An exploratory study of factors affecting undergraduate employability

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Abstract

Purpose – The current study was conducted to increase our understanding of factors that influence the employability of university graduates. Through the use of both qualitative and quantitative approaches, the paper explores the relative importance of 17 factors that influence new graduate employability.

Design/methodology/approach – An extensive review of the existing literature was used to identify 17 factors that affect new graduate employability. A two-phase, mixed-methods study was conducted to examine: Phase One, whether these 17 factors could be combined into five categories; and Phase Two, the relative importance that employers place on these factors. Phase One involved interviewing 30 employers, and Phase Two consisted of an empirical examination with an additional 115 employers.

Findings – Results from both the qualitative and quantitative phases of the current study demonstrated that 17 employability factors can be clustered into five higher-order composite categories. In addition, findings illustrate that, when hiring new graduates, employers place the highest importance on soft-skills and the lowest importance on academic reputation.

Research limitations/implications – The sectors in which employers operated were not completely representative of their geographical region.

Practical implications – The findings suggest that, in order to increase new graduates' employability, university programmes and courses should focus on learning outcomes linked to the development of soft-skills. In addition, when applying for jobs, university graduates should highlight their soft-skills and problem-solving skills.

Originality/value – This study contributes to the body of knowledge on the employability of university graduates by empirically examining the relative importance of five categories of employability factors that recruiters evaluate when selecting new graduates.

Keywords Employability, University graduates, Soft skills, Problem solving skills,
Pre-graduate experience, Functional skills, Academic reputation, Employment, Undergraduates

Paper type Research paper

Background

In the past 60 years, participation in post-secondary education has increased dramatically. Prior to the Second World War, post-secondary education was constrained to the societal elite that possessed the required economic capacity (Sutherland, 2008). However, following the Second World War, a combination of public policy and demographic shifts saw post-secondary education expand considerably in developed countries. For example, the number of degree granting post-secondary institutions in Canada expanded from 28 to 87 between 1918 and 2009 (Harris, 1976; Scott, 2006). Recently in Canada, undergraduate student enrolment has increased at a rate of approximately 3.1 per cent per annum, while graduate student enrolment has seen an even faster rate of growth (approximately 5 per cent since 2000; Statistics Canada, 2009). This increased enrolment has resulted in a significant increase in the number of credentials granted by these post-secondary institutions. By 2009, over

60 per cent of the working-age population in Canada held post-secondary education qualifications (Canadian Council on Learning, 2009).

Despite the increasing participation rate in post-secondary education, not all university graduates obtain jobs that fully harness their skills and credentials. In fact, evidence suggests that one out of every five university graduates is overqualified for their job, working in a position that only requires a high school education (Li *et al.*, 2006). In addition, labour market surveys indicate that the proportion of overqualified university-educated workers has been increasing over time (Li *et al.*, 2006).

One primary way to improve labour market outcomes for new university graduates is to ensure they have employability skills. Indeed, Wickramasinghe and Perera (2010) contend that these employability skills are critical for economic and social development. Moreover, from an employer's perspective, an educated and skilled workforce is vital to sustain a competitive advantage in the market (Lin *et al.*, 2012; Batra, 2010; Hitt *et al.*, 2001).

Increasing our understanding of factors that influence undergraduate university students' successful transition into the labour market is critical, both to reduce the proportion of new graduates who are overqualified for their jobs, and to ensure that employers can recruit graduates who have the skills their organisations need to succeed in the twenty-first century knowledge-based economy. In a recent survey by McKinsey, 40 per cent of employers indicated that there is a significant skills gap between graduates and entry-level requirements. McKinsey concluded that "there is an issue with education systems that fail to produce future workers with the kinds of skills required by today's organisations – let alone those of tomorrow" (McKinsey and Company, 2012, p. 23).

The relationship between education and employability[1] has been examined from a range of stakeholder perspectives, including university recruiters (Moy, 2006); faculty members (Aistrich *et al.*, 2006); and employers (Finch *et al.*, 2012). In addition, some researchers have focused on comparing perceptions of employability across stakeholder groups (Culkin and Mallick, 2011; Wickramasinghe and Perera, 2010; Nicholson and Cushman, 2000). For instance, studies have considered how employability is influenced by specific factors such as age (Van der Heijden *et al.*, 2009b), pre-graduate experience (Gault *et al.*, 2010; Gabris and Mitchell, 1989) and academic reputation and brand (Tas and Ergin, 2012; Alessandri *et al.*, 2006). Generally speaking, employability is examined from one of two perspectives: the organisational perspective is concerned with the ideal organisational structures and processes that will contribute to an organisation's competitive advantage (De Vos *et al.*, 2011; Nauta *et al.*, 2009); in contrast, the individual perspective considers the factors that are required for individual success in the labour market (Van der Heijden *et al.*, 2009a).

Despite the attention paid to the relation between education and employability, researchers have argued that much of the research into employability factors is theoretical and prescriptive, and that there is a lack of empirical evidence supporting these theoretical propositions (Wickramasinghe and Perera, 2010). In addition, there has been a heavy reliance on case studies, which typically suffer from a lack of generalisability (Wickramasinghe and Perera, 2010). As a result, it is difficult to extrapolate or compare findings. Ultimately, scholars have identified a need for additional research that examines the transition of new graduates to the workforce (Holden and Hamblett, 2007). In this context, the current study seeks to contribute to the body of knowledge on the employability of new graduates from the individual

perspective by empirically examining the relative importance of factors that recruiters evaluate when assessing new graduates.

