

The Relationship between Firm Demographics, External Affiliations and the  
Adoption of Sustainable Business Practices by SMEs in  
Kitchener-Waterloo Region

by

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## Author's Declaration

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

## Abstract

Businesses have traditionally been focused on financial growth and short-term profits. However, in recent years there is an increasing realization of the potential that Sustainable Business Practices (SBPs) can play in business development. There is a growing body of literature that explains why large firms choose to adopt SBPs into their core operations. Small and Medium-Sized Enterprises (SMEs), although they represent a large proportion of businesses within the economy, the literature on their adoption of SBPs remains relatively underexplored. This study explores the adoption of SBPs by SMEs while identifying the role of firm demographics (i.e., size, age, industry) and Business Support Organizations (BSOs) in the Kitchener-Waterloo (KW) region, to encourage the implementation and communication of those practices. Support for SMEs is significant in the KW region, yet there is little known of the role that BSOs play in encouraging SBPs adoption.

A quantitative survey and Structural Equation Modeling (SEM) techniques were used to analyze the theorized relationships between firm demographics, BSOs and SBPs. Conceptually, I deconstruct the SBPs construct and argue that implementation of SBPs and the communication of SBPs are unique and warrant distinct empirical consideration. Results indicate that larger SMEs tend to access a greater number of BSOs and as a consequence, have a higher likelihood of implementing and communicating SBPs. These results are important for not only local SMEs in understanding “when and what” business practices are being adopted by similar businesses, but also for BSOs in understanding how their role can nurture and encourage the proliferation of sustainable economic growth.

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# Chapter 1: Background

## 1.1 Introduction

Over the past few decades, businesses have increasingly expanded their sights beyond the traditional theory of the firm (Jensen & Meckling, 1976) to play an increasingly important role on the world stage. As one of the major drivers of economies and employment, organizations clearly play a significant role in social and holistic development. Recognizably, there has been a shift away from a strictly shareholder focused way of conducting business, to a stakeholder perspective (Carroll, 1991) which carefully aligns business operations with a widened consciousness of business impacts. Firms belonging to all sectors and sizes across the globe have realized the importance of integrating Sustainable Business Practices (SBPs) in their businesses. SBPs are defined as “environmentally and socially aware business strategies and operating practices that both guide firms to a cleaner and healthier world and offer an avenue to improved profitability” (Larson, Teisberg, & Johnson, 2006, p. 1). Creating a sustainable business is being viewed as just another factor in the modern business environment and is being addressed as such within the planning process by 21st century business strategists and is being echoed globally. Multiple studies have supported this new way of thinking and have considered SBPs to be a core part of the new age organizational theory (Elkington, 1998; Morgan, 1980) for developing a broader view of value creation. While there is considerable literature on the adoption of a more holistic view of the role of business (Gladwin, Kennelly & Krause, 1995) many of these studies focus on large firms, because of their global presence, highly organized ways of working, and resource availability.

Small and Medium-Sized Enterprises (SMEs) have a great opportunity to implement SBPs early on and benefit as they scale up their businesses. The early adoption of

sustainability lets SMEs strategically plan their development and progress “to balance resilience and growth” (Moore & Manning, 2009, p. 276). SMEs face various challenges, ranging from limited time, finances and human resources, combined with a lack of expertise, which makes it hard for leaders of SMEs to choose the right SBPs for their firms. Representing 98 % of all Canadian companies (Statistics Canada, 2012), SMEs are a significant contributor to Canada’s economic, social, and environmental picture. With that in mind, discussions regarding business sustainability must clearly include SMEs along with their preoccupations and objectives. Grounded in that context, the SME Council- Network for Business Sustainability gathers SME managers as well as representatives of government agencies and nonprofit organizations recognized for their leadership in. The council is the source of annual reports entitled “SME Challenges” which are widely distributed in Canada and around the world. These reports provide information about the current sustainability challenges faced by Canadian SMEs and guide researchers on potential solutions that would come from the academic sphere. The idea is to provide solutions in a manner that is both prudent to the needs of SMEs and equally responsive to the needs of the economy, environment, and society. Therefore, this project being a part of the above initiative strives to conduct an exploratory assessment of the adoption of SBPs across SMEs in the Kitchener-Waterloo (KW) region of Southern Ontario.

