluded, and so on, will influence perceptions of justice.

The Greenberg (1987) consolidation of organizational justice theory provided for a clear and consistent framework which could be used for research in the workplace milieu. Since its inception, organizational justice theory has been used extensively to study justice in a variety of different applications with some interesting results. The Greenberg (1994) study of perceptions of non-smoking policies in organizations is still used today to shape the development of smoke-free zones in various settings including in large cities (Eby et al., 2013). Organizational justice has also been found relevant for the study of compensation systems and employee benefits administration (Miceli, 1993; Till & Karren, 2011; Tremblay et al., 2000; Zhang & Agarwal, 2009), organizational commitment (Crow et al., 2012; Klendauer & Deller, 2009; Suliman & Al Kathairi, 2013), workplace sexual harassment (Butler & Chung-Yan, 2011), change management (Beugre, 1998), employee turnover (Hopkins & Weathington, 2006; Loi et al., 2006), and performance appraisal (Greenberg, 1988; Johnson et al., 2009; Narcisse & Harcourt, 2008; Nurse, 2005), among others. Colquitt et al. (2001) provide a thorough meta-analysis incorporating twenty-five (25) years of organizational justice research history. The authors suggest that despite the large variety of research and professional applications which have been influenced by developments of organizational justice, the field remains still in a state of ‘adolescence’. It is reasonable to suggest that, if organizational justice is in a state of adolescence, organizational justice in human resource management and, more specifically, personnel selection is in its infancy.

ORGANIZATIONAL JUSTICE, FAIRNESS PERCEPTIONS, AND PERSONNEL SELECTION PROCESSES

The academic study of organizational hiring processes combined with job applicant perceptions of fairness is new and has its roots in the organizational justice developments of the 1980s and 1990s. Ryan and Ployhart (2000) provide a thorough review of the relevant literature from 1985-1999 which readers are encouraged to consult for a detailed historical exploration of developments in this field. Briefly, the authors identify four (4) catalysts which have pressed for this growth of research and development including more competition for skilled labor, an identified demand for

further theoretical study in the field, the emergence of new findings demonstrating an important relationship between organizational justice and personnel selection processes, and finally trends showing increasing workforce diversity (2000, p. 565).

Ryan and Ployhart (2000) argue that the overarching conclusions supporting research in this domain have been that “these perceptions affect how the applicant views the organization (i.e., the process sends a signal; Rynes, 1993), his or her decision to join the organization, and subsequent behaviors (e.g., future product/service purchases, recommendations to others)” (p. 566). Conversely, mainstream human resources talent management of the past ten (10) years emphasizes the hiring *organization’s* role in recruiting, attracting, and identifying top-tier candidates as a salient preoccupation for leading sustainable success towards future economic hardships (Paauwe, 2007; Thunnissen et al., 2013). The complementary body of research, however, recognizes that job *applicants* undertake a type of ‘reverse talent management’ of their own in identifying and selecting their future workplace (Herriot, 1989; Rynes, 1993).

Whether or not individuals perceive of something as fair or unfair can influence their outlooks and actions in a variety of situations (Blodgett et al., 1997; Cohen-Charash & Spector, 2001; Nicklin et al., 2011). Numerous studies have shown, for instance, the consequences for businesses whose customers perceive to have been treated unfairly in the delivery of service (Mayser & Von Wangenheim, 2013; Pizzutti dos Santos & Basso, 2012; White et al., 2012). Fairness perceptions have also been studied extensively in healthcare management and shown to have a significant impact on patients’ emotions and experiences during interaction with medical professionals (Arries, 2009; Benning & Dellaert, 2013; Perez-Arechaederra et al., 2010). The present research concerns organizational fairness perceptions and, specifically, perceptions of fairness as related to the hiring process.

Fairness perceptions carry important consequences for organizations. Studies have proven that individuals form opinions of organizations based on perceptions of fairness (Hollensbe et al., 2008). On the job, employees who perceive of organizational processes as being unfair can exhibit reduced performance (Greenberg, 1988; Johnson et al., 2009; Narcisse & Harcourt, 2008), declining commitment to the organization (Cooper & Robertson, eds., 1997), as well as diminishing quality of work (Cowherd & Levine, 1992). Organizational processes which are perceived of as being more fair help an employer’s overall talent management strategy by attracting the most qualified and talented prospective workers (Ryan & Ployhart, 2000), have the potential to increase employee morale (Gilmore, 1989), influence organizational attractiveness (Kohn & Dipboye, 1998), strengthen worker loyalty and devotion (Wang et al., 2010), increase worker’s trust in management (Folger & Konovsky, 1989; Korsgaard et al., 1995), enhance the level of employee commitment to their workplace (Folger & Konovsky, 1989; Konovsky & Cropanzano, 1991), as well as improve on-the-job performance (Ployhart & Ryan, 1997), employee commitment, and job satisfaction (Johnson et al., 2009, p. 432).

Staffing a civil service of quality is a top priority for the Federal Government of Canada. Accordingly, the Public Service Commission HRIS portal promotes effective

public-sector talent management: "The public service is committed to maintaining an educated and knowledgeable workforce" (Government of Canada, 2008). This value is also recognized in the *Preamble* of the Canadian Public Service Employment Act (PSEA) which sets out the merit-based hiring standard of the Federal Government of Canada. Ensuring organizational processes like the overall hiring process are perceived of as fair is therefore critical to building and maintaining a competent and able public-service. Otherwise, the ability to attract high quality prospective employees could be jeopardized: "Research has shown that feelings of unfairness can lead to negative outcomes such as decreased reapplication, decreased recommendations, and lower job attraction" (Bauer et al., 2006, p. 616). The responsibility for the public-sector to attract top candidates and high quality talent has been recognized elsewhere in the academic literature (Cleary, 1993; Voinovich, 2001) as well as more recently given increasing fiscal responsibility and shifting economic priorities (Kim, 2008; Starks, 2007). As Steijn (2006) explains, human resources management practices are antecedents of organizational commitment in the public-sector meaning that studying the perceived fairness of personnel management and selection fairness is a relevant endeavor and one attuned to the creation of a high-performing civil service.

MEASURING AND STUDYING JOB APPLICANT PERCEPTIONS OF FAIRNESS

Kanfer et al. (2001) suggest that job-search begins with a prospective employee's goal he or she wishes to achieve. This goal puts into motion a variety of job-search activities. Boswell et al. (2012) define the job-search process as "the behavior through which effort and time are expended to acquire information about labor market alternatives and to generate employment opportunities" (p. 129). As most applicants' job-search process will not result in the immediate attainment of the goal of getting hired with their preferred employer, it may be intertwined with a variety of job application behaviors (Gray, 2009). For the purposes of this study, job-seekers' search (identifying jobs, searching databases, etc) and application (interviewing, testing) experiences were studied to produce a rich and nuanced narrative of the process in accordance with the qualitative study design (Creswell, 1998; Darlington & Scott, 2002; Polkinghorne, 2005, p. 138; Stake, 2010, p. 62). Job applicants who participate in a hiring process will interface with an organization's recruitment strategy through a series of interactions that may include sending an application, having their questions answered by a representative, participating in an interview, or writing a test, among others.

Early research in the field of job candidate fairness perceptions are emergent from industrial applications considering test administration in accuracy (Smither et al., 1993) or applicant motivation (Arvey et al., 1990; Chan et al., 1997). As mentioned, early research indicated that candidate perceptions of justice reflected on their attitudes of and dispositions towards the organization (Lind & Tyler, 1988). The importance of conducting research in this field was explained by Rynes (1991) who recognized that it is during the personnel selection process that job applicants experience their earliest interactions with a potential future employer. The idea, here, being that first impressions matter and that these initial experiences job applicants have will mould their views surrounding the organization (Elkins & Phillips, 2000). Some early studies, for example, indicated that job applicants reacted more favorably to selection processes that were

not intrusive (Ryan & Sackett, 1987), relevant to the characteristics of the type of job being sought (Robertson et al., 1991), and not invasive or compromising of privacy (Rynes & Connerly, 1993). These types of studies were considered alongside earlier work which proved that an employee's reactions to organizational processes impacted his or her opinion of the organization (Iles & Robertson, 1989; Rynes, 1993). The increase in research of this nature prompted the development of theory to try and account for both phenomena, that is, applicant perceptions of the personnel selection process and their subsequent outcomes on job-search and application-related decisions.

Several models were proposed in order to study applicant fairness perceptions. Smither et al. (1993) examined the construct of job-relatedness and demonstrated that it can reflect on perceptions of fairness based on two criteria: face validity (FV) and perceived predictive validity (PPV). Face validity concerns whether or not a specific assessment is appropriate for measuring what it was originally intended to evaluate whereas perceived predictive validity refers to the result of the assessment as capable of accurately predicting a job applicants' future on-the-job performance (Grand et al., 2010). For example, a job applicant undergoing a screening procedure for a clerical position may find a physical examination unfair because, while it is accurate in measuring his or her physical endurance (FV, pass), it may be perceived as irrelevant to their future clerical duties (PPV, failure).

The idea that job-relatedness was an important characteristic influencing applicant fairness perceptions was also developed by Arvey and Sackett (1993). The authors expanded this notion by proposing other characteristics that may play a similar role in affecting candidate fairness perceptions which included content (itself comprised of process relevance to position sought, scope, question invasiveness, and fakability), developmental understanding, procedural administration (including consistency of application), confidentiality, ability for a second chance, provision of information, and context (Arvey & Sackett, 1993). Schuler (1993) offered a simpler typology claiming that fairness perceptions will be affected by job-relevance, procedural interactivity on behalf of candidates, understanding how performance is evaluated, and finally level of feedback received. Iles and Robertson (1989) and Robertson and Smith (1989) explored in greater detail the psychological dimensions of candidate fairness perceptions during interaction with personnel selection systems. The authors suggested that fairness perceptions could play a role in shaping candidates' career and organizational attitudes, self-esteem, self-efficacy, among other psychological states, and that these could potentially result in withdrawal (Iles, 1999; Storey, 1995). Robertson et al. (1991) measured psychological well-being based on the General Health Questionnaire GHQ-12 (Goldberg, 1972) in a study demonstrating that selection process outcomes do not have a negative impact on candidates' psychological well-being. The field of applicant fairness perceptions was thus growing with a variety of distinct but related theories and models.

An effort to consolidate this research was undertaken by industrial/organizational psychologist Stephen W. Gilliland. Gilliland (1993) built on existing organizational justice (Greenberg, 1987) literature and past applicant reactions research (Arvey & Sackett, 1993; Iles & Robertson, 1989; Schuler, 1993) to develop a model known as *Applicants' Reactions to Employment Selection Systems*. It has been influential in the study of

personnel selection fairness perceptions, according to Bauer et al. (2011); “by far the dominant framework for investigating applicant reactions is Gilliland’s (1993) model based on organizational justice theory” (p. 194). Ryan and Ployhart (2000) also support the authority Gilliland’s model has had in offering a theoretical framework for studies in the field: “Gilliland’s conceptualization has served as the basis for a large number of the studies in the applicant perceptions literature” (p. 567). Bauer et al. (2004) suggest that this approach was valuable in developing applicant reactions theory based on its completeness and the inclusion of a variety of concepts from prior research: “The model that has generally driven the applicant reactions research, however, is Gilliland’s (1993) fairness-based model of applicant reactions” (p. 484). The Gilliland (1993) model has been used to inform a variety of studies by providing a comprehensive tool by which job applicant fairness perceptions could be assessed while keeping in mind resulting organizational and personal psychological impact (Anderson & Witvliet, 2008; Carless, 2006; Marcus, 2003; McDowall & Fletcher, 2004; Ryan & Chan, 1999; Steiner & Gilliland, 2001; Steiner et al., 2004).

APPLICANT REACTIONS TO EMPLOYMENT SELECTION SYSTEMS: THE GILLILAND MODEL

Stephen W. Gilliland’s (1993) applicant reactions to employment selection systems model consolidated other attempts at developing a framework for studying applicant perceptions of fairness and was based heavily on the distributive, procedural, and interactional justice constructs of organizational justice theory (Greenberg, 1987). Gilliland (1993) proposed ten (10) procedural justice rules and three (3) distributive justice rules the satisfaction or violation of which would determine if job candidates perceived some part of the selection process as fair or unfair, respectively (Chapman & Webster, 2006). Madera (2012) explains that these theoretical rules play a ‘mediating’ role between personnel selection processes and applicant reactions (p. 1278). For example, studies have proven that candidates who perceive of selection processes as unfair will “react” by experiencing lower motivation to follow through with the job application process (Chapman et al., 2005). The Gilliland (1993) model is summarized in the table below:

<u>RULE</u>	<u>DESCRIPTION</u>
Procedural Justice	
1. Job-relatedness	If a selection process is considered relevant to the job, selection will be considered fair.
2. Opportunity to perform	If applicants are given a reasonable chance to demonstrate their KSAs, selection will be considered fair.
3. Reconsideration opportunity	If applicants are given a second chance if unsuccessful, selection will be considered fair.
4. Consistency of administration	If administration of processes is consistent among applicants, selection will be considered fair.
5. Feedback	If applicants are provided with enough information about their progress, selection will be considered fair.

6. Selection Information	If applicants are provided with enough information about the process (before and after), selection will be considered fair.
7. Honesty	If processes are administered faithfully and without any deception, selection will be considered fair.
8. Interpersonal effectiveness of administrator	If applicants are treated with courtesy and respect by organizational representatives, selection will be considered fair.
9. Two-way communication	If applicants are given the opportunity to contribute and ask questions, selection will be considered fair.
10. Propriety of questions	If process questions are not invasive or discriminatory, selection will be considered fair.

Distributive Justice

1. Equity	If final process decisions are made on demonstrated and relevant applicant performance criteria, selection will be considered fair.
2. Equality	If final process decisions are not discriminatory on the basis of irrelevant or inappropriate criteria, selection will be considered fair.
3. Need	If final process decisions prioritize job-seekers most in need of employment at the time of application, selection will be considered fair.

Table 4. Applicant Reactions to Employment Selection Systems Model rules (Gilliland, 1993). Adaptation.

It is important to recognize that while the “description” column provides for a positive explanation of each rule, that is, a satisfactory outcome or validation, the reverse (negative outcome or failure) would produce an inverse description. The table is not complete as it is provided to serve as a summary of the theory, and the corresponding negative description of each rule is self-explanatory. It should be noted also upon reviewing the initial ten (10) procedural justice rules that Gilliland (1993) does not support Bies and Moag (1986) who argue in favor of separating interactional justice as an entity altogether different from procedural justice. Instead, he subdivides the procedural justice rules into three (3) distinct categories including Formal Characteristics (test type), explanation (human resources policy), and interpersonal treatment (human resources personnel). Distributive justice is categorized separately.

Gilliland’s (1993) model is general enough such that it can be adapted easily for a variety of research applications, both quantitative and qualitative. The justice rules can account for perceptions of hiring process fairness equally in both private- and public-sector human resources contexts. In researching overall talent management strategies in the Canadian context with specific emphasis on the Provincial Government of Ontario, Fisk and Skattebo (2010) recently used the Gilliland (1993) model to indicate potential consequences of informal job-search and that the acquisition of jobs through personal networks or non-advertised channels may lead to perceptions of unfairness. The model is flexible insofar as it is capable of producing a

general ‘applicant fairness perception’ of the hiring process depending on the nature of and steps involved in any given personnel selection process: “[p]erceptions of the extent to which each of these rules is satisfied or violated are combined to form an overall evaluation of the fairness of the selection system” (Gilliland, 1993, p. 700). Cropanzano and Konovsky (1995) studied precisely this cohesion within the model by arguing that organizations wanting to undertake selection processes that risk being perceived of as unfair by candidates such as drug testing can introduce a counter-balance by increasing perceptions of procedural fairness by ensuring that the other procedural justice rules are maximally satisfied. Crant and Bateman (1990) similarly found that perceptions of drug testing will be more favorable if subjects are given an explanation as to the purpose and nature of the test.

The Gilliland (1993) model has been used to draw out interesting conclusions about hiring process fairness and applicant reactions or outcomes. Schmitt and Kuncze (2002) successfully deployed the procedural rules and noted that some, including feedback, were of particular relevance to the way selection processes are perceived of in terms of fairness. The idea that a selection evaluation will be considered more fair if applicants are provided with the opportunity to demonstrate their skills, as per the rule of opportunity to perform, has also been demonstrated in the scientific literature (Singer, 1990; Truxillo et al., 2001). Gilliland (1994) conducted a quantitative study involving 270 job applicants manipulating the procedural justice rules of job relatedness and explanation, ultimately finding that the manipulations affected application recommendation, self-esteem, and even on-the-job performance.

The Gilliland (1993) model connects fairness perceptions to a series of outcomes. The organizational impact on how job applicants perceive the selection process in terms of fairness was discussed more broadly earlier. From a specific perspective of the Gilliland (1993) model, research indicates that perceptions of fairness influence a candidate’s decision to continue applying for jobs or accept future job offers from an organization (Singer, 1992). The outcomes of fairness perceptions suggested by Gilliland (1993) are summarized in the table below:

OUTCOME
Reactions During Hiring
Job-application and job-acceptance decisions
Application recommendations
Test motivation
Legal battles
Reactions After Hiring
Performance
Organizational citizenship behavior
Job satisfaction
Organizational climate
Self-Perceptions
Self-esteem
Self-efficacy
Future job-search intentions

Table 5. Fairness perceptions outcomes (Gilliland, 1993). Adaptation.

Gilliland (1993) supposed that the creation of “fair” selection processes is beneficial from three (3) perspectives each reflected in the organizational outcomes listed above. Firstly, fair hiring processes are deemed important from a “business” perspective in that it should help with attracting talented and qualified personnel. Secondly, it is considered important from an “ethics” perspective which relates to protecting the psychological well-being of job candidates. Gilliland (1993) used an industrial/organizational psychology framework to develop his self-perceptions outcome typology based on dissatisfaction with the manner in which it had previously been assessed (Robertson et al, 1991). Finally, it is important from a perspective of “law” as a fair selection process should minimize the risk of discrimination-related lawsuits (Gilliland, 1993, pp. 694-695). It is very important to recognize that this study does not aim to investigate the relationship between job applicant fairness perceptions and post-hiring outcomes. An extensive amount of quantitative research has already been conducted for this purpose (*for a review*: LaHuis, 2005; Lazar et al., 2007; Truxillo et al., 2002) and, as mentioned, has reached a number of important conclusions that validate the importance of developing fair hiring processes.

Singer (1992) and Schmitt and Gilliland (1992) suggest that the interactional, interpersonal, or communicative elements of job-search are most likely to impact perceptions of fairness in a tangible way. This influenced the decision to undertake a qualitative study of hiring process fairness perceptions. The present study focused predominantly on Gilliland’s (1993) ten (10) procedural justice rules and attributed less prominence to the three (3) distributive justice rules. This decision was made intentionally as procedural justice has been linked with the establishment of good governance as well as the strengthening of cohesion in an organization (Taxman & Gordon, 2009). Deciding to focus on Gilliland’s (1993) ten (10) procedural rules in particular was based on research demonstrating that hiring process policy is open to greater manipulation in terms of process rather than outcome: “organizations have far more control of the fairness of the selection process than they have over the fairness of selection outcomes” (Walsh et al., 2010, p. 366). Truxillo et al. (2004) explain that in order to maintain practical relevance, fairness perceptions research generally studies process fairness over outcome fairness or at least gives primacy to the former. Gilliland and Steiner (2001) similarly note that “[...] an organization has less control over perceptions of distributive justice than procedural justice” (pp. 177-178). Uggerslev et al. (2004) also recommend focusing exclusively on procedural justice characteristics in research writing that “applicants experience procedures before they know the outcomes” while ultimately concluding that “distributive justice only comes into play at the end of the process when job choice decisions are made” (p. 613). Choosing to focus away from distributive justice rules also allows the circumventing of the problem of self-serving bias in final hiring decisions (Fiske & Taylor, 1991).

Ryan and Ployhart (2000) hypothesize from causal attribution theory that the outcomes or hiring decisions of selection process could impact fairness perceptions. According to Weiner (1985, 1986), causal attributions or what individuals ascribe as the catalysts for certain outcomes will impact their future thoughts and actions. Studies focusing more on hiring process outcomes have demonstrated that job applicants who were selected for employment were more likely to ascribe the cause to their own

abilities and skills while candidates who were not selected were more likely to blame external forces outside of their control (Ployhart & Ryan, 1998; Schmitt et al., 2004). It is therefore suggested that fairness perceptions will be impacted by hiring process decisions based on whether applicants are hired or rejected: “whether or not one receives a favorable outcome (hired or not) is seen as a major influence” (Ryan & Ployhart, 2000, p. 587). However, Anderson et al. (2008) suggest that certain procedural factors can mitigate perceptions of unfairness resultant of unsuccessful results following a hiring process, thus strengthening the importance of procedural justice as an object of inquiry. Ployhart and Harold (2004) indicate that these reactions may be brought under control if job applicants are provided with additional thorough information about the hiring decision and personnel selection process throughout various stages including pre-, during, and post-selection. Ployhart et al. (2004) also discovered that providing details explaining the rationale for a hiring decision to applicants who were unsuccessful in a hiring process led to more positive perceptions of fairness. These findings coincide with the fairness literature linking perceptions with attitudinal reactions including general opinion of the organization and self-esteem (Hausknecht et al., 2004).

The semi-structured interview questions of the present study were developed in part based on the Gilliland (1993) model of procedural justice. However, it was determined that strictly adhering to his typology comprised of the ten (10) rules could do a disservice to the qualitative nature of the study by limiting respondents’ observations and not encouraging an authentic and broad exploration of ideas (Mahoney, 2007; Wiles et al., 2010). Given that the study aims to evaluate the relevance of the Gilliland (1993) applicant reactions to employment selection systems model from the perspective of new technology thus accounting for changes in the personnel selection process, innovation represents a core principle at the heart of the research process. Madigan and Macan (2005) suggest that Gilliland’s (1993) model can be synthesized and streamlined for the purposes of questionnaire development. This study borrowed from Madigan and Macan (2005) in order to develop question around the procedural rules without being restrictive to them. The simplified model is presented below:

<u>Gilliland (1993) Model</u>	<u>Simplified</u>
Procedural Justice	
1. Job-relatedness	Relevance
2. Opportunity to perform	Administration/Application
3. Reconsideration opportunity	
4. Consistency of administration	
5. Feedback	Information Quality
6. Selection Information	
7. Honesty	Communication/Treatment
8. Interpersonal effectiveness of administrator	
9. Two-way communication	
10. Propriety of questions	
Distributive Justice	

Table 6. Simplified Fairness perceptions rules(Gilliland, 1993; Madigan & Macan, 2005).

At the time of data gathering in the present study, the Gilliland (1993) model of applicant reactions to employment selection systems has remained virtually unchanged for twenty (20) years. Over this period of two (2) decades, significant developments in information technology and personal computing have changed the way job-seekers search, apply, and compete for jobs both in the private- and public-sector (Ensher, 2002; Lytras et al., 2010; Yoon Kin Tong & Sivanand, 2005). These developments have also impacted the way organizations undertake talent management including the publication of jobs, screening, testing, and selection of employees (Coursey, 2010; Kim & O'Connor, 2009; Llorens & Kellough, 2007; Zusman & Landis, 2002). The Gilliland (1993) model was created at a time when human resources technology for personnel selection purposes was in the early stages of development. Although studies have proven that the internet yields numerous benefits for the attainment of job-search success (Fountain, 2005; Niles & Hanson, 2003), fairness of technologically-mediated job-search has been scarcely explored in the literature. Much has changed in the personnel selection process since the early 1990s which represents the topic of inquiry driving this research project.

HUMAN RESOURCES TECHNOLOGY

This study makes frequent reference to the concept of a Human Resources Information System (HRIS). The HRIS is a piece of information technology (IT) for human resources (HR) purposes that can be integrated into a department or agency's overall compensation and benefits, workplace health and safety, employee and labor relations, planning and analysis, equal opportunity employment, development, and staffing strategy (Aswathappa, 2007, p. 80). It is important to recognize that HRIS is not a synonym for technologically-mediated personnel selection (e-recruitment) but rather that e-recruitment can form one (1) part of an organization's overall HRIS system (Wilson-Evered & Hartel, 2009). While the use of modern computer interface technology for a wide range of HR functions is a relatively new phenomenon, some aspects of HR including compensation and employee record management have been automated to a certain extent at least since the 1960s (Ball, 2001; Chadwick-Jones, 1969; Sun, 2001; Woodward, 1965). During this time, simple databases housed information accessible to administrative staff in an organization.

The most influential changes in professional HRIS came about with the development of Microsoft™ Windows™ and the internet during the 1980s and 1990s, respectively (Namachchivaya, 2012). Writing about the future challenges facing organizations, Ulrich (1997) noted the vast panoply of interrelated factors stemming from these developments: "Technology innovations occur almost faster than we can keep up. The words designating new technologies – the Internet, video conferencing, global paging, networks, instant information and analysis – conjure entire new worlds of business action" (p. 12). The technological developments in computing and networking contributed to what is referred to as workplace virtualization and transformed not only how but also where individuals undertake the responsibilities of their jobs (Allcorn, 1997; Davidow & Malone, 1992). These changes meant that full HR virtualization would not be far behind, and as expected, both the Windows™ computer operating system and the internet made significant impacts on organizations' fundamental approach to human

resources management (Crandall & Wallace, 1997; Stowers, 2000). West and Berman (2001) explain that these new trends in virtualization meant that an HR departments' "environment would be moving to become paperless; relying on electronic interactions; posting jobs on intranets or the World Wide Web; using electronic databases; and making regular efforts to capture, store, and catalogue knowledge digitally for electronic browsing" (p. 39). Snell et al. (2002) explain that virtual HR is a network-based approach where talent management is mediated by IT. Thus, the HRIS is considered a means to an end with the achievement and surpassing of certain organizational goals in mind.

The public-sector has been steady in adopting a variety of HRIS systems and tools (Troshani et al., 2011). Bondarouk and Ruel (2012) conducted a major review of public-sector literature and found that adopting HRIS in government stemmed from three (3) goals: cost-reduction, service delivery improvement, and strategic orientation. With respect to 'strategic orientation', Haines and Lafleur (2008) examine the impact of HRIS with respect to increasing organizations' efficiency in fulfilling transactional responsibilities as well as their achievement of strategic goals. This is coupled to research indicating that an organization's success depends very significantly on the effectiveness of its human resources department (Lippert & Swiercz, 2005; Rodriguez & Ventura, 2003). HRIS systems have been shown to increase the efficiency of organizations' transactional HR functions in a public-sector context (Beadles et al., 2005). Research also indicates that HRIS can be vital to improving strategic HR functions, including performance (de Pablos, 2004). One of the most significant transactional and strategic HRIS applications for government is 'e-recruitment' which combines the capabilities of personal computing and the internet for personnel selection purposes.

E-RECRUITMENT

The move to IT in human resources management (HRM) has led to the deployment of automation technologies for recruitment and staffing purposes (Reynolds & Weiner, 2009). Research has reflected this trend with studies examining the impact of technology on changes to various aspects of the hiring process and resultant effects on organizations' personnel specifically from a public-sector perspective (Cober et al., 2000; Kim & O'Connor, 2009; Llorens & Kellough, 2007; Selden & Orenstein, 2011). The literature has also shown that governmental HRIS solutions have developed steadily over the past several years to account for new technology reflecting the latest trends in personnel selection and have in some cases even kept pace with the private-sector (Pfieffelman et al., 2010). Maurer and Cook (2011) argue that HRIS talent acquisition represented a \$7B investment for American companies in 2005, with 96% of all US firms engaging the Internet for hiring purposes and over one half of external hires now originating from Internet-based recruitment (p. 107). Without exception, all Organization for Economic Cooperation and Development (OECD) member nations implicate the internet for some part of their personnel recruitment and candidate selection process (OECD, 2012). Cushway (2012) defines e-recruitment simply as "the use of technology to attract candidates and aid in the recruitment process" (p. 15) and includes the posting of job applications to where they are visible by prospective employees either internally or externally to the organization, or both; processing applications, and ranking

candidates through the use of test or information-gathering procedures. For the purposes of this research, the completeness of this definition sufficed based on the fact that it coincides accurately with the interactive options on the Public Service Commission of Canada resourcing system.

The support for the use of e-recruitment for personnel selection processes has been based in part on the wider benefits of HRIS (Reynolds & Weiner, 2009). Studies have shown that e-recruitment can help reduce cost (Bingham et al., 2002; Cober et al., 2000; Breaugh & Starke, 2000; Maurer & Liu, 2007; Tong, 2009), manage application volume (Brewster & Mayrhofer, 2012; Landers & Sackett, 2012), disseminate information and job postings to a wider range of candidates including potentially on a global scale (Galanaki, 2002), reduce the time required to fill vacancies (Faliagka et al., 2012) and even promote a more positive and up-to-date image of the hiring organization (Pollitt, 2008). According to Barber (2006), posting a job opening over the Internet costs a department on average just 5% of doing the same over printed means (p. 9). E-recruitment has been demonstrated to lower the time it takes to fill a vacancy by approximately 50% (Pande, 2011) and reduce the amount of human resources administrators needed to manage applications (Pollitt, 2005).

Given that the public-sector seeks to recruit high-quality candidates for civil service jobs (Government of Canada, 2008), it must have the appropriate HRIS systems in place to safeguard the merit-based nature of the hiring process and accurately attract and identify top talent. As Llorens (2011) notes, departments and agencies face the difficulty of pinpointing top candidates while maintaining representative and objective staffing processes: "While this task is a substantial challenge for any employer, it is even more of a challenge for public sector organizations [...] the field of public administration has paid an increasing amount of attention to the necessity of maintaining efficient and effective recruitment processes" (p. 411). Choudhury (2007) considers the public-sector unique as an object of research given the need for staffing strategies that can effectively pinpoint high-quality candidates without sacrificing objectivity and merit. While a history of civil service personnel selection standards and practices is far removed from the objectives of this study, it is important to reconcile technology with the principle of merit-based hiring.

Johnson (2006, pp. 425-471) provides a very thorough historical and managerial background of Canadian merit-based hiring at the federal level beginning at the time of Confederation in 1867. Readers with an interest in Canadian federal public management history are strongly encouraged to consult this chapter of his work for additional details surrounding the democratic value of defending a fair and objective hiring process in government. It suffices to say that more than one hundred (100) years since the creation of the Canadian Civil Service Commission, the core principle of merit remains highly relevant and entrenched in the Public Service Employment Act.

Though HRIS and e-recruitment systems are now the standard in federal public service personnel selection (Llorens, 2009), they are not without certain drawbacks and disadvantages. Iaccarino (1996) raised initial concerns over job applicants' sharing of personal information over the internet and how this could affect willingness to use technology for application purposes. Although end-users' comfort with and

acceptance of the internet has eased over the years as evidenced by the proliferation of online shopping and banking, concerns persist over the safeguarding and use of personal and job-related data by organizations (Harris et al., 2003; O'Harrow, 2005). The compromised sensitive personal information of hundreds of thousands of student loan applicants on behalf of Human Resources and Skills Development Canada, one of the country's largest federal departments, in early 2013 serves as a reminder that even with comprehensive privacy policies and complex data encryption systems serious breaches of privacy can – and do – still occur (Levitz, 2013).

The emphasis on cost-cutting and reduction of time to fill vacancies has also opened the door to criticisms surrounding the effectiveness of e-recruitment systems. Kehoe et al. (2005) for instance claim that the prioritization of efficiency in personnel selection may place the selection of high quality candidates at a lower tier of importance for organizations even if this is not an explicit goal or consideration. Concerns have also been raised that some aspects of online personnel selection can be prone to abuse including through cheating on unsupervised internet examinations (Chapman & Webster, 2003; Makransky & Glas, 2011). Tippins et al. (2006) provide empirical evidence suggesting that these styles of technologically-assisted pre-employment evaluation cannot be rendered secure enough to eliminate the most egregious types of abuse including copying and distribution of material or consultation during testing: "it can be safely assumed that for high-stakes applications, all test content available for viewing on a computer screen will eventually be compromised, the only questions being how quickly and to what extent" (p. 205). Pearlman (2009) reports that unsupervised internet examinations are being used increasingly in online personnel selection. The Public Service Commission of Canada does use unsupervised internet testing (UIT) to measure job applicants' cognitive abilities and official second language skills as well as for the purposes of the Public Service Entrance Exam as part of a program designed to recruit new talent to the civil service (Government of Canada, 2012).

The use of internet-based examinations is representative of the larger issue of volume management in e-recruitment. While disseminating information about government job opportunities over the internet broadens the talent search, it has simultaneously led to the problem of saturation whereby the number of job applicants for a given posting far exceeds the resources needed to accurately evaluate and screen every candidate (Cappelli, 2001; Mason & Shroeder, 2010). Suvankulov et al. (2012) argue that two (2) of the major problems associated with HRIS e-recruitment technology include an "[o]verwhelming number of candidates" and a "large share of unqualified candidates" (p. 301). Similarly, Lievens and Harris (2003) suggest that information saturation is one of the major drawbacks with respect to developments in e-recruitment technology: "having access to large numbers of candidates means that there are potentially many more applicants that have to be reviewed" (p. 6). Niles and Hanson (2003) showed in a pilot study of HRIS usage in a municipal government context how e-recruitment technology can be used to easily grow or reduce the talent pool depending on the organization's hiring needs and labor market realities. Landers and Sackett (2012) recently considered the role played by HRIS e-recruitment technology in managing large volumes of applications easily through the use of unsupervised internet-based testing. It has also been shown that technological screening tools like

keyword scanning and matching or internet testing reflects an attempt in strategic HRM to manage large amounts of content by over-encumbered human resources departments (Cullen et al., 2006; Galanaki, 2002).

INFORMATION SYSTEMS SUCCESS

For new public-sector job-seekers as well as job-seekers who are returning to job-search after a long period of either employment or unemployment, interaction with the Public Service Commission of Canada electronic resourcing system represents a first point of contact with what could be their future employer. Many studies have examined the relationship between organizational websites and job-seeker attitudes (Braddy et al., 2008; Chen et al., 2012; Cober et al., 2000, 2004; Uggerslev et al., 2012). According to Williamson et al. (2003), the information provided to job-seekers on organizational recruitment websites influenced users' perceptions of website attractiveness which affected their view of the hiring organization. Thompson et al. (2008) discovered that job-seekers' intentions to follow-through with an application process were influenced more by appearance and formatting than actual usability. In a more recent study specifically focused on organizational attractiveness among millennials, Ehrhart et al. (2012) conversely proved that website usability as well as portrayal of work-life balance predicted organizational attractiveness on the basis of organizational fit. Cober et al. (2004) offer fifteen (15) propositions accounting for factors resulting from interaction with technology for job-search purposes including website design, familiarity, usability, and initial reactions, among others.

In an attempt to underpin personnel selection HRIS effectiveness and recruitment website reactions research theoretically, Van Birgelen et al. (2008) recommend using the information system success model (DeLone & McLean, 1992, 2003). DeLone and McLean (1992) develop a taxonomy of six (6) combined factors that indicate the success of information systems: (1) system quality, (2) information quality, (3) use, (4) user satisfaction, (5) individual impact, and (6) organizational impact. How to specifically define the "success" of an information system is subject to controversy in the literature, according to Garrity and Sanders (1998); "Specifying a dependent variable is difficult because of the many theoretical and methodological issues involved in measuring IS success" (p. 14). DeLone and McLean (1992) define information systems success as based on the interrelationship between these six (6) categories. Information quality, system quality, and service quality (DeLone and McLean, 2003) impact system evaluation by users who in turn use or intend to use the system based on their satisfaction which ultimately should provide some benefits. The typology can be traced in part to the mathematic theory of communication (Shannon & Weaver, 1949) which considered the stages of communication via a general communication system and the work of Mason (1978) which adopted this work to construct a model of information influence reflecting the "hierarchy of events which take place at the receiving end of an information system which may be used to identify the various approaches that might be used to measure output at the influence level" (p. 227). Ballantine et al. (1998) explain that the DeLone and McLean (1992) model attempts to mirror the communications stages model of Mason (1978) and is presented similarly as a linear interrelated process. Halawi and McCarthy (2006) contend in their analysis of various

theories related to IT that this model has been the most influential in information systems research and has appeared as central to over 380 peer-reviewed academic articles.

The DeLone and McLean (1992, 2003) model has also been shown to be relevant in the public-sector context as well as a variety of other modern internet information systems. Wang and Liao (2008) successfully used the model to study government-to-citizen e-government online portals. The appropriateness of the model was based on the transactional processes engaged in by citizens with interactive government websites, for example, renewing a license plate through the ServiceOntario™ portal developed by the Provincial Government of Ontario, Canada. A variety of studies have successfully demonstrated the relevance of the DeLone and McLean model to internet-based government services intended for facilitating transactions and providing the public with information about government services (Bhattacharya et al., 2012; Rana et al., 2012; Shareef et al., 2010). The model has also been used recently to study user satisfaction with mobile banking applications on cellular phones (Lee & Chung, 2009). On this basis, the DeLone and McLean (1992, 2003) model has been considered as relevant for the purposes of studying e-recruitment (van Birgelen et al., 2008) and has been used in further e-recruitment research (Keramati & Salehi, 2013) as well as in a Canadian municipal government context (Detlor et al., 2013).

DeLone and McLean (2003) later revised their model to account for service quality which can reflect general staff support as well as a variety of interactional, communicative, or interpersonal characteristics of quality of service delivered; similar to the interactional component of the Gilliland (1993) model. This revision was based on criticisms of the original model by Seddon (1997) who, despite his concerns over the completeness of the information systems success model, argued that “at least for individual users of individual applications, there is substantial support for DeLone and McLean’s model of IS success” (p. 240). The revised DeLone and McLean (2003) model is presented below and has been contextualized for the purposes of this study:

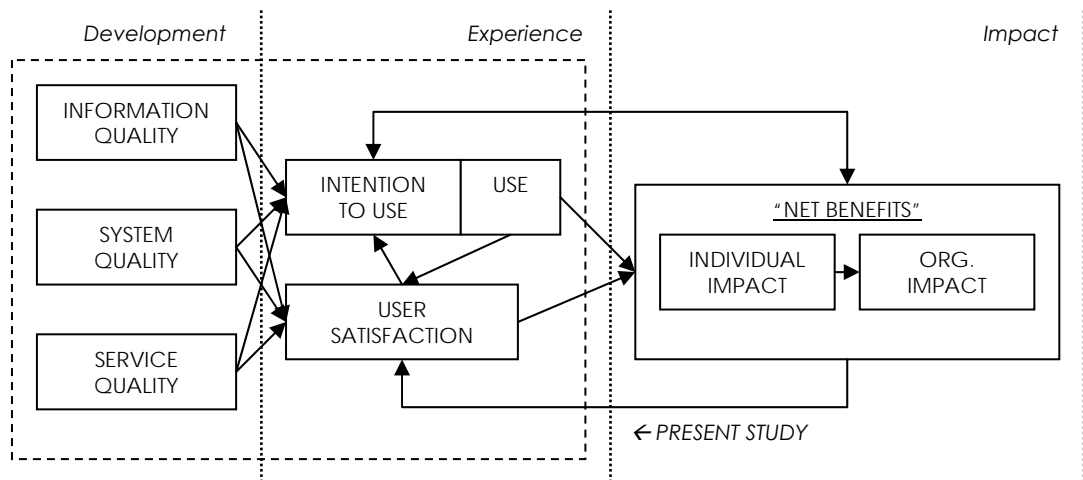


Figure 1. Information Systems Success Model (DeLone and McLean, 1992; 2003, p. 24.) Modified reproduction.

DeLone and McLean (1992, 2003) propose an information systems model that is temporal and process-based in that it accounts for system creation, user experience

interacting with the system or planning to interact with the system, as well as the impact including on the user and the organization. It is important to recognize that "individual impact" as conceived of by the original authors concerns the impact of information system use on measures such as performance or productivity while on-the-job (Gorla et al., 2010). Bonner (1995) recommends including some construct of user ability to account for the competence of those who are interacting with the information system. Burke et al. (1987) discovered that experience using computers did influence applicants' attitudes regarding computer-based evaluation. McManus and Ferguson (2003) argued that older workers may have negative reactions of HRIS hiring processes because they are less familiar and skilled using information technology. However, because this research deals with the use of familiar internet interfaces by active job-seekers, existing computer proficiency was not prioritized for the purposes of this study. An attempt was also made to remain faithful to the original model. It is important to note that, as active job-seekers, all participants had a basic knowledge of home computing and home internet use which was sufficient for online job-search purposes.

The success of an information system is based on the combined success within each of DeLone and McLean's (1992) six (6) constructs. Van Birgelen et al. (2008) consider the model adaptable to electronic job listing and application portals based on a relationship between information system effectiveness and user perceptions. This relationship is also represented in the research literature (Doll & Torkzadeh, 1988, 1998). Doll and Torkzadeh (1988) developed a categorization system in order to measure "the affective attitude towards a specific computer application by someone who interacts with the application directly" (p. 261). The categories provided were content, accuracy, format, ease-of-use, and timeliness (Doll & Torkzadeh, 1988). Studies have confirmed a relationship between, for instance, ease of use and the effectiveness of websites (Liu & Arnett, 2000) which has been adopted in research surrounding e-recruitment (Cober et al., 2004).

INFORMATION SYSTEMS SUCCESS MEASURES

There are a variety of different approaches and constructs presented by different authors for the purposes of measuring information system success using the DeLone and McLean (1992, 2003) model. The authors themselves conceded to the fact that there is an overabundance of proposed measures throughout the literature: "in searching for an I/S success measure, rather than finding none, there are nearly as many measures as there are studies" (DeLone & McLean, 1992, p. 61). Sedera and Gable (2004) presented a variety of measures for information quality, systems quality, individual impact, and organizational impact for enterprise information systems. Keramati and Salehi (2013) developed a set of success measures for e-recruitment website information system success implicating number of job applications sent and number of visits as indicative of use and satisfaction, respectively. Their interpretations are based on the measures of e-commerce system success proposed by DeLone and McLean (2004) that also take into consideration privacy and customization. Van Birgelen et al. (2008) hypothesize that e-recruitment HRIS system success will be based on "the "what" and "how" of information transfer. The former pertains to the informational content that is communicated to a potential applicant, the latter to the

form or way in which the applicant is able to obtain the informational content” (p. 734). Petter et al. (2008) indicate that the measures chosen will also largely depend on the context of the organization and system.

Ease of use may be a valid measure for the success of an entertainment-based website and an e-commerce platform but user enjoyment and stimulation would be assessed differently for each. Rather than choosing a particular framework, this study focused more broadly on using the three (3) information system categories proposed by DeLone and McLean (1992, 2003) to inform the relationship between users of employment technology and perceptions of fairness.

The present research was principally concerned with the system, information, and service quality constructs of the DeLone and McLean (1992, 2003) model. DeLone and McLean (1992) introduce a comprehensive list of measures for system and information quality (1992) and service quality (2003). Information quality refers to whether or not website content fulfills user expectations, system quality reflects users’ perceptions of interacting with the website, and service quality considers the interactions between users and technical support representatives or services (Kermati & Salehi, 2013; Wang & Liao, 2003). Intention to use, use, and user satisfaction were also taken into consideration during the focus group interviews. For example, whereas participants used the Public Service Commission job-search portal for seeking out and applying for employment opportunities, information-gathering about their prospective future employer was conducted over other websites due to interface familiarity. This informs system quality and can provide some indications of fairness perceptions for instance with respect to the ease of accessing information.