This paper is structured as follow: first, we review the existing literature on factors that influence undergraduate university students' successful transition from the classroom to the workforce. Next, we use the literature review as the basis for conducting a qualitative study that identifies the key factors considered by employers when evaluating new graduates. Following this, we extend the qualitative findings by conducting an empirical study that explores the relative importance that employers place on these employability factors, examining 17 factors individually and at a composite level of five categories. Finally, we present our contributions, limitations, and implications for future research and practice.

Literature review

Employability is a multi-dimensional construct that includes: the ability to secure first employment; the ability for an individual to transfer between positions at the same employer; and the ability to secure employment from a new organisation (Hillage and Pollard, 1998). De Vos *et al.* (2011) contend that employability incorporates both objective and subjective elements. In the current study, we identify employers' subjective perceptions regarding the factors that are important to the employability of new graduates.

Previous research findings suggest that employability factors may be analysed at two levels (Bhaerman and Spill, 1988; Longest, 1973). The first level considers specific employability factors (e.g. listening skills, writing skills, academic performance). The second level condenses these factors into higher-order categories (e.g. soft-skills, functional skills). For instance, Finch *et al.* (2012) measured 46 individual employability factors relevant to 253 marketing practitioners and found that the 46 factors loaded onto seven higher-order composite categories. In Finch *et al.*'s (2012) study, the higher-order category "meta-skills" contained specific employability factors such as listening skills, professionalism, and interpersonal skills. These findings are similar to those suggested by Bhaerman and Spill (1988), who proposed three higher-order categories consistent with the US Department of Labour's Job Training Partnership Act: first, pre-employment and work maturity skills (i.e. labour market knowledge, initiative, professionalism); second, basic education skills (i.e. communications, analysis, and reasoning); and finally, job-specific skills (i.e. entry-level or advance functional skills of a field). While individual employability factors (e.g. writing skills) are important, there are benefits associated with grouping categories of related employability factors into higher-order categories. These categories are consistent with the approach taken by previous researchers, and they provide a parsimonious classification system for both employers and university educators who have a vested interest in increasing employability among university graduates.

Next, we review the breadth of literature associated with employability. This section is structured based on five proposed higher-order categories soft-skills; problem-solving skills; job-specific functional skills; pre-graduate experience; and academic reputation. Within these higher-order categories, we review literature on 17 individual factors (indicated by italics).

Soft-skills

Recently, educational researchers and employers have placed increasing attention on the importance of soft-skills (Chamorro-Premuzic *et al.*, 2010). While discipline-specific

knowledge is typically content specific, soft-skills are non-academic skills (e.g. communication skills) that are presumed to be useful in a range of working environments (Chamorro-Premuzic *et al.*, 2010). Evidence suggests that soft-skills are an important predictor of employability (Finch *et al.*, 2012; Lievens and Sackett, 2012; Nickson *et al.*, 2012; Rynes *et al.*, 1997). Specific soft-skills that may affect employability include the following types of communication skills: *written communication skills* (Ariana, 2010; Graham *et al.*, 2010; Andrews and Higson, 2008; Gardner *et al.*, 2005); *verbal communication skills* (Gray, 2010; Gardner *et al.*, 2005); and *listening skills* (Cooper, 1997; Goby and Lewis, 2000). Similarly, *professionalism* has been identified as contributing to employability (Ashton, 2011; Mat and Zabidi, 2010; Shafer *et al.*, 2002; Cable and Judge, 1996). Lastly, scholars have identified *interpersonal skills* – such as the ability to work effectively in teams – as an important employability factor (Wellman, 2010; Borghans *et al.*, 2008; Chowdhury *et al.*, 2002). In sum, research conducted from a range of disciplines and occupations converges on the finding that soft-skills influence employability.

Problem-solving skills

Several researchers have identified that problem-solving skills are core to employability (Reid and Anderson, 2012; Stiwne and Jungert, 2010; Wellman, 2010; Fallows and Steven, 2000). Similar to soft-skills, problem-solving skills are important across disciplines (e.g. engineering, marketing) and employer type (Stiwne and Jungert, 2010; Wellman, 2010). Problem-solving skills are higher-order cognitive skills that are complex, requiring "judgment, analysis, and synthesis; and are not applied in a rote or mechanical manner" (Halpern, 1998, p. 451). Problem solving is a competency closely related to intelligence (or general mental ability; Scherbaum *et al.*, 2012), which is the best predictor of job performance across a variety of occupations (Schmidt and Hunter, 1998, 2004). Problem solving incorporates a range of competencies including *critical thinking skills* (Reid and Anderson, 2012; Halpern, 1998), *creativity* (Kilgour and Koslow, 2009; Halpern, 1998), *leadership skills* (Conrad and Newberry, 2012), and *adaptability* (Jabr, 2011; Barr *et al.*, 2009).

