

**INTERNATIONAL STUDENTS' JOB SEARCH STRATEGIES IN THE OIL AND GAS  
INDUSTRY OF NEWFOUNDLAND AND LABRADOR**

by

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## **ABSTRACT**

In light of the periodic skill shortage problems in the oil and gas industry in Newfoundland and Labrador, this study uncovered the job search strategies utilized by international graduate students in the oil and gas engineering and earth sciences programs enrolled at Memorial University of Newfoundland and Labrador. The study also identified factors influencing students' choices of job search strategies and investigated the role of the Memorial University, as a higher education institution in the Province, in providing services and support in students' career search process. The researcher used semi-structured interviews to collect data. The findings indicated that students used networking and online job searches the most to seek employment, followed by the career services offered by the University Career Centre (UCC). Students chose search strategies based on several factors: the type of job sought; the influence of peers and word of mouth; the industry of interest; previous work experience; and the role of the UCC, which is considered to be both a search strategy and influencing factor. Two themes emerged from the data analysis: a) job search as a planned project and b) students' perceptions of the oil and gas labour market of the Province.

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## **LIST OF ABBREVIATIONS**

APA	American Psychological Association
ETP	Entrepreneurship Training Program
HR	Human Resources
ICEHR	Interdisciplinary Committee on Ethics in Human Research
IPA	Interpretive Phenomenological Analysis
MUN	Memorial University of Newfoundland and Labrador
NL	Newfoundland and Labrador
NOIA	Newfoundland and Labrador Oil and Gas Industries Association
PES	Public employment services
R&D	Research and Development
PR	Permanent Residence
PSDP	Professional Skills Development Program
UCC	University Career Centre

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# **Chapter 1**

## **Introduction**

This chapter presents the problem under study, research aims and questions, and introduces the subsequent chapters along with their objectives. This study is aimed at minimizing the gap in the knowledge of job search strategies used by international postgraduate students enrolled in Oil and Gas Engineering and Earth Sciences programs in Newfoundland and Labrador by understanding the factors affecting their choice of strategies and identifying the role of higher education institutions in the province in their job search process. The participants for this study were selected among the international graduate students at Memorial University of Newfoundland who were in their final year of studies or their third year of doctoral studies.

This topic of inquiry was chosen for research in light of the periodic skill shortage problems in the oil and gas industry in Newfoundland and Labrador (Newfoundland and Labrador, 2011). The Petroleum Human Resources Council of Canada (2013) has predicted there will be between 37,700 and 47,900 job openings in this sector within the next ten years. As a result, it has been suggested that “the inability to adequately source the staffing requirements could jeopardize successful project execution” (Petro Canada, 2007, p. 73) and “there is a risk that the companies in this sector may have difficulty sourcing the labour needed for current and future operations” (Suncor Energy Inc., 2012, p. 71).

This problem is highlighted by the fact that a skilled workforce already exists in the Province, which includes international students studying in oil and gas industry-related disciplines (with or without prior industry experience). Consequently, outsourcing temporary foreign workers was proposed by the Department of Advanced Education and Skills of the

Newfoundland and Labrador (NL) Government (2007) as a solution to the perceived problem of skills shortage in this industry.

The purpose of this study is to a) provide an understanding of job search strategies that international graduate students in the Oil and Gas Engineering and Earth Sciences programs when they search for employment within Newfoundland and Labrador; b) identify factors that influence students' choices of such job search strategies; and c) investigate the role of provincial post-secondary education institutions in providing services and support during the students' career search process.

The individual research questions were as follows:

1. What job search strategies do international graduate students in the Oil and Gas Engineering and Earth Sciences programs in Newfoundland and Labrador use to look for jobs in the province's oil and gas industry?
2. What are the factors influencing oil and gas student job seekers' choices of job search strategies?
3. What supports, guidance, and resources do higher education institutions in Newfoundland and Labrador provide to students who are seeking employment opportunities in the oil and gas industry?

This study did not intend to provide successful job search strategies; rather, it attempted to find out what strategies the students were using, the strategies they preferred to use, and why they used them. This study was intended to provide valuable information relevant to those providing job search and career advice at post-secondary institutions in the province. The findings may also provide industry policy makers with a better understanding of the barriers in our knowledge of

the existing, potential workforce and employment policies within the Newfoundland and Labrador oil and gas industry.

In addition, this research report explored the factors that influenced students' job search choices and strategies within Newfoundland and Labrador, and took into consideration the students' perceptions, attitudes, and feelings about their employment opportunities and prospects in the context of the local labour market in the Newfoundland and Labrador oil and gas industry.

Theories of job search deal with unemployed search models and study a wide range of job seeker characteristics as they relate to the labour market, from skills match to wage distribution, quality of jobs, job satisfaction, job vacancies, unemployment duration, search intensity, and search strategies (Devine & Kiefer, 1993). These theories focus on job search characteristics of the unemployed, which could include active search strategies because the unemployed person is more likely to search actively for a job than an employed person who mainly browses his/her options for a job change (Hempel, 2010). Job search strategy as one of the characteristics of jobseekers, whether employed or unemployed, also applies to the participants of this study because some international graduate students had been previously employed while others had no prior work experience.

This introductory chapter is followed by five subsequent chapters. Chapter 2 provides a background to the main issues related to student job search in the oil and gas industry in Newfoundland and Labrador by presenting studies through literature review. The literature review focuses on previous research studies that have included graduate students or recent post-secondary graduates. Chapter 2 presents a collection of studies that contain arguments regarding the influencing factors on the students' choices of job search strategies.

Chapter 3 provides a description of the methodology used in this study. In this chapter, the research design is presented: a phenomenological, qualitative approach to the research questions was adopted and semi-structured interviews were selected as a means of data collection. A description of how the data were collected is included along with a rationale for the process used for selecting participants. This chapter also outlines how the data were analyzed. Also, this study sought to cover all ethical guidelines.

Chapter 4 presents the findings of the study with a focus on pre-theme categorization based on the research questions. For the analysis, qualitative data was coded, categorized, and themed and detailed descriptions of the findings were presented. Interpretive Phenomenological Analysis (IPA) was chosen an additional method of data analysis to analyze the feelings, perceptions, and attitudes of the students toward the local labour market.

In Chapter 5 the findings are discussed in the context of the relevant literature described in Chapter 2.

Finally, Chapter 6 presents recommendations and conclusions of this study. Implications presented in this chapter are established through the lens of students' experiences, followed by the researcher's recommendations addressing policy makers and career centres. The knowledge developed through this research is expected to have in the areas of career program planning by career centres and employment policy making by the government.

## Chapter 2

### Literature

#### 2.1 Introduction

This chapter first reviews Newfoundland and Labrador's labour market as it pertains to the oil and gas industry in particular. The following section is a comprehensive overview of previous research on job searches, job search strategies, and job search behaviour in Newfoundland and Labrador, specifically. Job search strategies of interest to this study include formal and informal strategies, networking, "weak ties" and "strong ties" in one's social capital<sup>1</sup>, the use of online job search strategies, and utilization of the University Career Centre (UCC) at Memorial University. This section also includes some of the factors that influence choosing between possible job search strategies and/or resources.

More focus is given to those studies related to post-secondary student and graduate populations; however, the overall unemployed worker population cannot be ignored, since some of the study participants are also experienced professionals who were taking a break from full-time employment and intending to return to the labour market after graduation. The broad literature on job search strategies identifies a variety of factors that have been found to influence individual strategies. As such, the influencing factors are categorized into two groups. "Primary factors" are more prominent in the literature and include race, age, gender, education, and social status. Those have been termed "secondary factors" were not the primary focus in the arguments of the studies, such as information richness, cost, convenience and usefulness, and personality traits.

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<sup>1</sup> Social Capital is defined as informal or formal contacts in one's network. (Ben-Porath, 1980)

There are a variety of human and social factors that affect job search choices: self-esteem (Ellis & Taylor, 1983); career objectives (Boswell, Boudreau, & Dunford, 2004; Van Hove & Saks, 2008); corporate and recruitment image (Gatewood, Gowan, & Lautenschlager, 1993); language fluency, social support, and cultural knowledge (Guerrero & Rothstein, 2012); and location of the job seeker (e.g., urban vs. rural) (Weber & Mahringer, 2012). A particularly notable observation is that students and other jobseekers who present to have low self-esteem choose strategies that tend to involve less social networking compared to those with high self-esteem (Ellis & Taylor, 1983). Nevertheless, some authors such as Thomas (1989) contend that self-esteem does not significantly influence one's search strategy choices.

Also, access to information about jobs such as vacancies and the quality of jobs can affect the choice of job search strategy (Ford & Purdue University, 1974); however, no specific strategies are mentioned. On the other hand, access to information about job vacancies is mediated by company-independent sources, such as word of mouth, and company-dependent sources (e.g., the company's recruitment activities) such as advertisements in the media (Van Hove, Klehe, & Van Hooft, 2014).

There have been numerous studies of job search strategies including quantitative surveys, qualitative interview-based research, and case studies. Studies show that among both post-secondary student and graduate populations, some job search techniques are used more than others, but on the whole, they are generally aware of the strategies available to them (McKeown & Lindorff, 2011). Moreover, the choice of strategies is affected by many of the factors mentioned above. As a result, it is important to understand what job search strategies students and graduates choose and why they choose them because, eventually, that is what bridges the gap between one's knowledge of job vacancies and how they are filled.

According to the literature that was reviewed for this research, the job search strategies most commonly used by students and graduates are informal search methods such as establishing social contacts, either through social networking or using social media for online networking, engaging the services provided at post-secondary institutions, and contacting employers directly (Huffman & Torres, 2001; Johnson, 1997; Kim, 1994; Try, 2005). Students and graduate jobseekers viewed these methods as the most effective approaches. On the other hand, studies of unemployed jobseekers show that they mostly prefer to use social networking and newspaper ads as informal and formal methods, respectively. Also, the unemployed jobseekers' low socio-economic background might lead them to use public or private employment agencies (OECD, 1999; Try, 2005).

## **2.2 Newfoundland's Oil and Gas Labour Market**

The production of oil and gas in 12 of the 13 Canadian provinces and territories makes the oil and gas industry "the largest single private sector investor" in the entire country (Canadian Association of Petroleum Producers [CAPP], 2014, para. 1). Statistics Canada (2012) categorizes the oil and gas industry as *Oil & Gas Extraction*, which includes those industries with activities ranging from operation and extraction to production and shipment of oil, gas, and hydrocarbon liquids. In 2013, the number of Newfoundland and Labrador businesses in this industry was estimated at 91 (Department of Finance of the NL Government, March 2014), with 50 of these located in the St. John's metropolitan area (Department of Finance of the NL Government, March 2014). The only oil refinery, transshipment terminal, dry-docks, and fabrication facilities in the province are located in the Clarenville-Bonavista region. This includes the dry-dock and fabrication facility in Bull Arm, the transshipment terminal for offshore oil in Whiffen Head, and the long-standing refinery in Come By Chance (Skeard et al., 2011).

With four producing oil projects and two additional projects under development (Newfoundland and Labrador Oil and Gas Industries, n.d), it is projected that most new job growth in the Province will occur in the oil and gas industry (Department of Human Resources of the NL Government, 2011). The mining and oil sector produced 367,400 jobs in Canada in 2013 (Department of Finance of the NL Government, March 2014) and represents 4.4% of employment share (Department of Human Resources of the NL Government, 2011) with 16,000 employees in Newfoundland and Labrador (Department of Finance of the NL Government, April 2015). The oil and gas sector is regarded by the provincial government as one of the few sectors that will grow faster than average over the entire forecast period.

The provincial employment projections of this industry predict the need for a skilled workforce and raise the question of how the skilled workers are sourced in this industry. Although higher education institutes in the province offer oil and gas-related programs of study, the construction and extraction jobs in this industry need little formal education and offer on-the-job training to employees (Lockar & Wolf, 2012). On the other hand, there are jobs that require formal education, such as reservoir engineer or geologist positions. At the same time, “there is limited information about [employment success of] graduates from Newfoundland and Labrador education institutions” (Petroleum Industry Human Resources Committee, 2001, p. 15) in the oil and gas industry of the province.

With respect to this argument, labour availability is the most important business issue human resources (HR) professionals are faced with (Ernst & Young, 2011). Petroleum Human Resources Council of Canada (2013) has reported that nearly 90% of industry employers regard employee recruitment as their company’s primary mechanism for dealing with workforce issues,

while the most significant skills shortages are associated with project/field engineers and geoscientists (Ernst & Young, 2011).

### **2.3 Job Search Behaviour in Newfoundland and Labrador**

Osberg (1993) used a fishing analogy for job search behaviour. That is, during the job search process, jobseekers use different methods to catch the “big fish.” Sometimes they throw fish back into the water, as the kind of job they are looking for might be specific. Therefore, knowing the intentions of student jobseekers is important to their search process (Boswell et al., 2004). The fishing analogy can apply to companies and recruitment agencies as well because they try to attract the best talent; on the other hand, universities and post-secondary institutions aim to prepare the students with the skills required for their future career by providing career transition programs such as internships, co-operative education, and apprenticeships for the students.

In a 1993 study, Seyfrit found that students in the province of Newfoundland and Labrador lacked awareness of oil and gas projects and prospective job opportunities arising in the sector. The study also found that when they did enroll in oil and gas-related post-secondary programs, older students tended to enroll in technical/vocational programs whereas younger students were more likely to attend university (Seyfrit, 1993). Today, oil and gas-related careers in the Province are among the 50 occupational groups that are projected to undergo the strongest job growth and employee recruitment pressures over the 2011 to 2020 period. This includes positions in the “upstream” oil and gas industry such as oil and gas drillers, operators, and supervisors (Department of Human Resources of the NL Government, 2011). This means it will be essential for students to be aware of the potential career opportunities in the Province’s oil and

gas industry. Hence, the job search behaviour of students in the post-secondary schools of the Province is of great importance.

While some students may choose oil and gas-related fields as their future occupation, many will also choose to work elsewhere. This is especially the case for Newfoundlanders and Labradoreans, who have demonstrated high degrees of labour mobility (Hill, 1983) as workers seek out employment opportunities both within and outside the Province. In 2010, for example, this mobile workforce included approximately 76% of mobile workers who left the Province to work in other areas of Canada, primarily Alberta. This percentage represented somewhere between 7,890 and 10,600 individuals from the Province's overall available workforce (Department of Human Resources of the NL Government, 2011, p. 45). Over the past 30 years, there has been a noticeable increase in the Province's workforce mobility, which has coincided with the growth in oil sands production in Alberta. Despite moving in search of better work prospects, many of these Newfoundlanders and Labradoreans frequently relocate back to their home Province (Singh & Devine, 2013), as they regard their temporary outmigration to be only a "short-term economic strategy" (Hill, 1983, p. 228). This fits with one of the mandates of the Newfoundland and Labrador Skills Task Force initiative: to recruit and retain skilled workers who have left the Province (Department of Advanced Education and Skills of the NL Government, 2007). This initiative also focused on skilled foreign nationals who come to the Province for study or work and have frequently been hired in managerial and professional jobs (Hill, 1983).

The Report of the Skills Task Force (Department of Advanced Education and Skills of the NL Government, 2007) provided a variety of recommendations to the K-12 school system, post-secondary institutions, government, and employers. Some of these recommendations

involve government funding initiatives geared toward labour market factors such as student and graduate employment, employee retention, skills development, industry partnership, and networking. Among the numerous policy recommendations of the Skills Task Force, there is no reference to the existing workforce of international students in the Province who had prior work experience before coming to study in Canada. Despite this, in many instances international students face workforce barriers comparable to those experienced by foreign workers, including a lack of recognition for their skills, experience, and educational credentials (Department of Advanced Education and Skills of the NL Government, 2007).

## **2.4 Higher Education**

Memorial University of Newfoundland (MUN) is the only university in the Province. Several departments offer oil and gas-related programs at MUN: the Faculty of Engineering, with a degree in Oil and Gas Engineering and related degrees such as Mechanical and Electrical Engineering; Applied Sciences, including the Department of Earth Sciences, with degrees in Geoscience, Geophysics, and Geochemistry; and the Marine Institute (Oil & Gas Development Partnership, 2013). College of the North Atlantic and other private institutes are also higher education options. At College of the North Atlantic, students can study in a three-year diploma program in Petroleum Engineering Technology and Process Operations Engineering Technology.

Memorial University and private institutes offer co-operative education, internships, and apprenticeships to students in undergraduate and diploma programs (College of the North Atlantic, n.d). The Globe and Mail (2008) coined Memorial co-op studies as a “try before you buy” opportunity, with more than 1000 students in its co-op engineering programs. Co-operative education, internships, and apprenticeships are a means of workplace learning that focus on

content, as well as context, with an experiential learning approach towards adult education (O'Connor, 2004); however, these are not mandatory components of graduate programs.

On the other hand, career preparation courses can increase students' career adaptability and help them in their career explorations (Koen et al., 2012). Career resources at MUN are offered at the career centre. University-industry partnership is another opportunity for students to gain exposure to the industry. With the Province producing 40% of Canada's oil, Memorial University was the only university in the North Atlantic region to initiate the Oil and Gas Development Partnership (OGDP) in the year 2000 (Oil & Gas Development Partnership, 2013). This partnership benefits students in graduate courses with a focus on research. The Research and Development Corporation (RDC) invested 2.3 million dollars in Memorial-led research and development (R&D) projects on the St. John's campus in July 2014 (Today.mun.ca). University-industry partnerships provide more research opportunities for both the faculty members and students at Memorial University. Also, students can take advantage of expanding their professional networks, acquire information about the oil and gas companies and their projects in the Province, and explore career options.

Table 1 provides a breakdown of graduate student enrollment in Engineering and Applied Sciences programs at Memorial University of Newfoundland during the Fall 2014 semester. While specific data are not available, a sub-population of these international students are enrolled in oil and gas engineering programs and earth sciences programs.

Table 1

Graduate Student Enrolment at Memorial University by program and origin-Fall 2014<sup>2</sup>

Origin	Program
Newfoundland and Labrador	1,715 <sup>3</sup>
Out-of-province	844 <sup>4</sup>
International	1,0383
Graduate Total	3,579

## 2.5 Job Search

Research on approaches to job searching has focused on a wide range of different populations, from unemployed youth to undergraduate and graduate students and alumni looking for jobs. Much of the literature research on job search strategies has been conducted using quantitative approaches that employ surveys.

One of the most influential and relevant studies of job search strategies is Try's (2005) examination of strategies used by graduates. This study, carried out among Norwegian students and graduates between 1995 and 2000, administered a survey to investigate the use of successful job search methods. Approximately 30% of the survey population was comprised of graduates.

<sup>2</sup> The focus of this study is on the graduate student population at Memorial University, hence the table illustrates graduate student enrolment for Fall semester 2014, including full-time and part-time, and students from Newfoundland, out-of-province, and international locations.

<sup>3</sup> Memorial University of Newfoundland - Fact Book 2014, Table 13, Out-of-province Full-time and Part-time Undergraduate and Graduate Enrolment - Fall Semester. Retrieved from <http://www.mun.ca/ciap/Analysis/Factbook/Factbook2014.php>

<sup>4</sup> Memorial University of Newfoundland - Fact Book 2014, Table 5A, Undergraduate and Graduate Enrolment by Faculty/School - Fall Semester. Retrieved from <http://www.mun.ca/ciap/Analysis/Factbook/Factbook2014.php>

The results of this study indicated that the most used method of job search was approaching employers directly by following up on their job advertisements. The second most popular method was accessing the public employment office.

Another study by Royal (2001) examined the job search process used by 176 undergraduate students employed in part-time jobs. Results showed that students favored four types of job search methods: personal contacts, job advertisements, university-related methods such as the university career centre and on-campus job postings, and direct applications to prospective employers. The findings of this study are consistent with those of Marmaros and Sacerdote (2002), who found that graduating students mainly turned to their immediate social contacts (i.e., family, friends, and teachers) in seeking potential job opportunities. University career search services were also among their main job search strategies.