There are numerous examples in the literature surrounding user satisfaction and intention to use as measures of not only information system success but also as predictors of future use (Bokhari, 2005; Cheung & Lee, 2009; McKinney et al., 2002; Venkatesh et al., 2003; Wixom & Todd, 2005). DeLone and McLean (1992) posit that measures of use will be less instrumental at times where there are no alternatives to an information system. Venkatesh et al. (2003) consider measuring success based on ‘use’ with respect to intention to re-use as a predictor of sustainability and information system success. While this is applicable to research in e-commerce where website analytics such as frequency of hits or customer return rates, among others, are indicative of website success, it does not eliminate the need for studying overall satisfaction: “carefully analysing product or service information is always essential regardless of the number of visits customers make” (Kuan et al., 2008, p. 12). DeLone and McLean (1992) themselves considered more general indicators of user satisfaction including overall satisfaction. However, it is important to note that this research was only considered with user satisfaction only insofar as this related to perceptions of process fairness.

RELATIONSHIP BETWEEN INFORMATION SYSTEMS SUCCESS AND FAIRNESS PERCEPTIONS

There are some overlaps between the DeLone and McLean (1992, 2003) information systems success model and the Gilliland (1993) model of fairness

perceptions. In this study, the DeLone and McLean (1992, 2003) information systems success model served the purpose of informing the Gilliland (1993) model with respect to technology use during the job-search and application processes. For example, the communicative and interpersonal dimensions of “service quality” may be reflected in Gilliland’s (1993) interpersonal treatment rules. The research thus intended to study how the medium of technology, through information, system, and service quality and their effects on intention to use, use, and user satisfaction, influenced perceptions of fairness based on the ten (10) procedural justice rules proposed by Gilliland (1993).

Few studies have taken into consideration both information systems quality and user fairness perceptions. However, in a rare exception, Chiu et al. (2009) introduced the measure of “trust” as an antecedent to user satisfaction in an e-commerce environment. Employing distributive, procedural, and interactional justice the authors considered trust via the technology acceptance model proposed by Davis et al. (1989) which is based on the measures of perceived usefulness and perceived ease of use. This model is less appropriate for the present study because Canadian job-seekers interested in working for the federal government do not have the opportunity to choose between two or more e-recruitment websites beyond the central portal administered by the Public Service Commission of Canada. Nevertheless, the Chiu et al. (2009) study set the precedent that information system success research constructs can inform fairness perceptions research. The authors discovered website characteristics including transactional policies and interface design that impacted all three (3) dimensions of justice that, in turn, influenced user satisfaction.

INFORMATION SYSTEMS SUCCESS AND MEASURES OF WEBSITE EFFECTIVENESS

Studies examining website effectiveness from the perspective of information systems success theory (DeLone & McLean, 1992, 2003) generally consider user perceptions of effectiveness (Liu & Arnett, 2000; Venkatesh et al., 2003). Website system success is in most cases divided into success for the organization/owner (Molla & Licker, 2001) and success for the individual end-user/buyer (Liu & Arnett, 2000; Palmer, 2002). Research on measures of website effectiveness is diverse and structured around several overall website types including most prominently e-commerce (Chen et al., 2013; Daniel & Wilson, 2002; DeLone & McLean, 2004; Kim et al., 2012; Kuan et al., 2008; Lightner, 2003; Molla & Heeks, 2007; Thorleuchter & Van den Poel, 2012; Wang, 2008) but also e-government (Bhattacharya et al., 2012; Hussein et al., 2007; Rana et al., 2012; Lin, 2011; Shareef et al., 2010; Wang & Liao, 2008), records and database management (Hsu et al., 2009; Otieno et al., 2008; Zhang et al., 2012), mobile websites and applications (Chen et al., 2010; Chung & Kwon, 2009; Lee & Chung, 2009; Lin, 2013), travel and hospitality (Kim et al., 2013; Schmidt et al., 2008; Wen, 2012), as well as library portals (Chua & Goh, 2010; Jeong, 2011; Masrek et al., 2010; Turner, 2010), among others.

To facilitate the organization of website effectiveness research, Belanger et al. (2006) developed a taxonomy of website goals one (1) or more of which could apply to a given website. The authors proposed eleven (11) general “purposes” of websites including information decision (biased/unbiased), life enrichment, online learning,

entertainment, knowledge enhancement, e-commerce, online community, information-specific search, interactive service management, and online application. HRIS personnel selection or e-recruitment websites relate to the purposes of knowledge enhancement and online application.

While specific measures of information systems success will vary and are dependent on context (DeLone & McLean, 1992), some dimensions of website success have already become established in the literature. Usability, usefulness, ease-of-use, and “user-friendliness” (Doll & Torkzadeh, 1988, p. 259) are considered among the more salient antecedents to website effectiveness (Cober et al., 2004; Hong & Kim, 2004; Lee & Kozar, 2012; Liu & Arnett, 2000; Williamson et al., 2003). Hernandez et al. (2009) interpret ease-of-use as “navigability” for the purposes of gauging website effectiveness. Davis (1989) considered usefulness and ease-of-use as two (2) separate constructs referring to an information systems’ ability to service the needs of the user and the user’s ability to interact with the system, respectively. Both are part of the Technology Acceptance Model (Bagozzi et al., 1992; Davis, 1989) which has been influential in the literature to frame discourses surrounding the process by which users’ use and accept technology (Venkatesh, 2000; Venkatesh & Bala, 2008; Venkatesh & Davis, 2000; Venkatesh et al., 2003). Dickinger and Stangl (2013) adopted this difference for the purpose of researching websites and confirmed that both are important dimensions constituting effectiveness.

The revised DeLone and McLean (2003) model outlined three (3) dimensions of quality including information, system (1992), and service quality. In broad terms, quality has been acknowledged as an important construct in measuring information systems success in a variety of related models and theories (Farhoomand & Drury, 1996; Goodhue & Thompson, 1995; Landrum & Prybutok, 2004; Myers et al., 1997). Liu and Arnett (2000) developed a four (4)-tiered model of website success that included quality (information and service), system use, playfulness, and system design. Information quality refers to the output of a particular information system and whether its content meets user expectations (DeLone & Mclean, 1992, 2003; Wang & Liao, 2003). System quality refers to users’ perceptions of interactions with an information system and is sometimes referenced in the context of website system success as “system design” in Liu and Arnett (2000) or “design quality” elsewhere (Cyr, 2008; Leonard & Riemenschneider, 2008; Lin, 2007; McKnight et al., 2002). Service quality refers to the satisfaction users experience when interacting with information system representatives, for instance for the purposes of technical assistance or information-gathering (DeLone & McLean, 2003; Liu & Arnett, 2000; Zeithaml et al., 1996). Zeithaml et al. (1996) consider service quality to be comprised of excellence and precision. Website-specific studies of service quality also consider speed to be an important measure of service quality (Wang et al., 1999). The table below highlights some of the measures proposed for studying website success using the DeLone and McLean (1992, 2003) model of information system success quality dimensions:

<u>DIMENSION</u>	<u>MEASURE(S)</u>	<u>STUDY</u>
Information Quality	Contents*, completeness*, detail, accuracy*, timeliness*, information reliability*, format*	[Ahn et al., 2007]

	Personalization, completeness*, relevance*, ease of understanding*, security*	[DeLone & McLean, 2004]
	Accuracy*, timeliness*, relevance; flexible information presentation; customized information presentation; price information; product/service comparability, product/service differentiation, complete product/service description; perceived information quality on product/service; satisfying ethical standard*; and support business objectives	[Liu & Arnett, 2000]
	Content personalization, dynamic content, variety of information* Content*, accuracy*, format*	eR[Keramati & Salehi, 2013] [Shaupp et al., 2006]
System	Informativeness*, security*	[Lin, 2007]
Quality/Design	Design*, navigation*, response time*, security*, availability*, functionality*, error-free transaction*, multimedia	[Ahn et al., 2007]
Quality/Website	Usability*, availability*, reliability*, adaptability, response time* (download time)	[DeLone & McLean, 2004]
Design Quality	rapid access (processing speed)*, quick error recovery*, correct operation and computation; security*; balanced payment method between security and ease of use; and coordination to support all functional areas.	[Liu & Arnett, 2000]
	Customization, ease of navigation, privacy*	eR[Keramati & Salehi, 2013]
	Executes fast connection speed*, transaction procedure easy to use, overall good website design quality of shopping website	[Fan & Tsai, 2010]
	Perceived effectiveness*, social influence	[Shaupp et al., 2006]
	Website design*, interactivity	[Lin, 2007]
Service Quality	Responsiveness*, credibility, assurance*, empathy*, follow-up service*, competence*	[Ahn et al., 2007]
	Responsiveness*, technical	[DeLone &

competence*	McLean, 2004]
Quick responsiveness*, assurance*, reliability*, empathy*, and follow-up service*.	[Liu & Arnett, 2000]
Assurance*, empathy*, responsiveness*	eR[Keramati & Salehi, 2013]
Responsiveness*, trust*, empathy*	[Lin, 2007]

Table 7. Dimensions and measures of website success (*=possible fairness-related)

The summary table presents a sample of some research studies implicating the DeLone and McLean (1992, 2003) information system success model. Other models of website success have been developed that diverge from this format and present alternative or re-structured success measures. Some are based on specific website types, for example, models specific to measuring e-commerce website success (Chen et al., 2002; Bell & Tang, 1998).

E-RECRUITMENT AND HRIS PERSONNEL SELECTION CONTEXT

Studies surrounding e-recruitment or HRIS personnel selection website success are rare in the information systems success literature. There are some exceptions; however, including the Cober et al. (2004) study of e-recruitment website design and its effect as mediating job-seeker behaviors. The Cober et al. (2004) study is important to consider here because the authors attempted to narrow down several propositions surrounding how e-recruitment website characteristics will influence job-seeker attraction to the organization. The authors base their research goals on the work of Rynes (1991) who suggested that it is during the initial stages of the hiring process that job-seekers form opinions and attitudes of their potential future employer and as such consider that in the modern context these early interactions are formed between job-seekers and HRIS personnel selection portals.

Some studies indicate that job-seeker initial perceptions of an organization are formed through their interactions with the organization's website in a visual sense (Scheu et al, 1999). Zusman and Landis (2002) for instance found that the visual façade of an organization's website influenced job-seeker attraction to that organization with more colorful and visually appealing designs receiving stronger positive reactions over those designed more blandly. However, Stone et al. (2005) citing research conducted by Cober et al. (2003) explain that the characteristics of the position itself listed on the HRIS personnel selection portal play a larger role in influencing candidate opinions of the organization than visual design alone. Cober et al. (2004) confirmed in their study of e-recruitment websites however that "the appearance and presentation of a web site are important determinants of the initial reactions, and subsequent attitudes and behaviors toward both the web site and the organization it represents" (pp. 626-627). It is also proposed from Turban (2001) that the specific images displayed by an organization on its e-recruitment portal will influence job-seeker attitudes. The authors divide a website's visual design into measures of aesthetics and playfulness.

The Cober et al. (2004) study presents readers with several additional determinants shaping job-seeker behaviors not all of which are related to technical

aspects of the website. Most predominant among these is the hypothesis that users' previous attitudes regarding the organization will influence their reactions and attitudes towards the organization during a hiring process (Rynes, 1991). This particular claim is important for this research as studies have shown that government reputation among the general public is less than stellar in some administrative and managerial regards (Da Silva & Battista, 2007; Fletcher & Slutsky, 2010). Kell (1993) for instance discovered that public perceptions of state and federal government management trailed perceptions of management in private-sector retail operations. Readers with an interest in history are encouraged to consult Hubbell (1991) for a detailed exploration of how negative attitudes and opinions of government administration and management were crystallized originally following developments under the Roosevelt administration and later stemming from the symbolic characterizations of civil servants under Ronald Reagan. Participants' public-sector motivation and knowledge of the Federal Government of Canada were valuable in understanding perceptions of fairness surrounding the Public Service Commission of Canada e-recruitment system. It is also important to note that Cober et al. (2004) acknowledge that job-seeker behaviors will also be dependent on the individual characteristics of the person applying for the job. That is, job-seekers possessing personal qualities and preferences such as being introverted may form a subconscious negative reaction to a website with imagery consisting of workers conducting operations together as a team.

The Cober et al. (2004) finding that individual job-seeker characteristics will play a role in determining attitudes is in accord with the construct of person-environment fit in industrial and organizational psychology. Person-environment fit reflects the similarity between a person and the environment (Dawis, 1992; Edwards, 2008; Muchinsky & Monahan, 1987). Studies have shown that job-seekers will be more attracted to pursuing employment with organizations they perceive as coinciding with their personal values, beliefs, characteristics, qualities, and so on (Bretz & Judge, 1994; Cable & Judge, 1996; Lievens et al., 2001). Dineen et al. (2002) found that information related to person-environment fit communicated to a job-seeker via an e-recruitment website will influence organizational attraction. Ehrhart et al. (2012) studied website attractiveness with a specific focus on users consisting of the so-called 'millennial' demographic and found evidence supporting that certain dimensions of website design and quality will influence user reactions and attraction towards the organization. The Ehrhart et al. (2012) study found that person-environment fit constructs traditionally considered valued by this generation, such as work-life balance, were important predictors of perceptions of website effectiveness and organizational attraction. Further, the indication that certain website characteristics influence person-environment fit do carry fairness-related concepts: "Website usability, for instance, may contribute to attraction by serving as a signal of an organization's commitment to technology and innovation (Ehrhart & Ziegert, 2005), its investment in recruitment, or concern for website viewers with a range of technological skills" (Ehrhart et al., 2012, p. 864). That is, users with special needs, handicaps, or those less familiar with technology may perceive a reduced person-environment fit when using a very advanced, fast-paced, or graphically-intense website interface.

The Cober et al. (2004) study is limited in being exclusively theoretical in nature and forming testable propositions and a call for additional research without any

empirical verification for the validity of its claims. Conversely, the Keramati and Salehi (2013) study of e-recruitment website effectiveness draws important conclusions from a quantitative survey of job applicants.

The authors administered one (1) questionnaire to 55 job-seekers using two (2) popular private job listing portals and measured success using the revised DeLone and McLean (2003) model of information systems success. The authors discovered that users' satisfaction with respect to the dimension of information quality was most exhibited by the measure of dynamic content and least related to variety of information. Users' satisfaction with respect to the dimension of system quality was most exhibited by the measure of customization and least by navigation. Finally, users' satisfaction with respect to the dimension of service quality was most exhibited most by empathy and least by responsiveness (Keramati & Salehi, 2013). Keramati and Salehi (2013) also acknowledge the importance of privacy as a determinant of website success. However, due to the small participant group size and the study having taken place in the third world, generalization of the results is limited.

PUBLIC-SECTOR FAIRNESS PERCEPTIONS AND WEBSITE EFFECTIVENESS

Some studies in the field of fairness perceptions have focused specifically on public-sector employment opportunities (Bauer et al., 2006; Miceli et al., 2012; Schleicher et al., 2006; Suliman & Al Kathairi, 2013). However, these studies did not emphasize the public-sector context as a central point of inquiry; rather, the authors studied job-seekers' application process with public-sector employers without conceptually accounting for unique public-sector characteristics. Research on the perceived fairness of employee performance evaluations is the exception here as some studies have taken into consideration the specific challenges inherent in public-sector performance measurement (Bregm, 2008; Kidwell & Bennett, 1994; Kim & Rubianty, 2011; Shrivastava & Purang, 2011). Much research has been devoted to conceptualizing differences between the broad public- and private-sector workplace (Gortner et al., 1987; Perry & Rainey, 1988). Readers interested in expanding their understanding of the debates and analyses surrounding public- and private-sector performance appraisal differences are encouraged to consult Daley (1992) for a good review. However, these post-hire issues are of less criticality to the present study. The research conducted by Llorens (2011) is an exception as it sets out to study e-recruitment adoption in a public-sector context. The author considers some of the major trends affecting public-sector HRIS, offers some historical developments leading up to the use of various information technology tools by governmental agencies, and provides some comparables to practically articulate differences in adoption among US states.

Mareschal and Rudin (2011) conducted a study in an attempt to identify similarities and differences between public- and private-sector e-recruitment. The Davis et al. (1989) Technology Acceptance Model was used to gauge website success. The authors' decision to use this model is appropriate because users had more choice in terms of selecting between one (1) or more e-recruitment websites. 50 undergraduate university students enrolled in a human resources course were instructed to apply for real job postings in major companies as well as in state government. Adopting a

qualitative design, the researchers asked the job-seekers to complete an open-ended survey instrument detailing their application experiences. The survey questions reflected technical aspects of website navigability including accessibility to information, amount of information available, and timeliness with some questions that may have provided a good basis for fairness research including, for instance, speed of feedback provision from the hiring organization. The authors successfully demonstrated that the private-sector e-recruitment websites tended to be more technologically advanced and high-performing requiring less time to apply for positions and allowing for faster feedback both with respect to acknowledgement of an application and provision of follow-up. However, the public-sector recruitment websites were perceived as being more transparent by the participants especially with regards to disclosure of salary and benefits (Mareschal & Rudin, 2011).

The findings of the Mareschal and Rudin (2011) study are echoed in other literature. Studies have shown that the public-sector has more obstacles to overcome in implementing robust information technology solutions (Garson, 2006; Melitski, 2003; Yildiz, 2007). Rubaii-Barrett and Wise (2008) explain that some available features of government technology are purposefully unavailable or simplified in order to facilitate accessibility for users with special needs or handicaps. In the United Kingdom, government websites intended for the public are held to strict accessibility standards to ensure they do not unintentionally discriminate against these users (Kuzma, 2010). The legislated requirement for information disclosure and transparency in e-government has also been recognized in the academic literature (Armstrong, 2011; Grimmelikhuijsen, 2012; Thornton & Thornton, 2013).

I.II. LITERATURE REVIEW: THE MODERN HIRING CONTEXT

New technologies including HRIS and e-recruitment have had a documented impact on changing many of the ways job-seekers look and apply for employment opportunities (Braddy et al., 2008; Dineen et al., 2007; Ehrhart et al., 2012; Marchal et al., 2007; Suvankulov et al., 2012; Tong, 2009) including in the public-sector (Llorens, 2011; Mareschal & Rudin, 2011; Selden & Orenstein, 2011). Many of the steps related to the job-search and job-application processes have taken on new technological dimensions or have become dependent on technology altogether (Boswell et al., 2012; Tso et al., 2010; Zikic & Saks, 2009). Nakamura et al. (2009) emphasize the importance of the internet as a job-search tool that has had a significant influence on the nature of the interactions between employers and job-seekers. The role of the internet as capable of influencing job-seeker perceptions of organizations and influencing job-search has been documented in the literature (Beard et al., 2012; Goldberg & Allen, 2008; Turban, 2001). Organizations can use the internet to interact with job-seekers in a variety of ways including screening or scanning initial resumes (Ensher, 2002), administering pre-employment evaluations and tests (Bauer et al., 2004; Becker, 2005; Cullen et al., 2006; Grieve & de Groot, 2011; Ployhart et al., 2003; Salgado & Moscoso, 2003), as well as communicating with applicants (Bryen et al., 2010; Cockerham, 1996; McQuaid et al., 2004).

The Gilliland (1993) model of fairness perceptions was developed before the advent of these technologies. An important question to consider, therefore, is how technology has impacted its ten (10) procedural justice rules. Lievens and Harris (2003) called for additional research in this domain, recognizing that new technological trends may impact the model: "Gilliland's (1993) model should also be broadened to include specific determinants to computerized/Web-based forms of testing such as Internet/computer anxiety and Internet/computer self-efficacy" (p. 157). The authors hypothesize that in the technological job-search accessibility and reliability will have an effect on candidate perceptions of procedural fairness (Lievens & Harris, 2003). Truxillo et al. (2004) also called for additional research to be undertaken to account for technological advancements in personnel selection and that due to the changes in how job-seekers interact with prospective employers existing models used in the field, including organizational justice (Greenberg, 1987) and procedural justice as per the Gilliland (1993) model may need to be updated (p. 49).

JOB-SEARCH FAIRNESS PERCEPTIONS AND TECHNOLOGY

Some studies have already attempted to consider the Gilliland (1993) model from a technological perspective. Bauer et al. (2006) designed their study around an imitation e-recruitment portal and asked students to submit mock applications, and subsequently evaluate the process from the perspective of fairness. In addition, the authors also submitted the survey to actual public-sector job-seekers and compared the results. Konradt et al. (2013) also asked students to complete two online job application process and rate their experience based on the Gilliland (1993) procedural justice rules. Dineen et al. (2004) asked students to evaluate several e-recruitment hiring process hypothetical scenarios against a partial version of the Gilliland (1993) model.

The quantitative studies produced some interesting results but did suffer from some significant limitations.

Bauer et al. (2006) used the Gilliland (1993) model to study hiring process fairness perceptions specifically examining the effects of privacy and computer familiarity on fairness. Earlier, Gilliland and Hale (2005) suggested that perceptions of fairness may be affected by users' experience with computers. Bauer et al. (2006) administered a longitudinal survey to 117 undergraduate students asking them to submit an application for a mock public-sector job posting on a website designed to have an official US state government appearance. The electronic applications were screened and evaluated using an automated computerized system. Following receipt of the evaluation results (based on either a pass or fail score) the respondents were asked to evaluate their experience using the e-recruitment interface via a five (5)-point Likert-type scale using procedural justice (Gilliland, 1993) questions reflecting privacy and computer experience. In addition, the authors conducted a field study in collaboration with state government and administered the same survey to real job-seekers who had previously applied for actual job opportunities using the electronic portal (which was new at the time). In both cases Bauer et al. (2006) found that perceptions of fairness were related to privacy concerns. However, fairness was most strongly affected by computer experience in the second study likely because of the college students' prior familiarity with computers. In addition, the Bauer et al. (2006) study found that candidates likely undertake strict self-selection based on high pass rates in application screening.

More recently, Konradt et al. (2013) conducted another quantitative study with 366 German general education and university graduates and soon-to-be graduates aged fifteen (15) to twenty-three (23) with a mean age of 18.4 ($SD=1.73$) to determine fairness perceptions of two (2) internet-based personnel selection tools. Participants were provided with sports equipment and digital music devices as compensation for their time. The authors based their methodology on Hausknecht et al. (2004) and asked participants to complete and report on a standard biographic questionnaire fill-in form and an online ability test purposefully avoiding the evaluation of more controversial personnel selection tools. Participants were provided with a link to an imitation job application online testing website unaffiliated with any public or private entity and were assured complete confidentiality. Following completion of both imitation selection processes, participants were instructed to evaluate process fairness via a questionnaire based on the Gilliland (1993) procedural justice rules.

Konradt et al. (2013) discovered that the Gilliland (1993) procedural justice groups of interpersonal treatment and formal characteristics related most to process fairness but that the same did not follow for the procedural justice group explanation which includes feedback, selection information, and honesty. The authors introduced their findings as based on the perceptions of "actual applicants in an authentic selection situation" (p. 164) however their research methodology indicates that participants were more akin to personnel selection tool evaluators in a simulated setting. Prior research has shown the inherent limitations in studying job-search behaviors and attitudes using replica websites (Dineen et al., 2002, 2007). While the minimum working age is legally 15, Germany's Youth Employment Protection Act also mandates children to be in schooling until the age of 18 which raises questions about

the authenticity of participant fairness perceptions and sample relevance. The authors acknowledge the young ages of participants as a serious limitation of their study.

Despite their research limitations, Konradt et al. (2013) do provide some interesting practical considerations emergent from the surveys including that fairness perceptions can be increased by 'error-proofing' electronic form fields and allowing applicants to easily return to previous sections in an electronic form (reconsideration opportunity), personally communicating with candidates to prevent errors in automated reply systems (interpersonal treatment), and eliminating diagnostically irrelevant questions to save time and prevent perceptions of discrimination (propriety of questions). Gilliland and Steiner (2012) recently reflected on the propriety of questions rule in the interpersonal treatment group of procedural justice, questioning its relevance citing moderate research and mixed support for its inclusion in the model (Gilliland, 1993). The authors suspect that in the modern personnel selection context most human resources professionals are highly aware of questions which are inappropriate or which could result in legal consequences for the organization: "[m]ost applicants do not experience biased or inappropriate questions, such that propriety of questions is not a salient concern for many" (2012, p. 659). However, the Konradt et al. (2013) study identified propriety of question as a legitimate indicator of process fairness in an internet testing based scenario. This was consistent with the findings of the present study, indicating that the propriety of question rule may find new meaning in the technological job-search context.

Konradt et al. (2013) cite the Sylva and Mol (2009) study as relevant to internet-based applicant fairness perceptions research. Given that the study identified system satisfaction as the principal dependent variable consistent with information system success theory (Agourram, 2009; DeLone & McLean, 1992, 2003; Livari, 2005), it is not fully concerned with perceptions of fairness. However, due to the overlap and inclusion of some albeit minor fairness criteria it is not unreasonable to concede that it does bear some relevance to this research. Recognizing that Konradt et al. (2009) consider the prior work in this domain very limited is also indicative of the emerging nature of HRIS personnel selection and job-seeker reactions theory. Sylva and Mol (2009) worked in partnership with a large European multinational firm and administered a questionnaire to 1360 job applicants after they used an online portal to apply for a position with the company to gauge user satisfaction with the information system. Fairness perceptions (Lievens et al., 2003; Steiner & Gilliland, 1996) were evaluated by the inclusion of two (2) questions. They discovered that perceived efficiency and user friendliness were important for user satisfaction, that satisfaction with the system was generally favorable overall, and that procedural justice indicated satisfaction (2009, p. 318).

The second influential quantitative study surrounding fairness perceptions of internet-based personnel selection was undertaken by Dineen et al. (2004) and dealt with select procedural justice constructs. A partial version of the Gilliland (1993) model was used to inform their work theoretically. As the study was concerned with applicant reactions to the screening process, the researchers eliminated all rules under the interpersonal treatment group as well as the rules of job relatedness, selection information, and honesty on the basis of inapplicability. The authors thus only chose to adopt the four (4) following rules of the Gilliland (1993) model: opportunity to perform,

reconsideration opportunity, consistency of administration, and feedback. They also modified the Gilliland (1993) model based on acknowledgment of relevance of information systems research and the mediating effect of technology during the screening process.

Using a similar approach to consider the mediating role of technology in employer-candidate interaction, Dineen et al. (2004) introduced the concept of "trust" (Gefen et al., 2003) and attempted to study procedural justice holistically. The authors used the concept of trust to inform a fifth procedural justice characteristic: "human versus automated screening" (2004, p. 128). The researchers administered two (2) surveys to the same group of 94 undergraduate students eight (8) weeks apart; participant ages ranged from twenty (20) to forty-four (44) with a mean of 23.8. The first survey collected demographics information and general internet use competency measures, among others. The second survey provided participants with a short written scenario composed of various job application screening steps formulated based on the authors' modified Gilliland (1993) model which each respondent was supposed to read and consider as if he or she was implicated in the screening process. The authors provide one (1) example scenario part of which reads as follows: "An actual company representative reviews all of the applications submitted online [decision agent]. There is a standard form that requires you to provide certain information about yourself; you cannot add additional information beyond what is asked [ability to add information]" (Dineen et al., 2004, p. 135). Fairness perceptions were evaluated on the basis of responses to questions evaluated using a five (5) -option Likert scale. Consistent with the findings of Konradt et al. (2013), the Gilliland (1993) experience procedural justice group was not seen as an indicator of fairness.

Dineen et al. (2004) also demonstrated that job applicants consider interaction with human beings as being more procedurally fair than interaction with automated information systems including web-based screening technologies. Based on the results of the first survey, the researchers found that participants' comfort with internet use predicted fairness perceptions when faced with an internet-based screening system. Several limitations are presented by Dineen et al. (2004) including limited ability to generalize from the sample. In addition, it may be probable that in an actual job application process candidates may not be privy to the detailed level of information provided in the hypothetical scenarios with respect to what is happening 'behind the scenes' during application screening. These activities can vary in type and complexity depending on the vacancy in question, resources, and needs of the hiring organization (Engleman & Kleiner, 1998).

LIMITATIONS

Both the Dineen et al. (2004) and Konradt et al. (2013) studies have contributed to laying the groundwork for new considerations of the Gilliland (1993) model that account for internet-based personnel selection system, HRIS, and e-recruitment. Neither of the studies was focused specifically on studying job-seekers with high levels of public-service motivation, but they were broad enough so as to maintain some relevance to governmental e-recruitment practices.

Like many studies on fairness perceptions which preceded them, the experimental methodology of these studies tends to remove participants from the 'reality' of job-search by placing participants in tightly controlled simulations. Gilliland and Chan (2001) had earlier explored this problem calling for more practical style research to inform the field: "Most of the research on outcomes of selection fairness perceptions has been relatively contrived and conducted with college students" (p. 159). Ryan and Huth (2008) similarly called for applicant perceptions research that takes context into greater consideration and regards reactionary constructs from a more experiential perspective which includes "defining in practical terms what fairness, face validity, and good interpersonal treatment mean" (p. 129). The literature most directly related to fairness perceptions and HRIS personnel selection reviewed also indicates the possibility of socially desirable response bias in participant responses to surveys and questionnaires (Matthews et al., 2003). This concern is especially relevant to the Sylva et al. (2009) study which administered a satisfaction questionnaire to applicants immediately following an actual application for employment.

TECHNOLOGY USE IN PRE-EMPLOYMENT SITUATIONAL JUDGMENT TESTING

Whereas studies of general HRIS personnel selection processes and fairness perceptions are rare in the academic literature, more work has been carried out in the study of pre-employment situational judgment testing (Banki & Latham, 2010; Becker, 2005; Cullen et al., 2006; Ployhart et al., 2003; Weekley & Ployhart, eds., 2006). Situational judgment tests present respondents with hypothetical scenarios requiring a respondent to select or explain an appropriate course of action; the responses a job applicant makes on the situation judgment test can be used to screen their candidacy for a vacancy (MacKenzie et al., 2010). Situational judgment tests are not a new phenomenon in personnel selection and have been the subject of past academic research (File, 1945; Motowidlo et al., 1990; Wagner & Sternberg, 1985). Situational judgment testing experienced a resurgence during the 1980s and 1990s due to technologically assisted testing (Salter & Highhouse, 2009) that re-awakened the interest of industrial/organizational psychology (Chan & Schmitt, 2004; Schmitt & Chan, 2006). Readers are encouraged to consult Weekley and Ployhart's (2006) book on situational judgment test history and validity for more details surrounding developments in this area of personnel selection.

A partial literature review of situational judgment test study findings is important here because of changes in test administration. Increasingly, employers have integrated situational judgment tests into their HRIS systems enabling these tests to be administered over the internet (Ployhart, 2006; Stone et al., 2013). Lievens et al. (2008) suggest that the popularity of internet-based situational judgment testing is spurred by their ability to test very large numbers of respondents in a relatively short period of time (efficiency and volume management) and at relatively low cost (cost-effectiveness). Dineen et al. (2002) contend that these selection technologies enable employers to gather more previously unattainable information about job candidates. Situational judgment tests are used by the Public Service Commission of Canada (Government of

Canada, 2012) and indeed some focus group participants had interacted with the unsupervised internet-based situational judgment test as well as the test of second language proficiency.

Given that pre-employment situational judgment tests are a type of personnel selection activity that are now commonly administered using HRIS technology (Whetzel & McDaniel, 2009), studies of applicant reactions to these tests are relevant to this research project because of the role of technology in mediating the interaction between employers and job-seekers. Some of these studies have valuable results inferring fairness-related constructs and perceptions. Lievens and Harris (2003) for instance discovered that situational judgment test user satisfaction will be affected by the speed in which test results are provided to candidates. This consideration is in line with the Gilliland (1993) procedural justice rule of feedback. Timeliness has also been shown to be a valid measure of information system success (DeLone & McLean, 1992, 2003) in electronic data interchange (Doll & Torkzadeh, 1988). This factor has also been carried over to internet-based information systems and determined relevant to user satisfaction with web interaction (Leonard & Riemenschneider, 2008).

E-RECRUITMENT ACCESSIBILITY

The fairness-related construct of accessibility has also been brought to light in situational judgment testing research. Specifically, Truxillo et al. (2004) suggested that applicants' perceptions of personnel selection technology may be impacted by their individual comfort with, and ease of access to, these technologies: "those who are less familiar with these methods, or who have less access to the internet, will perceive the methods to be less fair and thus have negative perceptions of the organization and lower self-efficacy regarding these methods" (p. 49). Low-income job-seekers, minorities, and older workers are three (3) groups identified in particular as susceptible to what the authors call the "digital divide" in a job-search context (Truxillo et al., 2004). Bonner (1995) called for a revision to the DeLone and McLean (1992) model to account for the construct of information awareness or 'user quality' to account for the users' own abilities in interacting with a given information system. Earlier, this study noted research done by Gilliland and Hale (2005) suggesting that experience with computers can have an effect on fairness perceptions. The concept of the "digital divide" is borrowed from the Organization for Economic Cooperation and Development (OECD) (2001) and reflects the impact of socioeconomic status on information technology use. Studies have proven that some factors including income level, unemployment duration, and race, among others, contribute to the digital divide and disadvantage workers from full active participation in job-search (Lindsay, 2005; Mossberger, 2006).

As an indicator of fairness perceptions, accessibility must be considered through geographic and socioeconomic parameters. Hypothetically, internet access is assured to Canadians through networks of public libraries and federal Service Canada information centers (Flumian et al., 2007). However, Noce and McKeown (2008) noted the persistence of an urban-rural digital divide including a language barrier possibly compounding the exclusion of French Canadians in rural areas of the French-language speaking province of Quebec, Canada. While some studies proposed a narrowing of

the urban-rural digital divide in Canada based for example on increasing competition by telecommunications service providers (McLaren, 2002), Keating et al. (2011) noted that progress in this domain has been slow: "At present, computer ownership and Internet connectivity are low for older rural adults" (p. 333). The present study was limited in its ability to study job-seeker access to information telecommunications services using the focus group methodology. Interviews were conducted in the country's capital region which has traditionally been shown fast to adopt internet and network services (Keenan & Trotter, 1999). While the issue of a digital divide and geographic accessibility to personnel selection HRIS technology remains an important topic of future inquiry, this research did bring to light matters of race that have also emerged in situational judgment test reactions studies.

PERSONNEL SELECTION PROCESS FAIRNESS AND CANDIDATE PERSONAL IDENTITY

The effect of race on situational judgment test administration has been a topic of inquiry in the literature (Cheung-Herrera et al., 2009; Mackenzie et al., 2010). Hunter and Hunter (1984) proved that minority candidates consistently score lower on employment tests than their white counterparts. Studies have also alluded to the phenomenon of cultural mistrust through the existence of minority test-taker perceptions of bias against the administering institution (Oyserman et al., 2008). Saks et al. (1995) administered a series of pre-employment questionnaires implicating non-work-related discriminatory questions including some similar to those that "are often asked by organizations that have affirmative action programs" (p. 419). Saks et al. (1995) discovered that respondents reacted negatively to the pre-employment questionnaires that included one (1) or more discriminatory questions.

Affirmative action, employment equity, equal opportunity employment, preferential hiring and similar such programs have been studied extensively in the field of personnel selection (Crosby et al., 2006; Harris, 2009; Heilman & Herlihy, 1984; Heilman et al., 1987, 1990; Kravitz, 1997) including in a public-sector hiring context (Kellough, 1991; Kramar, 1987; Ortega et al., 2012; Riccucci, 2007) as well as from a Canadian public management perspective (Catano et al., 2001). While the specific nature of these programs varies greatly, for instance with the implementation and adherence to minority hiring quotas (Ringer, 1976; Unzueta et al., 2010), the term 'preferential hiring systems' was adopted for use in this study to reflect the general official processes used to collect personally identifying information from candidates during the e-recruitment process. Further, while the controversial and frequently debated nature of these programs has been recognized in the literature (Blumkin et al., 2009; Crosby et al., 2006; Kellough, 1991; Maio & Esses, 1998) this is not the subject of concern here. With the advent of HRIS and internet-based application systems, many employers have integrated their preferential hiring policies into their e-recruitment platforms (Breugh, 2013; Horwitz et al., 2006; Stone et al., 2013).

Several important findings carrying fairness implications have emerged from applicant reactions researchers with respect to preferential hiring systems. Slaughter et al. (2005) assessed fairness perceptions of various degrees of affirmative action

programs aimed at minorities and found that proposed benefits actually correspond with higher levels of perceived unfairness as minority applicants “perceive that being hired under such plans will lead to self- and other-stigmatization, and because they perceive that the long-term backlash from the implementation of these plans will eradicate the potential benefits” (p. 2457). This finding is interesting because it appears to legitimize the Gilliland (1993) procedural justice category of consistency of administration. Past research has shown that employees hired as a result of preferential hiring policies are stigmatized by employers as less competent (Heilman et al., 1992) and that this stigmatization can result in lowered self-esteem for the new hires (Heilman, 1994; Heilman et al., 1991).

Ryan et al. (2000) discovered that African American job-seekers did not consider a hiring process favorably despite a strong promotion of preferential hiring based on a past negative relationship with the local minority community and pre-existing bias. McKay and Avery (2005) found that minority employees’ perceptions of preferential hiring can be swayed by the organizational climate of their future employer: “we conclude that diversity recruitment alone is simply not enough to ensure that new minority hires will be retained” (p. 332). These findings indicate that fairness perceptions of hiring processes including especially with respect to the variable of organizational trust may extend beyond the hiring process itself. Ryan and Ployhart (2000) contend that fairness perceptions researchers must therefore account for context in their studies. For the purposes of this research which was conducted with two (2) focus groups composed of highly diverse participants to account for the multicultural nature of Canada’s labor market (Goldberg, 2006), this meant bringing issues of public-service motivation and considerations of organizational trust to light as important topics of inquiry. Questions of context can also be utilized to account for studies where minority job-seekers demonstrated positive experiences with preferential hiring.

Applicant reactions research has also acknowledged positive perceptions of preferential hiring systems. Some studies have made the link between how minority job applicants perceive an organization’s personnel selection in terms of fairness and the way the organization promotes itself to job candidates. For example, Avery et al. (2004) discovered that organizations which attempt to display hiring process diversity through visualizations portraying minority employees as accepted and included in the ‘organizational community’ will increase minority candidates’ attraction to working with the organization. The influence of website characteristics on job applicants’ attitudes towards the organization has been a topic of inquiry in the scholarly literature (Allen et al., 2007; Cable & Yu, 2006). Specifically, website design and imagery has been linked to job-search attitudes and candidate perspectives of the organization (Slaughter & Greguras, 2009). Jack Walker et al. (2011) recently proposed that organizational websites which are more technologically advanced will project perceptions of innovation and creativity while depictions of workforce diversity will increase perceptions of the organization positively. Avery (2003) conducted a survey with a group of 144 college students in the Southern United States to collect feedback on organizational diversity perceptions based on e-recruitment website design characteristics with manipulation of website diversity imagery. He discovered that websites comprised of imagery portraying organizational diversity especially at more

senior levels in an organization results in higher levels of workplace attraction among both minority and majority respondents (2003, p. 678).

Research on applicant perceptions of diversity recruitment and preferential hiring is relevant to the study of e-recruitment personnel selection. Specifically, the findings are valuable here as the Public Service Commission of Canada substantially modified the appearance and design of its main external job application and recruitment portal on July 19, 2013. Major visual changes, including the removal of previous imagery intended to portray organizational diversity, was recognized by the focus group participants. More details about the perceptions of fairness related to these modifications are explored further in the study.

SOCIAL WEBSITES AND JOB-SEARCH FAIRNESS PERCEPTIONS

Online social networking and media websites are popular, interactive, and generally easy-to-use platforms enabling mutual sharing of personal information between users as (sometimes anonymous) 'citizens' of virtual communities (Ellahi & Bokhari, 2013). Organizations have increasingly sought to capitalize on the impact the proliferation these websites have had by targeting their broad user base for a variety of purposes including advertising (Chu et al., 2013; Okazaki & Taylor, 2013) and corporate social responsibility awareness campaigns (Colleoni, 2013), among others. Some employers have now integrated social networking and media into their overall official HRIS and e-recruitment strategies (Slovensky & Ross, 2012). The Government of Canada is no exception and has been steadily increasing its presence on "social media channels, such as micro-blogging sites, media-file sharing sites, social and professional networking sites, as well as blogs and discussion forums" (Government of Canada, 2013). The Canada School of Public Service, the official Government of Canada institution responsible for training, education, and development of internal public servants, has begun offering a course in the use of social networking and media for governmental purposes (Government of Canada, 2013b). It is thus not unreasonable to propose that Canadian public-sector job-seekers may interact with a governmental social networking or media presence or be given the option to interact with these tools.

The managerial implications of organizational participation in social networking and media have been the subject of some study in the research literature (Bonet et al., 2013; Davison et al., 2011; Welbourne, 2011). Despite the growing interest in extending interactivity with job-seekers through social networking within both the private- and public-sectors (Banfield & Kay, 2012, pp. 112-113), there is a scarcity of research considering these tools from a fairness perceptions or applicant reactions perspective. Considering social networking and media in human resource management from these perspectives may be valuable given the considerable privacy implications associated with the use of these tools (Harris et al., 2003; Hugl, 2011; Tan et al., 2012). Bauer et al. (2006) for example found that personnel selection processes will be considered as being more procedurally fair if applicants consider their privacy to be defended.

Recently, Madera (2012) examined the perceived fairness of human resources adoption of social networking websites as part of their overall e-recruitment strategy

implicating the organizational justice (Greenberg, 1987) framework. While the present study focused mainly on the official Public Service Commission of Canada job listing and application portal, social networking and media discussions did arise among the participants thus rendering these findings relevant. Furthermore, because social networking and media transpires over a web-based system, it is particularly relevant to the study of information systems success. The Madera (2012) study administered a survey to a college-aged population of 171 active job-seekers manipulating for employer social networking and media participation and measuring fairness perceptions based on Ambrose and Schminke (2009). Madera (2012) discovered that active job-seeker perceptions of fairness were lower for organizations that appeared to have a stronger online social networking and media presence: "an organization that used social networking websites as a selection tool was perceived as less fair than an organization that did not. Similarly, job pursuit intentions were lower for an organization that used social networking websites as a selection tool than an organization that did not" (pp. 1279-1280). The author cited the Gilliland (1993) procedural justice rule of job-relatedness as being central to interpreting the finding which may appear at first glance to stand at odds with mainstream literature promoting the widespread usage and popularity of social networking and media tools amongst the demographic sampled (Turban et al., 2011).