Job-specific functional skills

Job-specific functional skills – including *job-specific competencies, job-specific technical skills* (e.g. Rosenberg *et al.*, 2012), and *knowledge of software* (Perry, 1998) – are essential when considering an individual's employability (Huang and Lin, 2011; Laker and Powell, 2011; Smith *et al.*, 2008; Pang and To Ming, 2005; Bhaerman and Spill, 1988; Longest, 1973). Generally speaking, these skills send a signal to employers that a new graduate has mastered the specific proficiencies needed to perform highly on a particular job (Bhaerman and Spill, 1988). It is important to note that job-specific functional skills are more context specific than soft-skills and problem-solving skills. For instance, the technical skills required by a software engineer will differ from those required by a business analyst.

Pre-graduate experience

The relationship between pre-graduate experience and employability has been studied extensively (Hopkins *et al.*, 2011; Gault *et al.*, 2010; Callanan and Benzing, 2004; Gault *et al.*, 2000; Gabris and Mitchell, 1989). *Pre-graduate work experience* may include in-programme experiential learning opportunities (e.g. co-op and internships) or more informal career-related work experience such as part-time or summer employment.

In one study of 142 recent university graduates, students who completed internships reported both higher job acquisition skills and job satisfaction (Gault *et al.*, 2000). The researchers concluded that "experiential education plays a vital role in enhancing the preparation and success of undergraduates in the entry-level job market" (Gault *et al.*, 2000, p. 52). Similarly, in a qualitative interview study investigating graduate and employer perspectives of employability, findings suggest that UK employers highly value graduates' work experience, viewing it as an indicator of workplace readiness (Andrews and Higson, 2008). *Professional confidence* is a construct that is closely related to pre-graduate work experience, in part because it is increased by experiential learning opportunities (Overton *et al.*, 2009). Like pre-graduate work experience, professional confidence is associated with employability (Brown *et al.*, 2003). In sum, the literature suggests that pre-graduate experience influences employability as it enables students to develop their overall skills by experiencing real-world challenges and applications (Gabris and Mitchell, 1989).

Academic reputation
Academic reputation has a significant impact on a variety of outcomes of interest to employers, policy makers, and academics alike. For instance, researchers have examined how student retention and perceptions are affected by: institutional image (Pampaloni, 2010); institutional branding (Bennett and Ali-Choudhury, 2009; Judson *et al.*, 2008); institutional ranking (Capobianco, 2009); and programme structure (Sauer and O'Donnell, 2006). Comparatively, few studies have explored the relationship between academic reputation and employability.

Reputation is a social construct that is defined as the generalised level of esteem for an organisation held by a stakeholder (Deephouse and Carter, 2005; Dalton and Croft, 2003; Fombrun and Shanley, 1990). Evidence suggests that the academic reputation of a specific school (e.g. Harvard) or a category of schools (e.g. Ivy League) may enhance employability of graduates from these institutions (Chevalier and Conlon, 2003). Evidence suggests that academic reputation and its relationship to employability should be considered at three levels. The first level considers *institutional-level reputation*. Institutions and the ranking systems that have emerged in the past two decades (e.g. Maclean's University Rankings, Forbes Top Colleges List) influence the employability of new graduates (Alessandri *et al.*, 2006; Capobianco, 2009). Second, scholars have identified that *programme-level reputation* also can influence the perception of employability skills (McGuinness, 2003). For example, the *Financial Times* (2012) releases an annual ranking of MBA programmes which may influence the employability of graduates from these programmes. Lastly, individual *academic performance* (e.g. grade-point average) contributes to the employability of a new graduate (Ng *et al.*, 2010) and is frequently used in selection systems for entry-level positions (Rynes *et al.*, 1997).

In sum, consistent with Finch *et al.* (2012), our literature review identified five higher-order composite categories of employability factors: soft-skills; problem-solving skills; job-specific functional skills; pre-graduate experience; and academic reputation. Within these five higher-order categories are 17 individual employability factors. The goal of the current study is to empirically examine the relative ranking of these 17 measures and five composite categories among a sample of employers. To this end, we conducted a mixed-methods study that incorporates two phases. In Phase One we conducted a qualitative study to provide preliminary support for the importance of the 17 individual employability factors and their associated five

composite categories. Based on our findings from Phase One, in Phase Two we developed a measure that allowed us to explore the relative importance of the employability factors and their composite categories.

Operationalising employability factors

Phase One: qualitative interview study

Methodology. In Phase One of this study, we used qualitative methods to further explore and verify the employability factors and categories identified in our literature review. Specifically, we conducted 30 one-on-one interviews with hiring managers and influencers. To ensure participation by diverse employers (Creswell, 2009), we engaged in purposeful sampling methods based on Statistics Canada data. Three stratification criteria were used to identify candidates: first, confirmation that individuals directly hired or had significant influence on the hiring decision of new graduates; second, a broad representation of industry sectors; and finally, a mix of small, medium, and large organisations. Based on these criteria, a pool of candidates was recruited through the local chamber of commerce and the local human resources professional association in a large western Canadian city. Table I presents individual profiles of the participants.

We conducted standardised, structured interviews that included a variety of open-ended questions. This format was chosen to provide sufficient structure to explore major themes, while maximising objectivity and ensuring that participants were not led to predetermined responses (Corbin and Strauss, 1990). Of central importance to the current study, the majority of questions focused on the identification of employability factors for new graduates. In addition, participants responded to questions about their professional background and hiring experience.