## 1.2 Purpose

This study explores the relationship between the adoption of SBPs, role of Business Support Organizations (BSOs) and firm demographics in the KW region, to encourage and affect sustainable business development opportunities that SMEs can utilize. BSOs maybe be broadly defined as organizations which provide business support service provisions, business voice

(representation), social 'peer' support, non-sectoral (no industrial focus), voluntary membership to SMEs (Bennett 1995; Grant 2000; Quinn, 2004). And within KW region, this study only focuses on businesses which have 1-200 employees and are affiliated to BSOs consisting of incubators/accelerators, academic institutions, sustainability-oriented BSOs, student-oriented incubators, local and non-local BSOs. These firms consist of SMEs which mostly focus on scaling up their operations while tending to focus on innovation and growth into a large disruptive enterprise. These businesses are different from more traditional firms which start out as a structured organization oriented towards the delivery of services to known customers, work in rigidly structured models, and mostly are not looking to be a dominant firm in their respective markets. Also, this study provides evidence to support local SMEs in their decisions to start building sustainable and resilient business capabilities early on in their development through small and collective steps by partnering with present in the region. Furthermore, this study assesses the varying forms of adoption, the specific practices that are most commonly adopted, and what characteristics do the SMEs who adopt these practices share. There is an unclear understanding of what sorts of SBPs are adopted by SMEs; literature suggests that certain forms of sustainability practices are beneficial for firms, but it does not delve into adoption of these practices especially for the practices prudent to SMEs. Therefore, through a quantitative survey, this project will identify SBPs currently being adopted by SMEs in relation to firm demographics (i.e., size (number of employees), age (years in operation), and industry) and affiliations with BSOs (incubators/accelerators, academic institutions, student-oriented incubators, sustainability-oriented, local and non-local BSOs). This ultimately leads to a stronger business and economic growth in the region and allows similar strategies to be applied broadly to other SMEs across the nation, for a sustainable and resilient business growth.

The motivation for conducting this project is to study the relationship between internal and external influences on adoption of SBPs, as stated above. These findings shall be valuable to practitioners in outlining how sustainability targets change as the company matures and in a manner that sustainability is perceived internally and from external pressures as well. The empirical evidence from this study allows for inferences that the adoption of sustainability by SMEs is a dynamic process that depends on firm demographics and BSOs.

#### 1.4 Research Questions and Objectives

This thesis attempts to identify *the internal and external influences affecting sustainable business practice adoption by SMEs?*

More specifically, this thesis is focused on two main research questions:

1. What role do firm demographics play in the adoption of SBPs by SMEs in KW region?
2. What role do BSOs play in advocating SBPs to SMEs in KW region?

In categorizing SBPs into a firm's implementation and communication practices, I hypothesize that these measures will be impacted by firm demographics (i.e. size, age, industry) and external affiliations with BSOs. In Chapter 2, I'll introduce six hypotheses on these measures and the reasoning behind them.

#### 1.3 Why the Kitchener-Waterloo region?

The KW region, once known as a hub of manufacturing and insurance headquarters, is quickly transforming into a technology and entrepreneurship hub. This is evident from the fact that the region is currently home to some of Canada's most established technology companies, such as

Open Text Corp., Descartes Systems Corp. and BlackBerry Limited. Aptly known as Canada's "Silicon Valley", this region is now taking a new name making headlines as the startup capital of Canada (Spence, 2012, p. 4). This hub created around 300 startups in 2012, up from 156 in 2010 and 90 in 2009 (Dobby, 2012). It is by no small feat, through the development of a nurturing and encouraging environment (Nelles, Bramwell, & Wolfe, 2008), that Waterloo has succeeded in cultivating a culture of entrepreneurship and innovation (Dobby, 2012). This is evident across the myriad of business networks (Bramwell, Nelles, & Wolfe, 2008) that offer access to program support, financial capital, and invaluable industry partnerships (Klugman, 2010).