Other studies have focused on job search strategies of young “Gen Y” alumni: people born between 1982 and 2003 (Howe & Strauss, 2000). Bissola and Imperatori (2013) carried out one such qualitative study designed to provide recommendations on social media job search strategies of Gen Yers for employers and recruiters. They mainly questioned the use of social media as a job search tool by young, employed alumni in the Italian labour market. This study found that participants used company websites and a university career service as initial key tools in looking for a job. Also, while a variety of social media were used by jobseekers, LinkedIn was the predominant one. This study is significant in its focus to bridge the gap between alumni job search practices and the strategies used by recruiters. Bissola and Imperatori recognized the importance of the internet and online presence for the young generation of jobseekers. They emphasized that employers must pay more attention to their online branding with this in mind.

Online tools were also one of the main focuses of McKeown and Lindorff (2011), who interviewed 45 recent Australian university graduates. They found that all the graduates used the internet to conduct online job searches. Furthermore, most graduates were unaware of the services available from the university career centre. New graduates also had high expectations of their potential for future employment until trial and error showed they had to lower their expectations and accept less lucrative jobs in order to enter the labour market. McKeown and Lindorff also presented a variety of recommendations for university career centres that are intended to help them provide students with programs that can instill a more realistic sense of labour market opportunities. The need to increase awareness of university career services is echoed in a study by Gerard (2011), who pointed out that although on-campus career centres may provide an array of career-related services, students are frequently unfamiliar with the services that exist beyond traditional services such as resume and interview workshops.

Other recent studies of student and recent graduate job search strategies have shown that these populations favor using their personal networks, university career services, and online job search tools. However, Monahan, Shah, and Jochum (2014) concluded that one of the main tools utilized by college students in their job search was newspaper advertisements. This traditional job search activity (as noted by Kimmell, Keltyka, Olsen, & Kaplan, 2003) is considered to be passive if jobseekers only look through the advertisements for job postings, and it becomes an active job search strategy once they actually apply to jobs after reading the advertisements (Royal, 2001).

Some of the research studies in the literature examined distinct populations such as students in specific majors (Kimmell et al., 2003; Ng & Burke, 2006; Rate & Boost, 2012). Ng and Burke (2006) contextualized and compared the experiences of undergraduate cooperative

and non-cooperative business students in a comparative analysis. The researchers found that the students who completed a cooperative component as part of their studies had a better understanding of the job market, employer needs, and future jobs. Consequently, these students were more confident in carrying out their job search process compared to the students who did not have this cooperative education experience.

Kimmell et al. (2003) and Rate and Boost (2012) investigated the job search choices of graduate students in the area of accounting and business. Both works highlighted the wide variety of job search strategies utilized by graduate students in these two disciplines. Kimmell, et al. (2003) found that the accounting students in particular relied on a wider variety of resources to look for a job. The most commonly used methods were the university career centre, business contacts, job fairs, temporary employment agencies, general and discipline-specific job search websites, newspaper advertisements, and company websites. The researchers argued that although students did not have a positive opinion of career centre services, the majority of students initially used these university job search services first. They suggested, given the importance of student access to employers, campus career resources should place a greater emphasis on employer outreach and ensure they have a more active presence on campus in order to reach students.

Research conducted by Rate and Boost (2012) supports these findings. The study participants, who were MBA graduates, regarded their personal contacts and networks to be the most effective resource in job hunting. Consequently, they used their personal network of contacts to successfully locate job openings. It is also noteworthy that they too took advantage of university career centre job search services.

The research literature pertaining to job search strategies has not focused exclusively on post-secondary student and graduate populations. For example, a report on the job search strategies of unemployed jobseekers in the U.S. from 1970 to 1971 stated that the three most-used methods were a) sending applications directly to the employers, b) utilizing the services of public and private job agencies, and c) posting personalized “job-wanted” advertisements (Bradshaw, 1973). A later study of unemployed youth in the U.S., carried out by Holzer (1986), also indicated a preference for using one’s close contacts such as friends and relatives, in addition to sending applications directly to prospective employers. More recently, a similar study showed that jobseekers were most likely to use media advertisements and personal contacts in their job search first, followed consecutively by approaching public employment agencies and sending applications directly to employers (Weber & Mahringer, 2008).

## **2.6 Job Search Strategies**

Job search behaviour consists of the formal and informal strategies used by a jobseeker in order to look for a job (Royal, 2001; Van Hove et al., 2014). This includes all the methods that jobseekers might choose as part of their job search behaviour; however, more research is required to uncover the specific sources used in job searches (Van Hove et al., 2014). Thomas (1989) divided job search behaviours into three categories: traditional, non-traditional, and networking. In his study of business, science, and engineering students, he categorized sending resumes to employers and calling or visiting employers as non-traditional search strategies. He classified responding to newspaper advertisements, employer interviews at placement agencies, and seeking the services of off-campus employment agencies under the scope of traditional strategies. The third category, networking, included contacting faculty, academic advisors, alumni, family, friends, and/or placement services staff.

Thomas, Crossley and Highhouse (2005) divided job search strategies into three quite different categories: focused, exploratory, and haphazard. People who adopt a focused search strategy narrow down and concentrate on their career objectives, while exploratory searching involves examining and sampling different career and search options. Jobseekers using a haphazard search strategy consider a wide range of career options and do not limit themselves to specific employment option. Royal (2001) divided job search strategies into *active* and *passive*. Passive job search methods include seeking out and reading newspaper ads, while following through and applying for the job vacancies found through these ads is active behaviour. Royal (2001) also considered browsing the internet and job agencies online to be more in the realm of passive behaviour compared to actually sending out resumes and responding to online job postings.

**2.6.1 Formal and informal strategies.** The research literature on job search strategies distinguishes between formal and informal job search strategies. The former include searching through newspaper advertisements, engaging with employment agencies (McKenna, 1985; Royal 2001; Try, 2005), using advertisements of public or private employment services (Try, 2005; Van Hoye 2009), and accessing campus recruitment services (Van Hoye 2009). Informal strategies include learning about job opportunities by word of mouth (McKenna, 1985), indirect approaches to potential employers through relatives (Royal, 2001; Van Hoye, 2009), social networks (Try, 2005), friends or acquaintances (Try, 2005; Royal, 2001; Van Hoye, 2009), teachers, current or former employees, approaching a previous employer for re-hire, and submitting resumes in person to the companies (Van Hoye, 2009). It is also argued that informal job searching can provide jobseekers with more accurate and detailed information about job vacancies, which may lead to more successful job interviews (Van Hoye, 2013).

Previous research has examined a variety of digital job search strategies: utilizing specialized online services (Bissola & Imperatori, 2013) and online job boards (e.g., Monster.com; Hempel, 2010; Nikolaou, 2014), company recruitment websites (Bissola & Imperatori, 2013), university graduate placement and career services (Bissola & Imperatori, 2013; Gerard, 2011; Royal, 2001), online campus job postings (Royal, 2001), social networking websites (Herbold & Douma, 2013; Nikolaou, 2014; Scheele & Madison, 2010; Sin & Kim, 2013) such as LinkedIn (Adams, 2013; Garge & Telang, 2011; Hempel, 2010; Sin & Kim, 2013; Sułkowski & Chmielecki, 2014), and receiving emailed job alerts from companies (McKeown & Lindorff, 2011).

Research has also investigated the role of experiential and on-the-job training opportunities, such as co-operative education placements and internships for post-secondary students, in facilitating successful student transitions to the labour market. Although these opportunities to gain work experience and build relationships with potential employers cannot be referred to as search tools or strategies, they can be valuable sources of employment information. Students who participate typically gain useful contacts and take part in important networking activities that are connected to potential employment prospects (Monahan et al., 2014).

**2.6.2 Networking.** Much research has focused on networking as a job search method (Van Hoye et al., 2014). Sanyal and Neves (1998) described networking as a process that takes place in three stages for both personal and professional purposes: a) planning, b) connecting (i.e., making contact), and c) sharing information. In order to make connections through networking, one must have access to a certain amount of what social scientists have termed “social capital,” which is composed of the informal or formal contacts in one’s network. Ben-Porath (1980) described social capital in terms of one’s “F-Connections”—families, friends, and firms—which

act as sources of information that could be useful in the job hunting process (Try, 2005).

Reaching out to social contacts, as a job search strategy, frequently enables graduates to gain employment that is related to their educational background, such as their university degree qualifications (Franzen & Hangartner, 2006). Moreover, this informal referral system is quite commonly practiced all over the world by both jobseekers and recruiters (Franzen & Hangartner, 2006; Scheele & Madison, 2010). Pairing prospective employees with available positions in this way is especially useful for employers, as it results in no direct costs for them.

The relative inequities in the distribution of social capital are reflected in several ways: access to positions along gender lines and the distribution of qualifications across degree-level educational attainment and within many professions. A good example of this is the male-dominated field of engineering in which females have less access to job-procuring social capital than men (Try, 2005). Thus, the distribution of social capital influences informal search methods through weak ties (Try, 2005).

While many people discover job vacancies and are hired for positions through informal job searches such as contacting friends and relatives (Cahuc & Fontaine, 2009), the effectiveness of informal networking does not necessarily depend on how many times a person reaches out to their contacts (Wanberg, Kanfer, & Banas, 2000). For students, networking through informal sources is frequently unsuccessful because of their comparatively limited professional networks. However, jobseekers can expand their professional networks by using social media (Sułkowski & Chmielecki, 2014). With this in mind, research affirms that “networking does indeed lead individuals into new jobs” (Wanberg et al., 2000, p. 501).

Research by Sin and Kim (2013) found that international students use social networking sites as a means to access information on job vacancies rather than building social capital and

networking. Building social capital is especially important for international students. On-the-job training opportunities (i.e., internships and co-op programs) are particularly valuable in helping students further develop their professional networks (McKeown & Lindorff, 2011), in addition to giving them a better understanding of the context and requirements of working in their disciplinary area.

Ultimately, it is highly recommended that jobseekers exercise both in-person and social media networking. Both of these avenues are important for jobseekers (Kibbe, 2009), who are advised to focus some of their efforts towards expanding their personal and professional social networks (Silliker, 1993). Marmaros and Sacerdote (2002) found that students often consider networking through weak ties an essential part of their job search process. Despite its usefulness, it is recommended that one should not heavily rely on networking as a sole and exclusive job search method; rather, it ought to be accompanied with other methods (Wanberg et al., 2000).

**2.6.3 Weak ties and strong ties.** The research literature on job searching differentiates between “weak ties” and “strong ties.” According to Yamkovenko and Hatala (2014), “In the job search context, weak ties could be acquaintances, contacts of close friends, recruiters, interviewers, and others with whom the job seeker does not interact regularly” (p. 114). On the other hand, strong ties include relationships with closer contacts such as family, friends, and relatives (Granovetter, 1973; Try, 2005).

Granovetter (1983), among others, pioneered the notion of strong and weak ties within one’s social capital. He argued that these ties help people to access job openings in different ways. While weak ties can provide a person with wider access to resources and information, strong ties can be more effective and are often more readily accessible to the jobseeker. In one of his later studies, Granovetter (1995) noted that individuals were more successful in job hunting

when using their weak ties rather than their stronger ones. On the contrary, Yamkovenko and Hatala (2014) contended that weak ties may not, in fact, lead a person to job openings. They suggested that the chances of weak ties providing a person with detailed information about a prospective job are relatively low. It is noteworthy that nowadays social networking websites such as LinkedIn and others provide those looking for work with plenty of opportunities to build a broad network of weak ties alongside stronger ones (Archambault & Grudin, 2012).

While strong ties involve relationships with friends, family, and relatives, one's network of strong ties often tends to lack the broad reach of weak ties, which involves a vast degree of connections. Also, variations exist within each strong tie and weak tie network. For example, among one's strong ties, friends may be more influential than relatives because of their heightened diversity and broader access to job-related resources (Lin & Dumin, 1986).

## **2.7 Other Job Search Strategies**

**2.7.1 Internet job search.** Direct application to potential employers is associated with a higher probability of attaining employment (Kuhn & Skuterud, 2002). Prior to the advent of widespread internet access and usage, people would send applications directly to employers by post in response to their advertisements in newspapers (Bradshaw, 1973; Holzer, 1986); however, nowadays one accomplishes the same task using the internet by applying for positions advertised on company websites (Bissola & Imperatori, 2013).

Use of the internet as a job search tool better enables those seeking employment to heed Royal's (2001) advice; that is, jobseekers should approach potential employers after they learn more about posted employment opportunities by acquiring more knowledge about a company and its jobs. The internet has changed the nature of the job market by making information about positions more accessible to jobseekers (Wanberg, et al., 2000). It has also bolstered the position

of employers by enabling them to utilize employee recruitment websites (Bissola & Imperatori, 2013), social media (Karlin, 2005), and their own websites (McKeown & Lindorff, 2011; Wilden, Gudergan, & 2010). Research on the use of online job search tools has shown that students, post-secondary graduates, and jobseekers in general use the internet to look for employment opportunities because it is both a convenient and affordable avenue for job hunting (Lin, 2010; McKeown & Lindorff, 2011; Wanberg, et al., 2000).

The internet has also made it easier for recruiters to reach a wider range of candidates who can provide companies with applicants who are best suited for job vacancies (Feldman & Klaas, 2002). Likewise, job applicants have the opportunity to search among a larger number of employers in a short time (McKeown & Lindorff, 2011), which can potentially increase their chances of finding job leads (Garge & Telang, 2011). Scheele and Madison (2010) recommend that jobseekers regularly update their online profiles and resumes in order to increase their chances of being recruited and thus successful in their job search.

**2.7.1.1 LinkedIn.** Using social media and online browsing for job hunting and recruitment are still considered to be secondary to traditional job search strategies; however, online search tools have become increasingly important in light of the relative ubiquity of personal computers and other devices equipped with internet connectivity (Bissola & Imperatori, 2013). LinkedIn is a professional social networking website (Bissola & Imperatori, 2013; Sułkowski & Chmielecki, 2014) used by jobseekers for career management (Hempel, 2014), job searches, tapping into weak and strong network ties for employment referrals, and contacting employers. In 2008, the total number of LinkedIn users was 75 million. In 2012, this number reached 100 million, (Archambault & Grudin, 2012) making it the most used professional social

media network for job searching and employee recruitment (Bissola & Imperatori, 2013). Most of LinkedIn's users are professionals who are already employed (Garge & Telang, 2011).

LinkedIn is an information-rich source for both jobseekers and recruiters. While it connects people with others they know, it also enables users to connect with people beyond their own contacts. By allowing users to network with the contacts of other users, LinkedIn widely broadens the potential employer pool and sources of information related to job openings (Hempel, 2010; Karlin, 2005). LinkedIn is also a useful and efficient tool for recruiters because it can serve to boost "the quantity and quality of candidates" (Sułkowski & Chmielecki, 2014, p. 72). A survey by Adams (2013) showed that 97.3% of a sample of 1,848 staffing professionals used LinkedIn as a recruiting tool in 2012.

**2.7.2 University career centres.** Career and employment centres within post-secondary institutions are one of the most essential resources for assisting the population of post-secondary student and graduate jobseekers in their job search process (Bissola & Imperatori, 2013; Gerard, 2011; Marmaros & Sacerdote, 2002; Ng & Burke, 2006). These career centres offer a broad range of career preparation services (McKeown & Lindorff, 2011; McIlveen & Pensiero, 2008) with the most popular services among students being resume writing assistance and interview preparation workshops (Gerard, 2011).

In one major study of career services in higher education, Dey and Cruzvergara (2014) examined university career centres and how they have changed over the past century. The researchers argued that university career centres have tended to focus on traditional ways of delivering content and information to jobseekers rather than helping to create and facilitate connections with the outside community. They further highlighted the importance of partnerships between their services and personnel, faculty, and departments within the university. They also

emphasized the need for partnerships between university career centres and industry. The importance of partnership between on-campus career centres and academic departments has been echoed in case studies by Barthorpe and Hall (2000) and McIlveen and Pensiero (2008). Strong partnership with industries is highlighted by McIlveen and Pensiero (2008) in particular as central to successful graduate transitions to the labour market.

Dey and Cruzvergara (2014) recognized that career professionals on campuses play a central role in providing both students and employers with information and resources they need for successful job searches and recruitment exercises. They perform a key responsibility in helping to focus student and graduate jobseekers who often struggle with internet information overload. The researchers singled out Stanford University, The College of William and Mary, and Miami University as successful campus career centre innovators. They pointed out the more modern career service practices that have been put in place at these universities, such as having more informal group sessions with students across campus rather than “the traditional workshops and presentations” (p. 10). Successful career centres such as these institutions also tend to utilize technology to engage and motivate students rather than simply providing information in the traditional sense. Dey and Cruzvergara (2014) advocate better use of technology and career service approaches that are better tailored and customized to meet the individual needs of jobseekers.

## **2.8 Factors Influencing Choice of Job Search Strategies**

Much has been written about the factors that influence one’s choice of job search strategies (Bradshaw, 1973; Huffman & Torres, 2001; Marmaros & Sacerdote, 2002; Nikolaou, 2014; Shantz; Wright, & Latham, 2011). In the following section of this chapter, these are clustered into primary and secondary factors influencing specific job search methods. The

primary factors are those that are prominent in the research literature. They are further categorized into the following five main factors: a) race, b) age, c) gender, d) education, and e) social status. The remaining secondary factors are comprised of influencing factors that have tended to receive less attention or emphasis in the research literature, such as information richness, cost, convenience and usefulness, and personality traits.

### **2.8.1 Primary factors.**

**2.8.1.1 Race.** Bradshaw (1973) explored different job search methods used by jobseekers of different racial backgrounds, namely Caucasian and African-American jobseekers. He found that Caucasians used newspaper wanted ads and friends and relatives more than African-American workers in Philadelphia's inner city. In comparison, African-American workers tended to use state employment agencies more. In another study, Johnson (1997) looked at race and gender together and found that African-American women and men and Caucasian women utilized formal job search methods more than Caucasian men. The latter tended to use informal search methods more than all others. She also found that Caucasian women were more likely than Caucasian men to use a career centre.

**2.8.1.2 Age.** In addition to racial factors, Bradshaw (1973) also examined the methods used by jobseekers of different ages. This research showed that jobseekers between the ages of 20 and 24 used public and private employment agencies and newspaper ads more than teenagers. Teenagers tended to favour approaching employers directly. A more recent study, which also took the use of internet job search techniques into consideration (Nikolaou, 2014), found that younger jobseekers tend to use online social networking websites more in their search for employment.

**2.8.1.3 Gender.** Studies that have accounted for gender differences in job searching have consistently found that men are prone to approach their immediate contacts more than women (Bradshaw, 1973; Huffman & Torres, 2001; Marmaros & Sacerdote, 2002; Shantz, Wright, & Latham, 2011). Men are also more likely to contact potential employers directly (Bradshaw, 1973). This is significant in terms of information flow and access to resources. In lesser contrast, Wei-Cheng and Kopischke (2001) found that male and female college students used networking for job hunting more equally.

Kimmell et al. (2007), Huffman and Torres (2001), and Wei-Cheng and Kopischke (2001) reported that females prefer to use newspaper advertisements for job searching more than men. In studies by Bradshaw (1973), Huffman and Torres (2001), and Shantz et al. (2011), it was concluded that women jobseekers are less likely than men to rely on employment agencies, campus career centres, or labour unions as potential leads for job opportunities. On the whole, studies such as these provide some evidence to suggest that women tend to select some of the more passive job search methods compared to men (Grenon, 1999). On the other hand, research also shows that women tend to use social networking websites and online job boards more than men. Interestingly, men have been shown to make more use of LinkedIn than do their female counterparts (Nikolaou, 2014).

**2.8.1.4 Education.** A variety of studies have examined the influence of education levels on job search strategies. These have looked at the selection and use of different job search methods and their relationship to the educational background of jobseekers themselves as well as their parents. Johnson (1997) compared one's preference for or choice of formal and informal job search strategies and found that those who are less educated tend to use informal methods

more often, whereas jobseekers with higher levels of educational attainment tend to use formal methods more frequently.

Those with lower educational attainments rely more on networking as a job search strategy (Try, 2005), while more highly educated individuals tend to use networking less in job hunting (Monahan et al., 2014). Chua (2007) observed that less educated jobseekers were three times more likely to contact friends and family in their search for employment. There is some disagreement on this, however; Van Hoyer (2013), for example, has argued that it is actually more likely for those with higher level educational qualifications to use referrals and informal job search strategies.