Each participant was interviewed independently in a private location. The mean interview length was 20:29 minutes. All interviews were digitally recorded and then transcribed. To maximise objectivity, each interview was independently coded by two members of the research team (Corbin and Strauss, 1990). First, the researchers independently reviewed the audio tapes of each interview in their entirety. This provided a holistic perspective of each interview. Moreover, this process enabled the researchers to independently code major themes at the individual participant level. The second stage of the reduction process eliminated duplicate or overlapping themes. This reduction process was done in a manner that identified the composite themes without losing the integrity of each interviewee's contribution (Moustakas, 1994). To mitigate this risk during the reduction process, a separate document was maintained by the researchers of all participant content removed during the analysis.

Results. During the first phase of the coding process, a total of 31 major themes were independently identified by the researchers. The second stage consolidated these into eight major composite themes. The researchers then sought to compare these themes to the 17 employability factors identified during the literature review. Based on both the literature review and interview data, Table II illustrates support for the five composite categories, while Table III illustrates a range of support for the 17 employability factors. Interpersonal skills (29/30) and programme-level reputation (27/30) were the most consistently identified individual factors during the interviews. In contrast, knowledge of software (10/30) was the factor that was mentioned the least frequently. Ultimately, the qualitative research provided additional background and context that enabled a better understanding of the scope and relationship between employability factors. This proved invaluable during the empirical phase of this study.

Participant	Title	Industry	Size of organisation (no. of employees)
Participant 1	Manager, passenger experience	Transportation	Medium (50-499)
Participant 2	Manager, talent acquisition	Transportation	Large (500 +)
Participant 3	Senior chef	Hospitality	Large (500 +)
Participant 4	Executive sous chef	Hospitality	Large (500 +)
Participant 5	Manager, daily programmes	Recreation	Medium (50-499)
Participant 6	Manager, human resources	Recreation	Medium (50-499)
Participant 7	Operations manager	Hospitality	Large (500 +)
Participant 8	General manager	Hospitality	Small (1-49)
Participant 9	President	Arts and culture	Small (1-49)
Participant 10	Operations manager	Arts and culture	Small (1-49)
Participant 11	President and chief executive officer	Energy and utilities	Small (1-49)
Participant 12	Chief operating officer	Energy and utilities	Small (1-49)
Participant 13	Senior sales coordinator	Energy and utilities	Large (500 +)
Participant 14	Team lead, early talent	Energy and utilities	Large (500 +)
Participant 15	Vice president	Professional services	Large (500 +)
Participant 16	Business analyst	Energy and utilities	Large (500 +)
Participant 17	Manager, campus recruitment	Energy and utilities	Large (500 +)
Participant 18	Senior auditor	Energy and utilities	Large (500 +)
Participant 19	Manager, human resources	Energy and utilities	Large (500 +)
Participant 20	Engineering manager	Energy and utilities	Small (1-49)
Participant 21	Manager, talent acquisition	Energy and utilities	Large (500 +)
Participant 22	Marketing director	Arts and culture	Small (1-49)
Participant 23	Provincial director	Non-profit	Large (500 +)
Participant 24	Chief executive officer	Non-profit	Small (1-49)
Participant 25	Finance director	Arts and culture	Medium (50-499)
Participant 26	Programme manager	Arts and culture	Small (1-49)
Participant 27	President and chief executive officer	Non-profit	Medium (50-499)
Participant 28	Director	Non-profit	Large (500 +)
Participant 29	President	Arts and culture	Small (1-49)
Participant 30	Operations manager	Entertainment	Small (1-49)

Table I.
Practitioner interviewees

Phase Two: an empirical examination of employability factors
Methodology. Phase One provided preliminary support for the 17 individual employability factors and their associated five composite categories. In Phase Two we expanded these findings by empirically examining the relative importance of these factors amongst practitioners. Employability is one of the central objectives of higher education (Poropat, 2011). Consequently, the target population for our empirical study was employers who have direct influence on hiring decisions pertaining to new graduates. To reach a large and diverse group of professionals from a wide range of industries, functional roles, and business sizes, we partnered with the chamber of commerce and the economic development authority in a large western Canadian city. The chamber facilitated data collection by distributing the survey link to the 1,200 members who subscribe to their weekly e-newsletter. In addition, the survey link was posted on the economic development authority's web site. In both cases, we specified that managers who were responsible for hiring new graduates were invited to participate. Data were collected over a 14-day period.

Table II.
Employability factors – composite categories

Factor	Literature support	Interview support	Scope
Soft-skills	Lievens and Sackett (2012), Rynes et al. (1997)	28/30	The importance of soft-skills was consistently identified by both the interviewees and associated literature. When asked to define soft-skills, interviewees cited communication and professionalism as dominant characteristics
Problem-solving skills	Reid and Anderson (2012), Kilgour and Koslow (2009)	25/30	Interviewees indicated that it is essential for new graduates to be "problem solvers". Interviewees identified characteristics such as critical thinking, creativity, leadership, and adaptability as core to problem solving
Functional skills	Huang and Lin (2011), Laker and Powell (2011), Smith et al. (2008), Longest (1973), Pang and To Ming (2005)	28/30	Job-specific functional skills emerged as a critical criterion in 28/30 interviews. These functional skills vary based on the profession. Functional skills were often cited as job-specific competencies or more general skills such as knowledge of specific software programmes
Academic reputation	Alessandri et al. (2007)	19/30	The qualitative research and literature review identified the influence of both institutional- and programme-level reputation. Dimensions of academic reputation were identified in 19/30 interviews as a consideration in hiring. These interviewees often cited the importance of specialised training that is unique to certain programmes. In this sense, these hiring managers often cited programme reputation as more relevant than institutional reputation
Pre-graduate work experience	Callanan and Benzing (2004), Gault et al. (2010), Gabris and Mitchell (1989)	19/30	The final theme identified was the importance of pre-graduate work experience as an employability factor. This pre-graduate work experience may include in-programme experiential learning opportunities (i.e. co-op and internships) or more informal work experience such as related part-time or summer employment. This reflects previous literature identifying the value of work experience for the employability of graduates (Callanan and Benzing, 2004; Gault et al., 2010; Hopkins et al., 2011)