The importance of the procedural justice rule of job-relatedness (Gilliland, 1993) has been identified elsewhere as an important predictor of personnel selection fairness perceptions though not necessarily in a specifically web-based context (Hausknecht et al., 2004; Macan et al., 2004; Ployhart & Ryan, 1998; Smither et al., 1993, 1996; Ryan & Chan, 1999; Rynes & Connerly, 1993). Gilliland (1993) himself argued for the primacy of job relatedness in his original model, writing; "Perhaps the greatest procedural influence on fairness perceptions is the job relatedness of the selection device" (p. 703). Madera's (2012) findings suggest that the relevance of these networking tools is put into question when adapted for a human resources management environment. Consistent with the Gilliland (1993) model of fairness perceptions, Madera (2012) concludes that organizations wishing to integrate social networking and media technology into their e-recruitment strategies should offer accurate and thorough explanations surrounding the purpose, intended use, and role in the personnel selection process.

UPDATING THE GILLILAND (1993) MODEL

Gilliland (1993, p. 700) intended for his ten (10) procedural justice rules to be considered holistically; that is, the rules combine to form overall perceptions of fairness (Cropanzano & Kononvsky, 1995). Considerable research has been undertaken, however, attempting to determine which of the rules in the Gilliland (1993) model hold prominence (Hausknecht et al., 2004). Hausknecht et al. (2004) conducted a meta-analysis of eighty-six (86) studies and identified job-relatedness, consistency, and opportunity to perform as the top three (3) rules associated with fairness perceptions. A more recent literature review was conducted by Gilliland and Steiner (2012) who assessed each rule individually based on a combination of rule effects on fairness perceptions and support in the research literature. Their findings are presented in the table below:

<u>RULE</u>	<u>RESEARCH AMOUNT</u>	<u>EFFECT FACTOR</u>
Job-relatedness	High	Strong
Opportunity to Perform	Medium	Strong
Feedback	Low	Strong
Honesty	Low	Strong
Consistency of Administration	Medium	Moderate
Reconsideration Opportunity	Low	Moderate
Interpersonal Effectiveness of Administrator	Medium	Mixed; Moderate
Selection Information	High	Mixed; Weak
Propriety of Questions	Medium	Mixed
Two-Way Communication	Low	Mixed

Table 8. Fairness perceptions research amount vs. effect (Gilliland & Steiner, 2012). Modified reproduction.

The Gilliland and Steiner (2012) updated review confirms the importance of job-relatedness, opportunity to perform, consistency of administration, and select interpersonal treatment dimensions. The prominence of job-relatedness as valid in influencing perceptions of hiring process fairness has been recognized in prior research (Bauer et al., 1998; Gilliland, 1994; Kluger & Rothstein, 1993; Steiner & Gilliland, 1996). The inclusion of available research is an appropriate decision here as Ryan and Ployhart (2000) recognized that certain constructs, including job-relatedness, have been the subject of a disproportionately higher amount of study than the other rules. Phillips and Gully (2002) confirmed the importance of job-relatedness and face validity based on the findings of a sample of job-seekers in Singapore.

The Gilliland (1993) model of fairness perceptions established a series of justice (Greenberg, 1987) rules the satisfaction or violation of which impacted overall personnel selection fairness processes and which could lead to subsequent applicant reactions. These, in turn, are said to potentially affect both the job-seeker and the organization (Ryan & Ployhart, 2000). However, the literature has also demonstrated that the type of personnel selection methods and tools alone will influence applicant perceptions (Arvey et al., 1990; Carless, 2003; Chan et al., 1998; Macan et al., 1994; Rosse et al., 1994; Rynes & Connerley, 1993; Smither et al., 1993).

Steiner and Gilliland (1996) also attempted to study different types of personnel selection procedures using a comparative approach with samples from the United States and France. The authors discovered that in terms of fairness perceptions participants reacted most favorably to face-to-face interviews and tests reflective of work to be undertaken in the position sought. Reactions were somewhat positive to

writing skills tests and the collection of biographical information and neutral to honesty and personality examinations. Both French and American participants reacted negatively to the use of graphology for pre-employment evaluation purposes (Steiner & Gilliland, 1996, p. 140). The Steiner and Gilliland (1996) study recognized the salience of job-relatedness and face validity of evaluation type as important factors in applicant fairness perceptions and also found that perceptions of fairness will be higher if candidates perceive their future employer as having the right to obtain the information collected.

RATIONALE

As the job-search and application process has been transformed by technological advancements including HRIS and e-recruitment (Barber, 2006; Faliagka et al., 2012; Tong, 2009), it thus becomes important to re-consider the procedural justice rules (Gilliland, 1993) in light of new ways job-seekers look and apply for work. Anderson and Witvliet (2008) suggest that the human resources management developments which have taken place over the past twenty (20) years since the development of the original model require new research in this domain: "Other studies are called for that examine applicant reactions to methods that were not included in Steiner and Gilliland's original list, for instance realistic job previews, computer- and internet-based recruitment websites and testing procedures [...]" (p. 10). Anderson and Witvliet (2008) conducted a cross-cultural study based accurately on the original list of pre-employment evaluation types compiled by Steiner and Gilliland (1996) and found that cultural differences account for different interpretations of fairness. For example participants in the United States reacted favorably to resume screening and negatively to personality testing, but participants in the Netherlands reacted oppositely. The authors attributed this very interesting discovery to the cultural differences between the United States and the Netherlands considering the countries as generally individualist versus collectivist, respectively (Anderson & Witvliet, 2008). However, the authors chose not to include technological HRIS pre-employment evaluation types in their study (despite recognizing this as important for future research) thus rendering their findings prematurely antiquated.

The combination of Gilliland (1993) and Steiner and Gilliland (1996) models has since been used in a variety of research to consider specific types of pre-employment evaluation types. Besides situational judgment testing (Banki & Latham, 2010; Becker, 2005; Cullen et al., 2006; Ployhart et al., 2003; Weekley & Ployhart, eds., 2006) which was explained earlier due to its relevance for internet-based selection, one of the popular applications of these frameworks has been with regards to pre-employment drug testing (Cropanzano & Konovsky, 1995; Konovsky & Cropanzano, 1991; Murphy et al., 1990; Truxillo et al., 2001). While not directly related to human resources technology, drug testing use fairness perceptions research is theoretically important because it aids researchers in identifying fairness constructs of prominence as well as providing the opportunity for exploring how the introduction of a specific selection process tool impacts job-seeker perceptions especially with respect to the procedural justice constructs of interpersonal treatment (Gilliland, 1993) which are under-examined in the available literature. Drug testing fairness perceptions research is also valuable as it

demonstrates the practical policy relevance of fairness research in a public-sector context (Walsh et al., 1992).

In Canada, pre-employment drug testing is legally considered a discriminatory action and is a prohibited pre-employment selection measure (Canadian Human Rights Commission, 2009, p. 3). Participants of this study did not encounter or bring into discussion matters of pre-employment drug testing, probably because it is extremely unlikely that a Federal Government of Canada department or agency would require applicants to undergo an unlawful procedure as part of the application process. However, pre-employment drug testing is legal in the United States and used as a valid selection tool in both the private- and public-sectors (Brunet, 2002). Regardless of legality, job-seeker perceptions of drug testing as explored in the relevant fairness literature are important to consider because they often relate strongly to characteristics of interpersonal treatment (Gilliland, 1993) which are a part of most job-search experiences (Ryan & Ployhart, 2000).

Ambrose (2000) used general research in organizational justice (Greenberg, 1987) to study applicant fairness perceptions of drug-test use. The author administered a series of hypothetical scenarios to 55 MBA students tasked with evaluating their perceptions of the processes through a survey using a seven (7)-point Likert-type scale. The study asserted that candidate perceptions of fairness will be positive when testing is administered courteously therefore confirming the validity of interpersonal treatment rules (Bies & Moag, 1986). Interestingly, the study also showed that testing will be perceived as being fair when it is administered as a pre-employment exclusion measure as opposed to a post-hire exclusion measure (Ambrose, 2000). This result is valuable because it informs this study's experiential views surrounding Government of Canada official second language evaluations which are administered late in the hiring process. These will be addressed later. The Ambrose (2000) study also indicated that perceptions of drug testing fairness will increase if a positive test results in candidate rehabilitation. This finding was also confirmed by Truxillo et al. (2001).

JUSTICE DILEMMA

The "justice dilemma" is a particular concept found in fairness perceptions literature that sometimes reads more like a paradox than an actual dilemma (Cropanzano, 1994). The concept emerged from studies attempting to uncover factors responsible for enhancing drug-testing fairness perceptions; further research conducted by Cropanzano and Konovsky (1995) found that employee on-the-job drug testing will be perceived of as more fair if positive results lead to counseling rather than termination. This strategy was proposed as a way of resolving what is known as the justice dilemma in personnel selection fairness perceptions research which reflects the phenomenon where organizations are compelled to abandon using valid pre-employment selection processes because job-seekers perceive them to be unfair (Colquitt et al., 2001; Cropanzano & Konovsky, 1995; Cropanzano, 1994; Konovsky, 2000).

The justice dilemma (Cropanzano, 1994) is a unique phenomenon because it does not necessarily reflect the idea that personnel selection measures which are proven to be more valid will be perceived of as being more fair. It was first observed by Schuler (1993) who found that structured job interviews (more valid) are considered less favorably than unstructured job interviews (less valid). Similarly, a variety of studies have proven that pre-employment drug testing results are valid predictors of a variety of organizationally important outcomes (Gerber & Yacoubian, 2001; Normand et al., 1990; Olbina et al., 2011; Osterloh & Becker, 1990; Zwerling et al., 1990). However, employees subjected to pre-employment drug tests have been found to react negatively and have perceptions of unfairness related to the use of these procedures (Brown et al., 2008; Cropanzano & Konovsky, 1995; Rockmore et al., 1997). The justice dilemma has also been found to affect applicant fairness perceptions of pre-employment reference or background checks. Research has shown that gathering information about job candidates from previous employers or so-called character references can be of insufficient validity to determine future on-the-job behaviors and worker qualities (Albrecht et al., 2012; Brody, 2010; Paetzold et al., 2007). Job-seeker fairness perceptions of reference checks are generally favorable however, including on the basis of the Gilliland (1993) procedural justice rule of opportunity to perform (Cropanzano & Wright, 2003; Steiner & Gilliland, 1996).

The justice dilemma, though, only appears to affect certain types of pre-employment selection measures. Kravitz et al. (1996) for instance conducted a study using the Gilliland (1993) model to examine fairness perceptions of various selection processes and presented findings very much in line with selection measure validity findings. That is, legitimately more valid measures such as tests reflective of work to be done were considered more fair than less valid measures such as graphology, astrology, and polygraph testing (Kravitz et al., 1996). This also reflects earlier work conducted by Steiner and Gilliland (1996).

The issue of selection measure validity and fairness perceptions is of theoretical importance to the present study. Cropanzano and Wright (2003) consider four (4) factors influencing candidate perceptions of fairness that could be used to inform research surrounding HRIS and e-recruitment process fairness. Firstly, the authors argue from Gilliland (1993) that job-candidates may simply be unaware of the validity of a particular selection measure. This has been recognized elsewhere in the literature. Rynes and Connerley (1993) for instance found that even individuals who had been exposed to professional human resources management training in the area of personnel selection held a poor grasp of the validity of candidate ability testing. Given that modern HRIS pre-selection leverages screening technologically (Bauer et al., 2004; Stone et al., 2013; Tippins, 2009), it is reasonable to assume that candidates may be unfamiliar with how these systems 'judge' applicants thus resulting in perceptions of unfairness. Secondly, Cropanzano and Wright (2003) suggest that fairness perceptions of valid selection measures may be compromised if job-seekers feel as though their human rights or personal dignity have been violated. This notion relates in particular to selection measures which are perceived as invasions of privacy (Gilliland, 1993; Stone & Kotch, 1989).

The impact of personal privacy violation with respect to computers and technology has been a recognized phenomenon in the literature (Harris, 2005; Keramati & Salehi, 2013; Piller, 1993; Yoon Kin Tong, 2009). The third claim raised by Cropanzano and Wright (2003) is based on the psychological dimensions of Gilliland's (1993, 1994) research. The authors explain that "when a valid test is used to administer negative feedback (in this case, to curtail one's employment opportunities), then self-esteem is apt to be negatively correlated with justice perceptions" (2003, p. 25). Finally, Cropanzano and Wright (2003) develop an argument from the Brickman et al. (1981) distinction of micro- and macro-level justice that fairness perceptions may be influenced by broader social implications of justice rather than interactions at the micro- or individual level. Participants in this study for instance exhibited strong fairness reactions surrounding reductions in overall public-sector employment opportunities resultant of fiscal responsibility measures.

QUALITATIVE FAIRNESS PERCEPTIONS

Qualitative research can facilitate the identification of new constructs and dimensions and aid in the re-interpretation of theory by becoming attuned to the experiential and lived experiences of participants (Creswell, 1998; Merriam, 2009; Sandelowski, 1995). Yet, despite the call for additional much-needed qualitative research in the domain of fairness perceptions (Bauer et al., 2001; Gilliland & Chan, 2001; Hausknecht et al., 2004; Ryan & Huth, 2008), studies addressing job-seeker perceptions of fairness from a qualitative perspective are rare in the scholarly literature. Two (2) of the most relevant include the Gilliland (1995) studies which coded telephone conversations with applicants and Schleicher et al. (2006) which relied on open-ended surveying.

Gilliland (1995) conducted an early qualitative study of hiring process fairness perceptions implicating his original ten (10) procedural justice rules. Thirty-one (31) newly employed recent university graduates with ages ranging from early 20s to late 50s participated in a telephone interview attempting to gauge fairness perceptions surrounding the overall hiring process as well as perceptions of six (6) personnel selection measures in a blue-collar private-sector context. Gilliland (1995) found no incidents related to the reconsideration opportunity rule but support was identified for the remaining rules.

Important conclusions stemming from the Gilliland (1995) study include validation for the importance of providing explanations, timely feedback, and interpersonal effectiveness in order to shape positive perceptions of fairness. Gilliland (1995) also argued that selection procedures which are obviously biased or designed against the applicant will negatively impact fairness, as will a candidate's ease in 'faking' on a pre-employment evaluation tool. Perceptions of unfairness resultant of the ability to fake on tests represent an interesting discovery in the Gilliland (1995) study and have been successfully duplicated in later research (Gilliland & Hale, 2005; Rolland & Steiner, 2007). Job candidates who believe screening tests or evaluations lack in security or can be exploited will not see this as advantageous but rather "[t]he more fakable, the less fair tests are thought to be" (Alliger & Dwight, 2000, p. 63). Gilliland (1995) in fact discovered

enough of a statistical significance in participant responses detailing perceptions of unfairness related to the phenomenon that he considered appending “ease of faking” to the original procedural justice rules; however, this modification does not generally appear in future adaptations of his procedural justice (1993) model.

Schleicher et al. (2006) isolated one (1) specific procedural justice rule, opportunity to perform, from the Gilliland (1993) model and undertook a study with a mixed qualitative and quantitative design. Participants included 754 persons who had applied for an actual vacancy with an agency of the US government. Two (2) surveys were administered: the first at the end of a battery of interviews and various screening procedures and the second several months after candidates learned if they had succeeded or failed the assessments. Both surveys included an option for open-ended feedback which was completed by 95 participants in first instance and 102 participants in second instance. Using measures from Bauer et al. (2001) and Gilliland (1993) the authors studied four dimensions of fairness: job relatedness, opportunity to perform (their main topic of inquiry), communication, and interpersonal treatment.

Schleicher et al. (2006) argued based especially on the responses of unsuccessful candidates that while all of the four (4) dimensions of procedural justice retained validity, the influence of opportunity to perform was comparable with the other, more established, justice dimensions. The researchers also discovered that the time in which participant responses are collected influenced their results: “one important conclusion of this study is that it makes a difference when researchers measure justice perceptions and rules; this is an issue that has not been explicitly addressed in the justice literature” (Schleicher et al., 2006, p. 580). The authors warn future researchers considering a qualitative study of fairness perceptions to consider candidate’s immediate or emotional response to receiving feedback from a selection process. The authors’ decision to study participants interested in a public-sector employment opportunity (as opposed to private-sector) was not comprehensively discussed or featured prominently in the study.

QUALITATIVE DESIGN

A qualitative methodology has been selected as the most appropriate strategy for the purposes of this study given the goal of understanding how active job-seekers perceive their interactions with human resources technology during the public-sector search for employment with regards to fairness. A qualitative design is appropriate where researchers aim to uncover the meanings, experiences, thought processes, or feelings, among others, in a population (Merriam, 2009, p. 5). Different from a quantitative methodology predominantly due to its favoring of inductive analytic processes, use of qualitative research is appropriate in Public Administration due to its "[e]xplanatory power; variation, and richness" (Brower et al., 2000, p. 367). Such an approach is suitable for this study with respect to the contributions and insights being made to theory (Strauss & Corbin, 1998, p. 12; Sutton, 1997).

Given that the qualitative approach enables researchers to gather new insights about participants' interactions, reactions, or experiences (Creswell, 1998; Polkinghorne, 2005, p. 138; Stake, 2010, p. 62), it is relevant to the study of fairness perceptions. Borman et al. (1997) suggest that qualitative research can provide a thorough account of fairness perceptions (p. 318). It is also important to consider that the concept of 'justice', which is closely tied to fairness perceptions as a result of Organizational Justice Theory and Procedural Justice Theory (Konovsky, 2000; Narcisse & Harcourt, 2008) is difficult to quantify (Van Thiel & Leeuw, 2002, p. 277). In some cases, researchers maintain that a qualitative methodology is the only genuinely appropriate way to study fairness: "qualitative measures are the only true way to assess fairness" (Wilson, 1997, p. 182). Further, the need for additional qualitative research in the field of fairness perceptions has been identified in the scholarly literature (Ryan & Ployhart, 2000, pp. 600-601; Rynes, 1993).

Perceptions of fairness or justice are abstract, complex, subjective, and oftentimes highly personal ideas that are difficult to reduce to numbers, charts, or tables (Dolbeare & Gardiner, 1975, p. 180). As a result, individual interpretations and understandings will vary and, indeed; "[w]hat is "fair" for one person may seem highly "unfair" to someone else" (Sexton, 2013, p. 54; see also Wilson, 2012). Adopting a qualitative study of fairness perceptions allows for easy circumnavigation of this 'subjectivity trap' as the focus shifts to being more exploratory and investigative, that is, concerned with a holistic discourse reflective of the broader personal dimensions of fairness rather than a strict or moralistic fair-unfair dichotomy.

Recognizing the aforementioned advantages should not be construed as undermining quantitative research or somehow deeming it inadequate for genuine engagement of fairness perceptions. Instead, a qualitative focus provides the opportunity for challenging hiring process fairness constructs by identifying new insights and findings alongside technological developments which can be used to inform future studies. Various attempts have been made to research fairness quantitatively already, with many adopting surveying as the primary data gathering instrument.

LaHuis (2005) for example asked respondents involved in their job-search to rate the perceived fairness of pre-selection evaluations based on criteria measured against a seven (7)-point scale ranging from “strongly disagree” to “strongly agree” (p. 153). LaHuis (2005) explains that this approach to data gathering reflected similar satisfaction surveys utilized by the United States Office of Personnel Management (OPM). A similar five (5) point scale was used by Truxillo et al. (2002) in their evaluation of selection process fairness including written exams and video simulations for law enforcement positions during the course of a longitudinal field study.

Ryan and Huth (2008) conclude that quantitative research has helped the fairness perceptions field reach some noteworthy conclusions such as the importance of the interpersonal effectiveness rule (Gilliland, 1993), but that many of these do not amount to much more than ‘platitudes’ as the findings: “do not reach the level of concreteness needed by an organization desiring to make modifications to achieve a well-regarded selection process. That is, what does “treat with respect” mean in terms of specific organizational actions?” (p. 120). This is resultant of the limitations inherent to the quantitative assessment tools utilized in fairness perceptions research and that the experiences, thoughts, feelings, insights, and other lived characteristics, are omitted by virtue of the methodology. Bauer et al. (2001) suggests that different job-seekers may have different or wider interpretations of a selection process beyond the limited numerical choices on a quantitative survey (p. 414). Following the support for more qualitative research in fairness perceptions made by Hausknecht et al. (2004) in their meta-analysis of applicant reactions research, the present study intends to illuminate the broader dimensions technology brings to job-search fairness precisely by adopting the qualitative methodology.

A qualitative methodology has been successfully adopted in the past by researchers focused on learning more about the experiences, thoughts, and feelings of participants during career decision-making (Chope, 2005; Bubany et al, 2008; Risco & Duffy, 2011; Okiishi, 1987), unemployment (Hamilton & Davies, 1993; Johnson & Jackson, 2012; Patton & Donohue, 1998), job-search (McKeown & Lindorff, 2011; Niles & Hanson, 2003; Wanberg et al., 2012; Wesolowski, 2013), including in a Canadian context (Hakak et al., 2010), and in a public-sector context (Williams et al., 2013). Because a qualitative research methodology allows for an in-depth ‘observational’ perspective of participant experience (Denzin & Lincoln, eds., 2000), the argument has been proposed that qualitative research should be relied upon and considered on equal footing to quantitative research in the case of research surrounding the search for employment (Fryer, 1992; Pernice, 1996). To this extent, newer studies surrounding matters of employment are incorporating a stronger qualitative focus in response to the predominance of quantitative literature developed in the past, for instance surrounding temporary hiring (Robotham, 2013) or from a context of health science (Blinder et al., 2012; Hirani & Karmaliani, 2013). Nevertheless, despite the appropriateness of the qualitative methodology in job-search research, “research in the area has continued to rely on quantitative methods” (Wanberg et al., 2012, p. 890). This study responds to the need for further qualitative job-search research thereby adding additional methodological validity to the approach and diversifying its applicability in the field of fairness perceptions. The specific qualitative data gathering tool utilized in this study consists of focus group semi-structured interviewing.

The use of focus group interviews has a proven record of success in a variety of professional applications including but not limited to market-research (Calder, 1977; Linda, 1982; Merton, 1987) and product development (Engelbretsson & Soderman, 2004; Litosseliti, 2003, p. 8). Focus groups have been demonstrated to have a profound impact on facilitating opinion-gathering, influencing attributes of new or modified products, and projecting market trends (Schindler, 1992). They have also been used to gather viewpoints on a variety of citizen opinion and governance issues (Li, 2007; Prabhakar, 2012). Yet despite the considerable popularity of focus group interviewing in these professional applications where advertising or sales is recognized as the goal of getting feedback from multiple interviewees in a single session, they were originally devised for academic research purposes (Bogardus, 1926) and are very much a qualitative research tool par excellence (Wilkinson, 2004). This is reflective in their interoperability as tools of both professional and scholastic researchers. They are applicable in this study as the 'product' can be considered the job-application technological interface, the 'client' is the end-user (job-seeker), and the criteria consist of fairness perceptions.

The initial benefits of using focus group interviewing, or 'opinion groups', was recognized among the political community for purposes of gauging trends in the electorate (Moon, 1999). Basch (1987) explains that during the 1950s, opinion groups were adopted strategically to contextualize statistical data on voter activity "in reaction to the sample polling techniques which provided lots of numbers but little insight into what was really going on, the why behind the numbers" (p. 411). The idea of engaging a tool capable of effectively answering the "why" questions hidden beneath statistics serves only to underscore its relevance as an effective qualitative research tool. All of this is not to say that professional and scholastic focus group interviewing are one and the same. Indeed, the salient difference among them is that focus group interviewing as it is understood in social science research generally takes on a more unstructured format whereas the structured nature of professional market research focus group interviewing retains rigidity and strictness (Gubrium & Holstein, eds., 2002).

Using the focus group interview allows researchers to engage participants in direct accordance with the inductive and reflexive principles of qualitative research (Macbeth, 2001; Mauthner & Doucet, 2003; Newton et al., 2012) allowing for an exploration of a wide variety of personal insights and experiences (Dickson-Swift et al., 2007; Hill et al., 1997) while remaining locked or 'focused' around a specific topic, issue, or question (Morgan, 1997). The greatest advantage of group interviewing over individual interviewing remains its interpersonal and social dimensions which provide for an environment that is highly attuned to exploring unfettered experiences and opinions (Ivanoff & Hultberg, 2006). Pretorius and Calitz (2008) defended the use of focus groups for studying information systems and e-government website technology.

In order to be effective, focus group moderators must strive to make the most of the general tone and feel of the interview environment. The scholarly focus group research interview is said to take place in an unstructured context that should allow for

conversation to flow with minimal interruption in its natural setting (Conradson, 2005). This has also been referred to as the non-artificial phenomenon observed in group scenarios where interaction between participants is more 'authentic' to the real-world and particularly helpful in projecting accurate realities on behalf of respondents (Wilkinson, 2004). The unique ability of focus groups to produce rich qualitative data has justified their use in an employment-related study by Claes and Heymans (2008) whose goal was to identify return-to-work motivators for older workers and inform future survey measures for subsequent quantitative analysis. The researchers appeared successful in fulfilling both goals using the focus group data gathering tool expressing only that their study gave a "glance" of all possible motivators (p. 106). However, whereas generalization remains the goal of large-sample quantitative studies, the qualitative goal of gathering new insight and uncovering lived experiences (Creswell, 2014, pp. 4-5) is appropriately linked with focus group interviewing. Berland et al., (2008) adopted a focus group strategy in studying work-related stressors in the field of nursing. After having conducted a total of four (4) interview sessions, the authors found that the data gathering was analytically strong and helped major themes emerge (2008, p. 94).

Besides allowing for a more authentic and natural setting to discuss job-search processes and interaction with human resources technological interfaces, the collective nature of focus group interviewing stands as a strength for effective data gathering. Kitzinger (1994) explains that conducting interviews in a group setting encourages participants to harmonize together in discourse thereby producing a 'synergy' capable of automating the discussion for the researcher. It can bring to the forefront areas of mutual agreement, unearth instances of contention, generate new ideas, and emphasize reactions (both positive and negative), among a variety of other factors related to interpersonal dialogue. Kreuger (1998) explains that focus group interviews are particularly relevant for research on public issues because the unit of analysis consists of the focus groups themselves rather than the individual participants who make up the individual focus groups. This is relevant for research related to the search for employment because it enables a contextualization of the public's interactions with the mediator of technology and can thus reflect public viewpoints as "the contexts in which job search occurs and the populations of job seekers are quite varied" (Boswell et al., 2012, p. 129). The researcher, thus, stands to learn from the collective interpretations and reactions to technology as experienced by active job-seekers who devote a significant amount of time to searching for employment, in the case of this study, within the public sector and specifically the Federal Government of Canada.

Because the strength of focus group interviews is inherent to this interpersonal dimension, the role of the moderator transcends note-taking or merely recording spoken word. The moderator must be attuned to participant reactions, expressions, and interactions in order to allow for issues and themes to emerge (Carey & Smith, 1994; Johnson, 1996). The unique ability of focus groups to generate knowledge in a natural setting makes them particularly useful for research where participants are asked to share a broad variety of thoughts and feelings on a selected theme (Kamberelis & Dimitriadis, 2013).

For the purposes of this study, a series of focus group interviews was carried out with the same participants over the course of a one (1) year period. The intention of structuring the focus groups in this manner was to reflect the reality of modern employment search which has been demonstrated to take place over an extended period of time (Barber et al., 1994; Wanberg, 2012, p. 373). This is a reality compounded in the public sector context where specific time-consuming requirements like security clearance can delay the process significantly more than in the private sector (Puritano, 1975; Schleicher et al., 2006; Walker et al., 2008). Studies on job-search outcomes typically engage participants only after the search and hiring process, even several months after-the-fact (Jokisaari & Nurmi, 2005; Linnehan & Blau, 1998). Studies examining job-search behavior generally focus on the actions taken by job-seekers as they are in the immediate process of conducting job-search related activities (Hoye & Saks, 2008; Song et al., 2009). Because of the application process and steps required for government employment which may include initial identification of a job, application submission, one or more evaluations, one or more interviews, multi-level security clearance, and ultimately the acceptance or refusal of an offer, the process can take some time. Between 2007 and 2008, the Public Service Commission of Canada discovered that the average time to staff for "external" postings (open to the public) was slightly over 27 weeks, explaining that the significant amount of time is "influenced by the larger number of applicants applying to open processes (Public Service Commission of Canada et al., 2009, p. 6). The duration of job-seekers' employment search has been shown to impact psychological reactions, including stressors, related to job-search processes (Frese, 1987; Grebner et al., 2005). It is therefore not implausible to consider that process length may impact fairness especially with respect to the Gilliland (1993) feedback rule which, according to Gilliland (1993), must be "timely" (p. 705). This study has attempted to account for the lengthy job-search process and its steps in a public-sector context by scheduling a series of interviews over an extended period of time with meetings happening once every several months.

Over the course of twelve (12) months, twelve (12) participants who met the classification required to be considered "active job-seekers" were asked to participate in four (4) focus group interviews of six (6) participants each for a total of eight (8) focus group interviews. While this study recognizes the inherent limitations of such a concentrated group of participants, it is deemed appropriate considering the search for personal, experiential dimensions and reflections of fairness being sought (Sandelowski, 1995, p. 179). Limiting group size to six (6) participants is not atypical for focus group interview-based research projects, as previous research proves that this is a manageable and appropriate group size (Breen, 2006; Duhovnik et al., 2006; Murdoch et al., 2010). Remenyi (2011) explains that while focus groups of eight (8) to twelve (12) participants are the best option in professional applications, scholastic focus groups designed for research purposes should be comprised of approximately four (4) to six (6) participants (p. 58).

Yin (2011) explains that where qualitative research data centers on some specific group of participants, it is valuable to include narrative descriptions of participant demographic information. The present study has chosen to follow the Gilliland (1995) participant demographic description narrative format in keeping with his qualitative data presentation style. The focus groups were comprised of twelve (12)

total participants, nine (9) females and three (3) males. As recruitment was conducted on a first-come first-serve basis, in accordance with appropriate qualitative focus group recruitment techniques (Mariampolski, 2001), this gender disequilibrium was not expected but no resulting adverse effects were noted during the research itself or following data analysis. Eight (8) participants seemed of Caucasian appearance, whereas four (4) were noted to be visible minorities. The youngest participants were in their 20s, with two (2) having recently graduated from university. The oldest participant, who appeared to be in his 50s, had worked in a large federal department for a significant period of time before his position was affected by the workforce reduction. At the start of the focus group data collection, five (5) participants were employed and seven (7) were unemployed. Of the participants who were employed, two (2) were working temporary government contracts, two (2) were employed in minimum-wage – type jobs, and one (1) held a high-level position in a private insurance company but was looking to transition to government due to stress from her job. Consistent with the Krueger and Casey (2000) observation that focus group participants who share a common interest (in this case, job-search) will enjoy sharing their experiences, absenteeism was low although one focus group experienced some attrition (one (1) participant moved away after the first meeting). Given that the group was still beginning to establish its cohesion at the time, this likely did not have a significant impact on results, further, groups at all meetings conformed to the Remenyi (2011) established focus group threshold of between four (4) and six (6) persons.

Each focus group interview lasted approximately two (2) hours, with a short break in between. This design was adopted from Krueger and Casey (2000) with the intention of not overburdening the participants. In some instances, the interviews took longer than the initial two (2) hours specified. This was observed especially during the preliminary focus group where participants were keen on sharing their personal experiences with human resources technology. However, the decision to extend the duration over the original two (2) hour timeframe was made with the verbal consent of participants and remained fully in their discretion so as to not be in disaccord with relevant ethics guidelines or specifications of the project. Clearance from the University of Ottawa Research Ethics Board is included as **Appendix IV**.

DATA ANALYSIS AND CODING METHODOLOGY

The principal researcher, who doubled as the focus group moderator, gathered data during each focus group interview session through the medium of note-taking. The Bertrand et al. (1992) style of dual note-taking was adopted whereby initial notes are recorded during each interview session and, immediately after each session; these are complemented by the researcher's reflections on group themes, moods, and overall tones as recounted by memory. In the second instance, this approach involves reflecting on nonverbal reactions, expressions, as well as style of language used, and emotional cues such as enthusiasm or discouragement (Hennink, 2010).

The material produced from each interview session consisted of eight (8) detailed note 'segments'. These segments were subsequently coded using the recommended thematic analysis approach (Bertrand et al., 1992). The specific process

of coding was conducted manually based on the qualitative thematic analysis method (Braun & Clarke, 2006; Langdridge, 2007) with the King and Horrocks (2010) cyclical/sequential procedure. Identification of themes has been recognized as an appropriate data treatment methodology in the qualitative tradition (Holloway & Todres, 2003). While its origins in the field of psychology are well-documented (Roulston, 2001), its applicability to other disciplines has been documented (Boyatzis, 1998). Thematic analysis is also flexible enough to effectively conform to the requirements of this study which seeks to identify patterns in participant responses (Attride-Stirling, 2001) but also weighed against an existing theoretical foundation in order to account for developments that may alter the validity or necessity of one or more of its core principles (McLeod, 2011, p. 146).

The King and Horrocks (2010) three (3) stage interdisciplinary model of thematic analysis consists of descriptive coding, interpretative coding, and overarching themes identification (p. 153). The overarching themes emergent from the interview sessions were successfully weighed against the Gilliland (1993) model of fairness perceptions to identify similarities and differences based on the mediating effect of human resources technology. To this extent an additional results section, modeled after the original Gilliland (1993) rules, was added to accurately address the research question of how HRIS e-recruitment affects job-seeker perceptions of fairness. This approach is in accordance with the principles of semantic interpretative thematic analysis “where there is an attempt to theorize the significance of the patterns and their broader meanings and implications (Patton, 1990), often in relation to previous literature” (Braun & Clarke, 2006, p. 84). Because focus group interviews are limited in number and length, computerized coding of data was not necessary to the successful identification of overarching themes.

Bertrand et al. (1992) recommend margin coding for the purposes of cross-referencing interview schedules or discussion guides with pre-identified participant feedback. Even though margin coding including color-coded pattern identification has been simplified with technological developments in academic research and data analysis (Richards, 1999), the use of margin coding has been considered appropriate where research projects occur on a smaller scale and have as their purpose the identification of several predominant themes or issues (Hay, 2005, p. 129; Massey, 1996). Manual margin coding involved transcribing handwritten notes using computerized word processing software with ample sized margins which were then printed and hand-coded by identifying, highlighting, indexing, and referencing patterns and overarching themes. More detail on the manual margin coding process adopted by this study can be found in Creswell and Plano Clark (2007) who explore both electronically-assisted and non-electronically-assisted qualitative data coding methodologies. The margin coding approach was used and combined with in vivo coding.

In vivo or “verbatim” coding encourages researchers to draw directly from the words and phrases used by participants in their responses during an interview session (Strauss & Corbin, 1998). A benefit of in vivo coding to research in the field of job-search fairness perceptions is its ability to remain faithful to the experiences of participants (Saldana, 2009, p. 91). The domain of human resources with which this study is closely aligned is not immune from a very particular and specialized vocabulary (Llewellyn,

2006) including with respect to talent management and job advertising (Askehave, 2010). The main electronic job repository of the Federal Government of Canada managed by the Public Service Commission of Canada could be officially referenced as a “portal”, “web content management system”, or “directory” but colloquially among respondents it is in almost all cases referred to by its Internet shortcut: “jobs dot g.c. dot c.a.”.

In vivo coding allows researchers to draw on the subtle nuances stemming from the chosen phrases and vocabulary used by the participants, essentially giving them a voice and allowing them to set the foundation for analysis. To this extent the In vivo methodology complements the qualitative nature of the study by providing for linguistic contextualization of data by studying words and phrases that are common to participants and part of their everyday conversations (Stringer, 2007). Lindlof and Taylor (2011) explain that In vivo coding is appropriate to qualitative studies as it facilitates’ researchers ability to gather rich and descriptive narratives and personal accounts using the direct voices of participants (p. 251). In vivo coding has also been considered appropriate for focus group interviews in cases where groups are comprised of participants from diverse backgrounds; in these instances, interpersonal communication flow carries with it the potential to unveil an authentic discourse (Bourgeault et al., 2010). Kitzinger (1995) encourages researchers employing the focus group technique to recruit “[...] participants from diverse backgrounds, as it maximizes the possibility of exploring subjects from different perspectives” (p. 300). This is especially relevant to a qualitative study such as this where job-seekers represented a variety of professional backgrounds, age groups, experience levels, and skill sets but were all interested in public-service as a career.

SEMI-STRUCTURED INTERVIEWING

A semi-structured approach was adopted for the purposes of directing the discussion during each focus group interview. The semi-structured method has been considered an appropriate approach for use in qualitative research (Bryman, 2012; Jarratt, 1996; Sampson, 1972). While interviewing is recognized as one of the main data gathering standards in the social sciences (Atkinson & Silverman, 1997; Brenner, ed., 1981), it is the semi-structured interview which is considered among the most common interviewing strategy used in the social sciences where research calls for a qualitative methodology (Cribb, 2003, p. 42). Semi-structured interviewing has also been used successfully in conjunction with focus group interviewing (Morgan, 1997) including in research dealing with matters related to employment (Lewis & Smithson, 2001; Noblet et al., 2006) as well as job-search (Hebbani & Colic-Peisker, 2012).

Semi-structured interviewing offers researchers conducting qualitative studies a variety of important benefits which are particularly relevant for data gathering in matters of job-search fairness perceptions. Semi-structured interviewing is characterized as being a flexible (Axinn & Pearce, 2006) tool through which new ideas and concepts can be elucidated (Weiss, 1994), consistent with a qualitative methodology and in line with the purposes of this study. Ease and flexibility notwithstanding, semi-structured interviews have the ability to provide for an in-depth exploration of respondents’

thoughts, feelings, and opinions. Combined with the focus group approach, the semi-structured interviews adopted for the purposes of this study aimed to restore any potential power imbalances between the researcher and participants. Klenke (2008) explains that semi-structured interviewing can achieve greatest depth when conversations are not hierarchal or authoritative as per structured interviews but rather when researchers and participants stand on equal footing: "rather than focusing on the researcher's perspective as the valid view, it is the informant's account which is being sought and highly valued" (p. 127) adding further that this represents "a significant move from the interrogative stance followed in a structured interview towards a more conversational exchange" (p. 128).

In the rare instances where researchers aim to study fairness perceptions through studies developed with a qualitative design, semi-structured interviewing and focus groups have allowed for the identification of broader fairness constructs without limiting participant responses to specific areas or issues. The Narcisse and Harcourt (2008) study of fairness perceptions in employee performance appraisals utilized both semi-structured in-depth interviewing and focus group interviews successfully, ultimately allowing the authors to conclude that "[d]ata collection methods such as interviews and focus groups enabled the researcher to capture employee perspectives without predetermining those viewpoints through prior selection of questionnaire categories" (p. 1167). Narcisse and Harcourt (2008) discovered that the qualitative semi-structured interview-based approach allowed them to identify a broad range of organizational justice constructs that were not previously identified in the evaluation literature: reward (distributive justice) as well as frequency, criteria, and training (procedural justice) (p. 1165).

The specific model of fairness perceptions adopted for use in this study has not been the subject of intensive qualitative research. In what remains a rare qualitative study of the Gilliland (1993) model of fairness perceptions, Gilliland (1995) used interviews to successfully explore his ten (10) procedural rules among recent graduate job-seekers and former recently employed job-seekers finding that although conclusions would have been better formalized if a survey format had been utilized, "interviews enabled a detailed analysis of the range of factors that underlie applicants' fairness reactions" (p. 17). This is relevant given the aim of this study to offer a qualitative perspective on research which, to date, has predominantly relied on the quantitative tradition (Becker, 2005; De Schrijver et al., 2010; Hiemstra et al., 2012; LaHuis, 2005; Truxillo et al., 2002). The opportunity to examine the Gilliland (1993) model from a perspective of the mediating effect of technology during job-search through in-depth semi-structured interviewing allowed for the recognition of new fairness constructs and helped further inform the field of personnel selection fairness.

Instead of providing extensive guidance upon which participants base their views or subjecting them to rigid categories in surveys, Patton (2002) claims that "open-ended responses permit one to understand the world as seen by the respondents [...] without predetermining those points of view through prior selection of questionnaire categories" (p. 21). In order to satisfy the demands of qualitative semi-structured research interviewing and allow for in-depth gathering of participant experiences with technology, questions were designed based around the Gilliland (1993) fairness

perceptions model with multiple 'layers' in order to maximize gathering of new overarching themes without compromising the natural setting and non-interrogative conversational environment.

Following the qualitative semi-structured question development methodology proposed by Rubin and Rubin (2005), a series of main/principal questions were developed based on the Gilliland (1993) fairness perceptions model. A complete interview schedule outlining these questions and others is attached with this study as **Appendix III**. Further, consistent with the qualitative methodology adopted for this study, the researcher-moderator took special care to reflect upon instances of silence over the course of the focus group interviews (Kvale, 1996; Poland & Pederson, 1998). In cases where their use was necessary, probing and follow-up questions were utilized to elicit further insight from the participants (Mitchell & Jolley, 1988). This strategy was useful especially in the early instances of the semi-structured interviews where focus group participants were warming up to each other and increasing their comfort levels to discuss their employment experiences in a setting with usually five (5) other strangers.

Employing focus group-based research whereby participants are not only strangers but also representative of different ages and backgrounds, and specific to this research, different employment backgrounds and skills, has proven drawbacks. Farnsworth and Boon (2010) explain that in these settings feelings of anxiety and discomfort can occur, for instance through the experiences of isolation or vulnerability. Whereas feelings of psychological distress and emotional discomfort are relegated predominantly to focus groups discussing very personal or sensitive topics (Wutich et al., 2010) which were not the subject of inquiry here, some introverted participants were less inclined to share their opinions and, in general, group members were less talkative during initial sessions. These initial drawbacks were, however, circumvented by the benefit of having focus groups consisting of diverse participants. While the ability to generalize from the qualitative focus groups is limited as per the literature (Ivanoff & Hultberg, 2006; Parker & Tritter, 2006), the contextual discourse from different job-seekers all expressing high degrees of public service motivation (Perry & Wise, 1990) allowed for the emergence of new overarching themes and other constructs related to fairness perceptions, job-search, and technology.

PARTICIPANT INCLUSION CRITERIA

The inclusion criteria for participation in the focus group interviews were broad in order to remain faithful to the characteristics of the qualitative study design. In order to encourage open-ended discourse and variance in individual experiences or personal 'voices' (Parker & Tritter, 2006, p. 28) with technology, the study aimed to assemble two (2) varied groups without strict adherence to any specific job-search context. In traditional employment research, job-seekers can fall into any one (1) of three (3) categories. Kanfer et al. (2001) provide a very thorough meta-analytic review of each category with detailed additional sources on research conducted in these fields. For the purposes of a very basic overview as suggested by Boswell et al. (2012), the first category of "new entrants" reflects job-seekers who have only recently begun looking for work, for example, recent university or college graduates looking for their first job. In

second instance, “job losers” are those who, as the name may suggest, have already been employed for some period of time and who are conducting a job-search by virtue of unemployment. Finally, “employed job seekers” are those who are undertaking a job-search despite already being employed in some capacity. In order to account for this plurality of job-search experiences, this research did not discriminate against individual job-search context and encouraged job-seekers with different backgrounds to participate.