Kuhn and Skuterud (2002) found that individuals with higher levels of educational attainment tend to use the internet more to look for a job. In fact, online networking through LinkedIn has been shown to be more favored among jobseekers with higher level educational qualifications (Nikolaou, 2014).

The educational attainment of parents has also been examined in the context of their influence on jobseekers' employment prospects and job search approaches. For example, it has been observed that if a jobseeker's parents have the same level of educational attainment as the jobseeker themselves, they are more likely to open the doors of opportunity for the jobseeker through their own networks, knowledge, and prior job search experiences (Try, 2005).

Try (2005) also investigated job search behaviour from the perspective of degree-specific educational preparation. This study found that a lack of employment opportunities for law graduates influenced them in their choice to use public employment services more frequently. In contrast, other professional degree graduates who graduated from business administration programs were more unlikely to use these employment services. It has also been suggested that

lower levels of educational attainment might be associated with increased use of government-initiated career programs (OECD, 1999).

Finally, one study of university graduates found that these job-seeking alumni used their campus career centre, online job search engines, and employment agencies more frequently than other approaches because they believed the reputation of their university and their own educational background would be more influential and better recognized if they chose these routes in seeking out potential employers (Bissola & Imperatori, 2013). Also, students who use the university's career services are reported to land more prestigious jobs (Marmaros & Sacerdote, 2002).

**2.8.1.5 Social Status.** Nasser and Abouchédid (2006) asserted that post-secondary graduates with lower socio-economic status make greater use of strong ties when they are seeking employment, including their network of family and friends, in comparison to graduates from higher socio-economic groups. They suggested that those from more affluent backgrounds are more likely to formally apply to a job. Try (2005) suggested that rather than take into account social status on its own, researchers ought to consider a combination of influencing factors such as educational background, academic performance, and socio-economic status. He suggested that given the choice of using ads and career centres as job search methods, those from lower socioeconomic strata may be more likely to use ads, as they tend to be freely available and easier to access. Interestingly, Nasser and Abouchédid (2006) found that public university graduates used informal methods like contacting family and friends more frequently than graduates of private universities, who used formal job search methods more often.

## **2.8.2 Secondary factors.**

**2.8.2.1 Information richness.** According to Granovetter's model of job search, certain occupations expose individuals to higher levels of information through their work contacts. Kim (1994) argues that this “information richness is an important component in explaining job search method choice” (p. 98). Thus, more advantageous jobs provide greater human interaction and increased numbers of personal contacts, which in turn may potentially lead to more work opportunities through these networks of contacts.

**2.8.2.2 Cost, convenience, and usefulness.** It is argued that informal sources of information such as personal contacts and other informal networks result in lower costs to jobseekers (Franzen & Hangartner, 2006; McKenna, 1985). However, the motivation to use these social networks often depends on whether jobseekers perceive them to be as useful and enjoyable as other alternative job search approaches (Suki, Ramayah, & Ming, 2011).

Perceived usefulness and ease of use are also factors that may influence one’s choice of job search strategies. For example, jobseekers tend to use online job search strategies, which are both easy to use and frequently yield successful results (Lin, 2010). This has implications for online recruitment or job search websites, which provide the most user-friendly and convenient navigation features. Although the online job board Monster.com is a pioneer in the area of employment websites, some jobseekers believe that online job search engines are not a priority, because while sites such as Monster.com provide a wide range of job postings, they often do not enable users to connect with the specific jobs that they are looking for (Gunz & Peiperl, 2007). Among jobseekers, post-secondary graduates have reported finding it easier and more efficient to browse through online job search engines in order to look for a job (McKeown & Lindorff, 2011). In searching for jobs on the internet, these jobseekers report they can access greater

amounts of information about job vacancies and can gain a better sense of the expectations of available positions.

**2.8.2.3 Personality traits.** It has been suggested that certain personality traits are connected to job search preferences and success in seeking employment. For example, extroverted individuals tend to be offered information about job openings more often through word of mouth because they do more networking (Van Hoyer, 2013). This thinking is far from conclusive, however. Ellis and Taylor (1983) contended that employability resulting from strong network ties is more related to the social capital of a jobseeker rather than their social skills. A study by Royal (2001) found no connection between personality and social skills and the choice of job search methods. More importantly, he argued that when jobseekers approach their social contacts in search of a job, it is the social contacts, rather than the personality of the jobseeker, who provide increased opportunities. Other research has examined the effects of self-esteem on the choice of job search strategies. Ellis and Taylor (1983) reasoned that individuals with low self-esteem tend to utilize job search methods that have not necessarily been proven to be successful strategies. Research has also shown that students with low self-confidence and underdeveloped employability skills are more likely to seek out the services of publicly subsidized employment services (OECD, 1999).

## **2.9 Conclusion**

This chapter has reviewed and outlined some of the major studies on the oil and gas labour market in Newfoundland and Labrador. It has also covered a variety of general job search strategies individuals use along with the factors influencing one's choice of job search methods.

Despite the volatility in international oil and gas markets, Newfoundland and Labrador oil and gas labour market projections suggest that there is a positive future ahead for those

seeking employment in the Province's oil and gas industries. With ongoing major oil extraction and production projects such as Hebron and Hibernia, it is expected that the Province will have a high demand for skilled workers in the coming years.

While this literature review provides important background information on job search strategies, the aim of this research study is to provide new knowledge on graduate students' choices of job search strategies as they attempt to enter Newfoundland and Labrador's oil and gas labour market. The next chapter on research methodology describes the author's chosen approach for examining how graduate students majoring in oil and gas-related degrees connect to employers and how oil and gas jobs are filled in the Province.

## Chapter 3

### Methodology

#### 3.1 Introduction

This chapter presents the methodology of this study, which includes research design, data collection and sampling, data analysis, and ethical considerations. The individual research questions of this study are as follows:

1. What job search strategies do international graduate students in the Oil and Gas Engineering and Earth Sciences programs in Newfoundland and Labrador use to look for jobs in the province's oil and gas industry?
2. What are the factors influencing oil and gas student job seekers' choices of job search strategies?
3. What supports, guidance, and resources do higher education institutions in Newfoundland and Labrador provide to students who are seeking employment opportunities in the oil and gas industry?

The provincial skilled worker shortage raises concerns for the already existing skilled and educated potential workers (i.e., international graduate students and the problem of their search for employment). As a result, this study aims to a) provide an understanding of job search strategies that international graduate students in the Oil and Gas Engineering and Earth Sciences programs when they search for employment within Newfoundland and Labrador; b) identify factors that influence students' choices of such job search strategies; and c) investigate the role of provincial post-secondary education institutions in providing services and support during the students' career search process.

### **3.2 Research Design**

The central phenomenon of this study is “student job search in the oil and gas industry.” This phenomenon encompasses the choices that students make in using specific search strategies, factors that influence their choices, and their use of the university career centre in their search processes. The inquiry into the central phenomenon requires a research approach that gives an in-depth insight into the lived experiences of the participants. A phenomenological qualitative approach maintains such qualities and was selected for this research project because “the intent of qualitative research is to understand and explore the central phenomenon” (Creswell, 2012, p. 130) through detailed analysis of the data.

The epistemology in this qualitative approach enabled the researcher to investigate the knowledge construction of the participants who have experienced or are experiencing the phenomenon by probing into their behaviours, beliefs, and feelings. In such a qualitative approach, “knowledge ... rests within subjective experience” (Morgan & Smircich, 1980, p. 497) of the participants and is presented in descriptive responses to interview questions. The subjective epistemology of the qualitative approach contrasts with positivist epistemology, which is more concerned with the relationship of cause and effect between the elements of the study (Morgan & Smircich, 1980). A phenomenological qualitative approach was suitable and selected for this study rather than a quantitative one, and it is intended to provide greater insight into student job search strategies and expand on related research.

### **3.3 Data Collection and Sampling**

In a qualitative study, interviews are a key means of data collection that enable the researcher to gain insight into the experiences of the participants and see the phenomenon of the study from the participants’ perspectives (Lester, 1999). Having said that, an understanding of

how international graduate students in oil and gas-related programs in Newfoundland and Labrador are seeking employment required an emic (or insider) view on their experiences. The research is guided by a holistic approach to data collection using in-depth, semi-structured interviews and “the external world is reduced to the contents of personal consciousness” (Groenewald, 2004, p. 4). Exploring the “external world” guided by Husserl’s phenomenological approach, semi-structured interviews provide greater flexibility for the researcher to delve deeper with follow-up and open-ended questions and allow researchers to enter “the psychological and social world of the respondent” (Smith & Osborn, 2003, p. 59) by giving the researcher the opportunity to exceed the limitations of a structured interview method. On the other hand, this method of data collection also gives more voice and authority to the research participants and reduces chances for the researcher to impose subjectivity. As a result, there is a better chance for emerging themes to rise to the surface in semi-structured interviews.

Moreover, interviews are a means of self-discovery through which the participants can convey their meanings to the researcher on the phenomenon under inquiry (Dilley, 2004). In-depth interviewing is a method in qualitative research by which previously unknown knowledge is conveyed to the researcher. Hence, in-depth interviews, as a method of data collection in qualitative research, create and negotiate knowledge (Legard, Keegan, & Ward, 2003). Legard et al. (2003) state that knowledge construction through interviews in qualitative research takes place “through collaboration between the interviewee and the researcher” (p. 140).

This is to say that one-to-one and face-to-face interviews (Creswell, 2012) with students as jobseekers provided detailed insight into their experiences regarding their uses of job search strategies. To explore factors influencing the choices of specific search methods, semi-structured interviews helped to facilitate further questions towards understanding what influenced students’

decisions to choose their own strategies in instances where they were unable to identify the influencing factors on their own. Also, this approach enabled the participants to speak more freely in expressing their views on the career services they have used and give recommendations for change. For this research project, a questionnaire with thirteen questions was prepared and the items were checked to reflect the research questions. Student and graduate responses were audio recorded by the researcher and these data were subsequently transcribed for analysis by the researcher.

Another method of data collection utilized for the purposes of this study was document analysis. This included an analysis of reports and documents from the public sector of the oil and gas industry, post-secondary education institutions, and Statistics Canada, which are relevant to this study. These reports included secondary documents such as “public document sources ... census reports, statistical bulletins, departmental annual reports ... and private documents from private sector businesses” (Gaborone, 2006, p. 223). However, it is noteworthy to mention that only publicly available documents were reviewed for this study.

In qualitative research, participants are selected based on the purpose of the study (Whitt, 1991) and the context of the studied phenomenon. The local oil and gas labour market, as the context, gives us the background information about the behaviours of the participants (Berg & Lune, 2004). For example, in this study, knowledge of the provincial oil and gas labour market, presented in Chapter 2, helps us to better understand the feelings and attitudes of the participants in their responses. Memorial University of Newfoundland was selected as the site of the study because it is the only university in the Province of Newfoundland and Labrador, the location where the researcher is based, that provides Oil and Gas Engineering and Earth Sciences programs at the graduate level. The goals of this study required selecting a sample that best

represented the characteristics reflected in the intent of the research questions. With the above in mind, a specific group of graduate students at Memorial University of Newfoundland were sent a study recruitment invitation (See Appendix C) via an email from the university's School of Graduate Studies. This call for research participants indicated that the inquiries in this research project were delimited to international graduate students who either were in their final year of a master's degree or were studying in their third or final year of doctoral studies. Also, the programs of interest to this study were Oil and Gas Engineering or Earth Sciences. To reflect the distinct qualities of the population under study, the sampling method used for data collection was homogeneous sampling. To have a homogeneous sample, participants cannot be randomly selected, and thus sampling is purposive (Patton, 1990). Purposive sampling as a non-probability sampling method is aimed at a specific population; as a result, it provides better insight into the investigated phenomenon (Creswell, 2012) and helps locate more potentially information-rich participants (Patton, 1990). Moreover, snowball sampling, whereby the researcher asked respondents to give referrals to other possible respondents, was also used later in the interview process to help locate, identify, and recruit additional participants (Creswell, 2012). Snowball sampling is mainly important because it enables the researchers to expand the "sample beyond contacts known to the researcher" (Lynch, n.d). By using this method, the researcher was able to leverage the network of three participants who responded to the "call for participants" email to identify five additional participants for interviews. Furthermore, to gain better insight into the services offered to students and to learn about the programs and services offered specifically to the targeted population of this study, the recruitment message was sent to staff members at Memorial University's career centre (See Appendix D for recruitment script). This resulted in the recruitment of two additional participants who agreed to take part in interviews. Conversations

with the career centre also provided a better understanding of and more information about students' access to the services available at the career centre. Therefore, in this case, expert sampling helped identify individuals (Patton, 1990) with expert knowledge of career services and programs at the university.

The research participants for this project were mainly students, and interviews with career centre staff were only conducted for information purposes (See Appendix F for administration interview questionnaire). This is because the focus of the study was to investigate research questions from students' perspectives. There were eight student participants in total, referred to as "participants" hereafter: five master's students and three doctoral students. The sample size was ideal for this study because the research experienced a level of data saturation by the sixth interview. The master's students included two females and three males, all in their final year of studies. One of the female students was pursuing a Master's in Earth Sciences and majoring in geology (Student A, MSc) and the other was in Oil and Gas Engineering (Student B, MEng). Among the three male master's students, one was enrolled in Oil and Gas Engineering (Student C, MEng) and the two others (Student D, MSc and Student E, MSc) were studying earth sciences (geology). The doctoral students included one female in Oil and Gas Engineering (Student F, PhDEng, in her final year of studies) and two male students: one in his final year of Oil and Gas Engineering (Student G, PhDEng) and the other (Student I, PhDSc) in his third year of Earth Sciences (Geology).

### **3.4 Data Analysis**

Participants in this study were asked to respond to 13 questions that reflected the research questions. The responses provided by study participants were recorded and these interview recordings were transcribed.

A detailed and thorough analysis of the interview responses was carried out in an effort to reflect participants' feelings and experiences. This involved interpreting and making sense of the answers of the respondents (Smith & Osborn, 2003). Interpretive analysis was used to place the data in the appropriate context of the study, in other words, to investigate the central phenomena contextually (Larkin, Watts, & Clifton, 2006). For this interpretative analysis, the whole transcript for each research participant's interview was treated as data that could be used to learn about the perceptions and feelings of the participant. The researcher identified commonalities and related words and phrases and these were clustered and coded. As is frequently the case in this sort of phenomenological analysis, there was a possibility that clusters of data would overlap with one another (Hycner, 1985).

At the beginning of the data analysis, the interview transcriptions were treated as a whole dataset as the researcher attempted to understand the experiences and feelings of the respondents in the research. While the data set was studied, the researcher took notes to inform the later stages of the data analysis. Then, in the later stages, the data was coded and categorized into groups of emerging themes. The coded data was constantly compared to data groups until all the data was categorized. In this process, data that did not contribute to understanding the phenomenon was omitted from the analysis. Later, coded data in each group was grouped into subcategories. This is an inductive method of data analysis in qualitative research; it helps the researcher to obtain more specific results from the initial general analysis. As a result, a second reading of the data was carried out with the aim of checking the initial annotations against recurring concepts. This revealed three general groups of data based on research questions and two emerging sets of data.

The three general groups of data included a) job search strategies that students use or have used, b) factors that influenced their choices of using such job search strategies, and c) university career centre programs, supports, and services that students availed of in their search process. The two emerging sets of data included a) job searching as a planned project and b) students' perceptions of the oil and gas labour market of the Province.

### **3.5 Ethical Considerations**

For the purpose of the interviews in this study, ethics approval was sought and received from the Interdisciplinary Committee on Ethics in Human Research of Memorial University of Newfoundland (ICEHR). The materials reviewed by the ICEHR included a research proposal, including the draft interview questions and recruitment letter scripts employed in carrying out this study. As per the ethical requirements of the university, students were informed about the benefits and risks of their participation in the study and the objectives of the study. This information was outlined in the consent forms approved by the ICEHR prior to commencing the research. All student participation in this study was voluntary and they were asked to inform the researcher in case of their decision to withdraw. To date, no participant has requested to withdraw from the study.

Also, interviews with the university career centre's administration helped the researcher gain deeper insight into the services provided to students. These data were not intended for use in in-depth analysis; rather, it served as background knowledge that enabled the researcher to better understand students' responses that were relevant to the third research question regarding career centre's services and programs for job-seeking students. Nonetheless, consent forms were provided for members of the career centre administration as well (see appendices A and B for a

copy of students' and administration's consent forms, respectively). Copies of all consent forms and recruitment scripts are provided in the Appendix section of this thesis.

### **3.6 Summary**

This is a qualitative study with a phenomenological approach. The chosen methodology enabled the researcher to best investigate the central phenomenon by using qualitative methods that gave insight about the lived experiences and feeling of the study participants. As a result, a purposive homogeneous sample was used to gather data on the investigated phenomenon. In addition, after identifying the themes reflected in the research questions, interpretive analysis was used to analyze the data for additional emerging themes. The data are presented in Chapter 4 of this thesis along with an analysis of selected quotes from the interview respondents.

## Chapter 4

### Findings and Analysis

#### 4.1 Introduction

This chapter will report the data generated by the semi-structured interviews and post-interview informal conversations with participants. The data generated from interview transcriptions were coded, categorized, and themed based on the research questions. At the end, categorization of the data resulted in two sets of key findings and interpretative data analysis, subsequently resulting in two emergent data sets. The following section presents the findings of this study based on the data analysis carried out. One of the research questions explored for the purposes of this study addressed the job search strategies that students used the most. The two most commonly used approaches were networking and online job searches. Students preferred to network in searching for employment because it enabled them to a) be face-to-face with employers, b) learn about employers' expectations, c) make and maintain contacts, and d) improve communication skills. At the end, recommendations from students for the university career centre are provided.

Students' online job search strategies commonly included four main sources a) LinkedIn, b) job search websites, c) company websites, and d) professional associations. A variety of factors influenced students' choice of job search strategies: a) the type of job sought, b) peers and word of mouth, c) the type of industry in which the individual was interested, d) whether or not the person had previous work experience, and e) if the individual had assistance from the campus career centre.

Two overall emergent themes were identified to exert an influence on one's choice of job search strategy. First, for a number of participants in this study, their strategy for seeking

employment was contingent on whether or not the job search was a planned project included in their program of study. International graduate students' perceptions of the characteristics of the oil and gas labour market of the Province was also an overarching influence on student and graduate employment choices.

The presentation of data that follows is accompanied by verbatim quotes from respondents, giving voices to individual participants. These direct quotations from participants are provided in order to enable the reader to better understand the studied phenomenon. These quotations illustrate individual explanations and present examples that provide a better understanding of student job search strategies and choices.

## **4.2 Job Search Strategies**

Students were given a list of possible job search strategies and were asked to choose the strategies that they used and/or had used. They were also asked to indicate the ones they thought were the most effective (See Appendix E, question 8 for the complete list of job search strategies). The analysis of interviews with graduate students revealed two major job search strategies: networking and online job search. These two strategies were the ones respondents claimed to have used, preferred to use, and/or were considered to be the most effective for finding a job.

**4.2.1 Networking.** The data collected for this study show that students tend to define networking in their own terms and have a clear understanding of the objectives of networking activities. They also set their objectives, pick the players for their networking plans, and seek opportunities to access key social contacts. Students frequently defined networking as making contacts through their friends, teachers, and university supervisors; however, making connections was not limited to who they knew. The data from the interviews show that students

feel strongly about reaching out to friends and social contacts to make connections that would lead them to potential employment opportunities. One student referred to such leads as “direct contacts,” who were perceived as individuals who could lead them directly to human resources (HR) professionals. For example, Student C, MEng said, “through friends and contacts, yeah I think these are the most effective in my experience to get direct contact ... contacting directly generally means HR people.”

For many jobseekers, making connections means looking for avenues to connect to people and to make focused efforts to build relationships. Students have the knowledge of where to look to build a network of social contacts, whether making friends or acquaintances. Student A, MSc noted, “my personal contacts, like through the course of my studies, say my profs or other people I came in contact with. I’ll also contact them personally.”