Factor	Literature support	Interview support	Scope
Written communication skills	Gardner *et al.* (2005), Ariana (2010), Graham *et al.* (2010)	21/30	Being able to communicate effectively through writing is the main form of communication in our society and is a valued skill that increases employability opportunities (Graham *et al.*, 2010; Gardner *et al.*, 2005). In the current study, we used written communication as a factor employers consider when hiring new graduates because it is a tangible skill that can be effectively evaluated
Verbal communication skills	Gardner *et al.* (2005), Gray (2010)	25/30	To communicate effectively, graduates entering the workforce need to meet high standards of oral communication (Gray, 2010). New graduates that can communicate ideas and ask questions to gain information will be more productive and efficient in the work environment. In the current study, we define verbal communication as: skills used to effectively comprehend, critique, and analyse information; communicate clearly and persuasively; and express ideas
Listening skills	Cooper (1997), Goby and Lewis (2000)	22/30	Listening skills are highly valued by employers when analysing desirable skills in new graduate employees (Goby and Lewis, 2000; Cooper, 1997). Having exceptional listening skills is an indication of highly productive individuals that ultimately leads to better employability (Cooper, 1997). In the current study, we define listening skills as: selectively perceiving, interpreting, understanding, assigning meaning, reacting, remembering, and analysing what is heard
Professionalism	Mat and Zabidi (2010), Shafer *et al.* (2002); Cable and Judge (1996)	17/30	The professional role that individuals accept when entering certain industries requires specific professional obligations, attributes, interactions, attitudes, and role behaviours (Mat and Zabidi, 2010). Professionalism can directly reflect the qualities and values of an organisation and employers need to evaluate the person-organisation fit when analysing the professionalism of a new graduate (Cable and Judge, 1996). The importance of professionalism is valued highly by employers because their employees represent the organisation in public on a daily basis

(continued)

Table III.
Employability
factors – individual

Factor	Literature support	Interview support	Scope
Interpersonal skills	Lievens and Sackett (2012), Rynes *et al.* (1997)	29/30	The individual capability to use interpersonal skills to build relationships and communicate with others can be a strong predictor of future success for new graduates (Lievens and Sackett, 2012). Interpersonal skills are associated with other factors such as: social sensitivity, relationship building, working with others, listening, and communication skills (Lievens and Sackett, 2012). For the purpose of the current study, interpersonal skills are defined as one's ability to work and communicate with others while bringing value to the organisation
Critical thinking skills	Reid and Anderson (2012), Halpern (1998)	20/30	The ability to think critically allows individuals to generate new ideas to reach desired and rational outcomes (Reid and Anderson, 2012). From an employer's perspective it is important to have employees that generate original ideas to overcome obstacles to accomplish company goals. Critical thinking is a process involving creative thinking, decision making, problem solving, reasoning, and knowing how to learn from previous situations (Reid and Anderson, 2012). A critical thinker is goal oriented and looks for ways to achieve desired goals (Halpern, 1998). For the purpose of this study critical thinking is defined as: the conjunction of knowledge, skills, and strategies that promotes improved problem solving, rational decision making, and enhanced creativity
Creative thinking skills	Kilgour and Koslow (2009), Halpern (1998)	12/30	Creative thinking is unique to individuals that can create original ideas and bring them to their workplace, giving their organisation a competitive edge (Kilgour and Koslow, 2009). For the purpose of this study, creative thinking is defined as the creative processes individuals bring to their work environment and the value their ideas bring to that business. Creativity and the processes of generating unique ideas are not a one-size fit all proposition, but need to be tailored to individuals and the environment in which they are applied (Halpern, 1998)

(continued)

Table III.

Factor	Literature support	Interview support	Scope
Leadership skills	Conrad and Newberry (2012)	17/30	Conrad and Newberry (2012)state that one of the largest skill gaps currently in academia is not teaching students leadership skills valued by prospective employers. Leadership is vital to employers looking for new graduate employees (Conrad and Newberry, 2012). In the current study, we define leadership as the ability to motivate other employees and guide them to success
Ability to adapt to technology	Barr et al. (2009), Jabr (2011)	12/30	Changing technology is a variable that is forcing students to adapt to changing environments to stay competitive (Barr et al., 2009; Jabr, 2011). Being technologically astute allows new graduates the ability to be competitive in a work environment (Jabr, 2011). Thus being able to adapt to technology makes one more desirable to employers. For the present study the ability to adapt to technology is defined as the ability to use current technology to learn and problem solve
Job-specific competencies	Huang and Lin (2011), Longest (1973)	22/30	Employers value post-secondary institutions that place a high value on training job-specific competencies (Pang and To Ming, 2005). Indeed, accumulating job-specific competencies over time allows a graduate to become successful in his/her chosen career path
Job-specific technical skills	Laker and Powell (2011), Smith et al. (2008), Pang and To Ming (2005)	25/30	Industry has indicated that it wants academia to produce new graduates that have strong technical skills (Smith et al., 2008). For the purpose of the current study, job-specific technical skills are defined as using specific technical skills to problem solve in order to complete one's job. Technical skills are often tangible and specific, for example, creating a balance sheet or analysing a data set using statistics
Knowledge of software	Shoemaker (2003), McCorkle et al. (2001)	10/30	Graduates are continually being put in front of new and evolving software in work environments (McCorkle et al., 2001). Having students exposed to software used in their discipline would prepare them for the future, thus bringing confidence to employers. If graduates are exposed to and familiar with different types of software within their discipline, this will create confidence in the employer's mind while lowering the risk of hiring a new graduate (Shoemaker, 2003)