The decision to encourage a wide variety of job-search participants was also strategic and based on the recognition that some groups have been prioritized in the research over others. Maurer and Cook (2011) explain that many studies surrounding human resources technology are conducted among college students who are largely very computer-literate, thereby failing to take into account a wider variety of job-seekers including experienced professionals undergoing a secondary or third major job-search as a result of unemployment. Frequently, studies choose to defer to college-aged job-seekers and students because they can be considered among the most involved and committed in searching for employment (see: Puckett & Hargittai, 2012; Tziner et al., 2004). Writing from a Canadian context in a study of job-search proactiveness, Brown et al. (2006) identified young college graduates as a demographic of particular interest due to the critical emotional stressors associated with the perception of being unemployed, the search for the proverbial “first job”, as well as competition from friends and schoolmates. The widespread use of social networking among recent graduates and current students has also been addressed specifically by researchers due to the relevance of employment networking (Yu, 2012) including from a perspective of procedural justice and personnel selection fairness perceptions (Wesolowski, 2013). Additional inclusion criteria were specified in order to assure the study was relevant to the field of Public Administration.

In order to participate in the focus group interviews, the job-seekers must have been engaged in a search for employment within the public-sector. The job-search literature classifies job-seekers who have a particular employment end-goal in mind under the measure of ‘job-search clarity’ where job-search actions are strategic and pre-planned based on characteristics surrounding the type of work they would like to achieve as an outcome of their job-search process (Cote, 2006; Guerrero & Rothstein, 2011; Wanberg et al., 2002). The focus on fairness perceptions in the context of civil service employment satisfies the nature of Public Administration as engaged in studying issues and trends affecting government (Box, 1999; Bourgon, 2007; Denhardt et al., 2013; Government of Canada, 2010; Kelman, 2007). Khan (2008) defines Public Administration as the “management of government affairs. The proper jurisdiction of government is subject to interpretation. Anything related to government can be considered as the jurisdiction of public administration” (Khan, 2008, p. 1). The academic literature has also successfully explored Public Administration from the particular point of view of human resources management (HRM) (Chiang, 2011; Farnham & Horton, 1992; Grant & Toch, 1984) including from the perspective of technology (Cronin et al., 2006). The decision to study fairness perceptions in a public-sector context is not, however, relegated to one solely of convenience but rather is a methodological strategy reflecting trends in fairness perceptions and organizational justice research.

The need to limit inclusion criteria to job-seekers interested in a public-sector career is important for the continued development and broadening of both organizational justice and Public Administration. Raadschelders (2003) recalls some recognized differences between the private- and public-sector through an in-depth review of past literature, explaining that in the case of government goals are more ambiguous, leadership appears to take precedence over management, and processes become closely aligned with legislative requirements (p. 202). The hiring process of the public-sector has also been differentiated from its private-sector counterpart in that it has more ambiguous performance measurement criteria which can lead to an increased potential for subjectivity in ranking applicants (Grelling, 2006, p. 458). Accordingly, researchers have hypothesized that these, and other, unique public-sector characteristics may have significant impacts on organizational justice constructs and, in particular, fairness perceptions: "one could also suppose particular types and effects of perceived fairness in the public sector" (De Schrijver et al., 2010, p. 693). However, the authors concede that due to the lack of empirical fairness studies aimed at the public-sector to complement the private-sector literature, it is inconclusive to say with certitude that the existence of possible variations between both arenas stands as valid from the context of organizational justice.

It is nevertheless quite broad to limit participant inclusion criteria to job-seekers interested in a "public-sector" career. From a Canadian context, 'the public-sector' could be taken to include government at the municipal, provincial, or federal levels (Gagnon, 2009). The inclusion criteria of this study focused specifically on job-seekers interested in a career with the Federal Government of Canada. This decision was based on the purpose of this study as intent on examining human resources technology as uniformly as possible. Whereas provinces and municipalities can have radically different HRIS platforms in place for personnel selection, the Public Service Commission of Canada administers hiring on behalf of the core public administration of the Federal Government of Canada and provides select personnel selection services to some crown corporations. Because the e-recruitment system of the Public Service Commission of Canada is web-based, the end-user interacts with a virtually identical version of the job-listing website regardless of where they are located within Canada or even abroad (Government of Canada, 2011).

The main HRIS external (open for public access) job-listing portal of the Public Service Commission of Canada is a high-traffic website allowing visitors to browse and apply for career opportunities in any government department or agency as well as offering a centralized listing of external jobs posted on behalf of Canadian crown corporations. There was little concern that it would be difficult to find job-seekers who are active in using the website based on published usage reports indicating the management of hundreds of thousands of job applications submitted every year. The electronic job listing portal is currently the only way external job-seekers can submit an application for employment with the Federal Government of Canada. As a result, the website activity in terms of visits is measured in millions while applications are in the hundreds of thousands. Between April 01 2010 and March 31 2011, a total of 616,437 job applications were made nationwide using the electronic system; of these, a total of 8516 (1.3%) candidates were appointed for employment to the Federal Government of Canada (Government of Canada, 2011, pp. 163-164). Between 2011 and 2012 472,792

people submitted job applications through the electronic application portal with 5,343 (1.1%) of these successful in finding employment (Government of Canada, 2012, p. 21). The Public Service Commission of Canada Annual Report indicates that declines in staffing activity may be resultant of sector-wide workforce reduction initiatives affecting the core public administration. Individual job application processes can also be highly competitive with high volumes of applications sometimes competing for a very limited number of positions (Government of Canada, 2007). Applications for student programs can reach the tens of thousands (Government of Canada, 2012). This study recognized as a limitation the possibility that the focus group participants may consider the nature of this highly competitive job-search as unfair in and of itself. However, the semi-structured interview questions were developed to focus predominantly on experiences and reactions using the technologically-based job search and application system rather than the wider political or economic climate affecting the job market. Although the focus group participants were interested in different kinds of careers and shared different backgrounds, experiences, and KSAs, they were all familiar with using the application portal and had used it extensively in the past.

In order to effectively study the interactions between focus group participants, those taking part in the discussion must share some common ground upon which the conversation can be based. This phenomenon is reflective of the 'focused' nature of focus group interviewing (Morgan, 1997). This should not necessarily be taken to the extent that discussants share prior relationships such as friendships because, although using people with prior knowledge of each other has documented benefits including the creation of a more comfortable and 'at ease' atmosphere (Agar & MacDonald, 1995), it does have drawbacks whereby participants may be less comfortable and therefore less likely to share authentic personal experiences (Krueger, 1998; Morgan, ed., 1993).

There is evidence in the literature that the job-search process is an experience recognized as carrying some personal dimensions. Returning to the measure of job-search clarity, Kanfer et al. (2001) recognized the search for employment as self-regulatory and one which "begins with the identification and commitment to pursuing an employment goal" adding further that this "activates search behavior designed to bring about the goal" (p. 838). As referenced earlier, job-seekers sharing the specific goal of public-sector employment are said to possess some characteristics of 'public-service motivation' (Perry & Wise, 1990). Bright (2005) offers a succinct overview of some of the public-service motivation antecedents citing literature suggesting a condition of selflessness (Perry & Wise, 1990) or otherwise combination of other various personal characteristics (Alderfer, 1972; DeCharms, 1968; Deci & Ryan, 2002; Goldstein, 1939; Hackman & Oldham, 1939; Maslow, 1943; White, 1959). The personal traits of public-sector motivation have since been a topic of study among scholars in recent years who have alluded to generous public-sector compensation, including both in terms of salary and benefits, as representing a further personal motivator for pursuing public-sector employment (Andersen et al., 2012; Waldner, 2012).

Having focus groups comprised of strangers enabled less stilted and more authentic sharing of personal experiences because of a common thread among the participants; namely, personal involvement in seeking employment. The decision to

study job-seekers with high self-professed degrees of public-sector motivation but who were particularly interested in finding a career with the Canadian Federal Public Service also enabled the participants to very easily compare and contrast their experiences using the e-recruitment system. This is appropriate and reflective of the 'focused' nature of effective focus group interviewing (Morgan, 1997).

It was not necessary for participants of the study to be unemployed at time of participation. Whereas some past studies have focused exclusively on job-search behavior of unemployed persons (McFadyen, 1997; Van Dam & Menting, 2012; Wanberg et al., 1999), the decision was made for this research to open inclusion criteria for individuals who are both employed and unemployed. While none of the participants were employed in the Federal Government of Canada on an indeterminate basis at the time of the first focus group, most were employed in the private-sector while some had been employed in the civil service in the past.

Besides a demonstrated interest in applying for public-sector employment and specifically with the Federal Government of Canada, 'active' job-seekers were recruited for participation in the study. Traditionally in the job-search literature, job-search frequency is quite complex and measured through various constructs. Soelberg (1967) posited that job-search activity can be divided into two (2) possible categories. Preparatory job-search reflects the time spent on information-gathering and research about possible employment options to consider. Active job-search, on the other hand, operationalizes job-search activities and is marked by actual committed job-search behaviors including writing and submitting applications, writing tests, and participating in interview (if applicable) (Soelberg, 1967). The differentiation between preparatory and active job-search has since been validated for use in research within this area of study (Bowen, 1982; Granovetter, 1995).

Preparatory job-search is largely emergent from the March and Simon (1958) theory of organizational equilibrium. The authors contend that employee turnover incentive will decrease if individual rewards are increased. In the end, two (2) interrelated factors will affect an employee's decision to consider leaving their place of work in favor for another: the "perceived desirability of job movement" and "perceived ease of movement" (p. 100) both of which carry self-explanatory definitions. The combination of these factors has since been utilized to measure job-search inclinations in studies where employees considered but did not necessarily act upon employment termination desirability (*for a good example, see: Mobley, 1977*). Thus, Bowen (1982) explains that job-search activity occurs over a span of two 'cycles':

"The relevant distinction here is one between what can be viewed as two cycles of job search. In the first cycle, the employee searches and assesses the perceived availability of "greener pastures," that is considering whether or not there are other jobs potentially available. In the second cycle, the employee searches and assesses the accessibility of those greener pastures, that is receiving or not receiving a job offer. The first cycle is included in Mobley's model and precedes intention to quit, but the second cycle is not." (pp. 206-207).

Based in part on a combination of these models, Blau (1993) developed the preparatory/active job-search terminology further and successfully argued for conceptual distinctiveness between both phenomena in an analysis of employee turnover. The consequence for this research in particular is that in order to conduct a study on job-seekers with high levels of public-sector motivation (and therefore maintain relevance to Public Administration) the participants must already have made the conscious intention to “want” to seek out a job with the Federal Government of Canada. In theoretical terms, the participants needed to have high levels of job-search clarity (Wanberg et al., 2002) in order to be eligible for consideration.

Job-seekers who did not have a clear, specific, and defined end-goal guiding their employment search were ineligible for participation in their study, in accordance with the literature on job-search clarity and pursuit intentions (Bandura, 1991; Kanfer et al., 2001). The remaining task involved the construction of an appropriate measure for job-search activity. Various techniques have been utilized to measure or otherwise explain job-search activity in the relevant literature. It should be mentioned that the activity level constructs of studies which do not distinguish between first/second cycle or preparatory/active job-search (Kanfer & Hulin, 1985; Koppelman et al., 1992, Vinokur & Caplan, 1987) are of less utility here than studies which concentrate specifically on the active job-seeker population, as is the case here. Some studies in the past have suggested looking at the activity construct in broader terms and without a specific delineated definition (Lee & Mowday, 1987). In rare cases, a reverse system of measurement is adopted to classify job-search activity through the evaluation of job-search progress (Wanberg et al., 2010).

Job-search activity can also be measured more specifically and with more clearly defined parameters. An early example is Dyer (1978) who evaluated participants based simply on the number of employers they contacted during their job-search. In a similar manner, Ellis and Taylor (1983) considered job-search activity based on the number of job advertisements prospective employees responded to during a specific period of time during their job-search. Wanberg et al. (2010) have therefore proposed the ‘general search frequency’ method of measuring job-search activity levels, measured by time spent performing a set of job-search related activities. As this study focuses on participants’ interactions with HRIS and, specifically, the job portal of the Public Service Commission of Canada, it was decided to measure job-search activity by time spent interacting with the HRIS technology. A similar approach was adopted in the quantitative survey-based study of Tso et al. (2010) who produced a numeric measure of job-search activity.

Participants in the present study were informed that eligibility would be limited to those who interact with the human resource technology at minimum nine (9) hours per week. Layard et al. (2005) developed a measure of job-search activity by hours-per-week suggesting a median of around 4-5 hours-per-week (p. 237). As this study was focusing on ‘active’ job-seekers with high levels of interest, the calculation was set on the cumulative basis of one (1) hour per week-day and two (2) hours per weekend-day. Interaction was defined to mean any number of activities related to the goal of achieving employment in the Federal Government of Canada and could have included browsing for available jobs, updating personal “profiles”, completing

electronic evaluations and tests, as well as communicating with organizational representatives through computerized means.

RECRUITMENT AND SELECTION

This study made use of an Internet-based recruitment strategy. The use of technology as a medium to recruit job-seekers who were active in using HRIS technology was appropriate given the emphasis on interaction with web-based tools. Internet-based recruitment for the purposes of academic research has been garnering respect in the field as a legitimate approach of disseminating information to potential study participants (Cargan, 2007, p. 105; Hamilton & Bowers, 2006). There exist a variety of interactive websites tailored for individuals with specific interests, hobbies, or needs. These interactive web communities are referred to as forums or message boards, and have been used to get targeted access at specific demographics under study for research recruitment purposes (Beck & Konnert, 2007; Trier-Bieniek, 2012). Cargan (2007) for example notes how recent research has been successful in recruiting participants for very sensitive issues related to expanding the qualitative literature base surrounding the experiences and lifestyles of people afflicted with particular illnesses by recruiting from message boards frequented by members of these communities. Benton et al. (2011) provide a good overview of message board use for research purposes as a data gathering tool, writing that "Internet message boards provide a rich data resource for a variety of purposes" (p. 989) and encourage researchers to couple message board communications with more traditional qualitative research techniques to gather an in-depth and accurate representation of users' authentic views and opinions (p. 994). While the growing potential for message boards and chatrooms to play a role in job-seekers' overall employment search strategy was recognized in the literature (Oliver & Chartrand, 2000, p. 98), with some very limited exceptions (Wesolowski, 2013), in-depth use of these tools has not yet been proven in the field. While some fairness-related studies have adopted internet message boards as part of their overall methodological strategy either for data gathering (Chiu et al, 2009), its use here was experimental and based on the goal of establishing a diverse base of focus group participants.

A recruitment listing was posted in the *careers* sub-section of the popular Canadian message board community RFD, or "red-flag-deals". RFD is a diverse online community of practice (COP) with approximately 590,000 total registered users and regular web traffic of around 5,000 members navigating the boards each day. It is a subsidiary of the Yellow Pages Group Company in Canada. Attracting Canadians of all ages, locations, backgrounds, and interests, the board contains an active section for unrelated discussion split by subjects including *Automotive Advice*, *Entrepreneurship*, *Fashion*, *Home & Garden*, *Parenting*, *Sports*, and among others, *Careers*. The highly active *careers* subsection involves trading of information and discussion from a variety of users interested in seeking employment within very specific and often narrow fields including, for instance, banking in a specific bank or considering the pursuit of a specific post-secondary degree as a precursor to improving employability. Prior to engaging the RFD *careers* community, the principal researcher spent time examining various potential internet-based communities for recruitment including the social

networking website *LinkedIn*. RFD was selected because of its large and diverse user base, popularity, and users' unique interest in public-sector employment-search including specifically for large government competitions. The unique recruitment process was subject to a further peer-review as part of publication process and appears in Wesolowski (2014b) as a tool to help give researchers and scholars targeted access to specific participant populations. Membership and participation in the online community was not mandatory for participation.

Internet-based recruitment was combined with snowball sampling. Snowball sampling has been recognized as a legitimate qualitative sampling tool (Noy, 2008). As the study sought to focus specifically on job-seekers, purposive sampling enabled targeting individuals who spend extended periods of time interacting with HRIS technology with the goal of attaining public-sector employment, therefore in line with the qualitative study design (Yin, 2011, p. 88). Snowball sampling enabled the successful recruitment of a diverse population of focus group participants each with different backgrounds and individual experiences (Browne, 2005; Goodman, 1961). Because snowball sampling encourages participants to recruit others from their own social network, it proved useful in achieving the goal of bias minimization in recruitment of a diverse population (Perez et al., 2013). Indeed, while approximately half of the participants were registered members of the online community, the remainder were informed of the study from their peers as per traditional snowball sampling. This ensured that participants were recruited from diverse backgrounds. Snowball sampling was also an effective choice of recruitment methodology given its combination with the internet message board COP as a source of participants. Because not all users check the boards every day and can sometimes overlook new postings, many eligible participants were referred to the researcher by non-eligible members who read the original recruitment invitation. To this extent, so-called "virtual" snowball sampling has been encouraged as a cost-effective and efficient tool in reaching populations where technology is a focal point of the study itself (Baltar & Brunet, 2012).

II. RESULTS: PUBLIC-SECTOR E-RECRUITMENT FAIRNESS PERCEPTIONS

The Public Service Commission of Canada (PSC) e-recruitment portal provides users with a variety of tools and options to administer the job-search and application process. Given that in the information systems literature the term 'portal' has sometimes been defined as merely a starting point for information-search (Clarke & Flaherty, 2003), it is important to clarify usage of the term here. This study adopts a definition of portal from Abla et al. (2010) as "one application program that can provide all the needed functionalities, also provides a unified interface for multiple capabilities" (p. 604). The Public Service Commission of Canada e-recruitment portal is 'managed' through the Public Service Resourcing System (PSRS) and is known to the public under the web address (uniform resource locator, or URL) *jobs.gc.ca* (Government of Canada, 2011).

This e-recruitment website allows users to search and browse available jobs postings, acquire information about hiring processes, search for a variety of additional information, create and manage a personal candidate profile, and apply for jobs, among others. Job-seekers intent on acquiring details about individual hiring organizations are directed to the specific websites of those organizations. Uniformity and standardization is maintained through design adherence to the Government of Canada's standard on web interoperability (Government of Canada, 2013c). Except in situations where job-seekers are not physically able to do so, such as in the case of having a disability, the Government of Canada only accepts online applications (Government of Canada, 2013e). The multi-faceted functionality of the PSC portal is consistent with the Cober et al. (2000) understanding of a high-quality e-recruitment system in that it is self-contained and consolidates a variety of services, information, and operations.

The findings of the study are divided into five (5) sections based in part on the developmental dimensions of the DeLone and McLean (1992, 2003) information system success model as well as on the nature of participant responses during focus group sessions. The presentation of research data is summarized in the points below:

- Narratives of Portal Use
- E-Recruitment System Interaction
- E-Recruitment Website Appearance
- Interpersonal Experiences and Interactions
- User Privacy and Trust

Consistent with a strict adherence to a qualitative research design emphasizing participant narratives and personal experiences (Creswell, 1998; Darlington & Scott, 2002; Polkinghorne, 2005, p. 138; Stake, 2010, p. 62), the results firstly examine topics which garnered the strongest, lengthiest, or most enthusiastic responses from focus group participants. This first section combines select research findings from information system success theory (DeLone and McLean, 1992, 2003) as well as fairness perceptions (Gilliland, 1993) to contextualize job-seeker experiences with hiring pools, feedback surveys, large-scale recruitment initiatives, and keyword screening technology.

Information gathered from the focus group interview sessions that pertains to website system interaction is discussed secondly. System interaction concerns user experiences with the PSC portal employing such constructs as usability (Cober et al., 2004; Hong & Kim, 2004; Lee & Kozar, 2012; Liu & Arnett, 2000; Williamson et al., 2003), navigability (Hernandez et al., 2009), and speed/response time (Liu & Arnett, 2000; Liu, 2007), among others.

Third, findings related to layout and visual aspects of quality are presented. This section includes a comprehensive discussion of design and visual e-recruitment website characteristics (Avery, 2003; Zusman & Landis, 2002). This is appropriate given that past research has sometimes separated information provision into functional and visual/aesthetic (Hong & Kim, 2004; Vogt et al., 1993).

Fourth, user interactions with organizational representatives are explored through a discussion on e-contactability (Gauld et al., 2009). Given that HRIS e-recruitment has greatly de-emphasized the role of interpersonal communication besides e-mail (Harris, 2006), electronic modes of communication are substituted for traditional venues of interactional justice (Bies & Moag, 1986). This relatively short section is supplemented with a discussion on preferential hiring based on relevant participant reactions connected to interpersonal treatment dimensions of justice, including a discussion of the propriety of question rule (Gilliland, 1993).

Finally, the fifth section concluding the qualitative presentation of research data discusses the issues of HRIS e-recruitment perceived user privacy and trust. From this section emerges a new fairness rule specific to personnel selection in a technological context. All of the sections are informed by findings from Gilliland (1993) and DeLone and McLean (1992, 2003) as well as supplementary research conducted in the field of industrial/organizational psychology as well as information technology and website architecture.

NARRATIVES OF PORTAL USE

BROWSING AND SENDING APPLICATIONS

Focus group participants were asked to explain their interactions and usage behaviors with the PSC portal. Responses indicated that the majority of time spent on the system was spent browsing through and applying for employment opportunities. Quint and Kopelman (1995) identify twelve (12) popular job-search activities in their Job-Search Behavior Index (JSBI) including information-gathering, revising and sending a resume, employment counseling, and job-search networking, among others. Past research has confirmed that sending resumes was among the most common job-search behavior among those actively pursuing employment (Mau & Kopischke, 2001; Kuhn & Skuterud, 2000). Therefore, participants' time spent on the PSC portal as comprised of searching and applying for jobs is in accordance with the scientific literature.

The PSC portal allows users considerable flexibility in developing a personal profile that can be used to customize job-search based on specific qualifications and interests. It was anticipated that this functionality would be heavily exploited by the job-seekers due to being advanced and conducive to a targeted and active job-search. However, participants did not use this feature outside of initially creating an account on the website. Some participants who had attempted to use the custom search feature based on information inputted into their profiles explained that the results were either inaccurate or overly broad and that the standard search and navigation procedures were intuitive and efficient enough to make the custom search feature unnecessary and redundant. This finding is consistent with human-computer interaction research and adaptive behavior of technological interfaces as influencing use intentions (Bunt et al., 2004; Findlater & McGrenere, 2010). This limitation of the system did not appear to translate to feelings of unfairness, however. Users did not see a value-added to increasing system accuracy with respect to adaptable customized provision of information based on personal common prior experience. The very high level of complexity required for the purpose of designing and coding systems to meet user expectations in accurate matching of data has been recognized in the literature (Seneler et al., 2009)

INFORMATION-GATHERING

The job-search and e-recruitment literature indicates that job-seekers are increasingly turning to organizational websites for the purposes of gathering information about potential future employers and job opportunities (Suvankulov et al., 2012; Tso et al., 2010; Van Birgelen et al, 2008). The PSC portal provides job-seekers with information up to the requirements for a specific job posting; in order to learn more about the specific governmental entity managing that hiring process, job-seekers are diverted to the official website of that department or agency. The PSC portal also provides some information about the general steps involved in the hiring process, among others.

Focus group participants used both formal and informal online sources for the purposes of information-gathering. The job-search literature does discuss differences between formal and informal job-search techniques (Caliendo et al., 2011; Granovetter, 1995; Wanberg, 2012). As Wanberg (2012) notes, the distinction between formal and informal job-search is traditionally understood behaviorally as sending resumes in reply to official postings versus consulting with professional and personal networks for insider opportunities. It is important to remember that many focus group participants were members of an online career self-help community of practice. These participants preferred to acquire additional tips and advice for the job-search beyond the materials made readily available on the PSC portal.

The job-seekers' reliance on informal job-search behaviors was also not strongly indicative of feelings of unfairness. Research has shown that job-search networking and the informal consultation-based learning process is a common strategy in seeking employment opportunities (Friar & Eddleston, 2007; Villar et al., 2000; Wesolowski, 2013). The emergence of social networking websites specifically intended for use among professionals to highlight personal career ambitions and accomplishments

demonstrates the widespread use of informal online job-search advice tools (Gerard, 2012; Licoppe & Smoreda, 2005; Madera, 2012; Ollington, 2013). While the participants of the present study were highly active in their job-search (Layard et al., 2005; Tso et al., 2010), it is not unreasonable to assume that other job-seekers may be turning to job-search networking to seek additional information about application processes. Muir (2009) underscores the diversity inherent to networking processes and suggests that networking occurs at various degrees but is ubiquitous to job-search.

However, the finding that job-search participants do actively obtain information about hiring processes from informal sources does put into question the quality and accuracy of information on the PSC portal. Information quality has been shown to influence perceptions of effectiveness of information systems (DeLone & Mclean, 1992, 2003; Wang & Liao, 2003) including in e-recruitment (Keramati & Salehi, 2013). Participants reported seeking advice and sharing their experiences with members of online communities. This does not entail significant fairness-related conclusions in and of itself; nevertheless, it does relate to the participants' rationale for seeking informal feedback.

APPLYING TO HIRING POOLS

The focus group methodology encourages researchers to consider not only views of individual applicants but also significant affective reactions and interactions between participants (Kitzinger, 1994; Wibeck et al., 2007) sometimes understood under the broader term group dynamics (Kidd & Parshall, 2000). One of the topics which stirred a noticeable emotive reaction in both focus groups was perceived unfairness in the management of large-scale hiring pools by the Public Service Commission. Hiring pools are defined by the Public Service Commission as "an external or internal advertised appointment process created to meet the hiring needs of various federal government organizations" (Government of Canada, 2011d). Hiring pool job postings are visually similar to postings for specific employment opportunities but only create an inventory of potential candidates which can be used by departments to staff similar positions in the future. Examples of hiring pools include continuous intakes of entry-level correctional officers or administrative/clerical professionals to specific departments. Because the same governmental organization can have offices in various locations throughout the country, some hiring pools provide applicants with the opportunity to select a preferred worksite from among several options.

Very little has been written in the academic literature about anticipatory hiring pools or candidate inventories outside of certain professions like education (Ingle & Rutledge, 2010; Marschke et al., 2007; Wilkson, 2007). Hiring pools are enabled by HRIS technology which allows for the ongoing deployment, updating, and maintaining of potential candidate databases. Hays (2004) studied human resources management trends and cited hiring pools as new and innovative tools in reducing the time required to staff vacancies therefore increasing worker satisfaction. The author uses a practical case study of the Michigan State Government Centrally Coordinated Hiring Pool (CCHP) system, explaining that "[w]orkers are recruited, screened, and trained on a continual basis, whether vacancies have been declared" further adding that "the

CCHP format permits instantaneous replacement employees and also creates a small pool of "floaters" who are available to fill in for employees who are on extended leave" (Hays, 2004, p. 265). The author is favorable towards the use of hiring pools on the basis of improving organizational efficiency and reducing the burden for human resources departments. However, focus group participants in this study expressed concern over the procedural fairness in the administration of hiring pools.

The Gilliland (1993) categories of feedback and selection information related most to participants' attitudes concerning the management of hiring pools. Feedback has received especial support in the literature as a valid indicator of fairness (Gilliland, 1993; Lievens & Harris, 2003; Schmitt and Kuncze, 2002). Several focus group participants had applied to Public Service Commission hiring pools and in some cases completed one (1) or more evaluations or tests required to remain in the pool. These participants had been active in a pool in some cases for several years and considered the process unfair because they did not receive what they perceived to be a satisfactory amount of information about their progress over this time. Mareschal and Rudin (2011) contend that public-sector e-recruitment portals are frequently programmed to communicate with large volumes of applicants through automated messages. Participants claimed to have received communications through these means and were also noticeably frustrated at having received updates and messages which they believed to have been auto-generated by a computer.

The selection information category has received mixed support in the literature for its ability to influence job-seeker perceptions of hiring process fairness (Dineen et al., 2004; Gilliland & Steiner, 2012; Konradt et al., 2013). Truxillo et al. (2002) found that candidates who were provided with explanatory details surrounding a particular type of assessment tool perceived the overall selection process as more procedurally fair and identified having a more positive experience. However, the recent Konradt et al. (2013) study implicating HRIS e-recruitment and fairness perceptions did not reach the same conclusion prioritizing formal characteristics and interpersonal treatment over the explanation category. Gilliland (1993) contends that opinions regarding selection information will be based on the explanations provided with respect to a given selection measure that may include, for instance, details about how test scores are evaluated to lead to a selection decision (p. 707).

Hiring pools were considered in a very particular way by the focus group participants in the context of information systems. Whereas participants were more confident in their assumptions of how an application for a specific employment opportunity is assessed, they had more difficulty understanding hiring pool processes in the same logical way. To the agreement of his fellow group members, one participant referred to the processes as "black holes" where applications are submitted only to never be seen or heard from again. This metaphor, however, indicates a perceived failure of the information system (DeLone & McLean, 1992) in that the HRIS e-recruitment technology is not capable of effectively managing these applications.

A strategic probing question revealed that users believed hiring pools were unfair due to volume management problems on the basis of system design and system administration. Participants rationalized by common sense that hiring pools open for

years to broad positions such as entry-level clerical work must be saturated with a high volume of active applications. Volume management in HRIS personnel management has been recognized as a legitimate concern emerging from increased access to technology among private users (Brewster & Mayrhofer, 2012; Cappelli, 2001; Cullen et al., 2006; Galanaki, 2002; Government of Canada, 2007; Niles & Hanson, 2003). Given that system (DeLone & McLean, 1992) or "design quality" (Cyr, 2008; Leonard & Riemenschneider, 2008; McKnight et al., 2002) will influence information system success (Iivari, 2005; Rai et al., 2002), it is not unreasonable that the participants' perceptions surrounding the purportedly flawed design of hiring pools led to feelings of frustration and dissatisfaction.

Participants also felt that the lacking hiring pool functionality was related to failure of effective administration. In other words, participants felt as though the hiring pools were overly reliant on computer automation (based on receipt of apparent computer-generated messages) and as such an insufficient number of Public Service Commission staff was assigned to conducting continuous hiring pool screening and general maintenance. This is an interesting observation for information system success theory because it indicates user preference for service quality (DeLone and McLean, 1992; 2003) unique to the administration of large-scale hiring initiatives over an e-recruitment portal. That is, beyond initial user interaction with the system for the purposes of submitting an application there is a continuous covert process involved of selecting candidates from the pool and keeping information up-to-date.

RESPONDING TO USER-SATISFACTION SURVEYS

On occasion, the Public Service Commission of Canada will administer online user-satisfaction questionnaires to PSC portal users. The Public Service Commission of Canada user satisfaction surveys are generally administered in a multiple choice-style with some opportunity for open-ended responses. This survey design methodology is in line with similar public-sector questionnaire designs (LaHuis, 2005). Personal demographics information is collected but users are assured that this data is only used for quality assurance purposes through a written disclaimer appearing near questions asking, for instance, age and education level. This is not a highly unique phenomenon as online satisfaction surveys have been deployed to help study user demographics and trends in private- (Lassar et al., 2005; Ling & Salvendy, 2013; Polites et al., 2012) and public-sector website quality assurance (Kunstelj et al., 2009; Papadomichelaki & Mentzas, 2012). Online user satisfaction surveys are so commonplace, in fact, that some of the studies cited throughout this dissertation involved researchers partnering with actual organizations or governmental bodies to submit surveys to job-seekers for data-gathering purposes (Bauer et al., 2006).

Some focus group participants did participate in the completion of Public Service Commission user satisfaction surveys. Despite the fact that these surveys do occasionally request private or personal information from users, these potentially intrusive personal questions (Harris et al., 2006; Konradt et al., 2013; Lievens & Harris, 2003) did not invoke negative user reactions. Fairness perceptions were favorable when

participants were given the option to keep some personal information undisclosed and refrain from answering questions. The information systems and website architecture literature traditionally considers this type of system as having an 'opt-out' whereby users can choose not to fulfill one (1) more requirements without sacrificing the overall completion of the website activity (Cranor et al., 2006; Mothersbaugh, 2012; Park, 2011). The ability for job-seekers to provide feedback into the HRIS e-recruitment portal touches on the Gilliland (1993) procedural fairness rule of two-way communication. However, the quality level of this communication is put in question on the basis of lacking communication authenticity.

Research has demonstrated that online communication channels can reduce interactional quality among participants due to their non-emotive simplicity (Nie, 2001; Stern, 2008). Some participants in one (1) focus group expressed concern over the usefulness of the type of information collected and the result of administering user satisfaction surveys. In one case, users felt that the questions on a survey attempting to gauge website usability did not provide sufficient opportunity for the provision of open-ended responses thus limiting communication and resulting in feelings of frustration. Further, these participants also questioned the purpose of the surveys providing that the general design and layout of the PSC portal has remained virtually the same for three (3) years, and only very recently underwent a substantial visual but not design-oriented change.

COMPLETING UNPROCTORED INTERNET TESTS

The Public Service Commission also administers mock tests to job-seekers usually with debriefing questionnaires to quality control the development and implementation of new internet-based tests. The same focus group participants had recalled a campaign by the Public Service Commission to pilot the new Public Service Entrance Exam (PSEE). The PSEE has since been administered as an unsupervised internet test as part of the Federal Government of Canada's recruitment of post-secondary graduates through the Post-Secondary Recruitment Program (PSRP). The PSRP also includes a battery of in-person tests including a language examination, situational judgment test, and logical reasoning-type test. Focus group participants in both groups expressed feelings of unfairness with respect to these testing procedures.

Job-relatedness (Gilliland, 1993) has been established as a valid influence upon job-seeker perceptions of hiring process fairness in the literature (Arvey & Sackett, 1993; Hausknecht et al., 2004; Macan et al., 2004; Ployhart & Ryan, 1998; Smither et al., 1993, 1996; Ryan & Chan, 1999; Rynes & Connerly, 1993). Face validity and perceived predictive validity are considered constructs of job-relatedness (Smither et al., 1993) and have been found relevant to applicant perceptions of pre-employment testing (Grand et al., 2010; Kanning et al., 2006; Lievens et al., 2008). Grand et al. (2010) argue that perceived predictive validity refers to a test's ability to successfully predict future on-the-job employee behaviors. Gilliland (1993) explains that early writings on job-relatedness and job-seeker attitudes by Dodd (1977) considered the relevance with which applicants perceived selection measures to be based on work to be performed in their future jobs. Focus group participants shared strong reservations about the job-

relevance of the PSEE and PSRP logical reasoning-type test but expressed more favorable sentiments towards the situational judgment test and language examination. Lievens et al. (2008) found in a review of the relevant situational judgment literature that applicant perceptions of this type of selection measure are quite often favorable. Similarly, positive perceptions of the language examination were due to job-seekers' consideration that judging ability to communicate effectively in one (1) of Canada's official federal languages was justifiable for a future civil service career. From a technological perspective, participants appreciated the ability to complete the PSEE at their discretion from home or another location of choice as it did not interfere with personal plans.

General intelligence testing validity and use are important topics in industrial/organizational psychology with a broad and well-developed history. Kaufman (2009) offers a comprehensive overview which readers with a curiosity in this area of study are encouraged to consult, as elaborating on some of the controversies and debates in measuring and ranking job applicants based on cognitive test results is well beyond the scope of fairness perceptions. Herrnstein and Murray's (1994) controversial work on intelligence measurement and racial superiority as well as subsequent critiques (Haynes, 1995; Newby & Newby, 1995) shed light on debates surrounding the validity of measuring human intelligence through testing.

Researchers have conducted studies on the effects of cognitive ability testing on job-seeker attitudes and reactions (Arvey et al., 1990; Chan et al., 1997). Smither et al. (1993) found that cognitive ability tests are considered more favorably than personality tests by applicants. Reeder et al. (2012) discovered that candidate perceptions of cognitive ability testing will be influenced by several factors including familiarity with the organization and job. While focus group participants were confident in the face validity of the PSEE as a measure of general intelligence, they were less faithful in the test's ability to gauge future on-the-job performance and would have preferred completing a specific test related to the type of activities they may be asked to do in their future job. A preference for strictly work-related pre-employment testing and simulations is consistent with the Steiner and Gilliland (1996) study demonstrating job-seeker attraction to pre-employment selection tests reflective of work to be undertaken on-the-job.

CHEATING

The literature on unsupervised or unproctored internet-based testing has linked test use with positive organizational results like administrative efficiency (McBride, 1998; McDonald, 2008; Meade et al., 2007; Pearlman, 2009). However, given that these tests are administered without any mechanism to detect or prevent various types of cheating, concerns have been raised over the temptation for candidates to cheat (Chapman & Webster, 2003; Foster, 2010; Landers & Sackett, 2012; Makransky & Glas, 2011). Gilliland (1995) proposed that the ease with which applicants could 'fake' on selection processes could influence perceptions of fairness, which was confirmed in future studies (Gilliland & Hale, 2005; Rolland & Steiner, 2007). Consistent with the literature on unsupervised testing which suggests that test integrity can be protected by

requiring those who passed initially to write some kind of additional follow-up in-person exam in order to confirm their results (Carstairs & Myors, 2009; Makransky & Glas, 2011), focus group participants did not consider the possibility to 'fake' or cheat as a legitimate concern. However, the findings do confirm the Gilliland (1995) ease of faking construct and indicate that the proliferation of internet-based testing (Naglieri et al., 2004) adds further justification to including it among the other procedural rules.

PROVISION OF RESULTS

While participants who complete the battery of in-person tests are provided with results (although not told specifically where errors were made), scores are not provided for either the pilot or real PSEE. Participants expressed strong reactions of unfairness with respect to these scores being withheld, which further validates the feedback rule (Gilliland, 1993) from a technological perspective. The Gilliland (1993) interpersonal treatment rules are also affected by the use of unproctored internet tests. Rather, the lack of a proctor diminishes the importance of interpersonal treatment rules and subsequently appears to increase participant sensitivity to explanatory rules including especially selection information. Gilliland (1994) showed that explanations are important in forming perceptions of fairness when candidates are unsuccessful in a given selection process. Ployhart et al. (1999) successfully proved that specific explanations of selection outcome decisions will increase process fairness. Candidates who did not receive a score on the pilot version of the PSEE expressed little motivation for participating in future test evaluations, claiming that they had intended to complete the test in order to practice and hopefully improve their future results.

TEST INSTRUCTIONS

The inability to ask questions and interact with a Public Service Commission representative also led to perceptions of unfairness as a result of feeling misled. This adds to the final tier of the explanation category in the Gilliland (1993) model as it touches on the procedural rule of honesty. Focus group participants who participated in the pilot test claim to not have been informed in the pre-test instructions that follow-up scores would be unavailable. One focus group participant subsequently described the pilot test as a "waste of time". Therefore, it can be hypothesized that with respect to pre-employment internet-based testing in the DeLone and McLean (2003) model of information system success, information quality must increase in order to account for unavoidable limitations in service quality. Information provided to users must be especially accurate in situations where interpersonal treatment, service provision, or the ability to seek help is limited by the nature of the activity as in the case of unproctored internet testing. This compensatory approach to evaluating system success is also transferable to fairness perceptions research. Consider the proposition of Cropanzano and Konovsky (1995) that violations of some procedural justice rules can be counter-balanced by an endeavor to strengthen remaining rules. For example, while drug testing is an unavoidable policy in some organizations, fairness perceptions can be rendered more favorable if appropriate explanations and justifications are provided to participants (Crant & Bateman, 1990).

PRACTICE TESTING

The Public Service Commission of Canada provides several examples of each type of unproctored Internet test to familiarize respondents with question type and formatting. In education, practice tests and sample test question provision has been shown to have a positive impact on test-taker dispositions as examples provide students with information about where to focus their study efforts (Nelson et al., 2000). Research has also identified the administration of practice tests as important towards increasing test-taker self-efficacy and reducing testing anxiety (Hollis-Sawyer & Sawyer, 2008).

One (1) focus group participant had recalled preparing for the PSEE by studying the publicly available practice test questions on the PSC portal. After solving the practice questions, he recalled feeling confident in his ability to solve the mathematical and logic puzzles provided to users in the sample questions. However, he shortly added with a disappointed tone of voice, the actual exam contained questions that were of a significantly higher difficulty level than the samples provided. The participant provided a specific example to the researcher after the focus group interview was completed. Because actual questions used by the Public Service Commission cannot be duplicated by law, the example provided highlights the cause of the perceived unfairness using simulated questions reflecting the spirit of the participant's example:

Instruction:

Complete the series by selecting one (1) option from the four (4) choices provided.

i. Sample Question

A , C , E , G , I , ___

Choices:

- a) Z
- b) AA
- c) K
- d) J

ii. Question on Actual Exam (Simulated)

16.000, 15.000, .938, .063, .067, 1.063, ___

Choices:

- a) 16.000
- b) 16.063
- c) .067
- d) 160.000

Figure 2. Illustrative sample UIT questions

The focus group participant recalled starting the exam with confidence inspired by having successfully understood the sample questions. However, he explained that he

“froze” upon encountering the actual questions. The example provided illustrates not only an increased level of difficulty but also how the actual question requires a more obscure mathematical solution. Whereas the pattern in the sample question is straightforward, the number sequence of the actual question is more ambiguous and seems to deviate without a logical pattern.

Building on perceptions of unfairness related to the general knowledge exam, another focus group participant reported a similar phenomenon when studying for the Public Service Commission’s situational judgment test. Similarly, the sample vignettes provided were described as being deceptively simple and requiring very little thought in identifying a correct response. On the actual exam, the participant reported scenarios to be more ambiguous where multiple responses can appear to be equally correct.

The job-relevance and validity of these types of examinations has already been discussed. However, the discrepancy between sample questions and actual exam questions most directly violates the Gilliland (1993) procedural justice rule of honesty. The respondent who initially expressed concern over the logical sequence solving question appeared to have greater frustration over the inconsistency between question types rather than the increase in difficulty, acknowledging an expectation that the actual exam may have more challenging questions. However, in his case, the difficulty increase was expressed as being very high. Gilliland (1993) defends honesty as a construct separate from, though related to, selection information. Whereas it may be possible to claim that the information provided was inaccurate or incomplete, these constructs fail to take into account the magnitude of deception experienced by users. Langevin and Mendoza (2013) recently considered failure of disclosure of information to be a violation of honesty on par with the provision of false or inaccurate information, which could account for the frustration felt by participants resultant of the unexpected increase in difficulty between sample test questions and actual test questions. Research has recognized the organizational repercussions associated with provision of untruthful or deceptive information to candidates (Bies & Tripp, 1996; O’Sullivan, 2003). Walley and Smith (1998) provide an interesting if not slightly dated overview of deceptive practices in personnel selection from a human resources management perspective that readers with an interest in this phenomenon are encouraged to consult.

While the focus group participants were most keen to discuss and share experiences about pre-employment testing administered through the Public Service Commission of Canada, a brief discussion of the Second Language Evaluation did arise. Official language regulations in Canada mean that many positions at the federal level must be staffed by candidates who demonstrate a certain skill level in their second official language, either English or French, in line with the requirements of the position (Vaillancourt & Coche, 2006). In 1969, Canada’s Official Languages Act enabled the federal public service to set out new hiring regulations with the intent that “every Canadian would have the possibility to be served in the official language of his or her choice” (Cardinal, 2004, p. 83). To this extent, job postings on the PSC portal will usually include a specific bilingualism level which candidates are required to possess, or eligible to achieve, upon hiring.