The data collected shows that networking, in the way it is practiced by the students who were interviewed, is also a strategic plan that requires clear objectives. A strategy in approaching potential contacts was shared by Student F, PhDEng:

I would do that personally, just to ask, not anything like pushing them but just by friendly asking them, do you guys know if the company is recruiting? Do you know the best person to contact? Here is a copy of my CV, if you want something, please place my CV there. And this will be done to those people who I am comfortable with in communicating in such a way. I will also exercise those avenues, yeah [*sic*].

Student E, MSc states, “Sometimes you have to bump into someone and they mention that, and I take it as a connection, I think that actually matters even more than just randomly sending out your resume here and there.” This response suggests that building connections can extend to any possible opportunity that connects jobseekers with potential leads on job opportunities. This may

happen by randomly meeting people and learning that they have industry-related information. But, as pointed out by Student E, it is the effort of the individual that can turn such encounters into opportunities. The statement also suggests that this student values direct encounters more than going through the formal motion of submitting applications to potential employers.

The interview data showed that the respondents often made focused efforts to expand their social capital by attending networking events. There appears to be two major players who moderate students' access to information about networking sessions. One of these is the university career centre where students reported attending organized events often, such as employer information sessions and career fairs. The other major player is professional organizations, which were recognized mainly by students who had previous work experience. In many cases, students attended company events that were advertised through such organizations. These advertisements were frequently received by students via email.

When students were asked about their networking activities, including the reason they networked, all of them believed that networking is the optimal way to look for a job because a) it enables them to talk face-to-face with employers and expose their skills; b) they can learn about employers' expectations by asking them directly, and as a result they have a better idea about what skills they need to improve; c) they are better able to make and maintain contacts, with the aim of eventually approaching potential employers when they start to actively apply for jobs; and d) networking with employers was regarded as a means of improving communication skills, which they believe employers value greatly.

**1) Networking face-to-face with employers.** At Memorial University, students have many chances to meet various employers through events held by the university career centre. One of these opportunities is the career fair, which enables students to oftentimes talk directly to

employers and their employees. At these job fairs, there is usually one human resources staff member available to answer jobseekers' questions. According to study participants, most companies encouraged students to visit the company's website to learn more about their projects and job openings and to submit resumes or create a personal profile on the company website. Through direct networking with employers at career fairs, students learned about companies' processes for submitting applications as well as other expectations, such as providing copies of transcripts or completing an initial screening quiz. Student D, MSc stated the following:

Of course I attended the job fair in September. It was a good opportunity for us to talk face-to-face about the job opportunities. So if they got a job, they recommended us to go online and upload our resume/cover letter.

The interview data indicates that when students go to networking events, especially a career fair, they have particular goals in mind: "When I went to a career fair, I was looking both ways, information for my research because it is related to the oil industry and also any potential job opportunities that you can get" (Student E, MSc). Students who attended job fairs often engaged with targeted employers at booths representing a wide range of companies. However, despite their overall satisfaction with their career fair experiences, some students mentioned that their objectives did not match with employer's goals. In one case, Student F, PhDEng perceived the intentions of some employers to differ from students' objectives:

Some employers try to promote their company rather than actually hire or look for some candidates in the job fair. I feel that they are not really interested. When I approach them and say that ok, is there any posted position for R&D<sup>5</sup> position, they say ok, check our website, so that's kind of general and typical answer.

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<sup>5</sup> Research and Development

Another networking experience described by students was “speed networking,” where they are provided an opportunity to sit briefly with an employer and take a few minutes to talk and exchange information. This way, students have a chance to meet with a variety of different employers in a short period of time. There was one student who did not have previous industry experience and had not attended the event; therefore, his comments were based on his friends’ feedback. Student B, MEng was interested to try methods that would give her better search options: ones that are not only complementary to other search methods but would also act as mediums for job leads.

I heard there are some social activities like bringing people from the industry for the students; I heard that one last year, so you have three minutes to talk to one person ... I am interested to attend next time because the problem I have now is like [*sic*] all I have in my hand, all the resources I have, is the online application system! That’s it! I can’t see the person there, I can’t see the face.

These comments also show that although the student had not attended the networking session, her friends’ feedback helped her to reflect on and see the value in attending such events. This student, like a number of other respondents, emphasized the importance of face-to-face conversations and exposure of personal skills to potential employers. Moreover, she is seeking to diversify the tools she is relying on for her job search and is willing to try the approaches her peers viewed as effective.

Students have broad views on networking. In fact, any opportunity that would provide exposure to the labour market and the world outside the university would be considered networking. However, Student G, PhDEng has made multiple efforts to network with a specific

objective in mind. The student perceives networking as an opportunity to learn about the labour market and gather preliminary information at the beginning of a multi-stage job search process.

I try to attend different job fairs both here at MUN<sup>6</sup> and other professional agencies, such as NOIA<sup>7</sup> or a couple of engineering associations. I usually attend job fairs held by these organizations. Also, I try to attend as much networking sessions as I can. My purpose is to benchmark the job market here.

Organized networking events give students a chance to meet industry insiders; this is particularly important for students in research-intensive programs who see networking as a chance to share information about their own research projects that are in some instances sponsored by oil and gas companies. Student D, MSc indicated that Suncor Energy sponsored his project, and he had presented his work to company officials. He was pleased with this opportunity to network and believed that because he was the only international student who had presented to the company, there was a good chance the company officials would remember his work.

My project is based on Suncor, ... I did a presentation for them, if it's networking, yeah, if it counts, because I know some guys there, and some guys know my name because I'm the first, I think I'm the first foreigner to do presentation for them in their conference room.

Student C, MEng also had a positive networking experience:

I think since the start of my master's I started networking because my research is related to the oil industry here in St. John's. So since I started my research project here, I got more connections here, from the first month that I came here to Memorial.

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<sup>6</sup> Memorial University of Newfoundland

<sup>7</sup> NOIA-Newfoundland & Labrador Oil & Gas Industries Association

As these data indicate, students highly value opportunities to interact personally with employers or other industry officials. This often provides opportunities for them to talk about their research projects or to make inquiries directly with potential employers. Networking is considered one of the most effective tools for their job search and events that provide opportunities to network are thus highly valued.

**2) Learning about employers' expectations.** In face-to-face networking, students have a chance to learn about what employers have to offer. They can also inquire about the qualifications needed for various positions and projects and learn more about the skills they need to improve on in order to match their potential employer's criteria. Student B, MEng provides some insight into how important it is for students to find ways to stand out in the labour market and to be competitive with their peers:

Talking face-to-face to potential employers is the best way to see what's the expectation from a fresh graduate and by talking to those people I would be able to identify my shortcomings and identify those aspects or those skills that I need to work more on before graduation, you know, to prepare myself and to make myself competitive in the job market, so that's the reason why I really use that strategy, you know, attending job fairs, talking to employers and the HR.

Similarly, Student G, PhDEng made the following observation to the researcher:

I think attending the job fair is important because you learn more about them [the employers and companies] ... I think that's the best way to do, it is more directly to target or to see what the company wants.

In many cases, international students seeking to stay in Canada and work have the additional task of trying to better understand the Canadian labour market and the expectations of new graduates.

In some instances, they consider networking with employers to be the best way to learn about the Canadian labour market needs and the work culture. Student I, PhDSc demonstrates this way of thinking:

I attended the job fair to ask or understand how it happened here because the job market I looked for was in my country, which is quite different than here in Canada, at least I assumed it was different and my objective was to go and ask them to see what they look for, what priorities they have in terms of candidates and those things.

As a student with management experience, Student G, PhDEng further illustrates that networking is considered a vehicle for gaining labour market information that the student jobseeker can then use to prepare for the active job search after graduation.

My purpose is just to get familiar with the requirements of the potential employers especially here in Canada, what's their expectations from fresh graduates compared to back home because ... the criteria is almost the same but sometimes there are different focuses on the specific skills here in Canada compared to back home so right now I'm considering reading the employers' websites, attending job fairs or attending networking sessions.

**3) Making and maintaining contacts.** The students interviewed for this study demonstrated an awareness that networking is a lengthy process that is aimed, in part, at building one's contacts. They also believe that networking is a tool that aids in their job search process, but because networking can be challenging, many of them felt it was essential to start networking early in their studies. For example, Student A, MSc mentioned that he had already made a list of contacts.

I think when you are ready to go for job search, you probably have the tools already in your hand, what I mean to say is that I need contact. When I decide now to look for a job, I can't start building contacts now because it takes some time, so networking has to be a long-term process, for several months or years or a few events, so you'll get a certain number of contacts. When you start job searching, you use the contacts you build over years to use for your purpose so the tools I think, and especially for me, I think the tools already exist there and built up and when I decide to go for a job search, I just use the tools.

This quote demonstrates that Student A, MSc is prepared and confident in his job search process because he is aware of the time-consuming nature of building contacts through networking.

Two of the study participants (Student G, PhDEng and Student E, MSc) pointed out that a significant factor in networking is the actual selection of contacts. Consequently, in order to build meaningful and potential contacts, these students aimed to identify contacts who would be the most likely to direct them to job opportunities. Building a useful network of contacts requires an appreciable allocation of time, so some of the students made efforts to expand their social network early in their degree programs. Students also said they planned to touch base with their list of contacts in their final semester, when they are closer to graduation, to inquire about potential job openings and if their contacts are aware of any job opportunities.

Furthermore, Student E, MSc suggests that social media is another avenue for making and maintaining a list of networking contacts. Social media can enable jobseekers to identify potential contacts, and since contact information is readily available online, it may be easier than other search mechanisms to quickly find people with affiliations to specific companies.

When I network, especially through social media, I try to keep the potential contacts that I think might help me in future and are also related to my major, and then I disregard the ones that do not match my job search criteria. (Student E, MSc)

**4) Networking to improve communication skills.** One means of networking mentioned by Student D, MSc was volunteer work. Specifically, he believed that students need to develop their soft skills in addition to technical capabilities and volunteering could help improve communication and teamwork skills. It also helps to better adapt to the local culture.

Besides the technical skills that we learn from university, they [employers] need other skills like team work, communication, specific culture; different companies have different culture. That's more effective ... it builds confidence to communicate with people and know the local people and local community ... The communication skills totally help, and team work skills, yeah [*sic*], those are two important things I learned from volunteering. (Student D, MSc)

Interpretations of data on networking provide results on students' job search objectives and expectations, how they define networking, and what they consider networking; all of these are presented in the discussion section of this thesis.

#### **4.2.2 Online job search.**

**4.2.2.1 LinkedIn.** When I asked the students about the use of social media in job hunting, all of them mentioned that LinkedIn is a good way to keep in touch with the oil and gas companies and the HR professionals. There is ample support from the data that LinkedIn is considered an influential networking and job search tool. Some students with prior work experience used LinkedIn more often and were more aware of its different features. Jobseekers can join professional groups and company profiles to learn about their vacancies and projects and

to connect with industry people. Networking through social media is viewed by students as more streamlined in terms of identifying potential contacts: “Normally I go on LinkedIn daily, to see which connections I can get, and sometimes go directly to the company profile to see what they have to offer” (Student B, MEng).

The availability of various professional groups on LinkedIn provides ease of access to industry information. It is free to join company profiles and make connections with employees and employer, engage in group discussions, and search and access people, jobs, and companies. “LinkedIn is one of my top choices when I want to look for a job because you can get many features out of it. You can search jobs, join company profiles and other related groups” (Student A, MSc).

Students with prior industry experience were aware of the importance of keeping their LinkedIn profiles updated. As a result, two of the experienced students who carefully maintained their profiles (Student E, MSc and Student G, PhDEng) mentioned that they received job offers either directly from the employers or by head hunters through LinkedIn. “In my LinkedIn account I received just four job position offers and out of those, two of them was really serious [*sic*], they wanted me to start the job right away” (Student G, PhDEng). This is a success story of using LinkedIn, which could be valuable information for peers. A trusted network of friends carries information regarding trials and errors of their job search experiences. Student jobseekers who are aware of such success stories and are interested to learn about their friends’ and their networks’ experiences know that in order to be on top of labour market competition, they need to keep their LinkedIn profiles tailored and up-to-date:

Whether it’s a research career or academic career, I’ll probably try to build it [my LinkedIn profile] or modify it depending on where I am looking for and then I think I

will attract more potential employers because they also always keep looking for people in LinkedIn so if I orient my LinkedIn in a certain direction then I'll attract more potential employers. (Student I, PhDSc)

The data also shows that using LinkedIn goes beyond job searching. Students understand the value of being on track with the news and information flow in the industry, so they join LinkedIn groups in order to have a current mindset about the oil and gas market. LinkedIn is a networking tool used in the preliminary stage of the job search process.

I'm also using LinkedIn. On a weekly basis, I receive emails ... from LinkedIn groups. I have joined related associations, or the working groups related to the work I'm doing. I'm receiving notifications from those working groups to keep up-to-date with the changes in the industry. (Student C, MEng)

Data from students related to using LinkedIn also depended on where they are in their search process. Student I, a third-year PhD student in oil and gas engineering, revealed his preference for a passive job search strategy, where he only has a profile on LinkedIn for the time being:

I created LinkedIn when I came here ... it's a very general profile showing what my project is, the thesis title of my PhD and where I work, and a little bit of job responsibilities like bullet points, not too detailed, and my other experience, my volunteer work, and my interests. So it's a snapshot of my profile but it's not designed for a particular industry.

This approach was also taken because he had not yet determined his career options and still must decide if he can acquire an academic position or return to industry; however, the student is aware that once he decides his career path, he will need to customize his LinkedIn profile to match his desired career option.

**4.2.2.2 Job search websites.** Another pool of data focusing on using LinkedIn showed that students compared LinkedIn with online job search websites. Students preferred any search engine that would provide them with targeted information in a short amount of time. Job search websites that provide a wide range of jobs are regarded as ineffective because oftentimes search results do not match with what they are looking for, whereas LinkedIn provides a better-customized search engine. This view of LinkedIn as the superior tool was voiced by Student F, PhDEng, “In my opinion, LinkedIn is much more powerful compared to Indeed.com so I prefer to ignore job agencies, because I’m receiving much more related job opportunities.” This increased rate of success might be because companies have an active presence on LinkedIn and post their vacancies on it.

The notion that general job search engines such as Indeed.com send more unrelated job alerts was echoed in other students’ responses as well. This view, however, comes to light because of students’ familiarity with LinkedIn and its features. Their successful experiences with LinkedIn could be a reason they compare the two.

Based on my experience with Indeed.com, I have been receiving a huge amount of emails. I can say at least two emails per day from those job agencies and I can say out of ten emails, maybe just one was related to my field, so in my opinion, I’m not a fan of online job agencies. I prefer LinkedIn. (Student G, PhDEng)

This is again a trial-and-error practice that student jobseekers undergo in their job search process. Many of them have already started to look for best practices in job hunting. Also, since they are still students, their job search is in a passive stage where they are only browsing their options, but they are aware and active in looking for the most effective job search activities.

Job agencies such as Indeed.com send mass emails to a huge number of recipients and when you compare them with LinkedIn, LinkedIn is specified to the jobs for you are looking for, so I can say that that's a real strength when they compare LinkedIn with job agencies, so that's the reason I don't like them. (Student C, M.Eng)

Student G, PhDEng is highly active in looking for the best search activities. He has gone a step beyond and looked for evidence in research:

Comparing this statistic [success rate of LinkedIn] with the number of huge emails I receive from those job agencies, I can say that that's a waste of time, because I have to spend a lot of time reading unrelated job offers.

This quote shows that job searching is an important item on his agenda. Hence, a student jobseeker's search for trials and errors is not limited to looking to peers and following their leads, but if students regard job searching as a significant project, as this student did, they could explore more options on their own terms.

On the other hand, Student I, PhDSc, who is looking for both academic and industry jobs, prefers to keep his options open and explore as many opportunities as possible, stating "I **will** probably go for as many ways as possible to look for jobs, but I think the most important thing is to look for job sites." Besides, since he refers to job search in the future sense, he is not actively looking for jobs. Also, since he is in his third year of doctoral studies, he is only browsing his options for the time being. It seems that his search for best practices is also passive but he has some objectives, that is, to look for online job search websites. However, he did not indicate that he has actually tried to use the job search engines after he has located them.

As a result, students prefer to use job search websites that cater to specific majors, are equipped with better-customised search options, and are more directly linked with a specific

company's vacancies. Students view companies' profiles on LinkedIn or their Facebook pages. "I always check the social media of job agencies, a couple of related job agencies" (Student A, MSc). They also use occupation-specific online job banks, such as those for the oil and gas industry, like Rigzone.com or Oilandgasjobsearch.com, and academic job banks including Academia.edu or Researchgate.com.

**4.2.2.3 Applying directly through the company website.** All the students mentioned that applying directly through the company website is an effective way to look and apply for a job. Most of them had a specific company in mind or were familiar with the company either through the career fair held by the career centre or their research projects. They either made a generic profile or applied to a job on the company's website. "I choose the company website. I think that's the best way for us to directly send or target the open positions" (Student F, PhDEng).

All student participants were aware of the companies operating in oil and gas in Canada. They looked for the ones that would match their skills and qualifications. Targeting their potential companies would lead to checking their websites to identify open positions. This practice demonstrates their persistence and interest in seeking employment with their favourite companies. "I always check company websites, you know [*sic*], potential employers, good employers that I wish to get employed by" (Student B, MEng).

Similar to their knowledge of LinkedIn's features, some respondents were aware of different features of company websites. One of the features related to employment that students paid attention to was the ability to follow up on their submitted applications and the functionality of generic applications. Student D, MSc stated he would like to follow up on the applications he submitted to some companies:

Some companies have online form or CV submission link or something, sometimes I've seen some companies don't have anything [*sic*] or they have an HR address or something so you can send your queries or CV to them as well, and sometimes they reply, sometimes they don't, but that's the most direct way to get to the key people ... When you go to the company website, you are in direct contact with the HR.

While some companies do not provide any contact information for further inquiries, some jobseekers might be looking for a more personalized search experience; when they submit their applications, they would like to know if their applications have been viewed by a company's HR. However, regardless of finding a contact, there is still a preference to submit online applications because it is viewed as a direct and targeted strategy in job searching.

Personal experiences of trial and error in search strategies could be significant in future practices in an individual's job search. Once a person identifies a strategy as successful or unsuccessful, chances are likely that they would relay their experiences to their peers, who would perceive such strategies to be models of best or worst practice in the future. For example, one student had submitted an application to a company in another country and the company's HR personnel in his own country contacted him for a job. A jobseeker's chance of finding a job with a multinational company may also be higher by submitting an application through the company's website.

**4.2.2.4 Professional associations.** All the students were members of at least two professional associations. Once they located a professional association, they would try to find out how the associations could be of use to them. For example, students were familiar with features of such organizations and used them as a source of information either in their job search or finding out about their different events and company affiliations. Taking advantage of job alerts

is one example; once students are members of a professional association, they register their email addresses to receive related or generic job opening emails. Also, students try to track the online presence of associations to learn about their activities and updates because they believe the information provided is valuable.

I registered in a couple of professional associations in engineering such as Professional Engineers and Geoscientists of Newfoundland and Labrador. That's a very valuable information source and also SPE, Society of Petroleum Engineers, so I have registered in the listserv of engineering associations. I'm also checking their social media and their website; I guess that's the best resource for me to learn about the upcoming networking sessions or job fairs. (Student G, PhD.Eng)

An interesting finding is that students found LinkedIn and professional associations to have similar characteristics. More precisely, the focused nature of LinkedIn on specific educational and professional groups demonstrates the same nature of professional associations for some students, that is to say, students realized that both provide specific and targeted information for them.

Professional associations and LinkedIn groups, they have been really helpful for me, because I see that they are really working. I received I can say three or four job positions just from my LinkedIn account, some serious ones. (Student C, MEng)

Data related to students' interest in and use of professional associations show that students are aware of the various benefits of such groups and that their membership is purposeful. Student G, PhDEng identifies the associations to which he belongs:

I'm already a member of a couple of engineering professional associations, such as SPE Society of Petroleum Engineers or ASME American Society of Mechanical Engineers or

NACE, National Association of Corrosion Engineers, those are all the professional associations related to my field of work, so I am already a professional member of all those associations and they all have mentorship programs and they do have some weekly listserv sending the job openings or positions available related to my field.