(*continued*)

Table III.

Factor	Literature support	Interview support	Scope
Pre-graduate work experience	Callanan and Benzing (2004), Gault *et al.* (2010), Gabris and Mitchell (1989)	27/30	The current study defines pre-graduate work experience as previous work involvement in the form of internships, co-ops and work terms or other activities. Pre-graduate work experience has been directly linked to future employment and is a factor that is candidly looked at by employers when evaluating new graduate potential (Callanan and Benzing, 2004). Evidence suggests that even average performing interns are more likely to receive job offers than students who did not complete internships (Gault *et al.*, 2010). Thus previous work experience through internships gives new graduates a competitive advantage because they are exposed to real working conditions
Professional confidence	Chowdhury *et al* (2002), Wiener *et al.* (1999), Knouse *et al.* (1999)	21/30	A high level of self-confidence is linked directly to performance, such that higher levels of perceived confidence lead to a more effective individual (Wiener *et al.*, 1999). A highly confident employee will perform to a higher quality than her/his peers making themselves and their organisation more effective (Chowdhury *et al.*, 2002). Confidence allows for an individual to take risks and separate themselves from their peers to meet goals (Chowdhury *et al.*, 2002; Knouse *et al.*, 1999). In the current study we define professional confidence as one's ability not to fear certain situations, remain assertive in-group discussions and remain confident in decision making
Academic performance	Ng *et al.* (2010)	16/30	The current study seeks to evaluate the importance of a cumulative GPA when employers are assessing new graduates to fill job postings. GPA is a tangible and easily measured performance indicator and is often asked for by prospective employers (Ng *et al.*, 2010). GPA says a lot about a candidate and can be a major determining factor when securing a job

(*continued*)

Factor	Literature support	Interview support	Scope
Post-secondary institutional reputation	Alessandri *et al.* (2007)	17/30	Institutional reputation is important to understand as a new graduate seeking employment because each post-secondary institution creates its own image and carries its own reputation among industries (Alessandri *et al.*, 2007). Universities have become more competitive within the market trying to attract the best students and in turn provide the best job opportunities for the students that have been recruited (Alessandri *et al.*, 2007). This allows post-secondary institutions to create a competitive edge by attracting top students and in turn top companies
Programme reputation	Brint *et al.* (2011), Helgesen and Nesset (2007), McGuinness (2003)	27/30	Specific programme-level reputation has been identified to contribute to the academic reputation of an institution and ultimately influence perceived employability skills (McGuinness, 2003). The emergence of programme-level ranking systems and average compensation of new graduates (e.g. business schools) are examples of the link between programme-level reputation and employability

Table III.

For Phase Two of the current study, we created a new measure based loosely on Paranto and Kelkar's (1999) measure of employers' perceptions of skills needed to succeed in today's work environment. Our measure included the 17 individual employability factors identified in the literature review and supported by the findings from Phase One. Consistent with Paranto and Kelkar's (1999) measure, respondents evaluated the importance of each of the 17 factors using a seven-point Likert-type scale (1 = not important to 7 = very important). Participants were also asked to indicate the industry in which they are currently employed, the size of their organisation, and their job title and age.

The final sample consisted of 115 employers. Generally, respondents were either directly responsible for hiring new graduates (56 per cent) or had a major influence on hiring decisions (31 per cent). The major sectors represented include: educational services (22.4 per cent), professional services (17.3 per cent), technology (10.4 per cent), and energy and utilities (7.5 per cent). The sample was stratified between small- and medium-sized organisations (1-49 employees; 49 per cent of sample), medium-sized organisations (50-499 employees; 24 per cent of sample), and large organisations (>500 employees; 27 per cent of sample).

Results. To examine the relationship amongst the 17 individual factors we started by conducting an exploratory factor analysis (EFA) using principal components extraction (and a promax rotation). The results of the EFA provided preliminary support for the proposed five composite categories. To test the internal consistency of each category, we conducted a Cronbach's α reliability test (Cronbach, 1951). The results of the Cronbach's α's ranged from 0.51 to 0.79 and offered additional support for the unidimensional composition of each category. Lastly, we completed a category-level correlational analysis to examine the relationship amongst the categories. The relatively low intercorrelations among the five categories suggest these factors are independent. In summary, our data analysis supports the proposition that employability factors can be clustered effectively into five unidimensional categories. Table IV provides a summary of the results from the EFA while Table V illustrates the intercorrelations between the composite categories.