Public Service Commission official second language exams are different from entrance exams in that they are administered to candidates as one of the final stages in the selection process. Thus, focus group participants had very little firsthand experience with these tests. However, it was interesting to note that the experiences participants had with the other pre-employment tests informed their opinion of second language testing. For example, the same participant who had introduced the discrepancy in the difficulty level of the sequence questions stated that, despite being bilingual, he felt anxious and nervous about ever having to write the second language exams because the practice questions on the PSC portal appeared “a little too easy”.

PARTICIPATING IN LARGE-SCALE RECRUITMENT INITIATIVES

The Public Service Commission of Canada conducts a variety of large-scale recruitment campaigns on behalf of the Federal Government of Canada. Some of these initiatives, including for instance official student hiring, cycle year-round while others, like the PSRP, are advertised only on specific dates. Branine (2008) provides a thorough overview of some of the socioeconomic and organizational dimensions associated with the recruitment of students and recent graduates into government.

Some of the younger focus group participants were actively participating in the recruitment initiatives while others had used them in the past. Creating inventories or rosters targeted directly towards students and initiating mass student recruitment campaigns is not an uncommon phenomenon in either the private- or public-sectors (Logan, 2012; Teng, 2008; Watson & Hassett, 2005). The Federal Government of Canada’s primary student hiring program, the Federal Student Work Experience Program (FSWEP), is among the most popular tool accessible through the PSC portal. Between 2011 and 2012, 47,343 FSWEP applications were processed by the system 8,305 of which resulted in employment with a governmental organization – a 17.5% success rate (Government of Canada, 2012, p. 16). Recall, the success rate for regularly advertised vacancies was earlier calculated at 1.1%. Thus, job-seekers have a significantly better chance – almost one (1) in five (5) – of being hired as a student than as general external candidates for specific vacancies. Student employment in the Government of Canada was also the most robust employment mechanism despite adjustments in workforce size, declining only 5.3% for 2011-2012 compared to a 7.2% decrease in term hiring and a 26.3% decrease in indeterminate hiring (Government of Canada, 2012, p. 21).

HRIS technology is in many ways responsible for formalizing student hiring in the Federal Government of Canada. Because of the ability of e-recruitment systems to manage large application volumes (Brewster & Mayrhofer, 2012; Landers & Sackett, 2012), it is now possible to easily organize and screen job applications from students nationwide. Gow and Simard (1999) provide a good overview of trends in student hiring in the Federal Government of Canada at the cusp of new developments in information technology. The authors argue that many students found employment with the Canadian federal public service through contact-building and job-search networking: “until 1995, political and bureaucratic patronage was common for hiring students for summer government jobs (in 1995, the staffing delegation given to the Ministry of

Human Resources for managing this process was revoked) [...] there have been many cases of managers hiring family members” (pp. 82-83). The PSC portal-administered student hiring program was designed to eliminate these abuses.

Computer software is now used to electronically match applicant profiles with available jobs, and only candidates selected are eligible for hire (Government of Canada, 2012e). This eliminates subjectivity from the process and, almost like a lottery, gives virtually all student job-seekers an equal chance for participation. A 2009 report by the Public Service Commission of Canada did reveal that some managers had tried to circumvent the computer system by pre-arranging with known students specific keywords to include in their applications: “the process was manipulated to allow the appointment of individuals chosen in advance. In some cases our review found that hiring managers had requested questionable specific skills, with the aim of having pre-selected individuals referred to them from the PSC FSWEF general inventory” (Government of Canada, 2009, p. 11). These incidences were rare and represented only nine (9) hires out of a sample of 250 (3.6%) across eleven (11) organizations of the Federal Government of Canada – a sharp decline from an earlier 2003 report identifying a 19% rate of system abuse (Government of Canada, 2003).

Focus group participants shared some of their experiences interacting with the PSC portal for student job-search purposes with respect to fairness. Some reported to have experienced reasonable success with the program, proceeding even as far as the interview stage for some positions in large governmental departments. Others reported mixed results including referrals for positions that did not accurately match their preferred employment location or educational background. One (1) participant who had recently completed an undergraduate degree in criminology only several months prior to participating in the interviews recalled feeling perplexed after having been referred for a position which would have required working on a dairy farm. Other participants had more positive experiences and claimed to have been referred to not only relevant but also interesting positions. Experienced professionals, who made up about half of each focus group, had understandably less to contribute to the discussion because of their ineligibility to participate.

One (1) older female had taken on the role of giving advice and mentoring the younger job-seekers (who was also vocal in explaining how to structure and format resumes) recalled governmental student hiring practices before HRIS e-recruitment technology. She accurately detailed the evidence presented by Gow and Simard (1999) but insisted that giving students the opportunity to network and seek out employment was not necessarily an unfair system despite abuse. According to her, it encouraged interested students to put in additional effort to personally contact employers all the while improving their professional social skills. This process, in turn, encouraged the hiring of highly motivated and enthusiastic talent to governmental organizations.

Younger job-seekers in the focus group were visibly interested in learning more about early hiring trends. They were largely unfamiliar with the historical underpinnings of hiring before the advent of HRIS technology. Studies discussed earlier demonstrated that job-seekers may have incomplete views of hiring processes based on a lack of

knowledge or understanding about instruments and measures used (Cropanzano & Wright, 2003) and that this lack of knowledge can increase with the introduction of complex technological systems (Dineen et al., 2004). None of the younger focus group participants were able to accurately describe the process by which the Public Service Commission of Canada selects students for further consideration, mistakenly assuming that keyword matching software is exclusively responsible. Based on a simple explanation available on the PSC portal, the focus group moderator explained that student job-seekers who match designated hiring criteria are selected at random and that these randomly-selected names are forwarded to the hiring department.

After receiving the clarification, one (1) student job-seeker expressed feelings of unfairness related to this process. What is most interesting, however, is that this latent reaction would otherwise have been unknown due to her blissful ignorance about the system. According to her, recruiting students at random is unfair because it does not guarantee that the most qualified applicant will get the job. The FSWEF system is interesting from a theoretical perspective because it hyper-satisfies the consistency of administration rule (Gilliland, 1993) in that all job-seekers are given an absolutely equal opportunity without any discrimination whatsoever. However, the opportunity to perform rule is violated because candidates are not given the opportunity to demonstrate their skills for the position. Earlier fairness research identified the variable of applicant control as indicative of fairness perceptions (Kluger & Rothstein, 1993; Schuler, 1993). Arvey and Sackett (1993) refer to the construct as 'voice' where it translates simply to giving candidates a chance to express themselves and demonstrate their KSAs during selection. Gilliland (1993) attests based on research conducted on job interviews that giving job-seekers increased chances to 'state their case' will result in more positive attitudes towards the selection process with respect to procedural justice, citing some noteworthy examples (Bies & Shapiro, 1988; Campion & Arvey, 1989). More recent research on job interview perceptions has since confirmed these results (Gilliland & Steiner, 1999; Schleicher et al., 2006; Steiner et al., 2004). The use of keyword matching and resume screening software is a further issue related to HRIS e-recruitment technology that is discussed in the following section. Selecting candidates at random, however, resulted in feelings of unfairness due to the breach of the opportunity to perform rule (Gilliland, 1993). However, the perceptions were only manifest upon discovering how the system actually works.

Because participant fairness perceptions were incomplete until additional clarifications were provided with respect to the technologically-mediated selection system, insufficient selection information (Gilliland, 1993) also merits some discussion. It is important to note that the Public Service Commission of Canada does not endeavor to hide the selection methodology used to hire student workers. The random nature of the process is mentioned explicitly in the Frequently Asked Questions section of the PSC portal: "A random search of the FSWEF inventory [...] is conducted by the PSC and is based on the requirements of the position identified by the hiring organization [...]. The random selection identifies a minimum of five students per job opportunity to refer to the hiring organization" (Government of Canada, 2012e). In strict fulfillment of the selection information rule (Gilliland, 1993), details about random selection are also available on the general information section of the PSC portal including a justification for its use. Gilliland (1993) underscored the importance of providing candidates with

justifications for decisions made throughout the selection process. Earlier, Greenberg (1990) proved that the provision of justifications will lead to more positive acceptance of reductions in compensation. Bies and Shapiro (1987, 1988) also conducted research surrounding justifications provided to job applicants during hiring process, though from a perspective of interactional justice. Colquitt et al. (2005) provide a good review of additional relevant literature studying the construct of justification. Gilliland (1993) delegates justification into the explanation category of procedural justice, specifically within the rule of selection information. On close review, it can be argued that the Public Service Commission of Canada undertook reasonable steps to ensure that information about the nature of these large-scale recruitment processes was transparent and communicated to job-seekers.

Focus group participants were asked how the student hiring program administered through the PSC portal could be improved from a procedural perspective. It was interesting to witness one (1) participant acknowledge the immense difficulty of trying to administer a system fairly and equitably, thus trying to give everyone a chance, but being unable to do so due to limitations and constraints related to application volume. Another participant suggested that co-operative education programs are a more reliable option for students because employment is basically guaranteed, and the process is more formal. Studies have shown that the level of personalized attention in the management of cooperative education can result in high matches of educational background, professional interest, and organizational need (Douglas & Brewer, 1999). But common logic dictates that this is unfeasible due to scale. Although participants' discovery of a system that refers job candidates at random yielded some fairness reservations, participants generally shared positive experiences. It was interesting to note that discussions in the focus group surrounding large-scale student recruitment campaigns were the most unselfish, that is, participants optimistically shared stories of their friends and colleagues who were successful in finding employment this way. This may be reducible to the one (1) in five (5) success ratio calculated earlier. Despite being the equivalent of a job lottery and therefore suffering from the associated fairness implications, chances of finding a job through the system are not unreasonable.

WRITING AND PREPARING COVER LETTERS AND RESUMES

Given that the job-seekers recruited for this study were active and dedicated significant time and resources to searching for employment (Layard et al., 2005; Tso et al., 2010), they expressed interest in acquiring additional information to further their efforts. In the case of one focus group, younger participants were enthusiastic and listened attentively to advice from an experienced job-seeker with prior experience having worked several temporary government jobs. The group dynamics inherent to this inter-generational exchange were interesting as they mirrored the Boswell et al. (2012) job-seeker classification typology. The experienced professional encouraged the newcomer job-seeker to "speak the language of the computer" and format their text-based application in such a way so that it is more easily recognized by the HRIS technology.

Business writing and document tailoring are by no means a new phenomenon; numerous authors have researched best-practices in resume writing and stylistic presentation long before HRIS and e-recruitment technology (Charney & Rayman, 1989; Stanley-Weigand, 1991; Trace, 1985). Weeg (1992) conducted an extensive literature review of mainstream job-search advice literature and discovered that most teach prospective employees to write and structure their resumes in a style preferred by the employer. Dolenga (1985) challenges graduates to write their resumes as specifically as possible with respect to the position being sought. In other words, tailoring resumes to 'fit' specific employers and job postings is hardly revolutionary advice. However, researchers have increasingly noticed how HRIS technology encourages job-seekers to try and 'trick' electronic screening and word-recognition systems. Amare and Manning (2008) use the phrase "writing for the robot" to describe this phenomenon which they believe has transformed how job-seekers apply for employment opportunities through the medium of technology: "The advantage of these changes in résumé rhetoric is that students are preparing to write well for the robot, to get their résumés to "hit" the searchbot, and, hopefully, to secure an interview" (p. 43). Amare and Manning (2008) discovered that more than half of job-seekers surveyed are open to using what they describe as deceptive techniques to try and circumvent automated word-search technology and that these intentions raise in the case of government job postings where reliance on HRIS automation is high.

Interestingly, focus group participants did not necessarily consider the use of keyword recognition software as being unfair. This is consistent with the findings of Amare and Manning (2008) who discovered that a statistically significant percentage of respondents justified engaging in a deception by adding specific keywords to their online applications even when these keywords did not accurately reflect their KSAs. The actual effectiveness of doing this is questionable; however, as researchers have found that automated keyword screening and detection systems are not always accurate (Mohamed et al., 2002). As active job-seekers, the focus group participants agreed that looking for employment is very competitive and as such exploiting unavoidable imperfections in the technological screening system is sometimes necessary to achieve goals. Job-search stress has been a documented phenomenon in the literature (Barber et al., 1994; Hulbert, 1991; McKee-Ryan et al., 2005; Song et al., 2009; Van Ryn & Vinokur, 1992). The focus group participants did not perceive this phenomenon as dishonest (Wood et al., 2007) because in all instances the synonyms that were chosen to reflect the language of the computer were reasonable representations of their actual KSAs. Even the job-seeker who was visibly less familiar with the approach considered it as fair based on technological limitations of the HRIS technology. Thus, in an effort to maintain fairness, lacking system quality (DeLone & McLean, 1992, 2003) here considered in terms of restrictively specific resume screening criteria is overcome by user ingenuity. The Gilliland (1993) rule of opportunity to perform is fulfilled because users familiarized with the nature of the technology have an opportunity to use it to their advantage.

EFFECT OF E-RECRUITMENT WEBSITE USABILITY ON FAIRNESS

Advanced HRIS technology has given employers the opportunity to develop more powerful, advanced, and interactive e-recruitment solutions for applicants (Llorens, 2011; McManus & Ferguson, 2003). According to theories in information systems success, usability has been considered as an antecedent of user satisfaction (Cober et al., 2004; Davies, 1989; Dickinger & Stangl, 2013; Doll & Torkzadeh, 1988; Ehrhart et al., 2012). However, as many studies focus on e-commerce (Chen et al., 2002; Bell & Tang, 1998), measures specific to e-recruitment are still becoming streamlined. Ahn et al. (2007) and Hernandez et al. (2009) consider navigability as an important measure of website design. The ability to navigate a website has also been successfully transplanted into the e-recruitment context (Keramati & Salehi, 2013).

Studies of e-recruitment website success however seemingly fail to distinguish between two (2) separate usability processes: general information-gathering navigation and specific application process submission navigation. Focus group responses helped to elucidate this difference. Participants believed the PSC portal to be less advanced technologically, and having an interface with further reduced functionality after the July 19, 2013 facelift which will be discussed separately later. The process of submitting a job application was also not seen as being highly technologically advanced. Low levels of advancement reported for general navigability resulted in feelings of low enthusiasm and low intention to use, which is consistent with literature in person-organization fit (Ehrhart & Ziegert, 2005; Ehrhart et al., 2012). However, low levels of technological advancement for the specific application process resulted in positive fairness perceptions.

EFFECT OF CANDIDACY SUBMISSION CUSTOMIZATION ON FAIRNESS

The Gilliland (1993) formal characteristic procedural justice rule of consistency of administration states that perceptions of fairness will be positive if it is perceived that all applicants are provided with the same administrative procedures during personnel selection. The PSC portal has basic interactivity features or a 'low threshold of playfulness' (Leonard & Riemenschneider, 2008), and does not allow job applicants to customize their resumes outside of plain text format. Whereas customization has been proposed as an indicator of website success from e-commerce research (Cho & Fiorito, 2009; DeLone & McLean, 2004; Fan & Tsai, 2010) and supported as an antecedent to user satisfaction by Keramati and Salehi (2013) in the private-sector context, focus group participants considered the basic plain text interface as conducive to a high level of procedural fairness.

Focus group participants also believed that a plain text resume submitted for an employment opportunity would be evaluated more objectively than if more complex formatting and design elements were provided through the PSC portal. Several studies have been conducted to gauge decision-maker preferences of written candidacy

applications based on application appearance and formatting (Ross, 2005; Ryland & Rosen, 1987). Schramm & Dortch (1991) discovered that reviewers prioritize content and information relevance over typesetting and paper quality. Rogers (1979) however suggested that human resource professionals only have a limited time to browse through candidate resumes, arguing instead that attention should be spent on formatting and appearance. Harrick and Penrose (1975) propose that both content and style are important for effective job-search.

If the PSC portal allowed users to have greater control over formatting and typesetting customization, some focus group participants predicted that job-seekers who are less familiar with the technology would be left at a noticeable disadvantage. McManus and Ferguson (2003) showed that the factors of computer skill and computer anxiety affected candidate attitudes towards HRIS personnel selection process. It is important to remember, here, that the level of customization allowed on the portal is very low even to the extent that users cannot change character size or make words and phrases appear bolded or italicized. Nevertheless, reactions to these limitations did not indicate negative perceptions of fairness.

EFFECT OF AUTOMATED ERROR-PROOFING FUNCTIONALITY ON FAIRNESS

Despite devoting a significant amount of time to job-search, focus group participants admitted to making errors. More than one participant, for instance, had left their completed application in 'idling' (not submitted) mode for future correction and updating with the intent to submit before the posted deadline but ultimately forgetting to proceed with the submission. The PSC portal is programmed to automatically accept the completed application which would otherwise be automatically rejected due to user error. Fairness perceptions of this error-proofing strategy were highly positive. This finding is consistent with the Konradt et al. (2013) discovery that job-seekers reacted positively to form fields that automatically corrected for common mistakes. The Gilliland (1993) procedural justice rule of reconsideration opportunity is most relevant to this phenomenon as these designs in the HRIS provide applicants with a second chance to submit an application which otherwise may have resulted in feelings of disappointment.

Interestingly, the reconsideration opportunity rule (Gilliland, 1993) is forfeited in instances where matters of privacy and security take priority. The potential for identity theft and data compromised as a result of technological recruitment systems has been documented in the literature (Emigh, 2006; Eskola, 2012; Flowers et al., 2013; Stone et al., 2013). The PSC portal includes a built-in 'failsafe' mechanism which prevents users from backtracking through their navigation history browsing the website. Further, application fields are time-limited and will automatically abandon submitted data and force users out of their account if the time taken to enter text exceeds a designated threshold (usually 60 minutes). While focus group participants expressed some frustration with these cyber-security measures, this did not result in feelings of unfairness even upon data loss. Therefore, the reconsideration opportunity in technological systems can be contravened if this is done for legitimate purposes, such as user privacy and protection of personal information.

The PSC portal provides users with a listing of career opportunities for employment within the core public administration (CPA) of the Federal Government of Canada which includes the combined departments, ministries, and agencies listed under Schedule I and IV of the Financial Administration Act (Government of Canada, 2008b). PSC portal registered users may view details about vacancies in the CPA and apply to these using the portal interface. In addition, the PSC portal also provides a listing of available career opportunities in Canadian crown corporations and federal law enforcement agencies. Information about these positions is limited on the portal and interested candidates are referred to each hiring organization's individual website for the application process.

As a listing service, the PSC portal received high commendations from focus group participants. Respondents considered it efficient and time-saving to consolidate public-sector employment opportunities from a range of organizations, even if the actual application process resulted in user frustration by transferring job-seekers to the websites of organizations outside the jurisdiction of the Public Service Commission of Canada. This is in line with research demonstrating that more popular e-recruitment services provide users with a centralized listing of job opportunities from various locations and employers allowing for a seamless job-search (Llorens, 2011; Yoon Kin Tong & Sivanand, 2005).

One (1) focus group participant recounted her initial surprise at discovering that vacancies with local museums are also integrated into the PSC portal listing service. This is due to the fact that the largest two (2) museums in Canada's National Capital Region, the Museum of Civilization and the Canadian War Museum, are actually managed by the Canadian Museum of Civilization Corporation (CMCC), a federal crown corporation (Dyck, 2012, p. 354) eligible to list vacancies on the PSC portal. A similar reaction followed from a participant interested in a non-uniform administrative support position with the Royal Canadian Mounted Police (RCMP), Canada's federal law enforcement agency headquartered in Ottawa. Because the RCMP holds legal status as an agency of the Federal Government of Canada (d'Ombrain, 1999), non-uniform recruitment is conducted through the PSC portal. For both of these focus group participants, high centralization of public-sector career opportunities resulted in user satisfaction with the Public Service Commission of Canada's e-recruitment website. This can have direct fairness connotations considering how respondents reacted to vacancies absent from the system including parliamentary listings and the deferral of application process steps to individual hiring organization's websites.

Conspicuously absent from the PSC portal are employment opportunities in the Parliament of Canada. Discussion about this phenomenon was triggered in the focus group when an experienced job-seeker seeking a Legislative Assistant position shared an anecdote of applying for jobs with various Members of Parliament. These positions are not listed publicly and instead distributed through parliamentary mailing lists. She remarked; however, that external applicants can be considered and hired for these positions. Hiring processes differ for each Member of Parliament and there is no e-

recruitment service available to consolidate and manage vacancies. Outside of some volunteer and internship opportunities, job-seekers interested in these positions are encouraged by the Canadian Political Science Association (CPSA) to contact offices of interest personally and network in order to achieve success with an employment opportunity as a Legislative Assistant or comparable Parliamentary Assistant/Special Assistant (Grubka, 2005). Some focus group participants were unaware of what one (1) described as an “underground job market” for these parliamentary positions. Clarification was sought as to how, more specifically, these jobs are advertised and, more importantly, filled. The participant who originally shared her experience suggested that it required strong connections with Members’ offices and a background of demonstrated political support. Reactions were mixed with members acknowledging the obvious political connotations and logical need to hire like-minded staff with feelings of disappointment that there was no formal system for at least sharing vacancies with the general public. A lack of information appeared the most obvious violation of the Gilliland (1993) model, as users of the PSC portal would have liked to have details about these positions presented more overtly. Failure to do so was crystallized as a lack of transparency on behalf of the employer.

Focus group participants appreciated the centralization of CPA postings on the PSC portal. As described above, many were not satisfied with the need to proceed to a different e-recruitment website for the purposes of applying for positions with crown corporations. One (1) participant commented that requiring the creation of a profile on the PSC portal and then having applicants create new profiles on each crown corporation website was “unfair because it is a waste of time”. The Gilliland (1993) model, in conjunction with research by Cropanzano and Konovsky (1995), suggests that additional information about this drawback could have increased positive fairness perceptions.

Probing questions revealed that this job-seeker felt misled by a lack of information and quality of information provided to users of the PSC portal. This could be construed as a violation of the Gilliland (1993) procedural justice rule of selection information. Several job seekers had the experience of seeing vacancies of potential interest in the portal directory only to find out after being referred that they were not eligible for participation. This resulted in feelings of disappointment and frustration. It is thus possible to suggest that the design quality (Cyr, 2008; Leonard & Riemenschneider, 2008; Lin, 2007; McKnight et al., 2002) measure of information system success is uniquely impacted by a phenomenon of something akin to application process requirements.

EFFECT OF APPLICATION SUBMISSION REQUIREMENTS ON FAIRNESS

The PSC portal allows users to create a basic universal application profile including contact information, a generic resume, and official languages abilities, among other identifying information. However, only some of this information is used to automatically populate data into specific applications. Depending on the type of vacancy listed, users may be required to input additional information which can include answering one (1) or more work-related questions in accordance with a maximum character allowance. The amount of information required varies and can

range from no additional data required to several dozen questions requiring job-seekers to provide detailed and specific responses.

Focus group participants reported that, as a result, some job applications took an almost unreasonably long time to complete. Nelson (2004) explains that one of the motivating factors behind public-sector HRIS implementation and personnel selection automation is increasing hiring process speed and efficiency (p. 208). This goal has been noted elsewhere in the e-recruitment literature which emphasizes the capacity for HRIS to facilitate human resources management and unburden staff (Bondarouk & Ruel, 2012; Faliagka et al., 2012; Lafleur, 2008). Sheppard and Lewicki's (1987) research on managerial fairness was the first to identify timeliness as influential towards perceptions of fairness. Gilliland (1993) however incorporated the principal of timeliness into the procedural justice rule of feedback, arguing that feedback should be informative (Dodd, 1977) and provided in a reasonable amount of time. This refers to feedback provided to an applicant during the application process, however, and does not reflect time required to complete an application.

HRIS e-recruitment technology is complex and provides organizations with a high level of customization in programming application processes that meet their specific organizational requirements. Consider for example that the state government of New Jersey, through the New Jersey Civil Service Commission's Online Application System (OAS), requires almost all job-seekers to pay a 'processing fee' for each application submitted online (New Jersey Civil Service Commission, 2012, p. 25). Selection fairness perceptions research does not, however, consider in great detail application process duration or complexity. The Gilliland (1993) job-relatedness rule can fulfill some of these criteria; for instance, a processing fee may be considered unfair because it is a task required to complete the selection process but does not in any way reflect a candidate's aptitudes.

Previously it was argued that public-sector personnel selection can be more complex, require a greater commitment from job-seekers, and take place over a longer period of time than the private-sector job-search (Schleicher et al., 2006; Walker et al., 2008). Accordingly, a survey by the US Merit Systems Protection Board uncovered application length to be a concern area among prospective civil servants at the federal level (Fernandez, 2008, p. 17). Focus group participants in the present study shared interesting views concerning the relationship between perceptions of fairness and application process duration. Namely, their audible and visible dissatisfaction and frustration with an unsuccessful application result was exacerbated by application process duration. This phenomenon is virtually unexplored in the fairness perceptions literature and, despite being spurred by technology, similarly absent from the information systems success literature.

From the Gilliland (1993) model it is known that job-seekers will perceive of a selection measure as fair if it positively fulfills the criteria for perceived predictive validity (Smither et al., 1993). A physical test of strength and endurance is likely to be justified as job-related for applicants interested in a future law enforcement career but may be perceived of as unfair by prospective librarians. However, even selection instruments seen as job-relevant can induce varying degrees of fairness. Ryan et al. (1996) for

example found that 'typical' tests (those which accurately reflect future employment requirements) are considered more fair than 'maximization' tests (those which assess candidates on the best possible standard they can achieve). The focus group participants in the present study did not question the relevance of the additional questions appended to individual job postings, although they were doubtful that the overly long application forms could receive appropriate evaluation. But more importantly, their expectation of success was raised based on the degree of effort required to input all of the required data. This resulted in heightened disappointment and frustration upon failure which was compounded by communication of messages that appeared to have been auto-generated by a computer.

E-RECRUITMENT WEBSITE APPEARANCE

Studies have shown that the overall way personnel selection is administered and presented will influence candidate perceptions of the organization (Crant & Bateman, 1990; Premack & Wanous, 1985; Robertson & Smith, 1989; Rynes, 1991, 1993; Saks et al., 1995; Taylor & Bergmann, 1987; Turban, 2001). Pollitt (2008) suggested that the level of HRIS technological advancement will influence job-seekers perceptions of organizational innovation. Cober et al. (2004) propose that organizational website appearance and usability will influence users' attraction to the organization. Zusman and Landis (2002) found that visual appearance matters for attracting job-seekers to a prospective employer. HRIS e-recruitment has transformed job-search into an inherently sensory experience – websites have become advanced to the point of incorporating graphics, sounds, and visuals for communication and stimulation purposes (Cober et al., 2000; Johnson & Rubin, 2011; Maurer & Liu, 2007; Selden & Orenstein, 2011). Whereas early research on internet job-search highlighted the related technical limitations such as slow loading times limiting the application process (Feldman & Klaas, 2002), these have been greatly reduced with the advent of high-speed broadband internet access (Kolko, 2009) and more powerful home computer processors (Glassman, 2012). While information systems research has established the arguably important link between e-recruitment website design choices such as usability and appearance with candidate attitudes and reactions towards an organization, the present study suggests that these factors may carry fairness implications as well.

During the participant recruitment phase of this study in the Summer of 2013, the Public Service Commission of Canada substantially modified the visual appearance of its public job listing portal. This decision was highly unexpected and significant as every section of the website's façade (Zusman & Landis, 2002) had been transformed to match the new government-wide online presence of the Government of Canada. The Treasury Board of Canada Secretariat launched the Standard on Web Interoperability on July 01, 2012 to replace the previous Common Look and Feel (CLF) 2.0 Standard for the purposes of providing users with a standardized and consistent browsing experience (Government of Canada, 2013c). The PSC portal had previously experienced changes, though its current appearance is markedly different from earlier versions. Some of the major modifications are summarized in the table below:




<u>DATE</u>	<u>HIGHLIGHT OF MODIFICATIONS</u>
December 11, 2008 	<ul style="list-style-type: none"> • Grey header displaying employees undertaking a project and parliament buildings in relief on homepage • Some green highlights on homepage • Main options available from left-hand vertical pane • Some highlights and features on center and right of screen
January 28, 2010 	<ul style="list-style-type: none"> • Strong green-colored themes and accents; overly bright • Images of employees cycled on home page; usually minorities in non-stereotypical roles (example: dark-skinned female executive, businessman wearing a turban, etc.) • Strong visual emphasis on student and graduate recruitment (photos of graduates holding diplomas, etc) • Main options available from left-hand vertical pane • Featured job section with accompanying images
July 19, 2013 	<ul style="list-style-type: none"> • Blue background and header with large center-positioned maple leaf • No images of people, animals, or objects • Main options distilled into downward-expanding minimal menu choices displayed on an upper horizontal pane • Removed from previous: cycled feature job, numerical listing of available jobs • Personal customization options available in brown box on right, includes social media/web 2.0 hyperlinks

Table 9. PSC portal version updates over years 2008-2013 (homepage)

It is important to note that although the visual appearance of the PSC portal was overhauled, much of the usage characteristics including application submission process remain consistent with previous versions. Further, given that the visual changes were implemented close to the time of participant recruitment, focus group members initially thought the present study was going to focus on gathering user opinions of the website's updated appearance. For this reason, participants initially directed discussion towards changes in the website's façade (Zusman & Landis, 2002).

The most immediately noticeable change recognized by participants in both focus groups was the replacement of the preceding version's bright and expressive light green color scheme with a more streamlined dark blue conservative design. Some literature has explained drab public-sector website design as a necessary drawback required to fulfill demanding accessibility legislation and ensure inclusion of users with

alternate needs (Hong et al., 2008). Rubaii-Barrett and Wise (2008) contend that certain presentations of website text and graphics are incompatible with assistive technologies including screen reading devices for the visually impaired. Indeed, the new PSC portal emphasizes a plain text-on-background design that appears to fulfill these requirements.

The focus group participants commented on the updated PSC portal design by arguing that it reflected the 'style' of government. One (1) participant described the website by using the informal adjective "government-y" with which the other group members agreed. Research has shown that information quality is prioritized over visual presentation by users of professional websites (Cober et al., 2005; Stone et al., 2005). Cox and Dale (2001) argue that the color selected by an organization for its website scheme reflects its corporate personality and is indicative of its talent management approach. Kaisara and Pather (2011) explain that government websites usually prefer an understated color scheme for the purposes of augmenting a professional and trustworthy public image: "whereas commercial websites might use an extensive variety of colors, e-Government websites could limit the use of colors to the standard national colors so as to enhance the official look and feel of the website" (p. 217). Elling et al. (2007) argue that the reputation for public-sector website aesthetic conservatism is based on the benchmarks users employ in comparing e-government visuals to other unrelated websites on the internet that are more invested towards strong aesthetic appeal. Wang and Chen (2012) acknowledged the public-sector reputation for having "uninteresting" website design characteristics, but found in a study of e-government website success that this did not dissuade from usage as long as website content was appropriate. Their finding is in alignment with the present study as focus group participants did not experience reduced desire to search for public-sector employment opportunities elsewhere, likely because the PSC portal is the most logical choice given that it consolidates the search and application processes.

REMOVAL OF MULTICULTURAL IMAGERY

The January 28, 2010 revision introduced a significant amount of visual changes to the PSC portal. Most notable among these was the inclusion of photographs portraying multicultural and diverse government employees. Research has been conducted in order to study the impact of e-recruitment websites multicultural and diverse visualizations on job-seekers (Avery et al., 2004; Jack Walker et al., 2011; McKay & Avery, 2005; Ryan et al., 2000; Stevens et al., 2008). Research has also shown that visual portrayals of diversity will yield stronger opinions and attitudes from minority users (Avery, 2003; Avery et al., 2004; Goldberg & Allen, 2008). Given the pronounced diversity in both focus groups and recent revision of the PSC portal, the participants were asked to provide insight on the removal of all visualizations promoting public-sector workforce multiculturalism and diversity.

Attracting a diverse workforce is a priority area for the Federal Government of Canada (Government of Canada, 2012c). Studies have shown that organizations in both the private- and public-sector aim to attract a diverse workforce through their personnel selection strategies (Bakan & Kobayashi, 2007; Mogadime, 2007; Rivera, 2012;

Goldberg & Allen, 2008). The Federal Government of Canada prioritizes hiring for members of any four (4) designated groups including Aboriginals, visible minorities, women, and the disabled (Government of Canada, 2011e). Given that personnel selection represents one of the earliest instances wherein a potential future employee builds his or her opinion of the organization (Rynes, 1991, 1993) and that this now occurs through technology as an intermediary (Cober et al., 2004), it is important to consider how portrayals of diversity impact job-seekers.

Website images and visuals have been proven to shape user opinions and perceptions (Dolmaya, 2010). While some studies have shown that diversity-oriented imagery increases organizational attraction for minority job-seekers (Avery et al., 2004; Walker et al., 2012), other research has countered by discovering that portrayals of multiculturalism and diversity on e-recruitment websites do not necessarily lead to positive affective reactions (McKay & Avery, 2005; Ryan et al., 2000). Studies have also shown that the images portrayed by an e-recruitment website can influence candidate attraction through portrayals of person-environment or person-organization fit (Dineen et al., 2002; Ehrhart et al., 2012). Cober et al. (2000) showed that messages communicated visually can have a more memorable effect on visitors' reactions than the same messages communicated using conventional text. Walker et al. (2012) demonstrated that minority users showed preferences for websites incorporating multicultural and diverse images and that they had an easier time recalling information from websites with visual portrayals of minority employees. Accordingly, both private- and public-sector organizations have attempted to incorporate images, visuals, graphics, and text to promote a more multicultural and diverse image (Singh & Point, 2004).

The focus group participants were familiar with the previous versions of the PSC portal and had used the pre-facelift version extensively months prior to the study. The effect of multicultural and diversity images on person-environment fit is less relevant here because all of the group members already identified as having strong inclinations towards a public-service career. However, the removal of diversity-oriented visuals was not met with negative reactions, unwillingness to continue pursuing employment with the government, or perceptions of unfairness. Some focus group participants, in fact, supported the removal of the visuals as being more "respectful" on the basis that the previous characterizations of multiculturalism appeared disingenuous.

Immediate user reactions to website visual portrayals of diversity can lead to negative perceptions and even to considerations of unfairness. Using examples from actual European corporate websites, Singh and Point (2004) explain that projections of diversity can be perceived negatively by users in instances where images of workers conform to group stereotypes or where photos, despite showing diversity, retain unequal power and gender norms. Rubaii-Barrett and Wise (2008) contend that the same is true for public-sector e-recruitment diversity initiatives. Moreover, some argue that portraying diversity appropriately is especially critical in the public-sector context because official government websites are effectively 'symbols' of governmental values (La Porte et al., 2002).

In the case of multiculturalism and diversity portrayals on the PSC portal, focus group participants found pre-facelift worker characterizations to be insincere. Being active job-seekers with experience interacting with public-sector HRIS technology for job-search purposes, they were familiar with the governmental diversity-oriented hiring and employment equity. Several participants agreed that the multicultural and diverse images were present only to promote compliance with these mandates and not to authentically support minority workers. For some participants, removal of the images was met with positive reactions and indifference for others. Due to its age, the Gilliland (1993) model of fairness perceptions obviously does not specifically include criteria for interaction with e-recruitment website visual appearance. The Dineen et al. (2004) construct of "trust" may be suitable to contextualize this gap. Chiu et al. (2009) also suggested measuring website effectiveness via information system success theory with the construct of "trust". However, these authors consider "trust" in terms of the level of trust placed by users in the integrity of a website; in the case of Dineen et al., (2004), this would reflect trust in HRIS capacity to accurately and efficiently screen applications during a selection process. While this is a valid dimension of trust, it does not fully encapsulate the overall interactive experience users have with e-recruitment websites.

SOCIAL MEDIA AND PORTRAYAL OF PERSON-ENVIRONMENT/PERSON-ORGANIZATION FIT

Ehrhart et al. (2012) proved that younger so-called 'millennial' job-seekers will be attracted to organizations whose websites portray values appealing to them such as competitive work-life balance. Social media has been used increasingly for recruitment and talent-search by organizations seeking to promote innovation and attract a new generation of skilled workers (Bolton et al., 2013; Slovinsky & Ross, 2012; Smith & Kidder, 2010). In a rare study of social media fairness perceptions, Madera (2012) discovered that job-seekers had lower perceptions of fairness for organizations with a stronger social media presence based on violation of the job-relatedness (Gilliland, 1993) procedural justice rule. The present study discovered that how social media is used by employers will also impact fairness perceptions.

The PSC portal provides users with the option of synching information with a popular micro-blogging online social networking service. Despite critiques accusing such online services as being frivolous, governments and news agencies around the globe have steadily been making a presence for themselves using these tools (Arceneaux & Weiss, 2010, Chi & Yang, 2011). The hyperlink for the micro-blogging service is featured prominently beside users' log-in information screen. Users who click on it are taken to a disclaimer section of the PSC portal advocating the third-party nature of the service, likely in compliance with accessibility restrictions. None of the focus group participants reported using this social media tool in their active job-search.

The problem with the micro-blogging service, according to one (1) participant who had tried using it, was that it re-lists job opportunities as they are posted without any filtering or updates. The result, she stated, was a disorganized and convoluted database of active and expired job postings duplicating what the official PSC portal already provides except without the same coherent presentation. An experienced

professional focus group participant claimed to have once tried the service out of curiosity, but did not proceed given a lack of clear instructions on how to enable this functionality. Based on the DeLone and McLean (1992, 2003) model of information system success, the micro-blogging service appeared to fail in the domains of information and system quality.

The PSC portal's inclusion of third-party micro-blogging capabilities was seen with general indifference by the focus group participants regardless of age. At most, some participants questioned the need for a service that provided the same information offered by the portal itself except without any customization or organization. Interestingly, younger job-seekers did not demonstrate attraction towards the use of social media technology. One (1) participant argued that the PSC portal incorporated the tool because it was "trendy right now", with a fellow group member adding that its implementation was something akin to an "afterthought". While the fairness perceptions implications of these findings are limited, they do show that job-seekers pay considerable attention to the messages e-recruitment websites attempt to portray to their users both directly and indirectly. The Federal Government of Canada has made considerable investments in promoting and using social media technologies (Government of Canada, 2013). Their effective use is discussed later given the related policy implications.

REMOVAL OF VACANCY COUNTER

In general, the revisions introduced to the PSC portal simplified its layout and content. On the homepage of the pre-facelift version, an automated counter listed the number of vacant positions open to applicants. One (1) focus group participant noticed that this functionality had been removed during the update process. This participant perceived the removal of the automated counter as a strategic decision by the e-recruitment administrators to conceal the fact that the availability of external job advertisements had been reduced. The Federal Government of Canada was, at the time of the present study, experiencing an overall climate of fiscal restraint affecting the availability of employment opportunities. Many departments and agencies were adjusting the size of their workforce or considering adjusting the size of their workforce under the Workforce Adjustment Directive (Government of Canada, 2012d). Stoney and Krawchenko (2012) provide an overview of the Federal Government of Canada's Economic Action Plan stimulus program which readers are encouraged to consult in order to become better familiarized with budgetary restraint measures and public-sector spending reductions.

The sole participant's recognition of the modification and subsequent explanation resulted in an interesting group dynamic. Remaining participants had themselves not recognized the change but conceded that its removal appeared unnecessary and without cause. The focus group member who originally recognized the missing counter stated feeling disappointed and discouraged by what he deemed as misleading and an attempt to "cover up" what was perceived of as wide-scale hiring reductions. The Gilliland (1993) procedural justice rule of honesty could be used to explain these reactions.

The importance of honest and forthright treatment was originally proposed by Bies and Moag (1986) in their interactional justice framework. Recall also the distinction between interpersonal interactional justice which concerns the way applicants are treated by officials and informational interactional justice which reflects the completeness and integrity of explanations provided (Bies, 2001; Cropanzano & Randall, 1993; Patient & Skarlicki, 2010; Zapata et al., 2013). As e-recruitment has placed the responsibility of communication more strongly on the information quality of websites (DeLone and McLean, 1992, 2003, 2004); job-seekers have more opportunity to encounter instances wherein informational interactional justice is compromised as a result of potentially misleading or incomplete provision of information regarding a selection process.

Gilliland's (1993) model distinguishes between honesty and selection information under the broader dimension of explanation. Honesty is thus considered more strongly in the interpersonal sense, that is; "interviewer correctness, sincerity, and believability are strong predictors of affect toward reactions to the interview" (p. 707). Selection information is used to refer to justifications for selection measures and outcomes, in line with research conducted by Bies and Shapiro (1988). It is also important to remember that job listings for available vacancies were relegated to work centers and public job billboards (Llorens & Kellough, 2007) before the advent of the internet greatly reducing the influence of informational interactional justice. Llorens (2011) noted the profound changes e-recruitment introduced on public-sector personnel selection, finding that HRIS technology greatly reduced or outright eliminated many previously interpersonal job-search activities: "In the case of the federal government, agencies simply posted vacancy information on job boards located in federal buildings and later transitioned to the use of job kiosks" (p. 412). Outsourcing the hiring process to firms specializing in public-sector selection was also a popular option for employers, as was disseminating information through networks and professional associations (Shiplacoff, 1999). Resumes were generally mailed to human resources departments or organizational representatives through the post, questions were answered over the phone, and the practice of hand-delivery and employer visitation was not uncommon.

INTERPERSONAL EXPERIENCES AND INTERACTIONS

The DeLone and McLean (2003) revised information system success model introduces service quality to account for the treatment users receive when asking questions, seeking clarifications, or requesting technical assistance. It has been proposed that the perceived level of service quality will influence user satisfaction when interacting with an information system, including for websites (Barnes & Vidgen, 2002; DeLone & McLean, 2004; Kaisara & Pather, 2011). Information system service quality measures have been proposed by researchers for a variety of website types (Parasuraman et al., 2005; Zeithaml et al., 2002). Gilliland (1993) incorporated three (3) interpersonal treatment constructs in his model. Konradt et al. (2013) legitimized the propriety of questions rule in their quantitative study of e-recruitment fairness perceptions. The present study sought to discover how HRIS e-recruitment technology

influenced the job-seekers' fairness perceptions during instances requiring interpersonal communication with governmental representatives.

E-MAIL COMMUNICATION

Harris (2006) argues that internet-based evaluation tools and application procedures rightfully eliminate two-way communication as a legitimate indicator of applicant reactions. The argument put forth is that users interact with a computer and as such the type of communication experienced is different by definition from face-to-face two-way communication (Gilliland, 1993). Focus group participants were asked to recall any situations where they sought to communicate with representatives and how they perceived of these interactions from a perspective of fairness. It should again be reiterated that perceptions of auto-generated e-mail messages were generally unfavorable. Feelings of dissatisfaction were strongest when candidates received auto-generated messages informing of unsuccessful progress in a competition. This reflects the Gilliland (1993) explanation category rule of feedback and suggests that fairness may be protected if negative outcomes include specific and personalized justifications for rejection.