The student stated that he is “already a professional member of all those associations”, which indicates he had a purpose in mind for joining. Students see these groups as a valuable resource and recognize how they can be a beneficial tool in their job search process. One such resource, apart from job alerts, is the mentorship program that these associations offer.

Other offerings of membership include online courses and resume/cover letter writing services. On the other hand, membership to professional associations is not limited to students interested in industry jobs. Interestingly, Student I, PhDSc, who considers choosing academia, research, and teaching, also uses related professional membership to his advantage. Such affiliation gives the students the opportunity to navigate through a wider lens and to learn about employment opportunities and expectations in the academic world.

For academic job search, say for post doc jobs, there are several newsletters or different discussion groups in academia [online], so I have numerous subscriptions to them or membership in different research groups or different associations or societies and they keep posting postdoc positions or even teaching jobs, so I keep getting information from them and I see the job profile, what they are looking for, how many years of experience. So those things keep me informed about what is going on in the field and what they are looking for. (Student I, PhDSc)

### **4.3 Influencing Factors on Choosing Job Search Strategies**

**4.3.1 Type of job.** A closer look at the data related to the choices of career stream, whether academic or industry, indicates an influence of the type of job on the choice of specific search strategies. For example, in using online job banks, those interested in industry jobs choose to use industry-specific search websites, and those interested in academic positions choose search engines related to academia, research, and teaching. On the other hand, looking for teaching or postdoctoral positions might require the jobseeker to look for other media, such as locating a supervisor who can offer a postdoctoral position or a university with vacant teaching positions. “If it is an academic job, then you’ll have to look for a supervisor for a postdoctoral or an institution if it’s a teaching job” (Student I, PhDSc).

Networking as a job search strategy is moderated by the type of job student jobseekers are interested in because the providers of such events could have specific affiliations to companies or academia. For example, students who focus on industry jobs look for industry networking opportunities through professional organizations and the career centre, whereas two of the doctoral students (Student I, PhDSc and Student F, PhDEng) referred to conferences as a networking opportunity. Student I prefers a career in academia and Student F’s preference is for a position in industrial R&D: “I’m a member of Society of Petroleum Engineering ... I attended their conference ... When I attended the conference I approached the people from the industry” (Student F, PhDEng).

**4.3.2 Peers and word of mouth.** Reference to success stories of using specific search strategies was evident throughout the data, where the reference was either to a friend or a friend’s friend. For example, the most prominent search strategy that students used was networking, since it was reported to be an effective tool for landing a job by friends who had

done so through this method. Adopting the same search strategies as a network of friends is a safe course of action because the friends have already gone through the experience of using a job search strategy, eliminating some of the trial and error for students.

The reason why I refer to networking is because I have heard a lot of stories and experiences like my friends. It hasn't happened to me yet but there is one student who graduated from my lab and was contacted by an employer she had met before. They had talked about her research area. Now she is working in BC ... that's why he stresses that engineers have to network so that's what I was trying even when I attended the conference. (Student B, MEng)

Word of mouth seems to be an influence not only on students' job search choices but also on their aspirations of future career prospects. However, this influence comes more from the trusted networks of friends and contacts. Student F, PhDEng, who was hoping to attain a position in the R&D section of an oil and gas company, was not very hopeful about finding a similar position in Newfoundland; the success story of her friend from another Province motivated her to believe that she might be able to obtain a position elsewhere, regardless of her residential status in Canada. She states, "Not here but I have some friends, for example, they graduated in Ontario and they **did** get a job in the R&D department." Using the word *did* demonstrates reliance and trust in her friends' approaches to job seeking.

The data related to peers' influences and word of mouth is valuable to this study, as it clearly shows that friends are trusted sources of information because their trials and errors provide student jobseekers with reliable information about job search tools. Therefore, students

rely heavily on those resources. The following response is from Student I, PhDSc when asked by the researcher if he had attended the PSDP:<sup>8</sup>

I know a couple of friends who attended the PSDP and the responses were different.

Those who have several years of experience didn't find it too attractive. And on the first day of my PSDP I didn't find it attractive, so I didn't go.

Furthermore, this peer influence applies to choices of other job search methods as well. When it is proved to the student that a specific job search strategy has worked for their friends, they tend to give it a try. An example is submitting online applications to company website:

“I was suggested [to use the online application] by some of my friends. They don't have engineering backgrounds but that's how they got their jobs” (Student B, MEng).

In order to access information on effective job search strategies, students need to build networks of friends. We inquire and hear from our friends about their and other people's job search experiences; circulation of such information among friends could have a further source who is not a friend, but it is important to build information-rich networks. Students look carefully and select the contacts and information that can be of benefit to them. They are also vigilant to the fact that people with the right kind of information are not always in the same major or occupation that they are looking for, but they need to be affiliated to their ultimately preferred sources of information. Once students know their friends have been successful, they trust the method and consider using it.

The right person who is within your network, he or she doesn't have to be the one working in the company but just some information s/he shared like for example, the

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<sup>8</sup> “Professional Skills Development Program (PSDP) for International Students ... helps to prepare international students for professional employment in NL and throughout Canada.” Retrieved from <http://www.mun.ca/isa/employment/psdp.php>

experience I heard from my friends is very encouraging to me because I've heard a lot of stories, finally it comes true when it happens to you, that's why I will keep trying that strategy. (Student D, MSc)

As stated earlier, students as jobseekers look for people to connect them to the right sources of information on career opportunities. These people, as considered by Student I, PhDSc are a "medium" to what they need: "I need the medium, the right people. For example, my supervisor could be the potential candidate for that as well."

The medium that connects the students to job opportunities does not necessarily possess hiring powers. One reason, according to what one of the students had experienced, was whether there are vacant positions available at the time of inquiry. The potentiality of the job therefore could depend on other factors not related to the medium unless the medium is a direct influence, such as the employer or the HR professional.

I would say it really depends on the company and the job opportunity because my supervisor was trying to introduce me to some of his friends in Statoil before, but they were not hiring at that time so they told me to just keep an eye on their website to see if there is any job posting and that's all I got. (Student E, MSc)

In this case, the supervisor connected the student to the employer, but the student was unable to secure a job at the company, either because there were no vacancies in the student's field or because the company specifically followed standard practices of hiring and thus directed the student to their website. On the other hand, the medium could also be social media. In the following example, a friend of Student F, PhDEng had used LinkedIn to contact the company directly for employment information and had been successful in securing a job:

One PhD holder graduate from chemical engineering says he could actually only get the job after he interacted with one HR from one company through LinkedIn and he said other than that he didn't get anything from other people.

It seems that once the student hears about the effectiveness of a job search strategy, s/he would also apply that strategy to his/her search process. The following quote indicates that Student F, PhDEng in this case has used a networking strategy; however, it has not been successful for her *yet*. This might mean that she would continue to use that strategy nonetheless.

Now he [a friend] is in BC. He works in Teck<sup>9</sup>, but that's why he stresses that engineers have to network so that's what I was trying even when I attended the conference. I approached the people from the industry but I haven't got any luck yet.

**4.3.3 Type of industry.** The nature of the oil and gas industry makes the companies easily stand out because this is a global industry. Top oil and gas companies are known to all students who are in oil and gas-related programs. Therefore, it should not be difficult for them to look up companies on the internet and use the company website to submit general or specific applications. "For those major oil and gas companies, I actually check their website," stated Student A, MSc.

On the other hand, the following example could be an indicator of students' lack of knowledge of the industry's presence in the labour market. It seems that either only larger oil and gas companies are well-known to students, or larger oil and gas companies are among student jobseekers' top choices when it comes to seeking employment. In either case, the popularity of larger companies seems to make them more accessible and visible to student jobseekers, thus

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<sup>9</sup> Tech Resources Limited is a Canadian metals and mining company [www.teck.com](http://www.teck.com)

they choose to apply to jobs through the company website by either submitting a generic application or applying to specifically advertised job vacancies.

I definitely use the company website because you know they only have a few companies, you can name it, and you can count it, so for larger companies it's a good choice to use their website to find a job. (Student B, MEng)

Students in oil and gas-related programs feel that because their major is limited to the companies in that industry, they have limited options of companies to choose from. This automatically connects them to specific companies, and they do not have to search extensively to find the companies they can work for because they are very much visible.

It actually depends on your major. We don't have many choices. The guy who has a business background can go to any company, or the guy who has accounting knowledge, but for us we have to go to a company which is a geological company doing mining. It is actually quite a narrow field to choose our career. (Student D, MSc)

This limitation also applied to Student F, PhDEng, whose choice was to work in the industry's research and development sector. For example, she mentioned that because not all oil and gas companies have a R&D department, her options are limited. As a result, she already knew which companies she has to focus on:

I want to get into the research and development department, and that's something that only big oil and gas companies have. So for example, my priority is Shell but there is Statoil and other companies I'd like to go to as well ... Shell is kind of [*sic*], invests a lot of effort or they have a lot of research and development facility, I mean it's pretty good on the R&D part.

Students' trials and errors in their job searching go beyond job search strategies and could include any opportunities that would give job-related information to the student jobseeker, such as cooperative education. On the other hand, collaboration between the industry and university could eventually provide such opportunities. The following example demonstrates how Student F's experience with cooperative education has given her an opportunity to gain a better insight into her chances of employment with the company:

I did co-op. It didn't work out for me because Husky doesn't have R&D here and when I was doing my internship here, they mentioned that because I have engineering research background [they are going to offer me an internship as a project related to my major] and they actually have a small project going on, that's why they collaborate with university and that's why I got that position but other than that they don't really look for PhD holders here. It's kind of frustrating but that's what I learned from my experience.

Her feelings of frustration due to the insecurity of her future employment chances with Husky, as she mentioned, could indicate that she would be more selective in her future job hunting endeavours. This proves that the type of industry can affect students' choices of job search strategies in oil and gas because there are different departments in various companies that require different skill sets. As a result, students might, for example, use the internet the most frequently to locate companies that provide them with specific employment options.

**4.3.4 Having prior work experience.** The data shows that graduate students with previous industry work experience tend to use identified and specified search strategies, including job alerts from professional associations and connecting with potential HR professionals or employers in the industry through networking and LinkedIn. These search methods are direct and targeted and could connect students directly to job leads. In their

statements regarding the use of job search strategies, students used the words *effective* and *successful*, and all of them seemed knowledgeable of the job search process when they referred to the different steps it involves. Their knowledge was a result of their experience using search strategies that secured them their previous jobs and hence were successful and effective, whereas students without previous related work experience relied mainly on university networking sessions and online job banks.

Both experienced and inexperienced students perceived applying directly to companies' websites as the most effective way to reach employers directly. Hence, these students were also looking to find best practices of job search. On the other hand, two students with previous industry experience (Student I, PhDSc and Student E, MSc) did not find PSDP effective in meeting their job search needs, since they had already worked in multinational companies and were aware of an international work culture; in addition, they had exercised career preparation and learned the best practices in job searching. These students were interested to learn more about tools that are targeted at connecting them with job openings directly. They believed that the program was more suitable for entry-level students to help them learn about the basics of job searching.

I went to one class of PSDP two years back and I think it wasn't the best thing for me. I think it's good if you are looking for a job for the first time but if you have 3-4 years of experience in the industry, it is not for you. (Student I, PhDSc)

In another instance, a student without previous work experience referred to volunteer work opportunities as networking:

There was a volunteer fair in the landing.<sup>10</sup> 'Cause [*sic*] I don't have volunteer experience. It's another factor that affects you to find a job. Through that I joined the volunteer job. So it's another event I joined. (Student D, MSc)

First, Student D perceives these opportunities as factors that would influence his job search efforts by networking with local people and improving his communication skills. Second, he feels that he can gain some experience through volunteer work due to his lack of work experience; thus, the volunteer work could lead him to connect with new people and help him build skills in the meantime.

**4.3.5 University career centre (UCC).** A more comprehensive look at the data from the interviews reveals a positive pattern of influence from the UCC and its services in students' job search processes, as well as their choice in using job search strategies. All the students attended the resume and cover letter workshops at least once, job fairs, employer information sessions, and other networking events held by the centre, and generally scheduled appointments for career counselling.

Whenever I want someone to review my cover letter, CV or resume, I go to the career centre, so I can say that I use their resume and cover letter service at least twice per term. I was looking for a part-time job here last summer; they were really helpful for me to find a job. I just went there and talked to them about the type of job I preferred to fill my part time and they offered, you know, they proposed a couple of options and that was really helpful for me. (Student G, PhDEng)

Resume and cover letter writing services are used mostly by international students, which is understandable since they come from different work cultures and would like to improve their

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<sup>10</sup> Landing is the name of a student gathering space on campus.

chances of employment success. The service provides them with essential information about how to write a resume and cover letter and what to include. Students recognize this as an important service because they are aware of the need to adapt to cultural differences.

I went there to show them my CV and ask them, if I want to apply for some part time job here, say Aquarena<sup>11</sup>, then this is my CV, how can I orient it to look for a job here.

Because that CV was built 5 years back and it was for Indian employers, so how would I modify that? (Student I, PhDEng)

The UCC was known to all the participants and all of them perceived it as effective and helpful in their job search process. Student I, in his third year of doctoral studies, showed interest in using the UCC's services in his final year or after graduation (i.e., during his active job search period): "Regarding the services that they have such as mock interview or resume and cover letter review, those services are really helpful, so I will also use those services when I start looking for a professional job in the future."

Data related to the UCC sheds light upon its influence on students' choices of job search strategies. By offering various services and networking events that target career preparation, the UCC has a great influence on the students' available choices. One of the programs they offer exclusively for international students is PSDP. This is a career preparation program that familiarizes students with the Canadian labour market culture and ends with a networking session. One of the students' comments upon attending this program affirms its usefulness: "As a part of PSDP program, they had one of the networking sessions and that really worked for me, I really found a job. (Student C, MEng)

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<sup>11</sup> Aquarena is the university's swimming pool.

The UCC offers exclusive sessions on job search strategies and how and where to locate job vacancies within the Province. Although none of the students were aware of this service, they were exposed to some information on job search strategies through PSDP. On one hand, there is an exclusive program targeting one specific area in the job search process; on the other hand, there is a more inclusive program that takes a longer time to complete and requires a greater commitment compared to the one-hour information session on job search strategies. The inclusive nature of PSDP, with each session on a different topic of job search, provides students with a job-related information package.

I can say 100% yeah [*sic*], because I didn't use my LinkedIn that much actively before attending PSDP and when they provided a couple of statistics comparing how employers use those social media to find the employees, I can say that I renovated my LinkedIn profile and changed lots of information, yeah [*sic*] they definitely have enhanced my job search process. (Student G, PhDEng)

This clearly shows that the UCC has had a direct influence on the student's choice of job search strategy (i.e., LinkedIn), apart from networking.

#### **4.4 Emergent Themes**

The aim of this section is to look at the data beyond the initial research questions as a result of further in-depth analysis of the interviews. The following themes were determined to be recurring by reading the transcriptions more carefully, paying unbiased attention to the feelings and tone of the speakers, as well as taking the attitudes of the students into careful consideration.

**4.4.1 Job searching as a planned project.** It is interesting that all the students talked about their job search process with confidence. They all answered questions without hesitation and clearly showed that their choice of using job search methods was purposeful. The students

acquired this confidence by observing their peers and evaluating the peers' successes or failures in using job search strategies. Their eagerness in answering the researcher's questions was evident in their use of powerful words that exuded confidence. The following quote from Student A, MSc illustrates a prepared mentality towards the job search process:

You know, **based on my experience** from my graduated friends, finding a job is not easy. You **should** look at it as a real project; you **should** specify it, big chunk [*sic*] of time for this project, so time is **really important**, and you **should** start ahead of time before graduation **at least** to identify your objectives.

The bolded words emphasize the intensity of emotion conveyed. For example, the phrase “based on my experience” indicates the respondent’s confidence in his job search experience, although he refers to his friend’s experience as if it was his own. There is a sense of trust that connects experiences; therefore, as his friends had difficulty finding a job, he also perceives job searching in the same way. Additionally, multiple uses of the word “should” and using emphasis (e.g., “really important” and “at least”) reveal how the respondent feels a need to evaluate job search as if he was measuring the importance of job search planning on a scale. He refers to job search as a “real project” that requires proper planning in advance of graduation. This could mean that before graduation, students’ career planning is in a preparatory stage, which needs specification of time and identification of objectives ahead of graduation in order to prepare them for active job search upon graduation. Hence, students were clear about their objectives and assessed their situations carefully.

You **should** be clear with yourself which location you are willing to work, which locations you really don't want to work, or what companies before graduation. I **should** be clear with myself what my objectives are, I **should** try different options through

different information resources and different networking sessions to clarify my objectives to myself, and that **needs time**. That is **really important** before graduation, and after graduation I can say that the real project starts, so you **have to specify** to look. You know, job search **in my opinion** is a full time job itself (chuckles), so after graduation I can say that you **should** spend your full time to not lose available opportunity, which you have at the time of your graduation, so I can say that the time is really important both before graduation and after graduation. (Student G, PhDEng)

This quote is another example of the awareness of the demands involved in a job search process, which involves clear objectives, time, and planning. The student is confident in his response, and similar to the remarks made by the previous student, this student uses many words (in bolded font) that indicate his assertiveness in the process. He reached a sudden realization and conclusion by his reflections on job search and then chuckled when he referred to it as a “full time project.” His reflections led to multiple references to the “time” associated with graduation. He advises that before graduation students need to find out what they want in a career. For example, they need to identify what companies and locations they prefer to work in and shortlist their priorities, take advantage of available resources, and reach out to find even more resources, such as “different information resources” and “different networking sessions,” so that after graduation, they would have the necessary resources based on their objectives.

The job search process in the preparatory stage before graduation was purposeful and planned for all respondents. Planning involves a careful search and selection of desired jobs for reference in the future, potentially to be used during active job searching. The following quote shows the respondent’s confidence in job searching by demonstrating an objective for the choices of career and knowledge in the job search process:

I actually started to do this long back. Before even I saw [*sic*] one position show up, I would actually put the information in one file I kept for the companies in record ... turns out by now I have quite a list in my hand. (Student F, PhDEng)

Students' expressions of their career and job search plans suggested confidence and an understanding of a need to be vigilant towards their search objectives. The description of another student's (Student I, PhDSc) job search process shows careful reflection on his career aims and aspirations. From his previous industry work experience he realized that a position in industry did not interest him, thus he came to Canada to pursue doctoral studies in order to change his career path and gain a position in academia, teaching, and research. In university, he was given the chance to experience teaching and research, which became his career aspiration. After his industry experience, his decision to gain initial experience in the academic world was thoughtfully planned, which eventually widened his career options: "Both **Plans A and B** are two different thoughts because these two are different clear thoughts: one is more going into the academia, more like postdoc research and all and another one is coming back to industry."

Having an objective in job searching was evident from the respondents' sense of responsibility for their future career, which led to identifying their skills gap and finding ways to enhance or gain required skills. On the other hand, they also realized that they had to start this preparation early to have sufficient time to locate the resources they needed for skills enhancement.

If I go for academia, which is my **first preference** ... I did a course in education department which is **Teaching Skills Enhancement program (TSEP)**, so I did that, completed it successfully, learned a lot and they have an awesome thing called teaching dossier preparation, so teaching dossier is **the first thing you need** if you want to apply

for any teaching job whether now or after two-four years after having some start-up experience... and teaching dossier is something that you build over time, it's not something that you build in one day and finish. (Student I, PhDSc)

The awareness of time and readiness in job searching was not exclusive to students with previous experience and applied to those without work experience as well. The following viewpoint is expressed by Student D, a master's student without previous experience:

The oil companies have **specific jobs for new graduates**; actually, it's called **the new grad program**. It's more like a shift. Ok, you do this position for a couple of months and then you change to another position because you are circulating to see how jobs are working. There are certain jobs for new grads.

This shows that having work experience did not seem to determine the student's awareness of his career objective in the search processes. The response is a good example of the student's proactiveness in searching and identifying his career options as a new graduate in the future, as well as identifying resources that could enhance his chances of success. Awareness of new graduate programs of oil companies and others would help students determine how they need to prepare themselves for the requirements of the program. The student's last statement, "There are certain jobs for new grads," indicates that he has searched and located what companies can offer specifically to new graduates.