Table VI presents the category-level ranking. As this table demonstrates, soft-skills was the highest ranked category, followed by problem-solving skills. In contrast, academic reputation was the lowest ranked category. Moreover, as illustrated in Table VII, consistent with the category-level finding, five of the six highest ranked individual employability factors were from the category of soft-skills. Whereas, three of the four lowest individual employability factors were measures of academic reputation.

Discussion

This exploratory study considers employers' views of the factors that are important for new graduates who are seeking employment. Based on qualitative and quantitative findings, we identified 17 individual employability factors that can be clustered into five composite employability categories. These findings contribute to the existing literature on employability by empirically examining how the extensive list of employability factors can be aggregated in a way that is both theoretically and practically meaningful. In addition, we examined how employers prioritise employability factors. Ultimately, these findings can be used to enhance the employability of new graduates, and should be considered by researchers and educators alike when reflecting on employers' hiring practices and preferences. In what follows, we address our key findings and practical implications as they pertain to the five employability categories identified in our results.

Category	Factor loading
Soft-skills (*Cronbach's α = 0.79*)	Eigenvalue = 2.73
Written communication skills	0.64
Verbal communication skills	0.81
Listening skills	0.68
Professionalism	0.79
Interpersonal skills	0.77
Problem-solving skills (*Cronbach's α = 0.67*)	Eigenvalue = 2.04
Critical thinking skills	0.72
Creative thinking skills	0.83
Leadership skills	0.70
Adaptability	0.57
Functional skills (*Cronbach's α = 0.68*)	Eigenvalue = 1.87
Job-specific competencies	0.73
Job-specific technical skills	0.75
Knowledge of software	0.78
Pre-graduate experience (*Cronbach's α = 0.51*)	Eigenvalue = 1.44
Work experience	0.81
Professional confidence	0.71
Academic reputation (*Cronbach's α = 0.76*)	Eigenvalue = 2.04
Academic performance	0.67
Institutional reputation	0.89
Programme reputation	0.90

Table IV.
Proposed new
graduate employability
categories – factor
loadings and Cronbach's α

Category	Soft-skills	Academic reputation	Functional skills	Problem-solving skills
Soft-skills	1.00			
Academic reputation	0.43	1.00		
Functional skills	ns	0.24	1.00	
Problem-solving skills	0.42	0.27	ns	1.00
Pre-graduate experience	0.28	ns	ns	0.38

Note: All correlations are significant at the 0.05 level (two-tailed)

Table V.
Proposed new graduate
employability categories –
intercorrelations

Category	Mean	SD
Soft-skills	6.28	0.64
Problem-solving skills	5.80	0.73
Pre-graduate experience	5.35	0.86
Functional skills	4.88	1.07
Academic reputation	4.36	1.04

Table VI.
Mean ranking –
category level

Soft-skills: our results support a growing body of research that identifies soft-skills as
one of the most important competencies employers look for when hiring new graduates
(Finch *et al.*, 2012; Chamorro-Premuzic *et al.*, 2010). Indeed, of the 17 individual
employability factors measured, five of the six highest ranked factors were from the
category of soft-skills. This suggests that new graduates who demonstrate soft-skills
(e.g. effective communication and interpersonal skills) will be more competitive in the
marketplace than those who do not.

Individual factor	Associated category	Mean	SD
1. *Listening skills*	Soft-skills	6.41	0.76
2. *Interpersonal skills*	Soft-skills	6.35	0.82
3. *Verbal communication skills*	Soft-skills	6.32	0.76
4. *Critical thinking skills*	Problem-solving skills	6.24	0.87
5. *Professionalism*	Soft-skills	6.19	1.06
6. *Written communication skills*	Soft-skills	6.11	0.93
7. *Creative thinking skills*	Problem-solving skills	6.09	0.83
8. *Adaptability*	Problem-solving skills	5.73	1.09
9. *Professional confidence*	Pre-graduate experience	5.69	0.89
10. *Job-specific competencies*	Functional skills	5.62	1.19
11. *Leadership skills*	Problem-solving skills	5.15	1.32
12. *Work experience*	Pre-graduate experience	5.01	1.20
13. *Job-specific technical skills*	Functional skills	4.76	1.36
14. *Academic performance*	Academic reputation	4.64	1.24
15. *Programme reputation*	Academic reputation	4.30	1.26
16. *Knowledge of software*	Functional skills	4.26	1.49
17. *Institutional reputation*	Academic reputation	4.16	1.30

Table VII.
Mean ranking – individual measure level

These findings suggest that learning outcomes linked to soft-skills development should take priority in the development of both academic programmes (e.g. degrees or majors) and specific courses within these programmes. On the one hand, evidence suggests that, when it comes to soft-skills, there is an increasing gap between the content and skills taught in educational institutions and the needs of industry (Finch *et al.*, 2012). These findings call into question the perceived value of traditional undergraduate education among these employers. On the other hand, soft-skills are a central learning outcome in many post-secondary programmes and disciplines. Taken together, this suggests that an employer's view of the competencies needed in new graduates is changing faster than academic programmes can adapt. Recall that the prioritisation of soft-skills in new graduates often transcends disciplines and working environments (Chamorro-Premuzic *et al.*, 2010). Therefore, our findings suggest that, to be competitive, universities must emphasise the development of soft-skills within all of their programmes. This will ensure that graduates enter the workforce with the number one skill that employers want: soft-skills.