Focus group participants had positive perceptions related to options for contacting Public Service Commission representatives. One (1) particularly interesting comment related to the preference for direct e-mails rather than embedded feedback forms. The PSC portal provides traditional, direct e-mail addresses to users in addition to a general fill-in feedback form. Some research in e-governance has addressed issues of user feedback and interactivity. In a study of corporate relations websites in Israel, Avidar (2011) found that official websites generally provide users with traditional contact mechanisms including e-mail and feedback form fields, but did not distinguish between the two (2) methods. Gauld et al. (2009) conducted a comparative study between Australia and New Zealand on e-government website responsiveness and discovered similarly that most official websites allow user feedback via e-mail or feedback form fields. Similar to their Israeli counterparts, Gauld and colleagues (2009) combine both methodologies to formulate the criterion of "e-contactability". A study on state government website interactivity by Ferber et al. (2005) did find that listed e-mail contact information scored substantially higher (42 to 11) than feedback form fields in terms of user preference. A comparative longitudinal study by Shi (2006) found that despite user preference for e-mail contact information provided over an e-government portal, actual user satisfaction results from the quality and responsiveness of e-mail interaction rather than just e-mail address provision: "when citizens send e-mails to this email address, they may never get a reply. This is even worse than if no e-mail contact information were provided" (p. 384). Focus group participants in the present study claimed to feel apprehensive in using feedback form fields on other websites.

The provision of a traditional e-mail for contact purposes by the Public Service Commission of Canada was preferred by some focus group candidates for several reasons. Firstly, it enabled them to keep a record of when information had been sent that could be referred to in the future. Secondly, personal e-mail communication was

considered more protective of user privacy. This was due to some feedback form fields requiring input of personal information in order to initiate contact. Finally, personal e-mail was considered as a dialogue between employer and job-seeker as opposed to job-seeker and machine. Some feedback form fields allow operators to reply, but prevent users from asking a follow-up question via e-mail instead forcing them to use the form again. This factor is in line with the Gilliland (1993) interpersonal treatment rule of two-way communication, which was found to apply to instances of technologically-mediated communication.

Because of its age, the Gilliland (1993) model obviously does not account for communication over technologically-assisted means. However, Konradt et al. (2013) discuss the applicability of the two-way communication rule (Gilliland, 1993) to HRIS e-recruitment personnel selection arguing that discourses through e-mail do not require a separate interactional justice fairness rule or category: "As there is no interpersonal communication in Web-based settings, we propose that the manners in which applicants are addressed in emails and during the Web-based selection procedure is related to perceptions of process fairness" (p. 159). Focus group participants who had used the provided e-mail(s) to inquire about specific hiring processes or request information of a more general nature from the Public Service Commission representatives reported having positive experiences they perceived of as fair. E-mails were replied to in a timely fashion, usually within 24 hours. This is in line with website information system success measures of service quality responsiveness and timeliness (Liu & Arnett, 2000; Keramati & Salehi, 2013). Further, language of the e-mails was professional and courteous, and information provided to the job-seekers was accurate. In instances where the Public Service Commission was unable to furnish a response, participants reported to have been provided with alternate solutions to their queries. One (1) participant who provided their telephone number received a call within the same day from a Public Service Commission representative who they interpreted as taking their request seriously: "They do a good job, I can't complain" she remarked, to the agreement of her fellow group members.

Focus group participants' recollection of having been treated with courtesy and respect during communication with Public Service Commission representatives suggests that e-recruitment portal users value overall professionalism in e-mail interactions even with anonymous contacts. This legitimizes the Gilliland (1993) interpersonal effectiveness of administrator procedural justice rule. Gilliland (1993) originally developed this rule as strictly indicative of interpersonal or face-to-face communication during, for instance, the job interview. Research has indicated the importance of respectful behavior and polite treatment of job applicants on behalf of interviewers (Carless & Imber, 2007; Hellwig, 1992; Larsen & Phillips, 2002). Gilliland (1995) confirmed that job-seekers participating in a job interview will express strong reactions to how they are treated on behalf of the interviewer: "the interpersonal treatment an applicant receives during an interview appears to have a substantial impact on applicant reactions" (p. 16). Studies have also proven that interviewee perceptions of treatment during the interview process based on interviewer behaviors will influence perceptions of the organization as a future workplace (Lievens et al., 2007). However, it is not unreasonable to assume based on the reactions of focus group participants that job-seeker treatment during e-mail correspondence over the course of the job-search process impacts fairness

perceptions based on the interpersonal effectiveness of administrator rule. Some responses, like body language, obviously cannot be accounted for but the tone, professionalism, structure, and respect inherent in the written messages sent in reply to applicants continues to matter in an e-recruitment context.

The PSC portal enables users to ask questions or provide feedback using several different options besides e-mail. This includes a conventional feedback form as well as a comprehensive telephone directory and addresses of local Public Service Commission offices. Focus group participants responded very favorably to the provision of this information and believed that it helped maintain fairness and transparency. Users also appreciated automated advanced warnings of system downtime. The PSC website occasionally goes offline or shuts down certain functions, for instance, the ability to log-in or submit an application. Focus group participants found that in addition to the provision of advanced notifications of interruptions, maintenance periods were usually scheduled during days and times where interference would be minimal. The group agreed that despite reading many such notifications, they were only very rarely confronted with technical limitations or glitches which otherwise could have caused frustration.

E-RECRUITMENT AND PREFERENTIAL HIRING FAIRNESS PERCEPTIONS

SELF-DECLARATION

The Canadian Employment Equity Act (1995) sets out regulations to actively promote representation of minorities in the private- and public-sector. Part 1, Section 5 of the Employment Equity Act (1995) forms the basis for Public Service Commission of Canada job-seeker self-declaration of membership in one (1) of the four (4) designated employment equity groups as per Section 3 of the Employment Equity Act (1995). Self-declaration is the phrase used by the Public Service Commission of Canada to denote job applicants who voluntarily identify as a member of one (1) of the four (4) designated groups during the selection process, while self-identification is used to refer to public-service employees who choose to identify as a member during their time of employment irrespective of a selection process (Government of Canada, 2011f). Fairness perceptions research concerning preferential hiring has led to mixed results regarding job-seeker attitudes towards these programs. As discussed earlier, some research discovered that preferential hiring policies were considered unfair by applicants due to the possibility of resulting in future stigmatization (Heilman et al., 1992) and reduced self-esteem (Heilman, 1993; Heilman et al., 1991). Slaughter et al. (2005) proposed that preferential hiring schemes may, in fact, be perceived of as unfair due to violation of the consistency of administration procedural justice rule (Gilliland, 1993). Unfavorable attitudes of preferential hiring on the basis of principal as supporting inequality were echoed by Cropanzano & Wright (2003). Researchers elsewhere have suggested that attitudes towards preferential hiring programs will be based on whether hiring processes place greater emphasis on minority status rather than candidate competence (Kravitz, 1995; Kravitz & Platania, 1993). Other authors concluded that preferential hiring policies can result in positive candidate perceptions including increased organizational attraction (Avery et al., 2004). Studies have also proven that

minority candidates will have more positive opinions of selection tests during processes implicating preferential hiring policies. (Ryan et al., 1997; Schmit & Ryan, 1997).

In the focus group of the present study, discussions of preferential hiring and employment equity were considered only towards the final semi-structured interviews. This was strategically determined in order to foster a more authentic dialogue in adherence to qualitative interviewing methodology which suggests that after having several discussions together the group members would feel greater comfort sharing thoughts on a more sensitive topic (Adler & Adler, 2002; Seidman, 1991; Suzuki et al., 2007). One (1) male focus group participant of African descent actively vocalized dissatisfaction with the PSC portal preferential hiring system. He explained that he chose not to self-declare on job applications because this could allow managers to easily disregard his application if they practiced discrimination against minority job-seekers. Further, he questioned the relevance of identifying his ethnic background with respect to the type of employment he was seeking. Thus, for this participant, preferential hiring was considered in terms of unfairness because it violated the Gilliland (1993) procedural justice rule of job-relatedness. Stone et al. (2013) do claim that in many cases organizational segregation of voluntary minority self-reporting status and applicant job-related data is unclear leading to the possibility of a perceived violation of the job-relatedness construct: "many organizations don't disaggregate demographic data from other types of data that are stored in their electronic systems. This may lead applicants to perceive that data that are unrelated to job qualifications [...] will be used to make hiring decisions" (p. 55). The conspiratorial idea that self-declaration through an e-recruitment portal may in fact facilitate discrimination has not been explored in the scholarly literature.

Research has been conducted, however, on the effect of employer preferences for pre-selection candidate racial profiling (Becker, 1971; Phelps, 1972). This could be used to inform some of the antecedents of perceptions on behalf of applicants that preferential hiring systems could be abused and, instead of promoting equality in the workplace, facilitate further discrimination. Early findings in psychology demonstrated that individuals are attracted to people with whom they share similar characteristics (Byrne, 1969), including in a professional workplace environment (DiMarco, 1978). Research has also proven that more common names are met with more positive and favorable attitudes than lesser-known or foreign-sounding names in a variety of contexts (Mehrabian, 1992, 2001; Widner & Chicoine, 2011). Bertrand and Mullainathan (2004) showed that job-seekers with traditional African names were less likely to be contacted for an interview than job-seekers with common names despite identical resume content and presentation. The steps of the modern hiring process, despite occurring under non-discrimination laws and policies, have been found to collect and communicate a variety of information that could in theory be used to discriminate against job applicants (Varma et al., 2006). The focus group participant's concern that self-declaration of designated status could facilitate discriminatory practices was therefore not necessarily unreasonable. Accordingly, he claimed to have developed the opinion from years of personal experience.

The discussion on preferential hiring and a potential for discriminatory practices sparked an interesting and fierce focus group discussion. Leading from the viewpoints

of the young black job-seeker who chose not to self-declare on job applications for his dream career with a major Canadian federal agency, an African-American female participant argued that the online self-declaration system undermined her racial and personal identity. She claimed feeling uncomfortable with her "blackness being reduced to pushing a button on a screen". This claim is relevant to research in HRIS e-recruitment fairness perceptions because it was not the broader preferential hiring policy that caused feelings of discomfort but rather the perceived oversimplification of racial identity expressed through technologically-mediated interaction. Her reaction was directly related to how the PSC portal collects the information and the perceived unfairness related most appropriately to the Gilliland (1993) propriety of questions procedural justice rule.

Critical research has identified a tendency in human resources and broader industrial/organizational psychology to promote homogeneity of racial sub-groups (Thomas et al., 1998). Nkomo (1992) showed that there are sub-group differences in various employee attitudes within an organizational context. Slaughter et al. (2002) posited that minority job-seekers will have substantially different attitudes towards preferential hiring systems and policies based on prior experiences and incidents of discrimination, harassment, or inappropriate workplace treatment. Writing from a Canadian perspective, Ng and Burke (2004) use sociocultural theory (Hofstede, 1983) to consider the influence of ethnicity and culture on applicant attitudes towards preferential hiring systems. The authors' findings showed that, despite being targeted for discrimination and unfair treatment, minority respondents' cultural values led to unfavorable opinions of preferential hiring (Ng & Burke, 2004). Sparse research has otherwise been conducted on the influence of HRIS e-recruitment on candidate perceptions of preferential hiring programs and policies. However, the thought-provoking reaction of feeling undermined when interacting with technologically-mediated job application was a noteworthy and unexpected resulting meriting additional future inquiry.

PREFERENTIAL HIRING PROGRAM ADMINISTRATION

Focus group participants also expressed feelings of unfairness with respect to the administration of positive preferential hiring schemes. Specifically, one (1) respondent questioned why a major Canadian department concerned with finance initiated a large-scale recruitment program targeted specifically towards Aboriginals but not towards members of visible minority groups. Another respondent provided additional feedback building upon this comment, explaining that it was unclear why some departments have routine large-scale preferential hiring recruitment initiatives while departments of similar or larger size do not. This apparent inconsistency was met with clear perceptions of unfairness. A prompting question was asked to determine how the portal could be improved to increase procedural fairness. It was suggested that a "reason" should be provided to account for vagrancies among the programs.

Further supporting the importance of the Gilliland (1993) fairness dimension of explanation, the lack of clarity surrounding inconsistency in preferential hiring program administration appeared to constitute a violation of the selection information rule. In

addition, because the program did not target all of the four (4) designated priority hiring groups, the consistency of administration (Gilliland, 1993) rule was also jeopardized. Noticeable feelings of unfairness may have been increased because the program was designed with the intention of promoting equal opportunity hiring. This can be related to dissatisfaction with the e-recruitment website on the basis of insufficient information quality as per the DeLone and McLean (1992, 2003) information system success model.

Selection information in the Gilliland (1993) fairness perceptions model includes information provided to job-seekers during the selection process (Arvey & Sackett, 1993; Sitkin & Bies, 1993) and clarifications and reasons after a decision is made (Bies & Shapiro, 1988). The provision of information in the first instance; that is, during a selection process, is compounded by the reliance on technology in communicating information to job-seekers through selection websites. Whereas Konradt et al. (2013) acknowledge that online communication modes change the dynamic of interpersonal treatment but do not circumvent its theoretical applicability, the authors do not make the same observation for Gilliland's (1993) explanatory dimensions. In other words, there is an expectation that information provided over e-recruitment websites should have an especially high level of accuracy (Liu et al., 2007; Liu & Arnett, 2000) because this information is largely self-sustained. The responsibility on interpretation is placed upon users who are deferred responsibility to read and understand information provided.

Throughout the present research, the holistic nature of the Gilliland (1993) model was discussed in reference to the author's own conceptualizations as well as further research conducted by Cropanzano and Konovsky (1995). That is, overall procedural fairness may be defended despite the violation of one (1) rule provided that the remaining justice rules are reinforced. Thus, even job-seekers who are predisposed to considering preferential hiring systems negatively may have increased perceptions of fairness provided that thorough explanations are given on the e-recruitment portal administering the program and that the program is applied consistently across users and organizations.

PREFERENTIAL HIRING OUTCOMES

Some participants in the focus group admitted to personally using preferential hiring systems by self-declaring themselves as part of a designated employment equity group. These participants reported feeling that their efforts did not result in increased levels of job-search success. An interesting group dynamic resulted in that group members who were originally outright against the system used their peers' anecdotal evidence to back-up their own beliefs and opinions about its effectiveness. The focus group participants who attempted to take advantage of the Federal Government of Canada's e-recruitment preferential hiring system but failed to see increases in job-search success reported feeling disappointed but also frustrated that additional information was not provided regarding how self-declaration affected hiring process decisions.

The Gilliland (1993) procedural justice category of explanation was again violated due to perceived insufficient provision of selection information. Williamson et al. (2008) confirmed that the explanations provided to applicants will impact attitudes and acceptance towards preferential hiring systems. The Walker et al. (2012) study which supported the relationship between visual portrayals of organizational diversity and organizational attractiveness also confirmed that minority job-seekers had more positive reactions towards e-recruitment websites that included information on diversity-oriented practices. Slaughter et al. (2005) suggest that candidates pay more attention to diversity-related information and explanations rather than the names ascribed to preferential hiring systems. Focus group participants in the present study were also unsure whether the self-declaration information collected was simultaneously used for demographics purposes and preferential hiring purposes, one or the other, or whether there was an option to choose one but opt out of the other. Here, the provision of a more detailed explanation of selection information as per the Gilliland (1993) model would have provided additional clarity and contributed to greater perceptions of process fairness.

USER PRIVACY AND TRUST

Website success research based on information system success theory (DeLone & McLean, 1992, 2003) has recognized privacy as a variable influencing user satisfaction (DeLone & McLean, 2004; Liu & Arnett, 2000). Privacy in this area is generally relegated to being a construct of system quality (Friedman et al., 2000; Molla & Licker, 2001; Palmer, 2002). Keramati & Salehi (2013) also identified privacy as a construct of e-recruitment system quality but discovered in their study that it was the least influential determinant of website success in this category. In e-commerce, online shopping, and business-to-consumer website environments, studies have shown that system-integrated measures to protect user privacy impact satisfaction and willingness to use the service (Belanger et al., 2002; Chen et al., 2013; Cho & Fiorito, 2009; Dinev & Hart, 2006; Kuan et al., 2005; Lightner, 2003; Pavlou, 2003; Petre et al., 2006; Zhang & Von Dran, 2002). Privacy has also been considered as an antecedent of user satisfaction in interaction with e-government information systems (Hung et al., 2013; Parent et al., 2005; Shareef et al., 2008, 2011). Edmiston (2003) considers privacy as one of the factors which, if jeopardized, will result in decreased intention to use e-government information portals. Smith (2010) argues that integrity of digital security systems is of particular importance in affecting user satisfaction specifically within a public-sector website environment.

Some studies in the field of fairness perceptions have also taken privacy during the selection process as a salient area of research (Lievens & Harris, 2003). Harris et al. (2003) conducted a cross-cultural comparison attempting to determine whether privacy concerns had an impact on user apprehension to submit job applications over an HRIS e-recruitment system. In the cases of both the United States and Belgium, the authors discovered that participants were generally indifferent with respect to privacy: "[...] on average, respondents were certainly not opposed to supplying employment-related information over the Internet" (2003, p. 234). Harris et al. (2003) found that concerns arose with the possibility of technical malfunctions and user inexperience interacting with computer application systems. The authors also cited the Sinar and

Reynolds (2001) published conference proceedings indicating that the overall system quality level and robustness of the website would influence privacy concerns, which were also not shown to be significant determinants of fairness by the authors.

Perhaps the most relevant research of concern here is the earlier-discussed Bauer et al. (2006) study which determined in a public-sector context that perceived privacy violations could lead to job-seeker perceptions of unfairness. The authors' adopted the Gilliland (1993) model and discovered in full alignment with its rule-outcome structure that privacy implications affected candidate attitudes towards the organization concluding that "organizations should look for ways to bolster applicants' perceptions that the online hiring process is secure" (2006, p. 616). Focus group participants in the present study were asked to share their general thoughts and attitudes towards privacy along the various stages of interacting with the PSC portal.

APPLICANT IDENTIFIER AND ANONYMITY

Konradt et al. (2013) discussed privacy and fairness in e-recruitment technology to a certain degree, suggesting that perceptions of unfairness may arise if job-seekers are required to input responses to questions which they consider as violating personal privacy. Originally, the PSC portal provided new registrants with a unique alphanumeric identifier that followed them throughout the application process. Within the past two (2) years, the Public Service Commission of Canada modified this process. The unique identifier is still assigned; however, its scale of importance has been greatly diminished.

A major change on the PSC portal now requires users to log-in using the personal e-mail address used during registration. This change took effect in January 2011. Job-seekers who had registered on the PSC portal prior to this date were required to manually retrofit their accounts to work with a valid e-mail address otherwise risk deletion of their accounts. One (1) focus group participant initiated a discussion about this change, arguing a strong preference towards the use of an alphanumeric identifier. Because the identifier did not in any way link participants with applications, he believed it was more appropriate for maintaining privacy through submission anonymity.

Demand for anonymity in resume screening for public-sector hiring processes is not an unprecedented phenomenon; some European countries have in fact been experimenting with fully blind resume screening for government positions (Boo et al., 2013). Earlier research has studied the feasibility and value-added of anonymous evaluation in a variety of professional and academic applications (Goldin and Rouse, 2000; Fershtman et al., 2005). It is also not surprising that this opinion was elucidated by a minority participant, as Jacquemet and Yannelis (2012) recently discovered that African-American job-seekers are more likely to have their resumes discarded than their white counterparts on the basis of racial identification by name.

It is important to note that even if the Public Service Commission retained the alphanumeric identification for applications, user e-mails are still made available to reviewers and resume evaluation is by no means blind, nor does it claim to be. After initial screening is conducted on behalf of the Public Service Commission system,

selected candidate applications including resumes and associated contact information are forwarded to human resources personnel and hiring managers in the individual Federal Government of Canada department or agency wherein the selection process takes place (Government of Canada, 2011g). The focus group participant's concern resulted in an interesting group dynamic as other members shared their counter-opinion that the responsibility for including private contact information belongs to individual users. That is, if he was so concerned about discrimination based on his e-mail containing his name and last two digits of his birth year, "why didn't you just create a separate e-mail?" His response was that he had several applications already idling and that changing contact information mid-process might lead to a call-back message being missed or forwarded to the wrong place.

The participant's concern over the possibility of compromised private information showed that perceptions of privacy could be strengthened through something as simple as the illusion of anonymity. Dineen et al. (2004) suggested that job-seekers may not be thoroughly knowledgeable about the methods and criteria used to evaluate applications beyond the HRIS e-recruitment interface. In this case, the participant mistakenly believed that the assignment of a randomly-generated alphanumeric username strengthened the overall privacy of the submission process. To this extent, Lievens and Harris (2003) argue that privacy influences fairness perceptions only insofar as it is a construct of the users' own beliefs. In other words, privacy in e-recruitment website success is more aligned with systems' information quality rather than actual system quality.

PRIVACY, TRUST, AND STORAGE OF USER DATA

The PSC portal requires newly registered users to populate their profiles by divulging a significant amount of personal information which will remain in their profile to be used for future applications. Some of the data required includes users' full name, contact information, work history, and educational history, among others. The PSC portal also acts as a repository of candidate test scores, recruitment standing in a given competition, and history of positions applied for, among others. Accordingly, researchers in Europe recently noted the high risk for e-recruitment system data collection to compromise privacy: "Results show that a substantial amount of information requested on online job application forms is potentially discriminatory and unfair, intrusive, and invasive of applicants' privacy" (Garcia-Izquierdo et al., 2010, pp. 432-433). Faliagka et al. (2012) contends that North American e-recruitment portals are in most cases required to respect strict privacy laws and ensure secure storage of user data. The Smith et al. (1996) Concern for Information Privacy model conceptualizes privacy as comprised of four (4) dimensions: collection, errors, secondary use, and improper access. Similar to the Gilliland (1993) rule of job-relatedness, collection refers to whether or not data required is deemed relevant and appropriate based on the nature of the activity. Errors concerns a system's ability to verify inputted data. Secondary use reflects whether data collected is used beyond the original purpose of the system without user consent, and improper access refers to data can be viewed by parties who should otherwise be restricted from access (Smith et al., 1996). The violation

of one (1) or more constructs will diminish users' intention to interact with a given information system, including in the context of websites (Zhou, 2011).

PSC portal users are reminded of the Public Service Commission's privacy responsibilities with a lengthy disclaimer automatically appearing directly on the sign-in page. All participants conceded to paying very little to no attention to the privacy statement despite its overt appearance. This finding is not surprising as studies have shown that website users frequently do not read privacy policies or disclaimers even on websites requiring entry of private or personal data (Cranor et al., 2008; Mollick & Mykykyn, 2009; Vail et al., 2008). A Canadian study by Arcand et al. (2007) discovered that user trust will be increased by the visible presence of a privacy policy but that careful reading of the privacy policy will actually result in decreased trust. Studies have also demonstrated that perceptions of privacy are mediated to a great extent by organizational reputation rather than actual system quality (Jarvenpaa et al., 2000; Joinson et al., 2010; McKnight et al., 2002b). Sztompka (1999) maintains that in addition to organizational reputation, the appearance of privacy and trustworthiness has also been found to affect inclinations towards information system use.

Focus group participants were asked to share any possible reservations with respect to privacy in disclosing personal information to the Public Service Commission of Canada for job-search purposes. As per one (1) respondent, there is simply no alternative other than populating all of the required information fields. Given that, with very rare exceptions such as in the case of applicants with certain disabilities, job applications are now accepted exclusively through the PSC portal, users are compelled to provide their personal information otherwise not be able to continue with the application process. Users did not share concerns about potential violations of privacy. Those who had been using the PSC portal for an extended period of time explained that they had not experienced any violations of privacy, nor had they heard of any other users' private data being violated. Some participants were also members of other personal and professional social networking websites where they voluntarily disclosed their education- and work-related histories. The privacy implications of such websites have been well-documented in the literature, especially considering the potential for personal information to be viewable even by the general public (Gerard, 2012; Makridakis et al., 2010; Tan et al., 2012; Qi & Edgar-Nevill, 2011; Van Dijck, 2013). Participants did not consider the requirement of personal information collection unfair even despite its mandatory nature. One (1) focus group participant who reported doing all of her banking and extensive shopping over the internet stated that "it's not really a big deal". Her fellow active job-seekers agreed, and reactions of unfairness or user dissatisfaction were not noticeable.

Users' reactions to Public Service Commission job-search data collection requirements with respect to privacy were not surprising given relevant theoretical conceptualizations. Like the Harris et al. (2003) study, privacy valuation in the technologically-mediated job application process was met with general indifference. Conceptions of internet-use and privacy often relegate these to the broader concept of user trust. In the organizational literature, client trust is considered foundational to the building of organizational success through relationship-building and referral marketing (Morgan & Hunt, 1994). Hawes et al. (1989) establish that trust is central to any

exchange relationship. The concept of trust can be applied to online information system use, where trust dictates intentions to interact with website services (Monsuwe et al., 2004; Ou & Sia, 2010; Urban et al., 2009).

Rousseau et al. (1998) contend that there are different interpretations of the term trust, but attempt to provide the following cross-disciplinary definition: “[t]rust is a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behaviors of another” (p. 395). Shankar et al. (2002) maintain that trust in the context of information systems is determined by the medium itself. In the case of HRIS e-recruitment systems, the medium is the e-recruitment website; more specifically in the case of the present study, the PSC portal. Similar to more popular studies in e-commerce showing that trust will influence user willingness to shop at a particular online store (Lu et al., 2010; Pavlou & Fygenson, 2006; Suh & Han, 2003; Urban et al., 2009), studies in e-government have proven that trust will influence user inclination towards disclosing personal information via a public-sector online portal (Belanger & Carter, 2008; Beldad et al., 2011; Carter & Belanger, 2005). A recent study by Beldad et al. (2012) discovered an important difference between private- and public-sector trust; unlike in an e-commerce or e-banking system context, the construct of website quality was not a valid indicator of user trust. Instead, Beldad et al. (2012) propose organizational reputation and quality of previous transactions to be stronger indicators of user trust. Accordingly, McKnight et al. (1998) argue that trust-building can be shaped through external factors and can occur without direct interaction with a particular organization.

IMPARTIALITY AND USER TRUST

Based on the dialogue engaging focus group participants’ views on e-recruitment privacy and trust, indifference and user acceptance appeared to be based on perceived trust of integrity in the Government of Canada operations based on positive usage experiences. Zucker (1986) identifies the construct of institution-based trust arguing that trust-building in an economic environment occurs through the influence of third-party guarantors. McKnight and Chervany (2002) apply this view of trust to electronic transactions conducted over the internet. Trust, according to the authors, is resultant of a combination of ‘structural assurances’ and ‘situational normality’ where users increase their trust based on existing rules and policies as well as a belief that the system is functioning properly and nothing unusual is taking place, respectively (McKnight & Chervany, 2002). The principal of situational normalcy as an antecedent to trust is emergent from early sociological research conducted by Garfinkel (1963). Institutional trust has also been identified by researchers in the e-governance literature as a valid construct in accounting for citizen acceptance and use of internet-based government electronic services (Lean et al., 2009; Ozkan & Kanat, 2011; Warkentin et al., 2002). The 2012 United Nations survey regarding e-government adoption among member states devotes several pages to discussing the importance of trust-building in citizen adoption and use of government portals: “Privacy and security concerns are also important. They potentially work as barriers impeding eservice usage as they prevent users from trusting and therefore using e-government services. In fact, they are often mentioned as a major reason for non-usage of e-government services”

(United Nations, p. 105). Akman et al. (2005) demonstrated how institutional trust resulted in e-government acceptance through the strengthening of structural assurances. These theoretical propositions and e-government literature can serve to provide a more profound interpretation explaining the comfort focus group participants had in sharing their personal information over the HRIS e-recruitment system.

The Public Service Commission of Canada is responsible for administering and managing certain phases of the personnel selection process on behalf of Federal Government of Canada organizations; officially, it is classified as an independent agency of government (Benhamadi, 2003). Focus group participants had noticeable positive reactions to the consolidation of available employment opportunities under one (1) e-recruitment portal. This is in line with the research literature suggesting seamless information access as a success factor in e-recruitment website effectiveness (Llorens, 2011; Yoon Kin Tong & Sivanand, 2005). As per the DeLone and McLean (1992, 2003) model of information system success, the integrated nature of e-recruitment portals appears as a construct of system quality. Accordingly, research in e-government has proven that so-called "one-stop-shopping" is among the most desirable and sought-after traits of public-sector internet resources as citizens are most satisfied when information is complete and readily accessible from a single location (Hwang & Hoffman, 2009; Kaisara & Pather, 2011; Reddick, 2004). Standardization of e-recruitment across public-sector departments and agencies can also be said to reflect the Gilliland (1993) consistency of administration procedural justice rule. With respect to trust-building, however, a centralized e-recruitment portal serves a further purpose of maintaining integrity of public-sector personnel management.

Focus group participants demonstrated unfavorable reactions to the hiring processes of legislative assistant positions and crown corporation job opportunities because of vagrancies in process administration. Beyond application process standardization that facilitated process requirements and steps, the PSC portal also yielded positive reactions as a perceived third-party in the hiring process. McNabb (2006) studies organizational knowledge management processes using the Public Service Commission of Canada as a research case and acknowledges its independent nature as an impartial mediator in public-sector hiring. The Public Service Commission of Canada itself values and communicates this impartiality to prospective employees through information appearing on the PSC portal. Appearance of accountability, which has been considered a construct of e-government portals affecting user trust in the literature (Baldwin et al., 2011; McNutt et al., 2012), is maintained through activities like conducting audits and investigations of hiring processes – the results of some have in fact been used to support claims in the present study. Past research on credibility has also demonstrated more favorable job-seeker views of third-party agencies commissioned for personnel selection activities (Fisher et al., 1979). One (1) focus group participant said she appreciated that candidate applications are initially screened by an agency different from the hiring organization because it added a level of objectivity to the hiring process. These findings are in line with the results of the Mareschal and Rudin (2011) study confirming high user regard for public-sector e-recruitment website integrity and transparency.

SUMMARY AND CONCLUSION

Originally, the present study sought to answer the research question how HRIS e-recruitment technology influences job-seeker perceptions of fairness. Whereas the Gilliland (1993) model set the foundation through the establishment of the original ten (10) procedural justice rules, it struggles to account for modern developments in the hiring process in the explanations of the rules (Gilliland & Steiner, 2012; Lievens & Harris, 2003; Truxillo et al., 2004). In order to effectively capture the unquantifiable dimensions of fairness (Dolbeare & Gardiner, 1975; Sexton, 2013; Van Thiel & Leeuw, 2002; Wilson, 1997; Wilson, 2012) and respond to the need for alternative data gathering approaches (Hausknecht et al., 2004; Ryan & Huth, 2008), a qualitative methodology consisting of longitudinal focus group interviewing was selected.

In order to capture the authentic firsthand experiences of participants in accordance with a rigorous adherence to qualitative research (Creswell, 1998; Darlington & Scott, 2002; Polkinghorne, 2005, p. 138; Stake, 2010, p. 62), the study results were organized to reflect the sentiments of participants. Further theoretical organization followed the DeLone and McLean (1992, 2003) Information Systems Success Theory. The study thus identifies five corresponding overarching themes:

First, participant utilization of e-recruitment technology evoked strong fairness narratives. This theme included a variety of sub-components including the administration of hiring pools, a lengthy overview surrounding the completion of UITs, as well as the requirements inherent to submitting applications, among others. Second, e-recruitment system interaction highlighted the more technical aspects (form-filling requirements, application customization, and so on) of the online application process as related to fairness. Third, e-recruitment website appearance concerned the impact of visual and aesthetic aspects of the e-recruitment portal on fairness. Fourth, interpersonal experiences and interactions examined how technological changes to communication apply to procedural justice rules traditionally ascribed to face-to-face communication. Finally, user privacy and trust brought to the surface uniquely technological attributes associated with searching and applying for public-sector jobs on an e-recruitment portal. Combined, these could be the predominant HRIS e-recruitment factors influencing job-seeker perceptions of fairness in a modern context.

Based on the aforementioned narratives of job-seeker fairness perceptions, it becomes possible to see how each of the original Gilliland (1993) procedural justice rules fares in a modern hiring context. In order to present these findings more clearly, a dedicated section has been prepared which draws propositions from the broader experiential narratives and ascribes these to specific Gilliland (1993) rules.

III. 20 YEARS LATER: IMPACT OF TECHNOLOGY ON GILLILAND'S RULES

Focus group discussions highlighted some of the job-seekers' reactions, observations, and attitudes surrounding parts of the technologically-mediated public-sector hiring process. The preceding section organized these into five (5) overall categories. Consistent with the qualitative research design, an account of participant experiences and narratives was presented with fairness perceptions (Gilliland, 1993) and information system success (DeLone and McLean, 1992, 2003) concepts used throughout to inform and give sense to the data. The following section provides a secondary interpretation of the findings with priority ascribed to the Gilliland (1993) model of fairness perceptions in order to address how this theory is influenced by trends and developments in HRIS e-recruitment technology. Several propositions are provided as possible foundations for future empirical research. These propositions successfully contribute to the fairness perceptions literature by updating the Gilliland (1993) rules, both individually and as a whole. They may be construed as modern technological implications for researchers to consider in future studies, and also carry a variety of practical implications for those tasked in the development of public-sector e-recruitment systems. While the propositions reflect the observations of a limited number of portal users but, based on review of other literature, they represent the largest effort to date for updating the Gilliland (1993) model from a technological perspective based on the experience of actual job-seekers using a real e-recruitment portal.

JOB-RELATEDNESS

Gilliland (1993) identified job-relatedness as one of the most important procedural justice rules, if not the most important (p. 703). Various studies (Bauer et al., 1998; Gilliland, 1994; Kluger & Rothstein, 1993; Steiner & Gilliland, 1996) as well as the recent Gilliland and Steiner (2012) review confirmed that, after almost twenty years, job-seekers will perceive personnel selection processes as fair provided that selection measures and methods are seen as relevant to the position sought. The importance of the job-relatedness procedural justice rule remains valid in the technologically-mediated job-search.

HRIS e-recruitment systems collect user information in various forms at various stages and for various purposes throughout the application process (Garcia-Izquierdo et al., 2010; Varma et al., 2006; Winkler et al., 2013; Zhou, 2011). The collection of information via the PSC portal occurs when users must populate their profile upon registration, upon the completion of a job application, and during the completion of user feedback surveys. While the potential for intrusion of privacy is high (Harris et al., 2006; Konradt et al., 2013; Lievens & Harris, 2003), participants appreciated the opportunity to abstain from answering unrelated questions. Studies have shown that user perceptions of website privacy can be impacted by external and organizational factors (Beldad et al., 2012; McKnight et al., 1998). E-governance research suggests that trust of public-sector website will mirror citizens' trust of governmental institutions (Lean et al., 2009; Ozkan & Kanat, 2011; Warkentin et al., 2002). It has also been shown that appearance of accountability and trustworthiness impact user trust in a public-sector context (Baldwin et al., 2011; McNutt et al., 2012). These factors could be used to

account for participant comfort in sharing personal information when using the PSC portal.

Proposition JR1: Users asked to input personal information into an e-recruitment system without the ability to opt-out may perceive of the activity as being unfair.

Proposition JR2: User perceptions of required personal data collection job-relatedness will be higher in a public-sector environment because of the assumption that governmental websites more strictly abide by relevant privacy legislation and are more secure.

Madera (2012) suggested that the inclusion of social networking and new media into an e-recruitment website could lead to negative fairness perceptions based on a violation of the job-relatedness rule. The inclusion of micro-blogging capability into the PSC portal was not utilized by participants and seen as redundant and disorganized. The potential frivolousness of e-government social networking technology adoption has been recognized in the literature (Arceneaux & Weiss, 2010, Chi & Yang, 2011).

Proposition JR3: Without a clear value-added or incentive to use, applicants may question the job-relatedness of e-recruitment social networking capability.

Job-relatedness in the present study was most strongly related to the use of UITs. The perceived predictive validity measure (Grand et al., 2010; Smither et al., 1993) was relevant especially to general knowledge testing (Kaufman, 2009). While the actual ability of these types of tests to successfully predict various dimensions of employee quality is immaterial for the purposes of this study, it is important to recognize that participants' reactions to certain Public Service Commission general knowledge tests were unfavorable in terms of fairness. In line with the findings of Steiner and Gilliland (1996) that job-seekers will have more positive fairness perceptions of pre-employment evaluations that are highly reflective of future work to be completed on-the-job, the participants questioned some cognitive UIT's capacity to accurately judge their future performance.

Proposition JR4: Perceptions of UIT fairness may depend on the perceived job-relatedness of each test based on its perceived validity.

Job-relatedness was also emphasized, though to a lesser extent, in discussions surrounding preferential hiring policy. Some HRIS e-recruitment systems collect information pertaining to preferential hiring eligibility by asking users to voluntarily provide additional information about relevant program criteria (Horwitz et al., 2006). This was the case with the PSC portal which asks users to voluntarily self-declare during the application process. Strong participant reactions questioning the job-relevance of the provision of preferential hiring information support previous studies suggesting the process may violate the job-relatedness (Gilliland, 1993) procedural justice rule (Slaughter et al., 2005).

Proposition JR5: Self-declaration of preferential hiring status through an e-recruitment portal may result in perceptions of unfairness.

OPPORTUNITY TO PERFORM

The Gilliland (1993) opportunity to perform rule has been validated as a predictor of fairness perceptions in other research (Cropanzano & Wright, 2003; Singer, 1990; Truxillo et al., 2001). The present study found that the opportunity to perform rule was violated during large-scale candidate recruitment initiatives where job-seekers selected for further consideration were ultimately chosen at random. A strong reaction of perceived unfairness resulted from one (1) focus group member who felt that this type of selection process would not ensure that the best candidate was selected for the job, and was thus out of line with the merit-based hiring process. Writing from a Public Administration perspective, Hays and Sowa (2010) reflect on the need for accurate matching of applicants to jobs in public-sector personnel selection: “[m]anagers can save large amounts of time, energy, and aggravation by placing the right person in the right position” (p. 99). Despite hyper-satisfying the consistency of administration rule (Gilliland, 1993) by accounting for the almost completed absence of discrimination, use of random selection could result in perceptions of unfairness.

Proposition OP1: Perceptions of unfairness may arise when technology used to screen and select applicants is believed to inaccurately differentiate between applicants.

HRIS e-recruitment technology allows organizations to have greater control over the hiring process (Brewster & Mayrhofer, 2012; Landers & Sackett, 2012; Pande, 2011). Part of this control enables addressing the problem of increased application volume (Cappelli, 2001; Landers & Sackett, 2012) using increased system automation including electronic keyword scanning (Cullen et al., 2006; Galanaki, 2002). This technology enables organizations to pre-identify a variety of specific words and phrases which will automatically select applicants whose resumes and cover letters match these terms and reject those which do not (Amare & Manning, 2008). The accuracy of this technology has been questioned (Mohamed et al., 2002) and an experienced job-seeker suggested that it is relatively simple to fool the computer.

Proposition OP2: Perceived fairness of electronic volume management and selection tools may depend on user understanding of the technology and level of interactivity.

RECONSIDERATION OPPORTUNITY

Gilliland and Steiner (2012) concede that research support for the reconsideration opportunity rule is limited. Gilliland (1995) found no evidence supporting its validity for influencing fairness perceptions. Gilliland and Steiner (2012) suggest that job-seekers likely find that hiring processes should be challenging and limit the opportunity for ‘second chances’: “[...] applicants simply do not expect reconsideration in a hiring context” (p. 635). However, the recent Konradt et al. (2013)

study indicated that certain types of user-oriented website programming in HRIS e-recruitment can yield increased fairness perceptions. The authors specifically mention error-proofing of electronic form fields and the ability to return to previous pages on a website. The ability of the PSC portal to account for user/job-seeker error was recognized in the present study.

Proposition RO1: Error-proof form fields and coding that automatically fixes human error may yield positive perceptions of fairness in an e-recruitment website environment.

As per the present study, the violation of the reconsideration opportunity rule (Gilliland, 1993) is legitimized on grounds of security and defense of user privacy. Research has shown that interactive user portals can have serious privacy concerns (Emigh, 2006; Eskola, 2012; Flowers et al., 2013; Stone et al., 2013). Those who use public computers to access the internet could easily become victims of cyber-identity theft by opportunistic criminals who exploit stored website data (Greenstein, 2008). In order to protect personal user information, the PSC portal restricts users' ability to retrace their steps throughout some portions of the application process. This at first glance appears to be an obvious violation of the reconsideration opportunity rule (Gilliland, 1993). However, participants did not perceive these system limitations as unfair because their inclusion is justified for purposes of security.

Proposition RO2: E-recruitment systems may impose limitations on reviewing and retracing parts of the application process without resulting in perceptions of unfairness if users judge these limitations to be justifiable.

CONSISTENCY OF ADMINISTRATION

The consistency of administration (Gilliland, 1993) rule was noticeable in aspects of e-recruitment information system design and heavily emphasized with regard to the electronic management of preferential hiring policies. Firstly, whereas studies have shown that customization can predict website success (Cho & Fiorito, 2009; DeLone & McLean, 2004; Fan & Tsai, 2010), the present study discovered that limited customization is most conducive to fairness because it is perceived to defend objectivity. In other words, limiting user ability to input data in a basic plain text format without the added features of graphics, advanced layout and formatting, or media ensures that the selection process does not unjustifiably discriminate on the basis of user computing skill. Further, it is assumed that basic text-based applications will focus the attention of human resources personnel on content rather than style, which is in line with the Schramm and Dortch (1991) study.

Proposition CA1: Level of application customization ability on an e-recruitment portal may result in perceptions of unfairness if feelings of exclusion or unjustifiable discrimination result.

This proposition conflicts with the finding of the Keramati and Salehi (2013) study which identified customization as an antecedent to website effectiveness. Keramati and

Salehi (2013) argue that users will have more positive attitudes towards e-recruitment portals with higher levels of customization ability. However, the authors' interpretation of customization concerns user ability to manipulate e-recruitment website design rather than manipulate individual applications such as resumes and cover letters: "[w]ith respect to system quality category, customization (0.033) is highly ranked, indicating that companies should spend more effort to make a design that can be personalized by the users, so that they can have their own version of the website" (2013, p. 179). It is hypothesized that the proposition CA1 may be justifiably violated in the case of specific employment opportunities requiring high levels of computer-oriented KSAs. Caution should be exercised, however, as standardization is indicative of consistency of administration (Gilliland, 1993).

Secondly, given that consistency of administration concerns perceptions of equality and judgment that selection measures are administered uniformly across applicants, it is unsurprising that the rule most strongly was found to relate to online applications of preferential hiring policy. Research has already recognized the possibility that preferential hiring systems may result in feelings of unfairness due to the specific violation of this procedural justice rule (Slaughter et al., 2005). Elsewhere research has identified potential reactions of inequality related to applicant perceptions that a selection process takes into greater account minority status as opposed to KSAs and therefore does not result in the attainment of equality (Cropanzano & Wright, 2003; Kravitz, 1995; Kravitz & Platania, 1993). Focus group participants reported concerns that information collected for preferential hiring purposes may be used to facilitate discrimination, that some preferential hiring programs focus predominantly on certain groups over others, and that the usefulness of preferential hiring programs in enabling eligible job-seekers to successfully find employment is questionable.

Proposition CA2: Fairness perceptions of proactive preferential recruitment initiatives may depend on job-seekers' perception of program inclusiveness and consistency across the organization.