Student I, PhDSc specifically mentioned that he considered his school years to be a time for active job search preparation. By identifying his current situation as one that allows him to construct purposeful skills or tools for the real job search upon graduation, he reveals that his whole vision of the job search process is determined by a measurement of time. The time to study is the preparation stage and the time to graduate necessitates active job searching using the

tools and resources that he has prepared for this stage. His multiple references to reasoning by using words such as *so* and *unless* demonstrate how critically he navigates the process of job searching:

I think at this stage I am **more focused** on doing my research because whatever I produce in terms of papers or publications, or whatever I do in terms of analytical experiences, those will be counted **when** I start looking for a job in academia or even in the industry so now I am **more focused** on doing those things than looking for a job ... so **at the moment** I'm **not giving a lot of** time to job search because that doesn't mean anything to me unless I have my resume or teaching dossier or whatever tools I have built or I am in the process of building.

Touching upon the notion of time measurement in students' responses to job search preparation is a quote from Student E, MSc that contains many action verbs:

**Once**, say, I **will be** ready for job search, then I think I'll have **a schedule** of my **priorities** and what to look for. **If** there are, say, a certain number of job advertisements which are suitable for my profile then I'll **short list** them, **save** them somewhere, and then I'll **go through** each of them and I **orient** my CV, which needs a lot of work ... I think you **should look beyond** job advertisement, a little bit about the person or the organization to **have a feel of** what is the philosophy, what is the motto, **reflect that** on your CV and then the cover letter. I think the people who are sitting there to select the CVs, they can pick yours saying this guy overall has more matching criteria with us.

Once again, the sense of responsibility in having an objective in searching originates from the student's voice, using such action verbs as *short list*, *save*, *go through*, *orient*, *look beyond*, and *reflect*. Then, the job search process is presented through visualizing the stages by using time and

conditional clauses; therefore, one action leads to another. For example, the phrase “Once, say, I will be ready for job search” refers to the active job search period after the preparatory search phase. The student has the knowledge of what is required of him during the active job search, such as having practical information about the company he would like to apply for (i.e., to go a step ahead of regular job searching and application by trying to understand the company’s culture, philosophy, and motto), and then to incorporate those elements into his application. Thus, is a good example of strategic job search planning by the student.

**4.4.2 Students’ perceptions of the oil and gas labour market of the Province.** The knowledge of the Canadian labour market related to job search and recruitment strategies is that networking and referrals are the most important gateways for the students to connect with HR professionals and eventually land jobs. Having social contacts was frequently referred to by students as the most effective job search strategy in Canada: “The **friends** who work at the company can **recommend** us to go to the company” (Student A, MSc). This perception came from learning about their friends’ successes in job finding through networking and contacts, which led to counting such friends as potential contacts that could result in jobs. Networking and referrals have been successful for students in landing jobs, and hence it is seen as the best job search practice by international students. However, it comes with criticism. The following quote shows that the student is aware of the popularity of networking and referral systems in the Canadian labour market:

I would say, and overall **in Canada**, I think the general trend in the industry is very **recommendation-based**, which **is good to some extent** but I’m **not a big believer** in just recommendation system which **is very famous here**. (Student C, MEng)

He refers to the system as “recommendation-based” and he does not subscribe to it. Further discussion with him clarified that by saying that he was “not a big believer,” he meant that he did not believe that this system would be efficient for the whole population of jobseekers; if companies relied solely on this method, they simply may not access a wider pool of applicants who might also possess the right talent.

Most of the students had a shortlist of preferred companies, and Student D, MSc specifically mentioned that his chances of employment with his favourite company depended on the company’s hiring discretion with regard to his lack of industry experience. Regardless, he was still determined to apply and had also planned to identify and apply to smaller companies in case his first attempt failed:

It **depends** on the company. It’s **not my decision**. The **company chooses** us ... I **targeted** at the Canadian companies like Suncor, **the largest** Canadian company in Canada for oil and gas, which is **one of my first choices**, but if they turn me down, I can **apply** to smaller companies at first.

This quote expresses the student’s perceptions of the larger oil and gas corporations having streamlined hiring behaviours that make it harder for entry-level graduates to “get their feet in the door”; despite his confidence, his views might encourage him to apply to smaller companies. On the other hand, Student E (MSc), who has prior industry experience, sounded eager to stay in Canada after graduation and was confident that he would be given a job offer, believing that the job market in Canada is not competitive for him and accepting an offer would depend on his own decision:

I **would love to stay** here but it **depends** on the offer. If the offer is good enough, good in terms of say if I love the job, if there is good growth potential, all these things, so then I would love to stay.

In other words, he would assess his future job satisfaction with the criteria he considers for his job offers (i.e., a job that would provide him with satisfaction in terms of professional development).

The fact that the oil and gas industry is not limited to Newfoundland provides jobseekers with some freedom in terms of their location of employment; however, diversity plays an important role in their perceptions of oil and gas companies. Based on the attitudes of the students about the Canadian and local employers and companies, it seems that they highly value diversity as a potentially significant condition for their future workplace, and hence they assess the Canadian job market in terms of multiculturalism. Therefore, students perceive that lack of diversity is a barrier to their job search in Newfoundland, and as a result, they are open to consider their options in other parts of the country. One example of this belief is described as follows:

We know that Calgary or **Alberta** has a **great potential** for oil field and if you go to say Saskatchewan or Quebec or if you **go to** British Columbia, there are **lots of mining activities** happen there now [*sic*], so **if** I want to focus on a city, I **would go** to those cities where there are **more international people** and work market is more **diverse**. I think in **Newfoundland** the **industry** and the **mindset** is still not that open so it's **more difficult** to get a job here, so I **would look for** those places in **Canada**. (Student B, MEng)

Employment for international students in a foreign country has its own restrictions and some companies may base their hiring criteria on the residency status of candidates. Likewise, students showed some concern about their chances of employment after graduation, while they are still a foreign national. Although most of the oil and gas companies are multinational, it appears that some, nonetheless, prefer candidates with stable residency status; hence, students perceive it as a barrier to their search process:

For oil and gas companies for example, ExxonMobil or Imperial Oil, they actually **prefer** people who **already have citizenship or PR<sup>12</sup> status**. For me, I don't have any of them so for me, maybe it's not, uuhh [*sic*] what to say, the only **restriction** for me but to me it's a kind of **barrier**. For me when I'm **looking for** a job and if the company says, ok we **only prefer PR or Canadian citizens, I probably** skip the company, because I **tried** and it **didn't turn out** good. I **sent out** my resume to the companies, **maybe** that's not the only reason but I **feel I didn't hear** anything but Shell is kind of [*sic*] **open** in that part.

(Student E, MSc)

Students' perceptions of diversity in Newfoundland's labour market are a result of their personal experiences, but these are also based on what their friends and people in their social networks have experienced. Their friends' perceptions and experiences of labour market characteristics, such as diversity, can affect students' views and thinking as well:

I haven't worked here but I say that **based on my friends and people who are working here** or who are looking for jobs here, according to them the job market here, **if** you go to **different companies**, and if you look at the **employees**, it's **not very diverse**, so that tells you something about it, **right?** (Student C, MEng)

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<sup>12</sup> Permanent Residency

Despite constant comparison of their eligibility against companies' standards in terms of residency status, students are motivated by other available options in terms of workplace locations in other provinces:

It's not that all the **international students** who finish their degree here are not **eligible** to work, or are not **good enough** candidates, because all of these people are **going out** of the province and working **somewhere else**, doing jobs, and doing **fine** and other provinces are doing I think good, even **better than Newfoundland**, so there is something wrong at least in the **mindset** or in the **perspective** of the **employers**. That's why the job market is **not very diverse** and open to **diverse communities**. **Yeah**, that's what **my feeling** is.

(Student I, PhDSc)

Student G (PhDEng), who has been at Memorial University for more than three years and has quite a large network of friends, comments on the trend he has witnessed on international students' employment in the Province: "Every year, most of the students from MUN are **not staying** here; they are **leaving**. Only a **very small percentage** of students are **getting jobs**." His comments show that he, like other international students, is evaluating his options to stay and work in the Province, but he is also making an effort to understand what his and his friends' barriers are in terms of finding employment opportunities.

#### **4.4.3 Recommendations from Students**

Students responded to questions pertaining to on-campus career resources. They were asked about the resources and services required to connect them to job search strategies and to provide recommendations for the UCC. Their responses denoted they would like to be provided with more discipline-specific networking sessions throughout the academic semesters. The recommendations also apply to job fairs because students believed that most oil and gas

companies aimed to recruit undergraduate co-operative students at these events, so graduate students were only able to network and ask industry- and job-related questions. They also suggested that employers go beyond targeting the recruitment of co-operative students at job fairs and recruit graduate students directly on campus, where active interview booths could be set up. For example, Student E recommended that the UCC could host technical fairs where graduate students would be able to showcase their research projects to potential employers. Another idea, suggested by Student I, was to have a two-level PSDP program targeting students with prior work experience. Here is a direct quote from Student I, PhDSc about needed improvements to PSDP:

I think PSDP needs to be more specialized and improved for those people who have certain job experience. Because when you go to an employer with four years of job experience, then the type of interview questions that you face will be different for you compared to the first time jobseekers with no experience because interviewers change their questions according to what you have. I think PSDP is good for basic training but those who have worked several years and have had several interviews and prepared already in some way, for them PSDP needs to be more advanced.

Student F, PhDEng, who was looking for R&D positions, wondered where she could learn more about companies that have R&D sectors, apart from checking company websites one by one and attending networking sessions. Student D, MSc suggested having programs where employers are invited as mentors to speak to students in depth about the skills they value in an applicant.

## **Chapter 5**

### **Discussion**

#### **5.1 Introduction**

The Discussion is based on the results of the study described in Chapter 4. The major findings of the study were synthesized with reference to Chapter 2, which provides background knowledge from the literature for this study. Therefore, it is essential to understand how the literature review provides insight in terms of a discussion of comparisons, contrasts, evidence, and explanations based on the findings of this study. The first major finding is that students perceived networking and online job searching as the most effective job search strategies, and thus they used these the most often; second, certain factors influenced their choices of using such job search strategies, which included a) the type of job sought, b) the influence of peers and word of mouth, c) the type of industry the individual is interested, d) whether or not the person had previous work experience, and e) if the individual had assistance from the campus career centre.

The other findings were based on two emergent themes: a) job search as a planned project and b) students' perceptions of the oil and gas labour market of the Province. In this chapter, the results are presented in two sections. First, major results and influencing factors are provided in light of the finding that students' job search processes were planned with demonstrated goal setting in using search strategies; the second section contributes to the discussion of students' perceptions of the Province's oil and gas labour market.

#### **5.2 International Students' Job Search Process**

International students as research participants in this study included those with and without previous work experience and who indicated an interest in seeking employment in

Canada upon graduation. Students with previous work experience had oil and gas-related jobs in industry, while those who were entry-level applicants did not report any prior work experience.

Students are in university to study, but they also use their academic time as a preparatory process for a more thorough career search upon graduation. The purposefulness of this process was apparent throughout their responses in interviews by reflecting upon and visualizing the search process. Multiple uses of future tense and conditional sentences, and references to time in their job search processes, demonstrated a feeling of responsibility for their future careers. In addition, distinguishing between the time before and after graduation clearly indicated how well they had thought through the process. Job searching for international student jobseekers in this study was a strategic plan that consisted of prioritization, knowledge of potential companies beyond job descriptions, and knowledge of one's expectations in job search and career choice. This whole presentation of thoughts, feelings, and actions towards job searching indicated that students had a high level of confidence in their preparatory search processes and job prospects.

All participants, regardless of having prior industry work experience, were knowledgeable of the oil and gas labour market and were aware of their career options; however, students with previous work experience had better job search clarity (Wanberg, Hough, & Song, 2002), that is, they had prepared a shortlist of their desired companies, location, and job titles. Their awareness and knowledge resulted from their trials and errors in attempt to find the best job search strategies, in addition to industry-related information gained through talking to friends and acquaintances, attending networking events, browsing company profiles on the web, and using the university career centre.

Students' references to the uses of job search strategies were in the form of narrating a visualized process by reflecting on their job search and career objectives. The reflections

indicated that they were aware of the available time during their studies and considered it a period of “job search preparation.” During this period, student jobseekers sought information on job search strategies and potential companies in order to be ready for their job search upon graduation. Before graduation, their search attempts were preparatory, because despite the possibility of applying to some jobs, their actions were only a means of trial and error in job search methods. By using different search strategies, some students mainly searched for job openings to learn about job descriptions and their requirements. This period also included gathering information and enhancing their skills. Kimmell (2003) refers to this method of job search as “passive search strategy,” since the jobseeker only looks for job vacancies using different strategies, whereas applying to job openings after locating them by using job search methods is called “active job search strategy” (Royal, 2001). On the other hand, Boswell, Zimmerman, and Swider (2012) provide a different definition of active job search. They define it as any job information-seeking strategy that involves communicating with social contacts. Considering all three definitions of search strategies, students’ preparatory stage of job search consisted of both passive and active job search strategies.

Knowledge sharing was the major component of the participants’ information seeking during the preparation period. This occurred through friends who had already undergone trials and errors in using various job search strategies, so their experiences were regarded as reliable measures of effectiveness. Thus, one of the most influential factors found in this study is the impact of friends and network of peers and their friends on the students’ choices of job search strategies. This factor was viewed as one built upon trust, trial and error, and assessment of the sources of information circulated by word of mouth within their network. Word of mouth has positive effects on job search outcomes (Van Hoyer, 2013), and students have realized this by

hearing stories of successful outcomes from their own friends and friends' peers. Recommended search strategies were considered effective because they had either yielded jobs or provided better job information for the candidates. Therefore, students attempted to seek information-rich networks through online and face-to-face networking. In order to obtain positive results, they also needed to exchange and be the carriers of information. As a result, networking alone is insufficient and students must transfer valuable information to employers by talking face-to-face (Sanyal & Neves, 1998), as the students in this study attempted to discuss their projects with employers. Thus, word of mouth suggests that networking is a successful search strategy.

Sanyal and Neves (1998) described networking as a process with three stages: a) planning, b) connecting (i.e., making contact), and c) sharing information. Students' reflections on using networking as a job search strategy resulted in providing a definition that closely matched this definition; students' also generated some characteristics for networking based on their own interpretations and experiences. The discussion to follow is a comparison between students' and Sanyal and Neves's definitions of networking, followed by a discussion on the characteristics of networking presented through students' interpretations.

Students perceived job search as a "real project" that would require planning with objectives and strategizing. Similarly, networking is a job search process rather than a one-time-use method that demands strategic planning and goal setting. For example, having clear objectives before executing a job search strategy, such as networking, helped students to recognize how and where this strategy was beneficial in their job search. One of the objectives of networking for them was to find potential contacts, i.e., people who could act as catalysts to connect them to job leads. Such people could be viewed as carriers of information on job openings as well. Another objective was to improve soft skills, which was demonstrated and

emphasized by a student without prior work experience. Furthermore, in order to plan for accessing this search strategy, students were vigilant and proactive. They received email notifications from the university career centre on the various networking sessions happening on campus and joined professional associations to learn about industry and community networking opportunities. In addition, they often attended these networking sessions. Finally, their planning was strategic in that they narrowed down their lists of social contacts based on people's professions and knowledge related to oil and gas industry jobs.

This strategic plan or real project starts with "planning," as proposed by Sanyal and Neves (1998). This stage involves objectives for using and strategies for accessing and selecting resources, such as networking opportunities offered by the career centre or professional associations that further result in connecting student jobseekers with potential contacts. For instance, international graduate students reported that their purpose of going to job fairs was to gain job-related information by talking directly to employers. For the jobseekers to be successful, it is important to have face-to-face conversations with members of industry and keep updated on the changes in their field (Scheele & Madison, 2010).

On campus, student jobseekers learned about networking opportunities either through the career centre or by their friends' recommendations to attend them. For instance, some of the benefits of job fairs that led to such recommendations were that students were able to exchange research- and industry-related information with employers or HR professionals at the event. Students were aware that talking directly to employers would enable them to gain inside knowledge about the companies and their projects and learn beyond job descriptions.

In their accounts of the networking process, students referenced many different variables of networking that are described here as characteristics. Using networking as a strategy to seek

employment means that the jobseeker may have to allocate some time to plan his/her strategies and objectives prior to commencing a serious and active job search period, which in this case would be prior to graduation. Networking and building contacts, and finally selecting potential contacts, could be a lengthy process, and hence time is an important factor in networking. On the other hand, networking is viewed as a tool to help student jobseekers gain quality job-related information. Once social contacts are established, they are potential sources of and a means to access job-related information. Thus, people are vehicles of information, and along with knowledge sharing, are important components of networking. In other words, the purpose of selecting potential contacts is to find people who can lead or connect jobseekers to job opportunities. Students were mindful of this purpose, and thus they made attempts to gain access to such information-rich individuals by attending networking sessions, talking directly to employers, and sharing knowledge. In this study, the desired contacts were employed in the oil and gas industry or had contacts with people in the industry; accessing these individuals was one of the objectives of networking that influenced students to use this method in seeking employment. The goal to seek information on the Canadian labour market would give the student jobseekers an opportunity to place themselves “on top of the competition” in the job market. Students valued opportunities to talk face-to-face with employers to discuss their own research projects, and as one student said, “to get their face out there.”

Networking events such as job fairs, employer information sessions, PSDP and ETP networking sessions,<sup>13</sup> speed networking, industry networking sessions advertised by professional associations, students’ research project presentations for the sponsor companies, and volunteer opportunities, could be considered strategies to meet and communicate with people in

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<sup>13</sup> Each of these programs ends with a networking session between the student participants and community leaders and employers.

order to share information. Moreover, networking was perceived as a preparatory job search strategy that requires time and planning, since building a network of contacts can be a lengthy process; student jobseekers might need to maintain and build contacts over time in order to be able to access them at the time of active job search (i.e., upon graduation).

Thomas (1989) divided job search behaviours into three categories: traditional, non-traditional, and networking. Traditional strategies involve searching via newspaper advertisements, job listings and/or employer interviews at placement, and off-campus employment agencies. Non-traditional strategies include mailing resumes to employers and calling or visiting employers directly. Networking is the act of establishing contacts, which may include faculty, academic advisors, alumni, family, friends, and/or placement services staff. In his study, business, science, and engineering students used non-traditional search strategies more than traditional methods and networking. Thomas' findings on students' preference to approach employers directly were consistent with the findings in this study, as the participants preferred direct approaches such as applying to jobs on a company website and talking directly to employers during networking events. However, students' respective references to the notion of "networking" suggest different connotations of the word. "Networking," according to participants of this study, is "any form of face-to-face or virtual contact with the aim of getting job leads," which could be random or purposeful. As a result, what Thomas (1989) considers a non-traditional search strategy (i.e., "visiting the employer directly") falls into the networking category based on the participants' views. Therefore, there is a possibility that researchers and the participants might categorize job search strategies differently.

The importance of networking to international students in this study could be attributed to an initial absence of personal or social contacts in Canada or the city in which they will reside.

Building social capital for international students in a new place requires some planned efforts in their short period of study. As previously discussed, they made planned and purposeful attempts to build contacts. Employers and other people that students meet during networking events are those who do not have regular contact with students and are called “weak ties” (Yamkovenko & Hatala, 2014). Students often consider networking through weak ties to be an essential part of their job search process (Marmaros & Sacerdote, 2002). Social networks provide us with information (Kim, 1994); thus, students as potential jobseekers have to build new social networks to be able to access information on jobs. On the other hand, informal job searches, such as approaching “strong ties” (e.g., friends, relatives, and people who know the jobseeker; Cahuc and Fontaine, 2009), could generate more leads and improved access to job descriptions, making this one of the most effective means (OECD, 1999). Notwithstanding, students try to build weak and strong ties early, despite the difficulty of creating strong ties in such a short academic lifetime (White, Boorman, & Breiger, 1976), as they have very few or no contacts when they first arrive to study in Canada.