Problem-solving skills: consistent with past research (e.g. Reid and Anderson, 2012; Stiwne and Jungert, 2010; Wellman, 2010; Fallows and Steven, 2000), in the current study employers identified problem-solving skills (e.g. critical thinking skills) as an important factor when assessing new graduates' employability. Second only to soft-skills, problem solving was considered a key skill employers assess when hiring new graduates. The current findings provide additional support for the notion that problem-solving skills are important across disciplines (Wellman, 2010), perhaps due to their strong predictive validity when it comes to job performance (Schmidt and Hunter, 2004, 1998). Taken together, the relatively high importance placed on soft-skills and problem-solving skills suggests that employers value skills that transcend specific roles and occupations, and place relatively less value on job-specific functional skills.

Pre-graduate experience: the third most important category of factors, as identified by employers, is pre-graduate experience. Importantly, findings from both the qualitative and quantitative phases of the current study illustrate that employers view the learning opportunities inherent in co-op and internship placements as highly

valuable for graduate job-seekers and their prospective employers. This finding replicates and extends previous literature demonstrating the importance of work experience for graduate employability (Gault *et al.*, 2010; Callanan and Benzing, 2004).

Job-specific functional skills: the next category identified as an important employability factor is job-specific functional skills. Within this category, three individual factors were measured: job-specific competencies, job-specific technical skills, and knowledge of software. Results demonstrated that these skills are not as important to employers as the previous three categories identified. To be a successful job applicant as a new graduate, technical skills are important but ranked intermediate to the other categories. Employers who have technical requirements understand that they may have unique software and/or technical processes that graduates may not have been exposed to in their studies. However, by selecting graduates with strong problem-solving skills, employers can ensure that it will be easy for their employees to learn these job-specific functional skills through training or on-the-job experience.

Academic reputation: the final category examined in the current study was academic reputation (i.e. academic performance, programme reputation, and institutional reputation). Our results illustrate that, compared to the above-mentioned categories, employers place the least importance on academic reputation when hiring new graduates. In fact, of the four lowest ranked individual employability factors, three were measures of academic reputation. That said, these factors were still ranked above the mid-point on the scale, suggesting that employers do place some importance on them. These findings contribute to the relatively small body of literature on the relationship between academic reputation and employability. Interestingly, it appears that there may be a disconnect between the importance students place on academic reputation when choosing their post-secondary institution (Capobianco, 2009) and the relative lack of importance employers place on academic reputation when hiring graduates.

Directions for future research
There are two employability factors that were not included in the current study: team work skills and information-processing skills. In the current study, we examined a variety of soft-skills including communication skills and interpersonal skills. Although interpersonal skills can include the ability to work effectively in teams, future researchers may wish to measure team work skills as a separate employability factor within the soft-skills category (Gault *et al.*, 2000). Similarly, within the problem-solving category, researchers may wish to examine the role of information-processing skills (Karakaya and Karakaya, 1996). Both of these factors were also identified by the National Association of College and Employers (NACE) (2012) as important for employees but were not specifically measured in the current study.

In the current study results demonstrated that, according to hiring managers who recruit new graduates, soft-skills are key to employability. This leads to an interesting question: how are employers evaluating these skills, both at the resume screening phase (e.g. via screening software) and later in the selection process (e.g. via assessment centres or structured interviews)? And, are these soft-skills a valid predictor of job performance? Ultimately these are important empirical questions that merit attention.

Limitations
We would be remiss not to acknowledge some limitations of the current study. Although our findings were corroborated by two independent samples, for the

quantitative (Phase Two) study, we partnered with the chamber of commerce and the economic development authority in a large western city. While this approach resulted in a fairly large and diverse sample of employers, the sectors were not completely representative of the region. Although respondents came from diverse sectors, in this sample, educational services is significantly overrepresented and other sectors such as retail, hospitality, healthcare, professional services, and energy and utility are underrepresented (Calgary Economic Development, 2012). In addition, because the survey was distributed via e-mail to the chamber's members, this excluded non-chamber members from our sample. Future researchers may wish to replicate and extend the current findings using a larger, more representative sample of employers. It is also important to note that employers were the target population for this study. While employers' perceptions are particularly important for many graduates, we acknowledge that employability is only one of the many goals of most undergraduate university programmes. Most programmes also strive to foster a love for lifelong learning and to develop graduates who are engaged citizens in their communities.

Conclusion
The goal of increasing our understanding of factors that affect new graduates' transition into the labour market stems from a pressing issue facing a large proportion of new graduates: high rates of un- and under-employment (Li *et al.*, 2006). Based on a two-phase, mixed-methods study that included interview data from 30 employers and quantitative data from an additional 115 employers, we demonstrated that employability factors can be clustered into five higher-order composite categories. In addition, we explored the relative importance of these categories, and found that, when hiring new graduates, employers place the highest importance on soft-skills and the lowest importance on academic reputation. By better understanding the value employers place on employability factors, universities can design curricula based on the development of key skills that employers desire, and students can better position themselves in the marketplace (e.g. by highlighting certain attributes – such as soft-skills – when applying for jobs).

Note
1. Consistent with De Vos *et al.* (2011), we define employability as "the continuous fulfilling, acquiring or creating of work through the optimal use of competencies" (p. 438).

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