FEEDBACK

The Gilliland (1993) procedural justice rule of feedback reflects information shared with job-seekers on their progress and is described by the author as a combination of timeliness (Sheppard & Lewicki, 1987; Schmidt et al., 1978; Tyler & Bies, 1990) and informativeness (Dodd, 1977). The feedback rule was observed as particularly relevant in focus group discussions surrounding the Public Service Commission's management of hiring pools and updates provided to participants on their progress. Focus group participants expressed strong feelings of frustration having been a part of hiring pools for months and even years at a time without adequate information and updates outside of routine messages they believed were auto-generated by a computer.

Proposition F1: Timeliness of information provision via an e-recruitment portal may influence fairness perceptions.

Proposition F2: Perceptions of fairness may depend on the origin of communication as either human or automated; increasing for the former and decreasing for the latter.

The Gilliland (1993) rule of feedback has also been investigated with respect to pre-employment testing (Bauer et al., 1998; Kluger & Rothstein, 1993; Lounsbury, 1989; Ployhart & Ryan, 1998) and specifically with regard to timeliness in various aspects of test administration (Lievens & Harris, 2003). Focus group participants who had completed online UITs expressed noticeable reactions of unfairness with respect to the disclosure of results. The PSC portal does not provide test-takers with information about where errors were made on a given test, and in some cases does not disclose the score attained. Consistent with the conclusion posited by Gilliland (1994) that the provision of feedback will be more valued when applicants are unsuccessful in a testing scenario, the focus group participants expressed feelings of unfairness upon realizing that some PSC portal administered UITs do not publish scores or disclose errors.

Proposition F3: Test-takers' perceptions of UIT fairness may be affected by the completeness, informativeness, and timeliness of information provided about their score.

SELECTION INFORMATION

The Gilliland (1993) selection information procedural justice rule emerged throughout several focus group discussions and participant observations. The author uses the selection information rule in particular to highlight the value of providing information about face validity (Smither et al., 1993) during testing situations. The pre-employment drug testing literature maintains that fairness perceptions can be restored despite the use of a selection measure which applicants may consider unfair if the remaining rules are satisfied to a greater extent (Cropanzano & Konovsky, 1995). Crant and Bateman (1990) specifically argue that the provision of explanations and justifications prior to the administration of a drug test will result in more favorable test-taker dispositions. Selection information was found to impact job-seeker fairness perceptions in a public-sector e-recruitment context with regards to hiring pools, UITs, large-scale recruitment initiatives, and preferential hiring program management.

Proposition SI1: Insufficient or incomplete selection information appearing on an HRIS e-recruitment portal may result in perceptions of unfairness.

The impact of selection information (Gilliland, 1993) is more pronounced in an e-recruitment context because job-seekers rely almost exclusively on written information provided through the e-recruitment portal. In an information-search or broader application context, follow-up is possible with organizational representatives. But these exchanges occur over technological means themselves, including for instance by e-mail (Konradt et al., 2013). The opportunity to ask questions and seek clarification during a UIT scenario is extremely limited. Test-takers are limited only to the instructions provided during the test with no alternatives or options should a misunderstanding arise

(Naglieri et al., 2004; Tippins et al., 2006). From this it can also be posited that frustration over unclear information will rise in instances where job-seekers cannot seek immediate clarification, for instance after hours and on weekends when support service centers are not staffed. The information must therefore be extremely complete, accurate, and easy to understand as well as coupled with a robust and intuitive user interface.

Proposition SI2: The importance of selection information as an indicator of fairness in an e-recruitment context is highest in instances where users are limited in their ability to interact with organizational representatives.

HONESTY

Gilliland (1993) adopts the procedural justice rule of honesty from the Bies and Moag (1986) interactional justice theory and concedes that it is possible to consider it a sub-category of either the feedback or selection information rules. The author proposes that honesty should be included as a distinct construct because of the particular perceptions of fairness or unfairness which it evokes. The present research found strong evidence to support this rule in an e-recruitment context not through the direct provision of inaccurate information but rather through the provision of insufficient information that was seen as ultimately negatively affecting candidate progress in a given selection process.

Job-seekers in the present study reported feeling misled as a result of insufficient information provision during UITs. Earlier, it was shown that the lack of feedback after a test with respect to test-taker scores resulted in feelings of unfairness which was in line with preceding research (Gilliland, 1994). It is proposed that test-takers in an e-recruitment context enter evaluations with certain assumptions based on past experiences and common sense reasoning. One (1) of these assumptions may be: "following a test or exam, I will be provided with my result and details about where I made a mistake". Failure to provide a disclaimer that information about results will not be disclosed violates this conventional wisdom and causes test-takers to feel misled. These perceptions of unfairness likely occur because pre-employment testing is categorized in the evaluation and personnel literature as a high-stakes endeavor with a high probability of stress and other strong emotional responses (Arthur et al., 2010; Foster, 2010; Sackett et al., 2010).

Proposition H1: Insufficient information about an e-recruitment process may result in feelings of deception with users attributing perceptions of dishonesty to the administration of the selection activity.

Sample test questions or mock exams voluntarily studied or written by job-seekers resulted in the most noticeable and obvious violations of the Gilliland (1993) honesty rule. Specifically, the provision of samples that were of significantly lower difficulty level than actual exams was met with negative reactions on behalf of job-seekers in the present study. Based on prior justice research (Liden & Parsons, 1986), Gilliland (1993) invokes the measure of 'correctness' in defining some of the principles inherent to the honesty rule. Job-seekers who have not previously written a Public Service Commission

of Canada pre-employment exam will trust that the samples and demonstrations provided are accurate or correct representations of tests. When faced with actual tests that differ greatly from the samples, and without any warning or disclaimer provided alongside the samples, feelings of unfairness follow as a result of feeling misled or deceived. This can be theoretically extended to apply to any provision of general information about the selection process where the actual user experience differs from the briefings provided.

Proposition H2: Fairness perceptions may be influenced by the congruence between pre-selection measure information, examples, and instructions and actual candidate experiences interacting with the selection activity.

The removal of information considered as sensitive from the main homepage of an HRIS e-recruitment portal can also result in feelings of dishonesty. The example from the present study concerns one (1) focus group participants' recognition that the Public Service Commission had removed the employment opportunity availability or vacancy counter from the homepage of the portal.

Proposition H3: Removal of information from a public-sector e-recruitment portal considered as valuable for maintaining transparency may result in perceptions of unfairness.

INTERPERSONAL EFFECTIVENESS OF ADMINISTRATOR

Konradt et al. (2013) considered the two-way communication (Gilliland, 1993) rule as relevant to e-recruitment based on the results of their quantitative study. However, affective reactions to having been treated politely in e-mail correspondence with Public Service Commission representatives over the course of the job-search process indicates that the same can be applied to the interpersonal effectiveness of administrator rule (Gilliland, 1993).

Focus group participants spoke highly of the professionalism and courtesy they encountered when dealing with Public Service Commission representatives. One (1) focus group participant acknowledged in specific detail what was specifically valuable about the nature of these communications which included such qualities as tone and professionalism of the e-mail message. Information system success has had considerably more research conducted in this area. Researchers have introduced affective measures of service quality (DeLone & McLean, 2003) in a website environment such as for example empathy (Ahn et al., 2007; Lin, 2007). Keramati and Salehi (2013) indeed discovered that in an e-recruitment context users placed greater value on affective characteristics of communication including empathy and assurance than timeliness characteristics such as responsiveness.

Proposition IE1: Qualities of interpersonal effectiveness of administrator apply to communications over technological means (example: e-mail) in an e-recruitment context.

Focus group participants had more positive reactions to communications with human representatives rather than the receipt of messages they believed to have been auto-generated by a computer. This is in line with the conclusions of Keramati and Salehi (2013) as the auto-generated messages, despite arriving promptly, were seen as less conducive to an authentic dialogue between job-seeker and prospective future employer. Concerns over auto-generated e-mails emerged during discussions surrounding hiring pools and pre-employment evaluation results. This phenomenon was addressed earlier under the explanatory category of procedural justice (Proposition F2). This proposition stated that communication perceived to have originated from a human source (i.e.: an organizational representative) will yield more positive fairness perceptions than a messages perceived to have been auto-generated by a computer.

TWO-WAY COMMUNICATION

Gilliland (1993) describes the two-way communication procedural justice rule as providing an opportunity for job-seekers to provide input, seek clarification, and ask questions during the selection process. Researchers have suggested that internet-based personnel selection eliminate the two-way communication procedural justice rule because the nature of interactions between users and computers is different by definition from the face-to-face interpretation of two-way communication properly understood (Harris, 2006). Conversely, Konradt et al. (2013) believe that it is not unreasonable to adapt two-way communication to an e-recruitment context based on the range of ways applicants can contact, receive replies, and interact with organizational representatives.

The most direct application of the Gilliland (1993) two-way communication rule reflects the opportunity for e-recruitment portal users to complete and submit so-called user satisfaction surveys or questionnaires. These satisfaction surveys enable administrators of e-recruitment portals to collect data from users that will ostensibly be used to gauge trends and preferences, improve technological infrastructure, or rectify problems. LaHuis (2005) explores surveying measures used by the United States Office of Personnel Management finding the multiple-choice questionnaire style format to be among the most popular option used. Public-sector organizations employ surveys as part of quality assurance (Kunstelj et al., 2009; Papadomichelaki & Mentzas, 2012). They are utilized by the Public Service Commission of Canada for assessing e-recruitment portal quality.

The present study discovered that certain design elements of user-satisfaction surveys will impact fairness perceptions based on the broader procedural justice rule of two-way communication (Gilliland, 1993). The focus group discussions found that active job-seekers did complete satisfaction surveys. This type of interaction with the portal serves as confirmation of the surveys as legitimate contributors to two-way communication. Consider that the completion of a satisfaction survey will in no way facilitate or expedite employment search success. However, it does require a commitment of time and effort. Discussions surrounding user satisfaction surveys in one (1) focus group interview resulted in important conclusions surrounding the effect of

design elements and follow-up implementation on fairness perceptions. This also had lesser implications for privacy based on the provision of an opt-out feature (Cranor et al., 2006; Mothersbaugh, 2012; Park, 2011) to sensitive or personal questions and the consequences of opting-out on survey completion.

Proposition TC1: Inclusion of user satisfaction surveys into an e-recruitment portal may serve to legitimize two-way communication.

Proposition TC2: Fairness perceptions of user satisfaction surveys may increase based on the opportunity for users' to provide open-ended responses.

Proposition TC3: Fairness perceptions of user satisfaction surveys may depend on the inclusion and consequence of opt-out clauses for personal or sensitive questions.

Proposition TC4: Two-way communication may depend on user belief that survey results are utilized to make improvements or influence future portal development.

Gould et al. (2009) use the construct of "e-contactibility" to describe the ways in which users can provide feedback to website administrators. It should be noted that this 'feedback' is not related to the Gilliland (1993) rule of the same name but is rather an umbrella term used to describe the various communication options users have in contacting organizational representatives through a website. E-contactibility is considered especially important in the public-sector context given its prominence in the e-government literature (Ferber et al., 2003; Kaisara & Pather, 2011; Shi, 2006).

To this extent, some focus group participants commented on the various contact options provided to users of the PSC portal. Consistent with the findings of Ferber et al. (2005), provision of an e-mail address on behalf of the Public Service Commission was met with more positive perceptions of fairness than other options such as interactive form fields. As discussed earlier and as per proposition IE1, users also valued the quality of interpersonal treatment received during exchanges over technological means.

Proposition TC5: Preference of e-contactibility method may depend on perceived level of two-way communication.

PROPRIETY OF QUESTIONS

Gilliland (1993) included the propriety of questions procedural justice rule based on the interactional justice conceptualizations of Bies and Moag (1986). This rule states that job-seeker perceptions of hiring process fairness will be negatively affected by questions which are inappropriate on the basis of being either improper or prejudicial (Gilliland, 1993, p. 709). Gilliland and Steiner (2012) recently questioned the necessity of including this rule among the other Gilliland (1993) procedural justice rules on the basis that the modern hiring process has strict safeguards in place that, combined with

relevant laws, greatly diminish the probability for improper questions to surface. Truxillo et al. (2001) explain that the violation of the propriety of questions rule results in perceptions of unfairness due to applicants' belief that bias has affected the selection process and candidates are being judged on irrelevant criteria.

The Konradt et al. (2013) study discovered new potential for the inclusion of the propriety of questions (Gilliland, 1993) procedural justice rule in a technological context. The authors explain that the lowered interactive/explanatory components of internet-based selection processes result in job-seekers' interpreting information requests at face-value. As a result, Konradt et al. (2013) explain that with respect to the propriety of questions rule "its importance in a Web-based setting may be enhanced by the fact that there is no organizational representative who articulates the questions and can also communicate nonverbally (tone of voice, measure of politeness, etc.) or immediately explain the purpose of questions that might be considered intrusive by the applicants" (p. 159). The focus group discussions surrounding preferential hiring systems in the present study serve to provide further support that the propriety of questions rule is applicable to public-sector HRIS e-recruitment technology.

Proposition PQ1: Perceived intrusiveness/invasiveness of questions may increase in an e-recruitment context where explanation provision and ability to request follow-up information are diminished.

Recall the one (1) focus group participant who felt her personal and racial identity was undermined by the simplistic self-declaration process embedded in the PSC portal. Specifically, perceptions of unfairness appeared to emanate from self-identification as a "visible minority" where several different nationalities and ethnicities were combined into one (1) category. This process was seen as undermining the individual and unique characteristics of each preferential hiring group. Based on the research surrounding the holistic nature of fairness perceptions (Cropanzano & Konovsky, 1995), it is not unreasonable to assume that the communicatory limitations imposed by the information technology as recognized by Konradt et al. (2013) exacerbated feelings of unfairness.

EASE OF FAKING

In his original qualitative fairness perceptions study, Gilliland (1995) introduced the ease of faking rule as a supplementary addition to the ten (10) original procedural justice rules. Gilliland (1995) proposed that the perceived ease with which candidates could 'fake' or essentially cheat/exploit pre-employment evaluations would affect overall perceptions of fairness. Even though this rule is generally omitted from future versions of his model in the relevant literature, studying it is important in a modern personnel selection environment because research indicates that the possibility of faking on UITs is very high (Chapman & Webster, 2003; Makransky & Glas, 2011; Tippins et al., 2006).

Proposition EF1: Perceptions of UIT fairness may depend on the extent of safeguards implemented to prevent cheating and exploitation.

UITs administered via the PSC portal generally require candidates to write in-person versions with a conventional proctor to prevent system exploitation. This approach for ensuring UIT integrity is supported by empirical studies (Carstairs & Myors, 2009; Makransky & Glas, 2011). The focus group participants did not believe that cheaters would ultimately prosper as a result. While the difficulty of faking on a PSC portal managed UIT is very low, it is nigh impossible to achieve employment search success by cheating because of known safeguards and procedures in place. The increased use of UITs does re-awaken this rule in an e-recruitment context, and the strategic thinking of some participants related to test integrity indicates possible support for its legitimization.

PRIVACY

Gilliland (1993) did not include an independent privacy component within his original ten (10) procedural rules. At most, the possibility of invasion of privacy is included within the propriety of questions rule. Gilliland (1993) instead proposed based on the organizational privacy research of Stone and Stone (1990) that privacy may constitute an additional separate procedural justice rule but that additional research is needed in this regard. Gilliland (1993) does acknowledge that privacy issues may be particularly influential in instances of pre-employment drug-testing. Since the publication of his seminal work, additional research has confirmed the crucial role played by the privacy construct in drug testing (Brown & Freeman, 2008; Carson, 1995; Cranford, 1998; Tepper & Braun, 1995).

The emergence and growth of modern HRIS e-recruitment technology offers new incentive to include privacy as a separate procedural justice rule. Recent studies in fairness perceptions have established a link between perceptions of fairness and user perceptions of privacy (Bauer et al., 2006; Harris, 2003; Konradt et al., 2006; Lievens & Harris, 2003). The empirical findings of Bauer et al. (2006) in fact proved that user perceptions of privacy will influence perceptions of fairness and in turn impact applicant reactions. Further findings in the information systems literature also emphasize privacy concerns associated with human-computer interaction in the context of website use (Belanger et al., 2002; Chen et al., 2013; DeLone & McLean, 2004; Liu & Arnett, 2000; Molla & Licker, 2001; Palmer, 2002; Pavlou, 2003; Petre et al., 2006; Zhang & Von Dran, 2002). Given that e-recruitment privacy deals exclusively with management of sensitive client data, privacy is intrinsically linked to the construct of trustworthiness. User inclinations to cooperate with website requests have been recognized in the e-governance literature (Belanger & Carter, 2008; Beldad et al., 2011; Carter & Belanger, 2005).

Proposition P1: User perceptions of e-recruitment portal privacy may influence perceptions of hiring process fairness.

The Harris et al. (2003) study discovered that user comfort in submitting personal information over the internet was high and as such perceptions of website privacy were met with general indifference. With the exception of one (1) focus group participant

concerned over the transition in user identification, indifference to privacy was the general consensus among focus group participants. However, this does not necessarily serve to undermine the influential nature of privacy. Harris et al. (2003) conducted a simulation job-search exercise with university students who were not actually seeking employment, a practice that has raised concerns over validity of findings in the fairness perceptions literature (Gilliland and Chan, 2001). Here, the Smith et al. (1996) four (4)-tiered theory of information system privacy can be used to better organize research. If any one (1) of the authors' proposition is violated perceptions of diminished user privacy will result and lead to perceptions of hiring process unfairness. However, user privacy perceptions are likely to themselves be impacted by website architecture and organizational characteristics.

Proposition P2: Official public-sector e-recruitment portals may be conceived of as more *prima facie* trustworthy than private-sector e-recruitment portals.

Proposition P3: User comfort in complying with e-recruitment portal information requests may depend on trust of the administering organization's commitment to privacy protection.

Studies have demonstrated that perceptions of privacy are to a great extent founded more on information quality rather than actual system quality; that is, factors such as organizational reputation and the appearance of security/trustworthiness influence perceptions of privacy more than the existence or implementation of actual website privacy controls (Jarvenpaa et al., 2000; Joinson et al., 2010; McKnight et al., 2002b; Sztompka, 1999). It can therefore be hypothesized that due to their official nature and apparent commitment to respecting relevant laws, policies, and guidelines, governmental e-recruitment portals will naturally be perceived of as more trustworthy and secure.

Deferring human resources services such as personnel selection from being the exclusive responsibility of individual governmental departments and agencies to being administered under a consolidated organization like the Public Service Commission of Canada can also be thought to impact candidate perceptions of fairness. But this approach is not exclusive to Canada; the United States of America, for example, has a similar HRIS e-recruitment portal administered by the Office of Personnel Management (Lombard, 2003) while other nations including many throughout Europe have come to adopt a similar methodology. Some focus group participants' statements indicate that the perceived impartiality of the e-recruitment administering body will influence trustworthiness based on the protection of objectivity and removal of bias (Truxillo et al., 2001).

Proposition P4: User trust may be based on perceptions of e-recruitment system objectivity and impartiality in making hiring process related decisions.

IV. DISCUSSION

IMPACT OF RESULTS FOR HRM PRACTICES IN THE PUBLIC-SECTOR

Given that this study was conducted using a qualitative design implicating a cohesive number of participants the statistical generalization of findings is limited (Friedson, 1975; Horsburgh, 2003; Morse, 1999; Yin, 2011, p. 99). It is therefore difficult to expand the propositions emergent from the focus group interview data to actual recommendations for human resources e-recruitment system developers and programmers. Nevertheless, some general practical conclusions can be drawn based on participant observations, prior research in fairness perceptions, and emerging findings in the study of information systems. The presentation of these findings is based on the DeLone and McLean (1992, 2003) information system success theory and intended to account for e-recruitment user perceptions of fairness.

INFORMATION QUALITY

The accuracy, availability, and completeness of information provided to job-seekers on an e-recruitment portal is of high importance. Confirming the findings of Konradt et al. (2013), this importance increases where the ability to ask questions and seek clarifications is limited. The instructions and questions provided during a UIT, for example, must be exceptionally clear because test-takers have no opportunity for two-way communication (Gilliland, 1993). While two-way communication will be discussed in greater detail with respect to information service quality, it should also be noted that user frustration may increase where opportunity to seek clarification is limited.

Caution should be exercised in the preparation and presentation of written materials for preferential hiring systems. The present study recognizes a possibility that minority users may be sensitive to these issues. Following the work of Cropanzano and Konovsky (1995), it is suggested that positive user perceptions of preferential hiring may be defended if thorough and adequate additional information is provided about the structure and methodology of these programs. For example, the provision of detailed information about how the information collected will be used and what purpose it serves in a given hiring process. Thoroughness of information provision is important in general to defend hiring process integrity and transparency over e-recruitment portals.

The random selection of applicants as part of some large-scale hiring initiatives administered by the Public Service Commission demonstrates the need for providing users with easy and accessible explanations (Gilliland, 1993) surrounding the decision-making processes in technologically-mediated personnel selection. Dineen et al. (2004) suggest that users are likely to be unfamiliar with the automated functionalities of e-recruitment portals, and some job-seekers lack of familiarity with random selection and keyword matching software indicates this to be the case. However, it cannot be argued that the Public Service Commission attempts to conceal this information from users as it is readily available in other explanatory sections of the website.

Besides including the information itself, forwarding users to the relevant explanations at strategic instances during the application process is of equal importance to ensuring positive perceptions of hiring process fairness. Hyperlink placement and organization is considered an important element of website design quality in the literature (Liu & Arnett, 2000; Martinez-Romo & Araujo, 2012) and assures that users are provided efficient access to relevant information. Research shows that the inclusion of a sitemap (along with promotion of its value to visitors) can help by providing a hierarchal layout of the website and an immediate understanding of relevant information (Lin et al., 2011; Rahman & Ahmed, 2013). The current iteration of the PSC portal does not include sitemap functionality.

It is also important for information to be accurate and true as information considered incorrect by job-seekers could lead to negative fairness perceptions on the basis of violation of the Gilliland (1993) honesty rule. Given that users increasingly turn to e-recruitment websites as a source of general information about organizations and their hiring processes (Suvankulov et al., 2012; Tso et al., 2010; Van Birgelen et al., 2008), the information should be specific, correct, and up-to-date. The present study uncovered significant attitudinal reactions of disappointment and resentment to pre-testing sample questions that were found to be non-indicative of the actual types and difficulty level of questions included on pre-selection evaluations. Organizations interested in administering challenging tests would only need to provide a disclaimer explaining this inconsistency or develop more realistic sample questions to protect the rule of honesty and encourage positive fairness perceptions. Public-sector employers may also be under a higher burden of transparency in the messages communicated to users of e-recruitment portals (Sharif & Irani, 2010). While the removal of an automated counter presenting available employment opportunities on the homepage may have been justified on the basis of creating a more streamlined visual, it could be interpreted as government trying to conceal information from the general public.

E-recruitment websites could increase trust by providing users with detailed information related to privacy. This claim follows studies which suggest that the presence of privacy statements will increase perceptions of security and trust (Arcand et al., 2007). The importance of privacy-related information may be more critical for private e-recruitment websites, however, as organizational reputation works in favor of governmental portals (Beldad et al., 2012). Studies have shown that users frequently do not actually read privacy-related information (Cranor et al., 2008; Mollick & Myktykyn, 2009; Vail et al., 2008); a trend which was recognized also in the findings of the present study. Information system success literature emphasizes that the fast-paced nature of website browsing calls for information to be brief, sharp, and concise (Carrero, 2011). Organizations intent on encouraging visitors to read and understand privacy-related information should thus attempt to make such text more accessible by, for example, strategically synthesizing key points and reducing jargon.

Centralizing or consolidating as much information into one (1) portal has proven to result in positive user experiences according to the e-governance literature (Hwang & Hoffman, 2009; Kaisara & Pather, 2011; Reddick, 2004). Indeed, users of public-sector e-recruitment portals are likely to appreciate having all of the needed tools for researching available employment opportunities, submitting applications, and fulfilling

additional selection criteria on a main portal. The PSC portal is a good example with respect to vacancies and selection in the CPA but falls into disorganization with respect to crown corporations. While openings in federal crown corporations are listed alongside those of federal departments and agencies, users are redirected to the individual websites of each corporation and required to create separate profiles and follow different application requirements which can vary among employers. While the integration of these systems into one (1) central repository may be unfeasible, perceptions of unfairness may be reduced with disclaimers and explanations clearly outlining this aspect of the system.

SYSTEM QUALITY

INTERFACE

HRIS technology adoption has been supported and driven by an underlying push for increased efficiency (Bondarouk & Ruel, 2012; Fallagka et al., 2012; Lafleur, 2008; Nelson, 2004). Mareschal and Rudin (2011) explain that public-sector e-recruitment implementation is often seen as a way forward in contrast to outdated and disorganized traditional selection practices. While the expectation of harnessing e-recruitment to save time and reduce the administrative burden for human resource professionals is exhibited at the organizational level (Pande, 2011), the expectation of e-recruitment efficiency is also present among users who expect timely feedback provision and efficient portal management.

The establishment of hiring pools is one of the newest technology-enabled approaches of streamlining public-sector talent management by supposedly creating a fast-access roster of potential candidates to fill vacancies within needed organizational areas or classifications experiencing high turnover (Hays, 2004). The present study identified among the strongest perceptions of unfairness with respect to the Public Service Commission of Canada led pools managed through the PSC portal. Because hiring pools can be open for months or even years at a time, providing job-seekers with appropriate feedback and information about their individual progress could help in preserving fairness based on fulfillment of the Gilliland (1993) procedural justice category of explanation. It may also be valuable for organizations to consider providing additional details about how those in the talent pool are selected for interviews. Future studies may wish to study the viability of programming some kind of seniority system whereby those who have been part of a pool the longest have greater chances of being selected. Caution should be taken with such measures though so as to not infringe on the job-relatedness rule (Gilliland, 1993).

Konradt et al. (2013) identified positive user reactions to interface error identification and automated correction in an e-recruitment context. Earlier studies have also recognized the benefits incurred by information systems incorporating technology to account for human error (Chak, 2003; Baber & Stanton, 1996; Stanton & Baber, 1998). Because the job-search process is a high-stakes endeavor (Arthur et al., 2010; Foster, 2010; Sackett et al., 2010), having unsuccessful application process results caused by failing to correctly submit an electronic application is likely to cause an

avoidable increase in user frustration. Through the use of scripts appended to form fields or steps of the application these common mistakes can be accounted for and increase user satisfaction interacting with e-recruitment websites. A good example is the feature of the PSC portal whereby job-seekers who complete but forget to submit their application will see it submitted automatically. It can be assumed that high-performing job-seekers may hold off on making a final submission in anticipation of making future revisions and corrections to their applications. The inclusion of a failsafe in this regard serves not to reward the forgetful but rather provide a second chance in line with the Gilliland (1993) reconsideration opportunity rule.

Restricting some of the functionalities of an e-recruitment interface may be necessary to protect user privacy. Examples taken directly from PSC portal code include a set time-limit on populating form fields and removing the ability to return to previous pages through a web browser. While these features may seem at first to directly violate the reconsideration opportunity (1993) rule, perceptions of unfairness will not follow provided that their inclusion is justified. Protecting user privacy and maintaining security appears to be a legitimate justification. Consistent with the holistic understanding of the ten (10) procedural justice rules as per Cropanzano and Konovsky (1995), providing the appropriate explanations and warnings in advance to users will serve to mitigate potential for feelings of unfairness.

Inclusion of social networking functionality into a public-sector e-recruitment website is perhaps one of the most relevant and valuable issues for discussion given the proven privacy implications (Harris et al., 2003; Hugl, 2011; Tan et al., 2012) and potential for user dissatisfaction (Madera, 2012). The rise in popularity of social networking websites for personal use has provided organizations with an incentive to include this functionality in their e-recruitment and web-based talent management strategies (Llorens, 2011; Reiners & Alexander, 2013; Van Birgelen et al., 2008). Use of social networking may also serve to broaden recruitment by projecting strong person-organization fit to younger job-seekers based on demographic appeal of this technology (Jack Walker et al., 2011). Given the potential for social networking adoption by the public-sector to be seen as frivolous or a gimmick (Arceneaux & Weiss, 2010, Chi & Yang, 2011), exactly how this functionality is integrated, the purpose it serves, and the value-added it provides to the job-search and application experience needs to be carefully examined before it is deployed.

A micro-blogging feature that serves only to automatically update new job openings without providing added value (such as organization or customization) will likely be of little use to active job-seekers. It can be speculated that an interactive space or forum for communication where e-recruitment website administrators can provide additional information tailored to the individual needs of specific job-seeker categories may be better received because of its interactivity (Boswell et al., 2012). Some countries have already begun experimenting with the integration of more interactive social networking technologies including in the United Kingdom where users can provide comments on some developing government issues in real time (Deakins et al., 2010). Similar applications for e-recruitment have not yet been documented but the potential does exist for strengthening fairness perceptions based on interpersonal treatment and, more specifically, satisfaction of the Gilliland (1993) two-way

communication procedural justice rule. Fenton and Barassi (2011) for example tout governmental use of social networking technology as the future of political participation. However, in order for such an ambitious designation to be appropriated to e-recruitment, inclusion of this technology should strive to add value through innovation.

AESTHETIC AND DESIGN

Public-sector websites have earned a reputation for being aesthetically conservative in visualizations and design (Elling et al., 2007; Kaisara & Pather, 2011; Wang & Chen, 2012). The July 19, 2013 revised edition of the PSC portal operating on the Federal Government of Canada Standard on Web Interoperability (Government of Canada, 2013c) appears designed in stark contrast to its colorful and graphically-intense predecessor. Despite the removal of images and introduction of a more neutral color scheme, participants valued information quality and interface design over appearance. The recent facelift to the PSC portal also included removal of various images representing Canadian multiculturalism and diversity.

Some studies have suggested that incorporating photographs and images of a diverse workforce can have positive results by attracting greater diversity (Avery et al., 2004; Dineen et al., 2002; Ehrhart et al., 2012; Walker et al., 2012), others have discovered that this in some cases not true (McKay & Avery, 2005; Rubaii-Barrett & Wise, 2008; Ryan et al., 2000; Singh & Point, 2004). It is apparent, however, that job-seeker opinions of organizational commitment to multiculturalism and diversity will be shaped by extenuating factors beyond diversity-oriented graphics (McKay & Avery, 2005; Ryan et al., 2000). There is a concern that such images may be considered insincere by minority job-seekers who have had past negative experiences with the organization. While the inclusion of multicultural and diversity-related imagery serves essentially to market an organization to minority talent, showcasing actual minority contributions in vignettes or stories may send a stronger message. This feature was included in the prior version of the PSC portal and removed following the most recent facelift.

SERVICE QUALITY

It is clear that the shift towards HRIS e-recruitment technology has not eliminated the need for human interaction. While systems can be programmed to automatically send e-mail replies based on a pre-developed template to large volumes of applicants (Mareschal & Rudin, 2011), the present study proposes that job-seekers prefer receiving communications that they perceive to have been custom written by organizational representatives. Barnes and Cumby (2002) originally framed this paradox by arguing that while users expect timely replies to their electronic queries, the quality level of auto-generated messages cannot be guaranteed. Accordingly, Law and Kua (2009) contend that confirmation messages should always be sent to assure receipt of e-mails but subsequent follow-up could benefit from human interference: "The drawback of an automatic response is that it has an impersonal feeling, but an automatic response with a pre-written message acknowledging the sender's e-mail can, and should, be sent promptly" (p. 188). This approach is relatively straightforward and reasonable with

respect to replies to user inquiries. The PSC portal functions in a similar way, thus satisfying the Gilliland (1993) rule of two-way communication and leading to positive perceptions of fairness during job-seeker interaction with organizational representatives.

Communication becomes more complex with respect to updating candidates on the status of their application in, for instance, hiring pools or large-scale recruitment initiatives. It may be unfeasible for an employer to hire enough client service representatives to produce individual updates on the application status of thousands of job-seekers. However, based on the feedback from the focus group participants, fairness can be protected by auto-generating messages with a high degree of customization, providing users with an option to easily seek clarifications and ask follow-up questions, and provide thorough explanations of the processes upon which selection decisions are made in job competitions with high amounts of applicants.

E-mail communication has been documented in the literature to take on an increasingly informal tone where users value promptness and function over style and professionalism (Baron, 2000; Dwivedi et al., 2007; Spinks et al., 1999; Weinstock, 2004). Kohn and Roth (2012) recently reflected on major developments in computing over the past decade and provide some lighthearted observations surrounding e-mail communication that are based on empirical data in the field: "E-mail is not simply an electronic version of the postal letter, but has evolved with its own connotations and cultural assumptions. E-mail is characterized by informality and brevity. Incompleteness is common, delivery is immediate, and e-mails are often sent with immediacy, to the point that the send button has been ironically referred to as the ohmygod button" (p. 430). It seems incorrect, however, that e-recruitment technology circumvents the need for professionally written and courteous messages sent to job-seekers on behalf of organizational representatives. Konradt et al. (2013) encouraged fairness researchers to appropriate the two-way communication rule (Gilliland, 1993) to discourses transpiring over technological means. The present study discovered that job-seekers appreciated and valued when Public Service Commission representatives replied to queries adhering to a professional structure and tone.

FUTURE RESEARCH DIRECTIONS

The issue of most immediate attention to future researchers concerns the structure of the Gilliland (1993) model. The present study proposed the inclusion of two (2) additional rules to the author's original ten (10) procedural justice rules. In first instance, Gilliland (1995) already speculated the possibility of an 'ease of faking' rule whereby pre-employment test fairness was impacted by the ability of candidates to provide disingenuous responses or cheat outright. Since then, other literature has brought this rule to greater attention (Gilliland & Hale, 2005; Rolland & Steiner, 2007). Suvankulov et al. (2012) note that with the ease of access to job openings on e-recruitment comes the problem of managing an increased volume of applications, including from less qualified applicants. UITs play an important role in reducing this burden for public-sector organizations: "Each year, the federal public service receives over one million job applications. Some job advertisements receive thousands of applications. UITs are screening tools that enhance the efficiency and effectiveness of

the assessment process. UITs are designed to manage large volumes of applicants" (Government of Canada, 2012b). The feedback gathered from respondents for the purposes of the present study, as well as recognizable trends surrounding the proliferation of UITs for the purposes of managing applicant volume via an e-recruitment portal (Makransky & Glas, 2011; Ployhart, 2006), both demonstrate a need for further research surrounding the inclusion of an 'ease of faking' rule within the original Gilliland (1993) model.

In second instance, the data gathered for the purposes of this study suggests that privacy could have an impact on applicant fairness perceptions especially in an e-recruitment context. Gilliland (1993) originally did hypothesize the existence of a privacy construct, and research has since confirmed this as a reasonable possibility (Brown & Freeman, 2008; Carson, 1995; Cranford, 1998; Tepper & Braun, 1995). Further research from a technological perspective has been limited, however, as only the Bauer et al. (2006) study reflected on the fairness implications of privacy in e-recruitment. The results of the present study confirm their results suggesting that privacy could play a significant role. The role of privacy is especially important in the public-sector hiring process. In the Canadian federal context, for instance, applicants may only search and apply for jobs using the official PSC portal. If privacy concerns do indeed impact applicant reactions, perceptions of lacking privacy safeguards could have negative implications for federal government recruitment.

In a broader sense, future researchers are encouraged to test the propositions put forth by the present study. To make this process more comprehensible, the results themselves were summarized following the Gilliland (1993) model. It may also be possible to group the propositions by hiring process theme, based on the experiential narratives of the research participants. For example, as the use of hiring pools evoked some of the strongest fairness reactions, a quantitative survey administered to applicants who are presently or have been at one point part of a hiring pool inventory may provide insight into which e-recruitment fairness propositions are most salient for this particular process. The same approach could be taken for UITs, as the use of online pre-employment testing can be considered a separate area of research altogether (Ryan & Ployhart, 2014).

The Public Service Commission of Canada regularly administers user-satisfaction surveys to applicants. The process appears commonplace enough to such an extent that several focus group participants in the present study shared fairness-related comments regarding this process. Some kind of research collaboration with the Government of Canada to access this data may produce interesting results, with the caveat that these surveys are often administered to participants having often completed stressful online application requirements.

While many of the observations stemming from the present study could apply equally to both private- and public-sector e-recruitment portals, the distinction between these could also provide interesting insight into whether applicants value some procedural justice rules over others depending on whether they are applying on a corporate or governmental e-recruitment portal. This could be particularly important for the newly proposed construct of privacy, as some authors stipulate that trust will be

influenced by organizational reputation (Beldad et al., 2012; McKnight et al., 1998). Do job-seekers naturally presume public-sector e-recruitment portals to be more trustworthy because they originate from a public-sector source? Do job seekers have different privacy expectations for private- and public-sector e-recruitment portals? Questions like these, and others, could be approached by researchers from a variety of methodologies and provide insight into how the privacy construct can be better understood from the dimension of fairness perceptions.

Focus group participant observations regarding the visual/aesthetic façade of the PSC portal also bring forward an agenda for future research. With its most recent update, the Government of Canada e-recruitment portal adopted a standardized appearance removing some noteworthy characteristics and adding others (Government of Canada, 2013c). The visual/aesthetic façade of e-recruitment portals has not at all been the subject of research in the fairness perceptions literature, but with the move towards online recruitment it may be an interesting subject to explore.

Based on the feedback of focus group participants, the graphics and images of a website could influence organizational attractiveness, but this is not a new finding (Cober et al., 2004; Zusman & Landis, 2002). What does represent a new development is how some images, like those portraying multiculturalism and diversity, could influence applicant perceptions of fairness. For example, photographs of workers in stereotypical roles (female secretaries, male executives, etc.) may lead to feelings of unfairness based on limited opportunities for some minority applicants (Singh & Point, 2004). On the other hand, caricatures of employees who defy such stereotypes may be perceived as meaningless and condescending. Another question for researchers who endeavor to study this construct is deciding which Gilliland (1993) rule would be best suited to address visual/aesthetic website appearance. If it is assumed that visual/aesthetic elements constitute simply a type of information provision, this could be encapsulated under the selection information or even honesty rules. Some authors may be inclined to consider it a separate indicator such as "trust" (Chiu et al., 2009), although its definition tends to be quite broad (Rousseau et al. 1998). It should also be recognized that research in this field places more significance on the actual actions made by an organization during the hiring process rather than the image it projects (McKay & Avery, 2005; Ryan et al., 2000). For example, a hiring process that promotes itself as diverse but repeatedly discriminates against some types of nationalities would regardless be considered as unfair. The present study has highlighted the very legitimate possibility that e-recruitment user perceptions of website appearance could carry fairness implications. Exactly how to interpret this from the perspective of the Gilliland (1993) model is challenging, and further research and reflection is encouraged in this regard.

V: UNFORESEEN DRAWBACKS AND LIMITATIONS

ECONOMIC CLIMATE

The present study was conducted in a time of public-sector fiscal restraint marked by significant employment reductions in the Federal Government of Canada (Government of Canada, 2013d). All forms of hiring throughout the CPA declined for the third consecutive year between 2011 and 2012 (Government of Canada, 2012) likely rendering it especially challenging for job-seekers to find public-sector employment. It is also possible that experienced public-sector workers who are facing involuntary employment transitions are also applying for work on the PSC portal leading to heightened competition for less experienced students and new entrants (Jones, 1998). More than one (1) focus group participant made reference to Canada's public-sector labor market trends and subsequent hurdles affecting job-seekers. These comments were met with general consensus from the group. One (1) participant, for example, considered it unfair that reductions were being imposed upon federal workers who are responsible for directly serving the Canadian public.

It is important to recognize, however, that these broader feelings of 'situational unfairness' (Bennett, 1995) are not related to personnel selection fairness perceptions theory. That is, the present study focused around understanding the procedural dimensions of technologically-mediated selection based exclusively on the Gilliland (1993) model and informed by information system success theory (DeLone and McLean, 1992, 2003). Focus group participants were reminded to do their best to ignore hiring reductions and instead concentrate on assessing the application process itself. Further, many of the participants were already employed in the private-sector or were in a position of financial security as a result of family members and thus not in a position of added desperation to find work. As a result the theoretical conclusions of this study remain valuable despite demonstrated fluctuations in public-sector hiring. However, this limitation must be acknowledged because the significant increase in difficulty of achieving employment search success within the context of the present study may have increased affective reactions of unfairness and spurred additional feelings of hopelessness and organizational resentment.

PORTAL FACELIFT

Internet technology, websites, and personal computing are consistently being changed, redeveloped, modified, and upgraded (Brugger, 2009; Llorens, 2011; Phillips, 2011; Pollitt, 2011). Towards the commencement of the data gathering process in the present study, the Public Service Commission introduced a significant redesign of their e-recruitment portal. The placement of some information, layout, and design, among other characteristics, were altered or altogether removed. It is also likely to assume that this is not the last facelift the PSC portal will receive and that future changes may introduce new graphics and additional functionalities based on technological innovations that have not yet been developed.

Again, it must be understood that the purpose of this research is not to offer normative policy recommendations to the Public Service Commission of Canada on the current iteration of its HRIS e-recruitment portal. Because of the fast-paced and changing nature of information technology and the World Wide Web, the sustainability of the findings to future applications is limited. The research seeks to reflect on the Gilliland (1993) model of fairness perceptions and explore new issues accounting for technological developments using appropriate findings in literature addressing information technology.

The timing of the PSC portal facelift was unfortunate. Despite being repeatedly told otherwise it is possible that some focus group participants assumed incorrectly that these visual changes were known to the researcher and that the object of the study was to compare the new version of the website to its previous edition. Again, the general propositions of this study are intended to apply to technologically-mediated hiring processes today and in the future regardless of the specific e-recruitment portal or any subsequent changes thereof. Some of the modifications to the PSC portal, like the removal of multicultural images, were actually beneficial to the study for the purposes of highlighting areas of importance among active job-seekers and understanding how website users react to change in the context of an e-recruitment portal.

PARTICIPANT DEMOGRAPHIC

Because focus group members for this study were recruited over an internet community of practice, familiarity with computers was naturally expected among all participants. It was therefore not possible to examine how some niche job-seeker sub-groups, including for instance individuals in very remote areas or those with physical disabilities, experience the technologically-mediated public-sector selection process. Researchers have acknowledge a job-search “digital divide” (Truxillo et al., 2004) and suggested that experience with information technology can affect satisfaction (Bonner, 1995) and fairness (Gilliland and Hale, 2005). Each focus group had at least one (1) participant who was representative of an older demographic and was given an opportunity to share their views surrounding e-recruitment fairness perceptions.

It is also important to note that the Federal Government of Canada (CPA and most crown corporations) only accept job applications forwarded through either the official PSC portal or their respective organizational HRIS system. Therefore, it would not have been realistic to conduct a comparative study between job-seekers who apply online versus those who apply offline, because currently the entire process occurs almost exclusively through technological means. All participants were also residents of the National Capital Region, thus, it was not possible to examine inter-provincial job-search experiences. However, the PSC portal was chosen specifically to account for this logistical limitation due to its standardized appearance and the borderless nature of the internet. In all, focus group participants were diverse by ethnicity, gender, and age with members offering a range of unique personal narratives of their observations and interactions with e-recruitment technology.

RECRUITMENT AND GROUP DIVERSIFICATION

Many, though not all, of the focus group participants were registered active members of an online community of practice. As members of this community, they (with some routine) researched and shared information anonymously with other members to further their job-search. This may raise concerns that focus groups were unrepresentative of 'typical' Canadian job-seekers.