Students in this study tried to attend as many networking sessions as possible to expand their social influence and then identify and select the ones that could lead them to potential career opportunities. The actions of these students reflect the findings of Granovetter (1995), and Marmaros and Sacerdote (2002), who discovered that weak ties were the students’ preferred sources in searching for jobs. However, Yamkovenko and Hatala (2014) believed that weak ties do not provide us with detailed information about jobs. This is contrary to the findings of this study, because one of the reasons students preferred networking and building weak ties was to find out information about companies, job openings, ongoing projects, and more importantly, the skills that such companies were looking for in an applicant.

Following the students' interpretations, one of the most important outcomes of using networking to seek employment is to build a substantial network of social contacts; therefore, it is necessary to start early so that student jobseekers have enough time to do so. Another networking strategy for employment purposes was "referrals," that is, when employees refer a person to their company's HR professional for employment. International students were aware that referrals are reported to be one of the most preferred ways of recruitment by oil and gas recruitment professionals (Ernst & Young, 2011). Consequently, they made efforts to build networks of weak and strong ties in order to be more accessible in the job market. To increase their chances of employment, they exhibited an eagerness to learn about the skills and qualifications that employers were seeking in applicants. They attended the networking sessions not only to make weak ties, but most importantly to learn about their work culture and environment.

As previously stated, the aim of international graduate students' visits to job fairs on campus was to gain industry- and job-related information. This differs from the aim of undergraduate students: to discuss co-operative education placements with employers. The Department of Advanced Education and Skills of the NL Government (2007) reported recommendations addressing higher education institutes in the Province to "expand co-op programs and other forms of experiential learning that encourage attachment to the workplace" (p. 60). Co-operative education and internships are mandatory components of undergraduate engineering courses, whereas graduate students are rarely able to take advantage of such opportunities. Considering the job search behaviour of the students, it is noteworthy that students in co-op programs demonstrate greater confidence and realism towards their career objectives, and they are more engaged with campus career services (Ng & Burke, 2006). Since the

participants (international graduate students) did not have a co-op or internship component to their programs, it was uncommon for them to receive placements with companies unless the co-op or internship position was initiated by a contact based on industry need, a scenario experienced by a master's and doctoral student in this study.

Another search strategy that international graduate students preferred was the internet. In previous studies, post-secondary students most frequently chose the internet as a job search tool because of its convenience and cost effectiveness (Lin, 2010; McKeown & Lindorff, 2011; Wanberg, et al., 2000); however, in this study, graduate students preferred the internet because it provided them with access to various methods of online job searching and networking. LinkedIn, a professional social networking website (Sułkowski & Chmielecki, 2014; Bissola & Imperatori, 2013), was the most preferred online tool for job searching and networking while being the most-used social medium for recruitment by employers (Bissola & Imperatori, 2013). Herbold and Douma (2013) found that graduate students used online social networking more than students at other levels of education. Similarly, graduate students in this study preferred LinkedIn as a networking tool and used it in the preliminary stage of the job search process (i.e., before graduation). However, they used LinkedIn for other purposes related to job search, such as joining professional groups related to their field of study and following company profiles. In addition, they used it as a tool to connect to HR professionals, employers, and other people in the oil and gas industry. While Sin and Kim (2013) found that international students use social networking sites as a means to access information rather than building social capital and networking, in this study, students used LinkedIn for both purposes: to access job-related information and to build social capital. On the other hand, LinkedIn as a networking tool (Bissola & Imperatori, 2013; Sułkowski & Chmielecki, 2014) provides an opportunity for

students to connect with those beyond their own networks (Hempel, 2010; Karlin, 2005). This feature is recognized by the students in this study to be particularly valuable, as they not only look for contacts in their own field of study and work, but also for people who can connect them to such contacts. Therefore, the wealth of information such networks provide could lead to potential jobs; as the number of interactions increase, students access higher degrees of social contact (Kim, 1994).

Networking to build contacts can be a lengthy process, but perhaps what makes social media popular among professionals and jobseekers is that it can shorten the time required to build meaningful contacts (McKeown & Lindorff, 2011), for example, by using the search engine on LinkedIn. This feature alone gives jobseekers exposure to potential contacts such as HR professionals; once a person visits a profile, the owner of the profile is notified and can browse the jobseeker's profile in return, increasing the chances of the jobseeker's employment (Garge & Telang, 2011).

It is important for students to know and learn about the various functions and uses of LinkedIn. For example, the job search engine on LinkedIn provides targeted information, i.e., jobseekers can search beyond locations and job titles; the search is extended to companies and even to find people with specific job titles, locations, and workplaces. However, jobseekers need to keep their profiles updated in order to maximize their chances of employment (Scheele & Madison, 2010).

Royal (2001) suggested that jobseekers learn about the companies before approaching them for employment. Students in this study sought any opportunities for face-to-face encounters with employers, including career fairs, employer information sessions, and other networking sessions to inquire about their various ongoing projects before sending their applications through

the company websites. However, once they encountered the employers, they were often directed to the company website. On these websites, students were able to read about the company and job descriptions, and they could apply to jobs or submit a generic application to their preferred companies; consequently, applying directly to the company via website was another method used by all the students. This method was chosen because students believed that this is another way to approach employers directly (Bissola & Imperatori, 2013), which could increase the likelihood of being hired (Kuhn & Skuterud, 2002).

Students preferred any kind of search activity that is focused, targeted, and directs them to job openings. Online job searching provides streamlined and customized search engines that are directly related and linked to the oil and gas industry (e.g., Rigzone.com), and connect jobseekers directly to their desired career options. As a result, students preferred to use job search websites that would cater to specific university majors, were equipped with better-customised search options, and were more directly linked with specific companies' vacancies. For example, although a job search website that addresses jobs across disciplines (e.g., Monster.com) is easy to use and has a customized search engine, it does not link jobseekers with specific job titles at specific companies; rather, it provides wider search results. For this reason, some students preferred industry-specific search engines such as Jobsinoilandgas.com. The findings of this study on using job search websites conform to Gunz and Peiperl's (2007) findings that students in professional degree programs did not prefer general job search websites due to their poor accuracy of results. On the other hand, although Lin (2010) found that ease of use and usefulness influenced students' choices of using job search websites, one should distinguish between how convenience and usefulness apply to online job search banks targeting general versus specific disciplines and industries. It seems that participants in this study were

able to make the distinction, but only in having prior search objectives, trials, and errors of using search strategies. Online job search websites similar to LinkedIn reduce time and increase accuracy in obtaining desired results, while general online search banks produce a massive number of inapplicable job alerts.

Student jobseekers in this study have been able to effectively target their search objectives and discover the tools that lead them to their objectives. Among these search strategies is obtaining membership to professional associations, such as Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL) or Society of Petroleum Engineers (SPE). Once a professional association was located, they would attempt to find out how the associations could benefit them by uncovering information related to their job search; this could be in the form of receiving job alerts, learning about their networking events and services (e.g., mentorship programs), and learning about the industry. Use of this strategy demonstrates an awareness of search objectives among students; however, experienced students more actively participated in professional associations and had a better understanding of their benefits; they used them to receive emails about jobs and networking events. Students without prior experience tended to be more passive in terms of job search and relied on their networks of friends, university networking sessions, and online job searching. However, they seemed to seek the best practices of job searching by inquiry, networking, and sending direct applications.

Of the various job search strategies discussed so far, the choice of strategy was influenced by whether the students had prior work experience or not. It seems that previous exposure to a workplace environment enabled student jobseekers to have a better grasp of what they might experience during the job search process, simply because they had been through the process before. Therefore, students who were taking a break from work to pursue higher

education had more experience in this endeavor, which led to better job search clarity and affected their decisions to use LinkedIn and professional associations. Although identifying successful search strategies was not part of the research plan, data from experienced students indicated references to successful and effective job search strategies. Thus, those early in their career search would benefit from consulting people with previous experience on successful search strategies.

Students without prior experience demonstrate exploratory behaviour when it comes to search strategies. Although an exploratory search is a more diverse career cruising (Thomas, Crossley & Highhouse, 2005), the nature of this strategy is to explore different options, whether career- or search-related, because of a broader range of objectives due to lack of experience. Conversely, experienced students used a more focused search strategy (Crossley & Highhouse, 2005), since they had clear career and search objectives.

Bissola and Imperatori's study on job search strategies of generation Y members (2013) focused on participants aged 25–30. They found that generation Yers used company websites, the university career centre (UCC), and LinkedIn the most. Other studies on job search strategies used by accounting graduates (Kimmell, et al., 2003) and MBA graduates (Rate & Boost, 2012) found that the UCC, business contacts, job fairs, temporary agencies, general- and major-specific job search websites, newspaper advertisements, and company websites were used the most by the students.

The importance of the UCC is highlighted in these studies and students used it as their first point of contact to look for employment. The findings of this study are validated by the aforementioned studies, considering that the participants in this research project were generation Yers and were majoring in professional programs that could have similar implications to

accounting and MBA graduates. However, this study did not report any results concerning the use of newspaper advertisements. This might be because newspaper ads are not popular anymore, are costlier to publish, and the oil and gas industry's job openings cover a wide range of positions that cannot be reduced to a few listings in newspapers.

All students were aware of the university's career resources to some extent, and most of them availed of services such as resume/cover letter writing workshops and attended various networking sessions. These findings are in contrast to the study by Gerard (2011), who found that the student participants were not aware of the UCC's services except for the resume and interview workshops. This data shows that students attempted to gain awareness of their local labour market and effective search strategies by accessing resources that connect them with job openings directly and facilitate their career search preparation. Students recognize that identifying such services at the career centre could lead them to knowledgeable individuals or to online search options that link them to companies directly. The UCC has also played a significant role in raising students' awareness of tools and resources that would benefit their search objectives. What is most relevant here is using the UCC as a search strategy, while it also acts as an influential factor in students' choices to use job search strategies by providing such strategies in significant detail. The UCC as both a job search strategy and an influence has great implications to this study. This is because the UCC presents itself as a valuable source of information on the local labour market that could connect students to industry professionals.

The UCC provides various networking opportunities for the students such as career fairs, employer information sessions, and speed networking events. Career fairs, for example, carry more information than company websites (Cable & Yu, 2006) because of the face-to-face nature of information exchange (Griffeth, Tenbrink, Robinson, 2013). In addition, the UCC's resume

and cover letter workshops are a great influence on the students' overall job search process, as they are used and favored by all the students. This is similar to the findings of Gerard (2011). As a result of their positive experiences with such services, students shared their success stories with their friends. For instance, one of the students mentioned that he was able to find a part-time job during a networking event held by the UCC. Overall, according to the UCC, international students comprise the largest group of users of on-campus career services.

The career options of student jobseekers in oil and gas are not limited to industry jobs. Some might pursue higher education to gain teaching and research positions in universities, while others might look for research positions in companies. One example is the doctoral student with industry experience who had decided to pursue higher education in order to acquire research and teaching experience. His search objectives included seeking means to enhance his skills for his future career. He attended a teaching program for graduate students (TSEP) to give him some exposure to teaching skills and the chance to build a teaching dossier as a supporting document for future employment.

Another example is the doctoral student who was interested in a research and development position (R&D) with a large oil and gas company because not all oil and gas companies are equipped with an R&D department. In the first example, in order to access vacant teaching positions, the candidate would look for online job searches that offer only teaching and research or postdoctoral positions, such as Academia.edu or Researchgate.com, versus students seeking industry employment who prefer industry-specific job search banks such as Rigzone.com and Jobsinoilandgas.com. In the second example, the student used the internet and her circle of friends to identify companies that have R&D job vacancies. In both cases, the type of job students sought affected their specific search strategies. In addition, the student interested

in teaching positions preferred to attend conferences over other networking events because of greater exposure to more academic researchers, whereas other students preferred employer information sessions and industry networking events offered by professional associations.

Oil and gas is a global industry and a list that includes most companies is available on the internet. Besides, several very large and popular oil and gas companies are present at local job fairs and information sessions and actively refer students to their websites. Therefore, students use company websites and apply directly through them because the nature of the industry makes it a visible job market. A report by Ernst and Young (2011) on HR practices in the oil and gas industry shows that advertising on company websites accounts for nearly 84% of all recruitment practices. Another instance is a master's student in geology whose research project mainly focused on offshore Newfoundland, and some of the oil and gas companies in the Province sponsored him. Although the nature of his research project does not guarantee him a position with a sponsor employer, his knowledge and expertise now lies within Canadian oil and gas industry characteristics. This student actively networked, both in person and on LinkedIn, with industry individuals within the Province. Hence, the type of industry could be another factor that influences the jobseeker's use of specific job search strategies. Industry- and job-specific search options can apply to any discipline or position; thus, it is more important that candidates in a similar situation envision clear career objectives in order to have job search clarity. They might also need to increase their networking efforts in order to locate targeted individuals with access to industry-related information. For example, the candidate with the goal to work in oil and gas R&D might exert extra effort to reach information-rich individuals because of the nature of the industry.

The literature includes several studies that describe different influencing factors in job search strategies: those that the researcher refers to as primary factors (viz., race, age, gender, education and social status); and secondary factors, which were presented without shedding light on them as influencing factors, such as information-richness, cost, convenience and usefulness, and personality traits. Secondary factors were identified in quantitative studies; in contrast, this research project provides an in-depth qualitative analysis, conducted to obtain greater insight into the participants' experiences and perceptions regarding their choices in the job search process. Finally, the findings of this study on the influencing factors are of great importance to the existing literature and carry value for student jobseekers and the UCC.

Overall, the informal job search strategy of approaching peers and friends (Cahuc & Fontaine, 2009), in addition to the UCC, can both be considered job search strategies and influencing factors. The results of this study were not intended to provide a consensus or contrast to the literature on influencing factors because of its qualitative nature. Instead, it contributed to the existing literature by providing insight into how students as potential jobseekers choose their job search strategies.

### **5.3 Students' Perceptions of the Oil and Gas Labour Market of the Province**

The provincial government's job growth forecast of the oil and gas industry has addressed the need for a skilled workforce in the next decade (Department of Human Resources of the NL Government, 2011). Petroleum Human Resources of Canada (2013) predicted that there are three prominent factors that will lead to a great demand in the oil and gas workforce recruitment in the coming decade, i.e., "age-related attrition, workforce competition and hiring due to industry activity levels" (p. 4). The report also states that "over the next decade, the sector will need to fill between 37,700 and 47,900 job openings due to industry activity and age-related

attrition.” This data has great implications for this study because the Province’s oil and gas industry will undergo a shortage of skilled workers that could affect its sustainability (Petroleum Human Resources Council of Canada, 2013). This report also lays out recommendations such as hiring temporary foreign workers to overcome workforce competition. On one hand, according to international students’ experiences, the oil and gas industry of the Province has a strict hiring practice regarding the residency status of the applicants; students believe that employers only hire candidates with permanent residence or citizenship statuses. On the other hand, the Atlantic Accord Implementation Acts (1986), which is an agreement between the government of Newfoundland and the government of Canada, mandate hiring local Newfoundlanders. In addition, the report refers to sourcing “skilled workers.” Since international students with prior industry experience could also be considered potential skilled workforce, there is a contradiction: Why would the industry need to source its shortage of workforce by hiring temporary foreign workers from outside of Canada? We could also pose this question: How do the Petroleum Human Resources Council of Canada and the Government of Newfoundland and Labrador liaise in order to gain better access to the already existing skilled and ready-to-integrate workforce in the Province? International students spend a minimum of two years in the Province and are trying their best to integrate into society, learn about the Canadian and local labour market and employers, and enhance their skills within a short period of time while attending university. Most of them come to study in the Province with prior industry experience, yet task forces report hiring temporary foreign workers while the skilled workers already exist in the Province.

There are contradictions that place barriers in front of international students who have the desire to stay in the Province. On one hand, the Atlantic Accord Implementation Act mandate the oil and gas companies to hire local residents; on the other hand, labour market reports and task

forces, such as the Newfoundland and Labrador Skills Task Force, give recommendations on immigrants' retention in the Province, which are not consistent with the industry's hiring mandates. This being said, international students felt confident about their abilities to compete in the Canadian job market. They have an objective before starting their search process and believe they are even preparing themselves for the real and active job search upon graduation. However, it is greatly important to note their attitudes towards the current labour market. All the students showed interest to stay in Newfoundland, contingent upon finding employment in the Province; with oil and gas being a global industry with multinational offices around the world, students were willing to relocate where opportunities are available.

There were multiple student opinions addressing the lack of diversity in the hiring practices of the local oil and gas industry. "When a firm says it must increase its workforce diversity, it usually means hiring more women and ethnic minorities, or citizens of different countries" (Wilson & Iles, 1999, p. 646); however, for students, the multicultural image of a company seems to denote its employment diversity. "Diversity is important in all firms, but takes on particular importance in multinationals [because] a diverse workforce has the potential to achieve higher performance than a homogenous workforce" (Wilson & Iles, 1999, pp. 646–647). Students' perceptions on employment diversity were based on word of mouth experiences of friends and peers, suggesting that employers in the Province are not open to recruiting international students. They further reflected on this issue and reported that there are few foreign nationals working in the companies in the Province and that employers are not open to diversity. Such perceptions of the oil and gas companies may be related to the hiring mandates of the Atlantic Accord Implementation Act. As a result, international students believe they may have a better chance in other oil-hub provinces of Canada, such as Alberta. On the other hand, they have

learned that some oil and gas companies do not hire foreign nationals without permanent residence or Canadian citizenship statuses. Overall, they mentioned that they would like to remain in the Province but they are uncertain about their employment outcomes after graduation.

On another note, students' references to their top-choice oil and gas companies included multinational and large firms such as Shell, BP, and Chevron. Such multinational companies operate around the world and offer their services and products to diverse groups of consumers; however, it may be the case that their recruitment policies are shaped by their agreements with the local governments, such as the Atlantic Accord, which are reflected in the industry's policies locally. As a result, the local industry is based on the political agenda of the region shaping the companies' recruitment policies. International students consider these companies as multinational and multicultural, yet they perceive them as "hard to enter" due to their strict hiring practices surrounding the applicant's residency status.

Students' evaluation of Canadian and local hiring practices extend to the referral system. Some employers offer incentives to employees for referring jobseekers to their companies. This referral program was implemented so that companies can connect with the right talent directly. Just as jobseekers look for ways to contact employers directly to inquire about jobs, or prefer to apply to jobs directly on the company website, employers are also interested in accessing talented individuals directly to minimize hiring costs and time. Having knowledge of the referral system, students' most effective job search strategies included networking, friends, and social contacts. Although "networking does indeed lead individuals into new jobs" (Wanberg et al., 2000, p. 501), its use is recommended alongside other search strategies (Kim, 1994). The main criticism of the referral system from the students' points of view is that, if this system is practiced solely, companies cannot access a wider range of talent. However, the information-

richness associated with using networking and referrals could be a reason for jobseekers and recruiters to use these methods to “have access to particularly reliable and rich information about job characteristics ... and job applicants [respectively]” (Kim, 1994, p. 99).

Overall, our knowledge of the attitudes of the participants of this study towards the Canadian labour market is important in providing a contextual understanding of the findings. Hence, this study is a reflection on the Canadian oil and gas job market assessed through the lens of international graduate engineering and earth sciences students.

## Chapter 6

### Recommendations and Conclusions

This chapter presents recommendations from the researcher addressing students, the career centre, and labour market policy makers. Conclusions are given at the end of the chapter.

#### 6.1 Recommendations from the Researcher

Based on an understanding of international students' perceptions of the local labour market and their job search behaviours, this study has implications for the labour market recruitment policy makers, career support providers at post-secondary institutes, and students. Students interviewed in this study were willing to stay in the Province of Newfoundland and Labrador upon graduation, contingent on finding employment. As a result, policymakers need to be aware of the existing workforce in the Province and match their studies and reports with the reality of its existence. On the other hand, the university career centre, as a significant resource for students' career preparation and guidance, must offer a broader branding and marketing of their services in order to reach a wider range of students. They will also need to offer more targeted, regular programs to address graduate students from a variety of disciplines.

Furthermore, offering networking sessions will be more meaningful once the career centre staff have an awareness of students' objectives and expectations in attending the sessions. It is also imperative to know how students define networking in the context of seeking employment and recognize their reasons for considering it as the most favoured job search strategy. In addition, realizing that networking is a process rather than a method in the job search process would be beneficial for career preparation timeliness and goal setting for students.

Career centre staff ensure they hear students' opinions on their services by administering a survey after each visit; however, such polling could be done prior to program design with

access to as many students as possible. Besides, reaching out to networks and groups of friends could be a successful marketing strategy for career resources. Also, students need to know that networking is more effective coupled with other search strategies, and what makes networking successful is the information exchange. Finally, partnership for career preparation purposes between the UCC and the specific departments is recommended, for example, by simply using departmental email services and planning career events in collaboration with various departments.

Another recommendation by the Newfoundland and Labrador Skills Task Force (2007) for post-secondary institutes is to “promote greater networking among industry, faculty and students” (p. 58). Networking takes place between students and employers through various networking sessions held by the UCC; however, students mentioned that they would like to see a higher occurrence of these events. On the other hand, collaboration with the faculty could be beneficial to both gain and give knowledge of the ways to integrate experiential learning with the curriculum. Also, the faculty members could be persons of contact with potential employers.

Overall, future studies can address how international students build strong and weak ties and for what purposes. Moreover, the job search strategies of students in other disciplines could add to our knowledge of post-secondary students’ job search behaviours in the Province.

## **6.2 Conclusion**

This study was conducted with the aim of addressing job search strategies of international graduate students in oil and gas engineering and earth sciences programs, factors that influenced their choices of using such strategies, and the role of higher education in their search process by locating students’ uses of their services.

International graduate students in this study had objectives before starting their search process. Their purposeful search began with an intention to gain awareness about the local job market. For example, they started to build their network of human capital early in their programs and planned to connect with their list of contacts in their final semester, when they are nearing graduation, to ask if there are any openings or if the contacts are aware of any openings. Students both with and without experience were not only aware of different factors in their job search (i.e., time and preparedness) and had objectives, but they were also proactive and took thoughtful actions towards reaching their objectives while taking these factors into consideration. Their conception of job searching before graduation involved a preparatory stage, which required specification of time and identification of objectives ahead of graduation in order to prepare themselves for the active job search upon graduation.

The most noteworthy finding of this study is that students choose strategies that allow them to expose themselves to industry: talking face-to-face, approaching the people from the industry directly, or gaining valuable insight about the culture, expectations, and projects of the companies. This could extend to attending networking events offered by the UCC or professional associations, building networks of weak and strong ties, and accessing company and industry information on social media via LinkedIn. Students also used major- and field-specific job search websites, job alerts from professional associations, and they applied directly to company websites. The most influential factor on the students' job search strategies was peers and friends, followed by the UCC as a provider of various networking opportunities and other career-related services. Students defined "networking" as the opportunities to expose themselves and their skills to the companies by connecting with them either in person or through the internet. Such

opportunities could be any encounter with people, either weak or strong ties, or using LinkedIn as a medium or tool with the purpose of conveying job-related information.

Other factors that influenced students' choices of search strategy were as follows: the type of job they sought based on their research specialization or whether they were seeking academic or industry jobs; friends sharing their experiences about using successful search strategies, such as networking; the type of industry (i.e., oil and gas, which is a visible and easily accessible job market through online job banks); professional associations; student jobseekers having previous experience, which would direct them towards attending networking events and seeking membership at professional associations, versus those without prior experience who used university networking sessions; online job banks; and the influence of the career centre by providing networking opportunities and career guidance.

Overall, students were confident and purposeful in their job search, despite their perceptions of lack of diversity and unequal hiring practices regarding residency status. They also considered that building knowledge of the local labour market was beneficial for their active job search after graduation, and they practiced this by face-to-face and online networking.

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## Appendices

### Appendix A

Printed on Memorial University of Newfoundland letter head

#### Informed Consent Form-Students

**Title:** International Students' Job Search Strategies in the Oil and Gas Industry of Newfoundland and Labrador

**Researcher:** Sepideh Gorjizadeh

Faculty of Education

[s.gorjizadeh@mun.ca](mailto:s.gorjizadeh@mun.ca)

709-740-0335

**Supervisor:** Dr. Dale Kirby

Faculty of Education

[dkirby@mun.ca](mailto:dkirby@mun.ca)

You are invited to take part in a research project entitled “International Students’ Job Search Strategies in the Oil and Gas Industry of Newfoundland and Labrador.”

This form is part of the process of informed consent. It should give you the basic idea of that the research is about and what your participation will involve. It also describes your right to withdraw from the study at any time. In order to decide whether you wish to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is the informed consent process. Take time to read this carefully and to understand the information given to you. Please contact the researcher, Sepideh Gorjizadeh, if

you have any questions about the study or for more information not included here before you consent.

It is entirely up to you to decide whether to take part in this research. If you choose not to take part in this research or if you decide to withdraw from the research once it has started, there will be no negative consequences for you, now or in the future.

**Introduction:**

I am Master's student in the Education Faculty. As part of my Master's thesis, I am conducting this research under the supervision of Dr. Dale Kirby.

This study is aimed at bridging the gap in our knowledge of the job search strategies used by the postgraduate students in Oil & Gas and Earth Sciences degrees of the Province by understanding the factors affecting their choices of job seeking strategies, and identifying the role of the higher institutions in the Province in their job search process.

This research will be shared in academic conferences and publications and will contribute to the students' knowledge of job search strategies, and will provide recommendations to the higher institutes' student career preparation plans as well as recruiters' recruitment strategies.

**Purpose of Study:**

The purpose of this study is to a) provide an understanding of student job search strategies in oil and gas industry in the Province of Newfoundland and Labrador, b) identify the factors affecting the choices that the students make in order to search for and find jobs, and c) recognize supports, guidance, and resources that higher education institutions in Newfoundland and Labrador provide to students who are seeking employment opportunities in the oil and gas industry.

**What You Will Do in This Study:**

You will be interviewed on a questionnaire prepared that addresses the job search strategies that you use and the factors affecting those strategies, as well as your knowledge of the career services and programs available to you on campus.

**Length of Time:**

The interview will take approximately 40 minutes to complete.

**Withdraw from the Study:**

You will voluntarily agree to be involved in this face-to-face interview process. You may end your involvement before or during the interview without any negative consequences simply by saying that you wish to stop and withdraw. With consent, the researcher will retain and use for research purposes the data collected up to the point of withdrawal. If permission is not granted, the researcher will delete and dispose of the relevant data.

After the interview, the participant may request the interview transcript to be removed from the research only within three weeks from the date of the interview before the data is aggregated for analysis. All the data for aggregation will be anonymized.

**Possible Benefits:**

Your participation in this study will help you identify a variety of job search strategies. You will have the opportunity to ask questions regarding job search process as well. Also, you will become familiar with student career services/programs on campus.

**Possible Risks:**

You should not experience any risks of being in the study. It will take only a short amount of your time at a location and time convenient to you.

**Confidentiality vs. Anonymity:**

This interview process is confidential and the identities of participants will be accessible only to the researchers. Responses will be structured through analysis and quotations will be attributed through pseudonyms.

**Confidentiality and Storage of Data:**

Your interview responses will not include your name. It will be added to the pile of interviews conducted with other student participants in this face-to-face manner. Your interview, with your consent, will be audio-recorded and transcribed by the interviewer. The recordings and transcriptions will be stored in a password-protected folder and laptop. All electronic data, including interview soundtracks and transcriptions will be retained for five years in accordance with Memorial University's policy on Integrity in Scholarly Research.

**Reporting of Results:**

The data collected in your interview will be used and published as my master's thesis as well as in journal articles, conference presentations, and oral reports within the Memorial University community. Also, the thesis will be publically available at the QEII library. The data you provide will not be attributed to your identity and the direct quotations will be used with pseudonyms, if permission granted, otherwise your data will be reported only in a summarized manner.

**Sharing of Results with Participants/Questions:**

You may obtain information or the results of this study in the future by contacting the researcher at [s.gorjizadeh@mun.ca](mailto:s.gorjizadeh@mun.ca) or 709-740-0335

**ICEHR Approval Statement**

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you

have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

### **Consent**

Your signature on this form means that:

- You have read the information about the research.
- You have been able to ask questions during this study.
- You are satisfied with the answers to all your questions.
- You understand what the study is about and what you will be doing.
- You understand that you are free to withdraw from the study at any time, without having to give a reason, and that doing so will not affect you now or in the future.
- You understand that any data collected from you up to the point of your withdrawal will be retained by the researcher for use in the research study unless you request otherwise.

If you sign this form, you will not give up your legal rights and do not release the researcher from their professional responsibilities.

### **Your signature means:**

- I have read what this study is about      Yes    No

and understood the risks and benefits.

I have had adequate time to think about

this and had the opportunity to ask questions

and my questions have been answered.

- I agree to participate in this study  Yes  No  
understanding the risks and  
contributions of my participation, that  
my participation is voluntary, and that  
I may end my participation at any  
time.
- I agree to be audio-recorded during  Yes  No  
the interview.
- I agree to the use of quotations  Yes  No  
without my name being identified in  
any publications resulting from this  
study.
- A copy of this Consent Form has been  Yes  No  
given to me for my record.

-----

Signature of participant

-----

Date

**Researcher's signature**

I have explained this study to the best of my ability. I invited questions and gave answers.  
I believe that the participant fully understands what is involved in being in the study, any  
potential risks of the study and that he or she has freely chosen to be in the study.

-----

Signature of principal investigator

-----

Date

## Appendix B

Printed on Memorial University of Newfoundland letter head

### Informed Consent Form-Administration

**Title:** International Students' Job Search Strategies in the Oil and Gas Industry of Newfoundland and Labrador

**Researcher:** Sepideh Gorjizadeh

Faculty of Education

[s.gorjizadeh@mun.ca](mailto:s.gorjizadeh@mun.ca)

709-740-0335

**Supervisor:** Dr. Dale Kirby

Faculty of Education

[dkirby@mun.ca](mailto:dkirby@mun.ca)

You are invited to take part in a research project entitled "International Students' Job Search Strategies in the Oil and Gas Industry of Newfoundland and Labrador."

This form is part of the process of informed consent. It should give you the basic idea of that the research is about and what your participation will involve. It also describes your right to withdraw from the study at any time. In order to decide whether you wish to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is the informed consent process. Take time to read this carefully and to understand the information given to you. Please contact the researcher, Sepideh Gorjizadeh, if you have any questions about the study or for more information not included here before you consent.

It is entirely up to you to decide whether to take part in this research. If you choose not to take part in this research or if you decide to withdraw from the research once it has started, there will be no negative consequences for you, now or in the future.

**Introduction:**

I am Master's student in the Education Faculty. As part of my Master's thesis, I am conducting this research under the supervision of Dr. Dale Kirby.

This study is aimed at bridging the gap in our knowledge of the job search strategies used by the postgraduate students in Oil & Gas and Earth Sciences degrees of the Province by understanding the factors affecting their choices of job seeking strategies, and identifying the role of the higher institutions in the Province in their job search process.

This research will be shared in academic conferences and publications and will contribute to the students' knowledge of job search strategies, and will provide recommendations to the higher institutes' student career preparation plans as well as recruiters' recruitment strategies.

**Purpose of Study:**

The purpose of this study is to a) provide an understanding of student job search strategies in oil & gas industry in the Province of Newfoundland and Labrador, b) identify the factors affecting the choices that the students make in order to search for and find jobs, and c) recognize supports, guidance, and resources that higher education institutions in Newfoundland and Labrador provide to students who are seeking employment opportunities in oil and gas industry.

**What You Will Do in This Study:**

You will be interviewed on a questionnaire prepared that addresses the career preparation programs and services offered by the Career and Experiential Learning Centre at MUN. You will also be asked to give recommendations on the possible future career programs for the students.

**Length of Time:**

The interview will take approximately 40 minutes to complete.

**Withdraw from the Study:**

You will voluntarily agree to be involved in this face-to-face interview process. You may end your involvement before or during the interview without any negative consequences simply by saying that you wish to stop and withdraw. With consent, the researcher will retain and use for research purposes the data collected up to the point of withdrawal. If permission is not granted, the researcher will delete and dispose of the relevant data.

After the interview, the participant may request the interview transcript to be removed from the research only within three weeks from the date of the interview before the data is aggregated for analysis. All the data for aggregation will be anonymized.

**Possible Benefits:**

Your participation in this study will give you an opportunity to reflect on career services/programs you offer to students and eventually suggest recommendations for future career preparation projects.

**Possible Risks:**

You should not experience any risks of being in the study. It will take only a short amount of your time at a location and time convenient to you.

**Confidentiality vs. Anonymity:**

This interview process is confidential and the identities of participants will be accessible only to the researchers. Responses will be structured through analysis and quotations will be attributed through pseudonyms. However, anonymity cannot be guaranteed because informed readers may

be able to identify responses due to the small size of Memorial University's career centre employees.

**Confidentiality and Storage of Data:**

Your interview responses will not include your name. It will be added to the pile of interviews conducted with other administrator participants in this face-to-face manner. Your interview, with your consent, will be audio-recorded and transcribed by the interviewer. The recordings and transcriptions will be stored in a password-protected folder and laptop. All electronic data, including interview soundtracks and transcriptions will be retained for five years in accordance with Memorial University's policy on Integrity in Scholarly Research.

**Reporting of Results:**

The data collected in your interview will be used and published as my master's thesis as well as in journal articles, conference presentations, and oral reports within the Memorial University community. Also, the thesis will be publically available at the QEII library. The data you provide will not be attributed to your identity and the direct quotations will be used with pseudonyms, if permission granted, otherwise your data will be reported only in a summarised manner.

**Sharing of Results with Participants/Questions:**

You may obtain information or the results of this study in the future by contacting the researcher at [s.gorjizadeh@mun.ca](mailto:s.gorjizadeh@mun.ca) or 709-740-0335

**ICEHR Approval Statement**

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as

a participant), you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

## **Consent**

Your signature on this form means that:

- You have read the information about the research.
- You have been able to ask questions during this study.
- You are satisfied with the answers to all your questions.
- You understand what the study is about and what you will be doing.
- You understand that you are free to withdraw from the study at any time, without having to give a reason, and that doing so will not affect you now or in the future.
- You understand that any data collected from you up to the point of your withdrawal will be retained by the researcher for use in the research study unless you request otherwise.

If you sign this form, you will not give up your legal rights and do not release the researcher from their professional responsibilities.

### **Your signature means:**

- I have read what this study is about  Yes  No

and understood the risks and benefits.

I have had adequate time to think

about this and had the opportunity to

ask questions and my questions have

been answered.

- I agree to participate in this study  Yes  No

understanding the risks and

contributions of my participation, that my participation is voluntary, and that I may end my participation at any time.

- I agree to be audio-recorded during the interview.  Yes  No
- I agree to the use of quotations without my name being identified in any publications resulting from this study.  Yes  No
- A copy of this Consent Form has been given to me for my record.  Yes  No

-----

Signature of participant

-----

Date

**Researcher's signature**

I have explained this study to the best of my ability. I invited questions and gave answers. I believe that the participant fully understands what is involved in being in the study, any potential risks of the study and that he or she has freely chosen to be in the study.

-----

Signature of principal investigator

-----

Date

## Appendix C

### Recruitment script-Students

**Title:** Call for participants

*Participants needed for a study at Memorial University*

Hi,

I am a graduate student in the Education Faculty. As part of my Master's thesis, I am conducting a research project under the supervision of Dr. Dale Kirby entitled "*International Students' Job Search Strategies in the Oil and Gas Industry of Newfoundland and Labrador*". I would like to invite post-graduate students in their final year of study in the Oil & Gas and Earth Sciences related courses here at Memorial University to participate in my research.

The interview will take about 40 minutes and is confidential.

**Title of the study:** *International Students' Job Search Strategies in the Oil and Gas Industry of Newfoundland and Labrador*

This study is aimed at bridging the gap in our knowledge of the job search strategies used by the postgraduate students in Oil & Gas and Earth Sciences degrees of the Province by understanding the factors affecting their choices of job seeking strategies, and identifying the role of the higher institutions in the Province in their job search process.

If interested, please contact Sepideh at [s.gorjizadeh@mun.ca](mailto:s.gorjizadeh@mun.ca) 709-740-0335

Faculty of Education

Supervisor: Dr. Dale Kirby

[dkirby@mun.ca](mailto:dkirby@mun.ca)

### **ICEHR Approval Statement**

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the ICEHR at [icehr@mun.ca](mailto:icehr@mun.ca) or by telephone at 709-864-2861.

## Appendix D

### Recruitment script-Administration

**Title:** Call for participants

*Participants needed for a study at Memorial University*

Hi,

I am a graduate student in the Education Faculty. As part of my Master's thesis, I am conducting a research project under the supervision of Dr. Dale Kirby entitled "*International Students' Job Search Strategies in the Oil and Gas Industry of Newfoundland and Labrador*". I would like to invite the administration in different roles at the Career and Experiential Learning Center (CDEL) at Memorial University to participate in my research.

The interview will take about 40 minutes and is confidential.

**Title of the study:** *International Students' Job Search Strategies in the Oil and Gas Industry of Newfoundland and Labrador*

This study is aimed at bridging the gap in our knowledge of the job search strategies used by the postgraduate students in Oil and Gas and Earth Sciences degrees of the Province by understanding the factors affecting their choices of job seeking strategies, and identifying the role of the higher institutions in the Province in their job search process.

If interested, please contact Sepideh at [s.gorjizadeh@mun.ca](mailto:s.gorjizadeh@mun.ca) 709-740-0335

Faculty of Education

Supervisor: Dr. Dale Kirby

[dkirby@mun.ca](mailto:dkirby@mun.ca)

### **ICEHR Approval Statement**

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the ICEHR at [icehr@mun.ca](mailto:icehr@mun.ca) or by telephone at 709-864-2861.

## Appendix E

### Questionnaire for postgraduate students in oil & gas related programs:

1. Can you tell me about yourself? What program are you in? What year?
2. Where are you from? And how long have you been in St. John's/Memorial University?
3. What are your career prospects/objectives? What do you plan to do after graduation?
4. Do you have prior oil and gas work experience? If yes, where and how long?
5. When did you/do you plan to start looking for job?
6. In which city are you looking for a job? And what have motivated you to choose this city?
7. What is your ideal company to work for? What has motivated your decision?
8. How do you look for your future job? (eg. Online job banks, career agencies, internships, co-ops, networking/referrals, print media, social media, company website, submitting applications/making job profiles on company website, public employment service, campus recruitment, contacting employers, etc.)
9. What has/have motivated you to choose this particular job search activity to look for your future job? (eg. Friends and family, teachers, ads, active job search,
10. Which of the mentioned job search activities do you think are the most effective for your type of future career? And how do you think you can get the necessary resources in order to access such search activity?
11. What do you do to keep up to date on the current openings/job opportunities in your field of study? How do you access the information about such opportunities?
12. How often do you visit the career center on campus and what services of the center have you used before/are you using now? Which ones do you recommend to a friend?

**13.** What do you think the university should do in order to provide you with the necessary information/services/programs in helping you look for a job in your related field of study?

## Appendix F

### Questionnaire for administrators in career related centers at MUN:

1. Can you tell me about yourself? What do you do? How long have you been working here?
2. How much interaction do you have with students on a daily basis? Is it face-to-face or through distance?
3. Who are your most incoming students to use the services at the center?
4. What services/programs at the center are used most often? What do these services/programs target? (eg. Skill enhancement, job search knowledge, access to information on job search strategies, career preparation, recruitment events, etc.)
5. How often do you get post graduate students in Oil and Gas or Earth Sciences programs to use your services? And what services do they use mostly?
6. What are your specific services/programs for such students?
7. What have been the results of students using your services/programs?
8. How do you reach out to post graduate students in Oil and Gas or Earth Sciences programs?
9. What is the students' attendance like in your targeted services/programs?
10. How do the teachers in Oil and Gas or Earth Sciences programs play a role in helping the students look for a job or get connected to future employers?
11. What is your affiliation like with the university-industry partnership center at MUN?
12. How much involvement does the oil and gas industry have in university career preparation services/programs? What level of students do they target and in what programs?