Consider, however, that only approximately half of focus group participants were directly recruited from an online community with the remainder recruited through word-of-mouth as per traditional snowball sampling (Babbie, 2010). Further, the study sought to recruit Canadians with high levels of job-search clarity (Cote, 2006; Guerrero & Rothstein, 2011; Wanberg et al., 2002) targeted towards a public-sector career. Interviewees were in addition required to meet the classification of being, as per the literature, active job-seekers (Bowen, 1982; Soelberg, 1967; Granovetter, 1995). Therefore, the study sought not to select the 'typical' job-seeker but rather one with considerable experience interacting with the various features and options in the Government of Canada e-recruitment system.

It was also important to create focus groups that represented job-seeker diversity but linked participants by a common thread. In order to get the broadest experiential narratives, it was important to recruit a spectrum of ages and ethnicities. This is also valid because studies have shown that individuals of different backgrounds will have different job-search experiences (Centeno et al., 2009; Rowley & Feather, 1987; Tary, 1983). Chung et al. (2010) explain that today, online communities represent an excellent source of diversity with users of varying age groups and backgrounds registering and sharing information. Dunning (2009) explains that the gap between younger and more mature online community participants is closing with higher-age demographics increasingly making up more of the user base of many popular forums and message boards. Indeed, the participants recruited from the online community of practice for the purposes of this study characterized this diversity but were nevertheless bound by their shared desire towards a public-sector career path.

CONCLUSION

The personnel selection process has changed significantly over the past twenty (20) years (Boswell et al., 2012; Suvankulov et al., 2012; Van Rooy et al., 2003; Wesolowski, 2014). Job-seekers can undertake many personnel selection processes from the comfort of home through e-recruitment portals using only their computer equipped with internet accessibility (Crispin & Mehler, 1997; Feldman & Klaas, 2002; Kuhn & Skuterud, 2000). Employers have access to human resource information system (HRIS) technologies that allow for streamlining and automation of traditional personnel selection processes (Bingham et al., 2002; Breaugh & Starke, 2000; Brewster & Mayrhofer, 2012; Cober et al., 2000; Faliagka et al., 2012; Galanaki, 2002; Landers & Sackett, 2012; Maurer & Liu, 2007; Pollitt, 2008; Tong, 2009; Sylva & Mol, 2009). Recognizing the need for high-performing talent management solutions, public-sector organizations have also turned to technology in modernizing many aspects of hiring (Cober et al., 2000; Kim & O'Connor, 2009; Llorens & Kellough, 2007; Selden & Orenstein, 2011). These substantial changes affecting personnel selection influence the ways job-seekers interact with their prospective future employers. As a result, it becomes necessary to consider how HRIS technology affects job-seekers with respect to fairness perceptions.

The present study responded to organizational justice researchers calling for much-needed additional exploration of the Gilliland (1993) Model of Applicants' Reactions to Employment Selection Systems from the context of HRIS e-recruitment technology adoption by organizations (Gilliland & Steiner, 2012; Lievens & Harris, 2003; Truxillo et al., 2004). While some studies have already attempted to provide input with regards to how technology affects job-seeker perceptions of fairness (Bauer et al., 2006, Dineen et al., 2004; Konradt et al., 2013; Sylva & Mol, 2009), the review of the literature discovered that they are limited either by a contrived design (Gilliland & Chan, 2001) or the socially-desirable response bias problem (Matthews et al., 2003).

Contrived design refers to studies which recruit people to apply for jobs (not actual job-seekers with a personal vested interest in finding employment), usually students as part of a classroom course, to apply for a simulated employment opportunity and report on their experiences through surveying (Gilliland & Chan, 2001). Socially-desirable response bias refers to studies which administer surveys to actual job-seekers, but who may be compelled to respond more favorably due to fear of being identified and reprimanded by the employer (Matthews et al., 2003) which has been proven to result in response distortion (Donovan et al., 2003). Because HRIS technology is a new phenomenon and the study of applicant fairness perceptions is undergoing development and growth (Colquitt et al. 2001), a qualitative research design was selected to investigate actual job-seekers' fairness perceptions as related to technology in a neutral setting thereby circumventing the limitations of previous quantitative studies.

The success of the present study was dependant on the selection of focus group semi-structured interviewing as a data gathering strategy. Focus group interviewing has been demonstrated to facilitate gathering a wide range of experiential and narrative

participant viewpoints (Calder, 1977; Engelbrektsson & Soderman, 2004; Linda, 1982; Merton, 1987) and is strengthened by the opportunity for researchers to witness and analyze interpersonal dimensions of discussion and group dynamics (Carey & Smith, 2004; Johnson, 1996; Kidd & Parshall, 2000; Kitzing, 1994; Wibeck et al., 2007).

The present study was originally developed to employ a longitudinal approach to interviewing with several focus groups taking place with the same participants over the period of one (1) year. This was intended to account for possible delays in public-sector personnel selection (Barber et al., 1994; Puritano, 1975; Schleicher et al., 2006; Walker et al., 2008; Wanberg, 2012). Most participants made little progress in their individual job-search to exploit longitudinal interviewing in this regard. One (1) participant successfully found a job at an organization based in Canada with royal patronage. Relying on a series of focus groups as opposed to one (1) focus group proved beneficial regardless as it allowed participants to feel increasingly comfortable sharing their views to the extent that more sensitive and controversial issues, like perceptions of fairness related to preferential hiring and racial identity, surfaced to inform the analysis of HRIS e-recruitment technologically-mediated job-search.

The Gilliland (1993) model was explored from a technological dimension that today plays a significant role in modern personnel selection processes implicating HRIS e-recruitment solutions. Validity was confirmed for the original ten (10) procedural justice rules. The Gilliland (1995) ease of faking rule was also supported based on proliferation of unsupervised/unproctored internet test (UIT) capability of e-recruitment technology. An additional rule of 'privacy' was developed proposing that e-recruitment portals which are perceived as unsecured or untrustworthy will result in negative perceptions of user (job-seeker) fairness. This rule stems from strong support in the research literature of privacy implications associated with technology and the internet (Anton et al., 2010; Belanger et al., 2002; Dinev & Hart, 2006; Harris et al., 2003; Iaccarino, 1996; Lievens & Harris, 2003; Paine et al., 2007). From the e-government literature, it is suggested that informational factors including organizational reputation and promotion of privacy influences user perceptions of privacy rather than actual system factors (Jarvenpaa et al., 2000; Joinson et al., 2010; McKnight et al., 2002b; Sztompka, 1999).

The DeLone and McLean (1992, 2003) information system success theory proved effective in providing greater contextualization and improved organization of research findings. The model specifies three (3) developmental dimensions of quality which influence user attitudes: information, system, and service quality. As per Van Birgelen et al. (2008), these three (3) characteristics are applicable to e-recruitment portals including the Public Service Commission public job listing directory and application system. The myriad of studies conducted in website quality surrounding e-commerce, e-government, and database management, among others, provided additional quality measures that could be weighed against the perceptions of focus group participants and thus contribute to increased accuracy of data analysis.

FINDINGS: SUMMARY AND FUTURE DIRECTIONS

The findings of this study were presented in adherence with the best practices of qualitative research (Strauss & Corbin, 1998). Following Krueger's (1993) approach of "honoring the participant" (p. 82), principal focus group themes were organized to respect the observations, priorities, and viewpoints of participant narratives. This approach to the structure of the study allowed for most appropriate safeguarding of participant voice which is central to effective focus group reporting (Lindlof and Taylor, 2011; Parker & Tritter, 2006). Where possible, discursive group interaction and dynamics were highlighted to present instances of conversation, agreement, and disagreement among participants again in accordance with research best practices (Clark et al., 1996). Prioritization and discussion of some concepts over others devoted in the presentation of findings within this study reflected the extent of these group dynamics. Morgan (1997) encourages researchers to summarize the results of focus group research in a grid to facilitate presentation of findings. The research data thus appear in a summary grid within the table below and are presented in response to the original research question asking what HRIS e-recruitment factors influence job-seeker perceptions of fairness:

HRIS factors affecting fairness	Relevant ISST Measure(s)	Relevant Gilliland (1993) rule(s)	Theme (General)
Public Service Commission-led hiring pools	-System Quality	-Feedback -Selection Information	Narratives of Portal Use
User feedback surveys and questionnaires	-System Quality	-Two-way communication -Propriety of question	
Pre-employment testing and evaluation	-Information Quality -System Quality	-Job relatedness -Feedback -Selection Information -Honesty -Two-way communication -Ease of faking	
Large-scale proactive recruitment initiatives	-System Quality	-Opportunity to perform -Consistency of administration	
Automated applicant screening	-System Quality	-Opportunity to perform	
Submission customization	-System Quality	-Consistency of administration	E-Recruitment System
Automated error-proofing	-System Quality	-Reconsideration opportunity	Interaction
Database centralization	-Information Quality	-Selection Information	

Application requirements	-System Quality -System Quality	-Job-relatedness	
Removal of Diversity Images	-Information Quality	-Honesty	E-Recruitment Website Appearance
Social Media Integration	-Information Quality	-Job-relatedness	
Removal of Vacancy Counter	-System Quality -Information Quality	-Honesty	
E-mail communication	-Service Quality	-Interpersonal effectiveness of administration -Two-way communication	Interpersonal Experiences and Interactions
Self-declaration for preferential hiring	-System Quality	-Job-relatedness -Consistency of administration -Propriety of question	
Preferential hiring program administration	-System Quality	-Selection information	
Preferential hiring outcomes	-System Quality	-Selection information	
Personal applicant identifier modification	-Information Quality	-Privacy/trustworthiness	User Privacy and Trust
Storage of user data	-System Quality -Information Quality	-Privacy/trustworthiness	
Impartiality of portal administration authority	-System Quality -Information Quality	-Consistency of administration -Privacy/trustworthiness	

Table 10. Qualitative focus group research summary grid

HRIS e-recruitment technology was not found to justify the elimination of any of the original Gilliland (1993) procedural justice rules. The removal of the propriety of question rule (Gilliland, 1993), as suggested by Gilliland and Steiner (2012), was not supported in research conducted by Konradt et al. (2013). The use of technology in personnel selection results in job-seekers interacting and responding to questions without the presence of an organizational representative and with usually limited ability to seek clarification and ask questions. This results in heightened feelings of unfairness when job-seekers are faced with invasive or potentially inappropriate questions. The focus group discourse surrounding preferential hiring self-identification showed that some eligible applicants may react negatively to the formatting and presentation of questions related to personal characteristics.

E-recruitment technology also appears to emphasize the homogeneity of the Gilliland (1993) procedural justice rules. That is, the proposition of Cropanzano and Konovsky (1995) that some rules can be justifiably violated if others are maximally satisfied appears especially appropriate in a technologically-mediated job-search context. Recall that participants uniformly accepted the use of timers and website safeguards that may delete hours of progress in completing an application (reconsideration opportunity) provided that these tools helped safeguard their online privacy. The provision of complete and accurate explanations was also found extremely relevant as job-seekers completing applications online may have limited opportunity to seek additional clarification. This is especially true in cases of UITs. The burden on selection information to be appropriate, following the relevant information system success measures, is very high in an e-recruitment setting as inaccurate information can be perceived as misleading and a violation of the honesty (Gilliland, 1993) procedural justice rule. Recall the strong affective reactions spurred by test-takers who found example questions provided to users of the PSC portal as inaccurate representations of actual pre-employment test content.

The incidence rate of the Gilliland (1993) rules by overall concept showed highest implications for selection information, consistency of administration, and job relatedness. Selection information is likely a recurring rule in e-recruitment technology because users are required to complete a majority of the application process online (Boswell et al., 2012; Tso et al., 2010; Zikic & Saks, 2009) and, as mentioned earlier, the opportunity to seek clarification on information provided may be limited (Naglieri et al., 2004; Tippins et al., 2006). Consistency of administration is spurred by new features of HRIS e-recruitment technology, including large-scale recruitment, where the volume of applicants is high in accordance with the findings of other studies (Brewster & Mayrhofer, 2012; Cappelli, 2001; Cullen et al., 2006; Galanaki, 2002; Government of Canada, 2007; Niles & Hanson, 2003). Because research on hiring pools or electronic job applicant rosters is sparse, considerably more effort should be devoted to studying how the management of these systems affects fairness perceptions. Job relatedness, which has been identified in the literature extensively as having a strong influence on perceptions of hiring process fairness (Hausknecht et al., 2004; Macan et al., 2004; Ployhart & Ryan, 1998; Smither et al., 1993, 1996; Ryan & Chan, 1999; Rynes & Connerly, 1993), is technologically re-awakened firstly by the proliferation of UIT use and secondly due to the variety of steps inherent in the technologically-mediated application process (Llorens, 2011).

Two (2) additional rules were appended to the original Gilliland (1993) model. Ease of faking was formally introduced by Gilliland (1995) and suggests that perceptions of fairness will depend on the ease with which job applicants perceive it is possible to fake on a selection measure. This is re-awakened in the context of HRIS e-recruitment as a result of UITs and the possibility of cheating (Chapman & Webster, 2003; Foster, 2010; Landers & Sackett, 2012; Makransky & Glas, 2011). Integrity and fairness of Public Service Commission pre-employment tests was retained based on the requirement for successful test-takers to complete supervised tests for the purposes of score verification. This is a recommended approach to pre-employment UIT development and administration (Carstairs & Myers, 2009; Makransky & Glas, 2011).

The second additional rule appended to the Gilliland (1993) model concerned privacy. Privacy is recognized as an important factor in public-sector website design research influencing citizen intention to use e-government systems (Edmiston, 2003; Hung et al., 2013; Parent et al., 2005; Shareef et al., 2008, 2011; Smith, 2010). Focus group participants were generally comfortable using the Federal Government of Canada e-recruitment portal from a perspective of personal data security. However, this result may be the product of organizational reputation whereby an official government website, with a variety of privacy policies and related information on display, yields positive user perceptions of security and increases trustworthiness. It is proposed that, conversely, an e-recruitment portal which users perceive as violating privacy, such as in the manner outlined by Smith et al. (1996), will result in increased perceptions of unfairness. Inclusion of this factor among the Gilliland (1993) rules is important from a practice-based standpoint as well given the inclination for some public-sector e-recruitment portals to direct users to third-party websites, including interactive social networking applications, which themselves may incur additional privacy concerns (Gerard, 2012; Makridakis et al., 2010; Tan et al., 2012; Qi & Edgar-Nevill, 2011; Van Dijck, 2013).

The propositions invoked by this study spread across the original ten (10) Gilliland (1993) procedural justice rules and two (2) appended rules are important because they serve to modernize the interpretation of each rule from a technologically-mediated job-search perspective. The 'virtualization' of job-search allows job-seekers to conduct many physical aspects of the process from home over the internet (Llorens, 2011; Llorens & Kellough, 2007). Laumer et al. (2009) explain that twenty (20) years ago, job-seekers would have traveled to a physical office, looked over a bulletin board, asked for a paper application, mailed their resume in the post, perhaps been called to write a pencil-and-paper test, and only then proceeded to the interview stage. Today, all but the job interview is conducted in person, though some organizations have already begun utilizing videoconferencing for long-distance interviews (Huffcut et al., 2011). Technological changes to both search and application processes have expanded the interpretation of each rule within the Gilliland (1993) model. The propositions and technological applications of the original rules are summarized below:

JOB-RELATEDNESS

HRIS e-recruitment technology provides organizations with an unprecedented range of options and features to include in their personnel selection processes (Galanaki, 2002; Van Birgelen et al., 2008; Yoon Kin Tong, 2009). This can include integrated social networking functionality (Llorens, 2011; Reiners & Alexander, 2013; Van Birgelen et al., 2008), web-based identification of priority candidates through automated preferential hiring systems (Breugh, 2013; Horwitz et al., 2006; Stone et al., 2013), and complete administration and evaluation of pre-employment testing (McBride, 1998; McDonald, 2008; Meade et al., 2007; Pearlman, 2009), among others. With this increased functionality comes the opportunity for employers to more easily manage application volume, but also a responsibility to ensure that various selection process requirements and steps are germane to the process and position.

OPPORTUNITY TO PERFORM

Mason & Shroeder (2010) write that the hiring process is a systematic reduction of applicants to increasingly manageable amounts until strategic selection of one (1) or more ideal candidates can occur, depending on organizational need. HRIS technology allowed human resources personnel to deploy automated approaches to narrowing down potential candidates, for example through random selection or keyword screening (Amare & Manning, 2008). Gilliland (1993) argued that it is critical for organizations to ensure that candidates are given the opportunity to demonstrate their relevant KSAs before a hiring decision is made, and while the use of technology can make selection easier and more efficient, it should not come at the cost of reducing job-seekers' opportunity to perform.

RECONSIDERATION OPPORTUNITY

The reconsideration opportunity procedural justice rule (Gilliland, 1993) was not as prominent as the other dimensions of formal characteristics. This is not unusual, however, as Gilliland's (1995) original qualitative study found little evidence supporting reconsideration opportunity. Gilliland and Steiner (2012) offer one (1) explanation, writing that job-seekers likely believe that the personnel selection process should be competitive and challenging which justifies the limitation of second chances. The drug-testing literature has validated the inclusion of the reconsideration opportunity rule (Ambrose, 2000). As per Konradt et al. (2013), job-seekers interacting with an e-recruitment portal will react positively to the inclusion of failsafe features such as error-proof form fields. Further, the reconsideration opportunity rule is important in a technological perspective because limitations thereof can be justified if this is perceived as a legitimate security or privacy protection measure.

CONSISTENCY OF ADMINISTRATION

Consistency of administration refers simply to equal treatment of applicants through selection process administration (Gilliland, 1993). HRIS e-recruitment technology can include various options for application customization. For instance, resumes can be submitted in basic text or the option can be provided to have greater user influence on graphic, layout, and design characteristics. Relevant to the "digital divide" (Truxillo et al., 2004), allowing for too extensive customization may alienate less computer savvy users and lead to perceptions of unfairness. Consistency of administration also relates strongly to preferential hiring systems. Whereas preferential hiring policy is not a technological phenomenon in and of itself, the use of employment equity self-designation features through e-recruitment technology may re-awaken the applicability of this rule. Further research is welcomed to explore how eligible candidates perceive electronic preferential hiring functionality on e-recruitment portals.

FEEDBACK

Conducting many steps of the job-search and application process over the internet means that job-seekers interact with the employer through the intermediary of technology. As a result, feedback provision becomes dependant on the ability of HRIS e-recruitment technology to provide information and updates to applicants effectively. An important finding here is confirmation of job-seeker preference for communication which is perceived to originate from a human source rather than receipt of messages which appear to have been auto-generated by a computer (Dineen et al., 2004). The provision of feedback regarding user progress and result is also relevant with respect to UITs. Harnessing computer technology for pre-employment testing may result in a user expectation for increased efficiency in result calculation and provision, leading to negative reactions of fairness if this information is incomplete or unavailable.

SELECTION INFORMATION

The importance of selection information is highlighted most strongly in a technological setting. Following Cropanzano and Konovsky (1995) who proved the homogeneity inherent to the Gilliland (1993) model, fairness perceptions of many aspects of HRIS selection can be increased with the provision of accurate selection information. The importance of accurate selection information is also underscored in instances where an HRIS-based selection measure, like for instance a UIT, limits the candidate's ability to ask questions or seek additional clarification (Naglieri et al., 2004; Tippins et al., 2006). It is proposed that the provision of accurate and timely selection information will increase perceptions of fairness by offering justifications for the inclusion of technologically-based selection measures that may violate one (1) or more of the rules. To follow from a prior example, voiding or 'timing out' a users' form resulting in time and data loss would be justified if selection information was provided explaining the rationale for this functionality due to user legitimization.

HONESTY

The rule of honesty (Gilliland, 1993) in the present study was invoked based on information already available on the e-recruitment portal, but it is also not unreasonable to conclude that honesty can be jeopardized during instances of e-mail communication. Information provided to job-seekers which is incorrect or inaccurate may result in feeling misled, which translates to a unique violation of the honesty rule and can be identified especially in high-stakes situations like pre-employment testing.

INTERPERSONAL EFFECTIVENESS OF ADMINISTRATOR

Originally intended to reflect the nature of face-to-face communication (Bies & Moag, 1986), the interpersonal effectiveness of administrator rule (Gilliland, 1993) applies also to e-mail communication. Despite the informal tone often associated with internet-based communication (Baron, 2000; Dwivedi et al., 2007; Kohn & Roth, 2012; Spinks et al., 1999; Weinstock, 2004), focus group participants in the present study

valued professional and respectful message structure in the receipt of e-mails from organizational representatives.

TWO-WAY COMMUNICATION

Konradt et al. (2013) officially proposed the applicability of the two-way communication rule (Gilliland, 1993) to the HRIS e-recruitment technology context. The present study discovered that job-seekers have interesting and broad interpretations of what constitutes effective two-way communication in a technologically-mediated job-search context. Firstly, user feedback surveys were valued as a collective approach to improving the job-search process when the opportunity to provide open-ended responses was allowed and when it was believed that the results of the surveys were used sincerely to improve and redevelop the portal. Secondly, related to the principal of e-contactability in the e-government literature (Ferber et al., 2003; Kaisara & Pather, 2011; Shi, 2006), the options available to users to get in touch with organizational representatives influenced perceptions of two-way communication. The provision of an e-mail was seen more positively than fill-in feedback forms.

PROPRIETY OF QUESTION

Further support for the propriety of question rule (Gilliland, 1993) represents one (1) of the foremost findings in the present study. This is due to the hypothesis of Gilliland and Steiner (2012) that modern adherence to fair hiring legislation and the danger of litigation have rendered the rule obsolete. Konradt et al. (2013) proposed that propriety of question is of particular importance in an e-recruitment setting due to the requirement of user data gathering. That is, users respond to written questions on an e-recruitment portal. Konradt et al. (2013) suggested that this may result in increased perceptions of unfairness with respect to potentially invasive or sensitive questions. The present study discovered in addition to these findings that perceptions of unfairness based on propriety of question can emerge from the structure of questions related to preferential hiring self-identification among eligible users. Additional research is strongly encouraged on this subject.

EASE OF FAKING

The Gilliland (1995) ease of faking rule is generally not appended to the original ten (10) procedural justice rules. However, given the increased chance of deception on UITs (Chapman & Webster, 2003; Makransky & Glas, 2011; Tippins et al., 2006), there is a strong justification for re-considering it in an e-recruitment context. Focus group participants' concerns with some of the public-sector UITs stemmed from violations of other rules such as, for example, honesty. The requirement for additional in-person follow-up evaluation, among other countermeasures to cheating (Carstairs & Myors, 2009; Makransky & Glas, 2011), represents an important area of research for HRIS specialists to ensure process integrity and maintaining perceptions of fairness.

PRIVACY

Privacy concerns with respect to new and emerging technologies have been recognized in the literature (Belanger et al., 2002; Chen et al., 2013; DeLone & McLean, 2004; Liu & Arnett, 2000; Molla & Licker, 2001; Palmer, 2002; Pavlou, 2003; Petre et al., 2006; Zhang & Von Dran, 2002). As focus group participants expected to be objectively evaluated, the transition from anonymous alphanumeric codes to personal e-mail for user identification purposes stirred fairness reactions. Users did not show reservations about having to populate the PSC portal with a variety of personal information, likely due to heightened trust caused by an assumption of public-sector system integrity (Beldad et al., 2012). Consolidation of Government of Canada departments' job postings to a central e-recruitment system showed positive perceptions of trust likely by supporting perceived objectivity. However, it is important that users be made aware of other public-sector opportunities that are not listed on the portal, and that privacy-related information is presented in a comprehensible and accessible format.

CONCLUDING STATEMENT

Most Canadians seeking a public-sector career will at one point use an HRIS e-recruitment system. They will gather information on available postings and corresponding requirements, write unsupervised Internet tests, communicate with organizational representatives, as well as complete and submit job applications from any computer with an Internet connection. Each of these interactions will invoke fairness implications that will carry organizational and personal outcomes. Using a qualitative focus-group interview methodology, this study sought to respond to the research question asking how HRIS e-recruitment technology influences job-seeker perceptions of fairness. In addressing this topic the structural and explanatory/descriptive dimensions Gilliland (1993) Model of Applicants' Reactions to Employment Selection Systems were updated based on how users interact with the Government of Canada's e-recruitment portal in terms of fairness. Validity was shown for each of the original ten Gilliland (1993) fairness rules and each rule was re-envisioned with technological implications. In providing this much-needed update, the research successfully contributed to knowledge on fairness perceptions. It also helped fill a void in the literature by focusing around public-sector e-recruitment, thereby directly contributing to the field of Public Administration; more specifically, understandings of public-sector HRM. Two additional fairness rules, regarding the preservation of Internet test validity and user perceptions of privacy, were also found to demonstrate strong relevance in modern personnel selection. The study successfully circumvented some limitations concerning overall reductions in governmental hiring and an unexpected facelift of the E-Recruitment portal visual façade, and remains representative only of the views of users in one specific geographic region. The field could benefit from the quantitative evaluation of one or more of the propositions stemming from the interviews as part of future research endeavors. Most related to Public Administration selection would be additional research surrounding hiring pools and unsupervised internet testing. It is hoped that the Government of Canada continues to pursue merit and transparency in all facets of the hiring process to ensure the establishment of a qualified and professional civil service.

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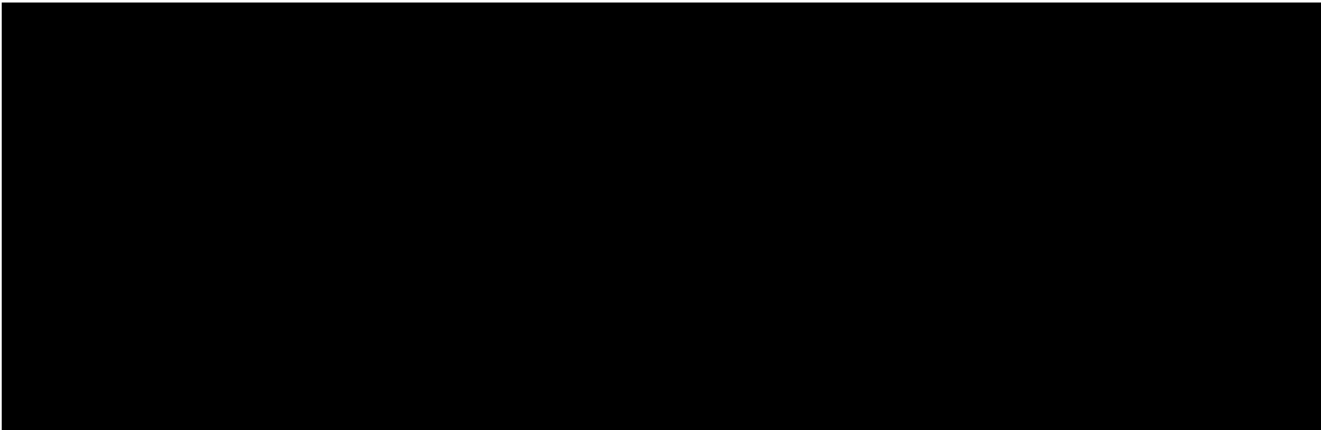
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APPENDIX I: GLOSSARY

Active Job-Search: Applying for employment opportunities with a serious personal desire to achieve job-search success by complying with one (1) or more selection measures (Soelberg, 1967).

Active Job-Seeker: Term used in the present study to denote participant eligibility criteria based on a numeric measure of active job-search frequency (Tso et al., 2010).

Core Public Administration (CPA): The institutions of the Federal Government of Canada which includes the combined departments, ministries, and agencies listed under Schedule I and IV of the Financial Administration Act (Government of Canada, 2008b)

E-Recruitment: Technologically-assisted recruitment of employees; in most cases refers to internet-based presentation of employment opportunities and applicant selection processes administered over the web (Cushway, 2012, p. 15).

Fairness Perceptions (Gilliland, 1993): The reactions of job applicants to selection measures and decisions based on organizational justice.

Fairness Perceptions Outcomes (Gilliland, 1993): The effects of fairness perceptions on organizations pre- and post-hiring and job applicant self-perceptions.

Focus Group: A discussion group comprised of a small number of participants where important research topics and issues emerge from interpersonal dynamics informed by personal stories and member narratives (Krueger & Casey, 2000). Focus groups are considered among the purest forms of qualitative research design (Wilkinson, 2004).

Human Resource Information System (HRIS): A piece of information technology (IT) for human resources (HR) purposes that can be integrated into a department or agency's overall compensation and benefits, workplace health and safety, employee and labor relations, planning and analysis, equal opportunity employment, development, and staffing strategy (Aswathappa, 2007, p. 80)

Information System: Several integrated elements responsible for gathering, storing, and processing data that can be utilized to meet organizational goals (Stair & Reynolds, 2012, p. 4).

Information System Success Measure: Specific criteria influencing user satisfaction of an information system based on each developmental dimension specified by DeLone and McLean (1992, 2003). Measures vary depending on the specific type of information system under study.

Information System Success Theory: A model developed by DeLone and McLean (1992) specifying six (6) combined factors that indicate the "success" of information systems: (1) system quality, (2) information quality, (3) use, (4) user satisfaction, (5) individual impact, and (6) organizational impact.

Information Quality: User satisfaction with content on the information system.

System Quality: User satisfaction with the interface of the information system

Service Quality (2003): User satisfaction with help and support received when interacting with the information system.

Intention to Use/Use: How users interact with the information system. Intention to use is specified in instances where use of the information system is voluntary.

Individual Impact (Net Benefit № 1): The effect of information system use on the user.

Organizational Impact (Net Benefit № 2): The effect of information system use on the organization.

Organizational Justice: Employee attitudes toward organizational processes and the effects which follow from these attitudes. Organizational justice consolidates distributive, procedural, and interactional justice in a workplace context (Greenberg, 1987).

Distributive Justice: Employee attitudes toward allocation of resources in an organization (Homans & Merton, 1961). "Resources" can include tangible constructs such as pay and compensation and less tangible constructs such as promotions and validation (Adams, 1965).

Procedural Justice: Employee attitudes towards the methods used and actions taken leading up to decisions made in an organization (Leventhal, 1980; Thibaut & Walker, 1975).

Interactional Justice: Employee attitudes towards their interpersonal and communicative relationships with other members of the organization (Bies & Moag, 1986). Some researchers including Gilliland (1993) believe interactional justice is a sub-component of procedural justice rather an independent construct.

Personnel Selection: The combination of processes used by an organization to find and hire new employees (Anderson et al., 2008).

Pre-Employment Testing: Examinations administered to job candidates for the purposes of personnel selection.

Cognitive Ability Test: A test supposedly capable of measuring a job-seeker's general level of intelligence or reasoning abilities (Domino & Domino, 2006).

Situational Judgment Test: A test supposedly able to assess a job-seeker's behavioral tendencies and decision-making capabilities (Lievens et al., 2009).

Preparatory Job-Search: Information-gathering and research about possible future employment opportunities without operationalization of application activities (Soelberg, 1967).

Procedural Justice Rule: One (1) of ten (10) rules conceived of by industrial-organizational psychologist Stephen S.W. Gilliland (1993) which, if satisfied, will lead to positive perceptions of hiring process fairness and which, if violated, will lead to negative perceptions of hiring process fairness. Each rule also contains a descriptive/explanatory component.

Public Service Commission of Canada: An independent agency of the Federal Government of Canada that is responsible for managing the Canadian government's e-recruitment portal and conducting some personnel selection processes on behalf of the CPA.

Public Service Commission Portal (PSC portal): The e-recruitment internet website listing job openings in the CPA.

Staffing: Broader than *personnel selection*, staffing refers to the acquisition, deployment, and retention of employees (Heneman & Judge, 2006).

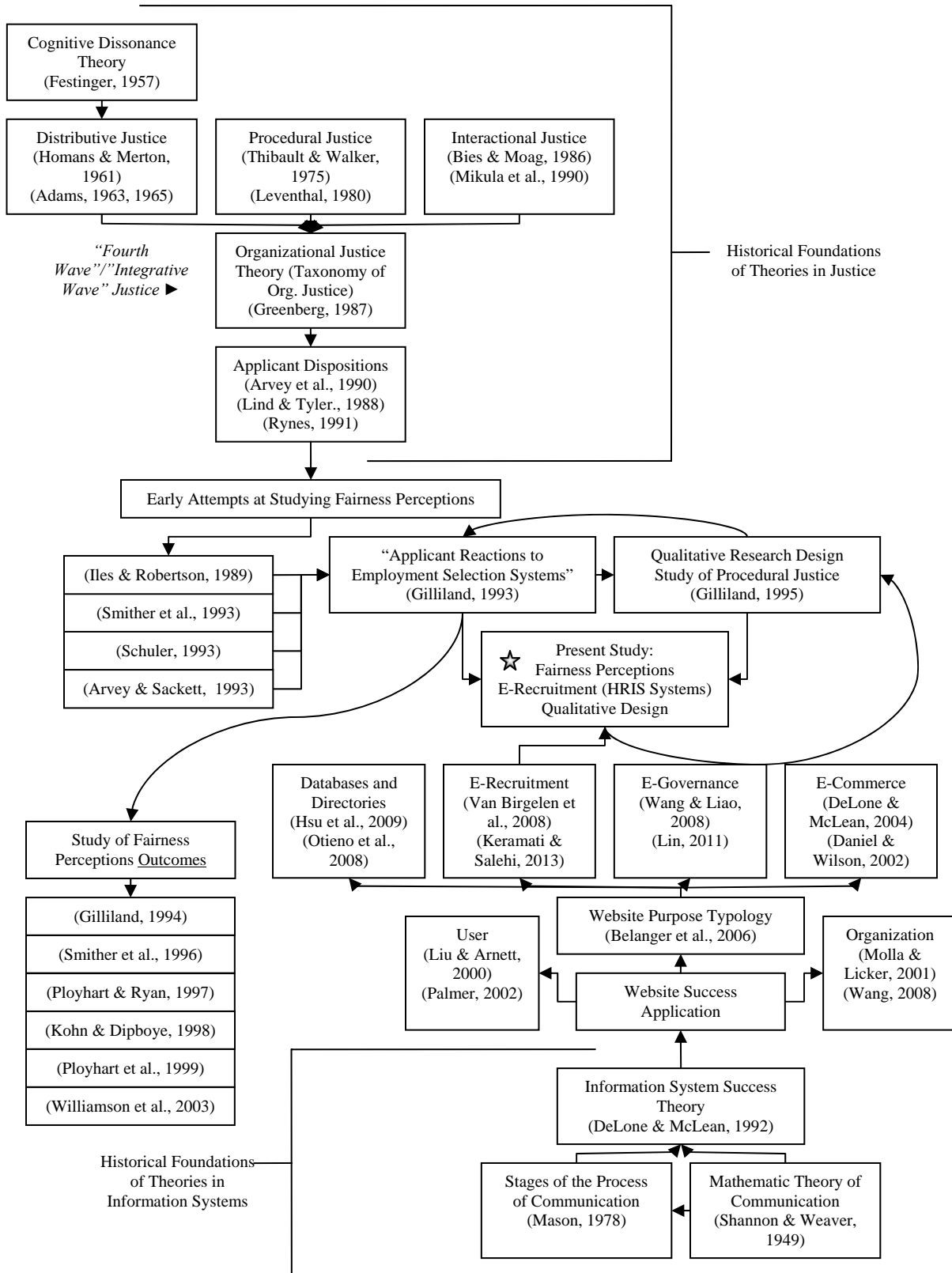
Unsupervised/unproctored Internet Testing (UIT): A pre-employment evaluation administered over the internet and without any kind of supervision as part of the personnel selection process.

Validity (context of pre-employment testing fairness): Job candidate perceptions surrounding the effectiveness of pre-employment testing (Gilliland, 1993).

Face Validity: Perception of test-taker that a given test is appropriate for measuring what it was originally intended to evaluate (Smither et al., 1993)

Perceived Predictive Validity: Perception of test-taker that a given test is appropriate for predicting future on-the-job performance (Smither et al., 1993)

APPENDIX II: THEORETICAL FRAMEWORKS VISUALIZATION



APPENDIX III: INTERVIEW GUIDE(S)

Meeting 1

<p>-Introductions</p> <ul style="list-style-type: none"> → Name → Background/career sought → Current employment situation → Employment search duration → Rationale for government career
<p>-Initial experiences</p> <ul style="list-style-type: none"> → Progress achieved recently → Activities undertaken recently
<p>-Did anything stand out as being fair or unfair?</p> <ul style="list-style-type: none"> → Why or why not? → How could it have been made more fair?
<p>-Think of some jobs you applied for recently. Do you think the government is justified in structuring the process this way?</p> <ul style="list-style-type: none"> → Why or why not?
<p>-Did you feel that your application was treated seriously?</p> <ul style="list-style-type: none"> → Do you feel like you have a chance? → What about interactions with government personnel? → How could the process be improved?
<p>-Did you feel treated with <u>respect</u>?</p> <ul style="list-style-type: none"> → Do you think the design of the system promotes respect?
<p>-Using jobs.gc.ca, was everything clear?</p>
<p>-What are your expectations for the jobs you applied for recently?</p> <ul style="list-style-type: none"> → What role does the portal play?

Meeting 2

<p>-Updates</p> <ul style="list-style-type: none"> → Progress achieved recently → Activities undertaken recently
<p>-Recall</p> <ul style="list-style-type: none"> → Did something stand out from our previous discussion? → Are there any outstanding issues? → Did you feel like you wanted to share something but we didn't have the time?
<p>-Current Progress</p> <p>-Did anything stand out as being fair or unfair?</p> <ul style="list-style-type: none"> → Why or why not? → How could it have been made more fair?
<p>-Did you need to complete any activities as part of the online application process?</p> <ul style="list-style-type: none"> → What were you asked to do? → Did anything stand out in terms of fairness?
<p>-Think of some jobs you applied for since we last met. Do you think the process was as fair as it could be?</p> <ul style="list-style-type: none"> → Why or why not?
<p>-Did you feel that your application was treated seriously?</p> <ul style="list-style-type: none"> → Do you feel like you have a chance? → What about interactions with government personnel? → How could the process be improved?

-What web aspects of jobs.gc.ca made it more or less fair?

Meeting 3

-Updates

- Progress achieved recently
- Activities undertaken recently

-Recall

- Did something stand out from our previous discussion?
- Are there any outstanding issues?
- Did you feel like you wanted to share something but we didn't have the time?

-Current Progress

- Did anything stand out as being fair or unfair?
- Why or why not?
- How could it have been made more fair?

-Did you need to complete any activities as part of the online application process?

- What were you asked to do?
- Did anything stand out in terms of fairness?

-Can you compare your experience using jobs.gc.ca to other job application tools?

- Do you think it is more or less fair?

Follow-ups

- Did you hear back about any of the applications you made?
- How do you feel about that?
- What about interactions with government personnel?
- How could the process be improved?

-What web aspects of jobs.gc.ca made it more or less fair?

Meeting 4

-Updates

- Progress achieved recently
- Activities undertaken recently

-Recall

- Did something stand out from our previous discussion?
- Are there any outstanding issues?
- Did you feel like you wanted to share something but we didn't have the time?

-Current Progress

- Did anything stand out as being fair or unfair?
- Why or why not?
- How could it have been made more fair?

-Did you need to complete any activities as part of the online application process?

- What were you asked to do?
- Did anything stand out in terms of fairness?

-How do you feel about the way you share information during the application process?

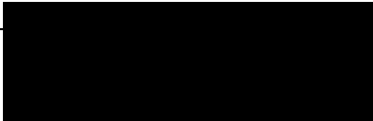
- What about privacy?

-What web aspects of jobs.gc.ca made it more or less fair?

-Remind final meeting

- Going forward, what are some of your impressions with jobs.gc.ca in terms of fair/unfair?
- Do you think any changes are needed?
- Do you think the current system meets the needs of Canadians?

APPENDIX IV: REB APPROVAL



Date (mm/dd/yyyy): 05/28/2013

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

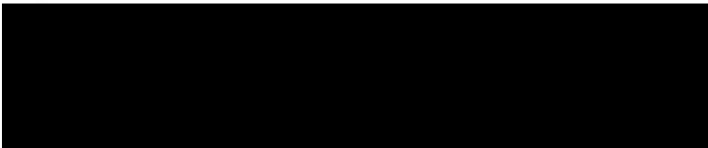
This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement and other applicable laws and regulations in Ontario, has examined and approved the application for ethical approval for the above named research project as of the Ethics Approval Date indicated for the period above and subject to the conditions listed the section above entitled "Special Conditions / Comments".

During the course of the study the protocol may not be modified without prior written approval from the REB except when necessary to remove subjects from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the study (e.g. change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, information/consent documentation, and/or recruitment documentation, should be submitted to this office for approval using the "Modification to research project" form available at: <http://www.research.uottawa.ca/ethics/forms.html>.

Please submit an annual status report to the Protocol Officer four weeks before the above-referenced expiry date to either close the file or request a renewal of ethics approval. This document can be found at: <http://www.research.uottawa.ca/ethics/forms.html>.

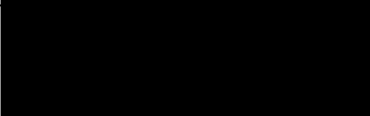
If you have any questions, please do not hesitate to contact the Ethics Office at extension 5387 or by e-mail at: ethics@uOttawa.ca.

Signature:



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550, rue Cumberland, pièce 154 550 Cumberland Street, room 154
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada
(613) 562-5387 • Téléc./Fax (613) 562-5338
<http://www.research.uottawa.ca/ethics/index.html>
<http://www.recherche.uottawa.ca/deontologie/index.html>

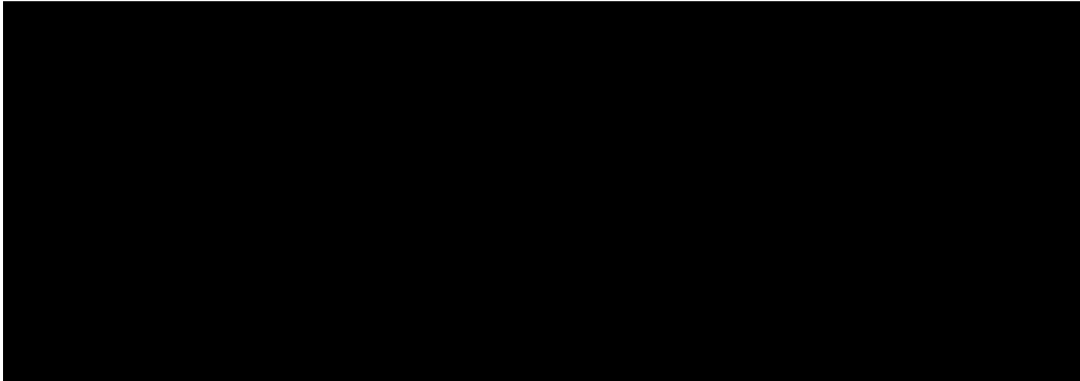


Date (mm/dd/yyyy): 05/28/2013

Université d'Ottawa **University of Ottawa**
Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

Ethics Approval Notice

Social Science and Humanities REB



Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)
05/28/2013	05/27/2014
(Ia: Approval, Ib: Approval for initial stage only)	
Special Conditions / Comments:	
N/A	