Local entrepreneurship support organizations of likeminded individuals pursuing common goals are growing rapidly in the KW region. These organizations form across incubators/accelerators like Communitech, Velocity and Accelerator center, local and non-local BSOs like Ontario Network of Entrepreneurs, KW Chamber of Commerce, Ontario Centers of Excellence etc., student-oriented incubators like Startup Laurier, Launchpad, and University programs like the Conrad Business, Entrepreneurship, and Technology school and more. The value is insurmountable; Waterloo now boasts a wide variety of sectorally diverse SMEs alongside multinational firms like Google, Intel and SAP, also local successes like Blackberry, Open Text, Maplesoft, Thalmic Labs and Desire2Learn. Undoubtedly, this nurturing environment has cultivated a culture of entrepreneurship and innovation, by joining entrepreneurs with the talent and resources required to grow a successful business. We question however, whether these local and non-local support structures also encourage their member SMEs to pursue sustainable models of entrepreneurship and how SMEs are motivated by their internal factors to pursue those models.

## 1.5 Methods Summary

I assess the above objectives by exploring local SMEs' focus on implementation and communication of SBPs in association with the firm demographics (i.e., size, age, industry) and external affiliations with BSOs, through a close-ended quantitative survey. The survey was created based on the supporting literature for SBPs for SMEs and was further refined based on our interactions with local businesses, owners of BSOs and our discussions with various academic experts. Later the survey was disseminated through networks of BSOs, institutions and dedicated social media pages.

For analyzing the survey results, Structural Equation Modelling (SEM) techniques were used, first for validating the measurement model and then testing hypothesized relationships. SEM has been shown to be useful in testing statistical models for small samples wherein "it incorporates observed (indicator) and unobserved (latent) variables, which are separated into, measurement model (outer) and a structural model (inner) models" (Wisner, 2003, p. 8)

## 1.6 Structure of the Thesis

This thesis contains six chapters. The first chapter - The introduction, is followed by the literature review (Chapter Two) presenting relevant sustainability concepts, significance of SBPs for large firms and SMEs, key theoretical concepts related to implementing and communicating SBPs, also their necessity for firm performance, and concludes with the theoretical model used in the study. The third chapter contains the methodology, details about the survey creation and dissemination, data sources, operationalization of indicators used to measure the latent constructs in our research model and an overview of SEM techniques and

measurement methods. The fourth chapter presents the results of the statistical analysis performed to validate and assess the theoretical model. The fifth chapter relates and integrates the results of the analysis back to the literature. The sixth chapter presents the conclusion and summarizes the contributions of the thesis as well as identifies limitations and suggests areas for future research.



## Chapter 2: Literature Review

### 2.1 Introduction

This chapter has been divided into seven sections. Following the Introduction, the second section focuses on defining sustainability. The third section presents why SBPs are considered important for businesses and for SMEs in particular. This section also includes an overview of the work done on defining business practices which tends to lead organizations on a sustainable growth path. The fourth section explores the current literature on the implementation and communication practices adopted by SMEs, used in the assessment of SME's sustainable business decisions. The fifth section looks into the role of BSOs in supporting SMEs. The sixth section presents the theoretical model being utilized for the assessment. And finally the seventh section presents the hypotheses to be tested and defines the Independent variables of this study.

### 2.2 Defining Sustainability

Sustainability is a highly abstract and complex concept containing a great variety of interpretations and definitions. Sustainable development, which is defined by Brundtland Commission as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 43). As such, the concept of sustainability strives to embed an innovative thinking in the ways of working of today's generation, businesses and economies so that the resources of this planet are utilized consciously and are preserved for future generations as well. Most importantly, sustainability practices follow a Triple Bottom Line (TBL) framework which looks at meeting social, environmental and financial aspects, as the three dimensions of performance, of an individual, economy, a business etc.

## 2.3 Sustainability in Businesses

The term sustainability has become a common nomenclature used by academics and practitioners in recent years, however its definitions are as diverse as its applications. To explicate in the context of this study on businesses, sustainability is defined in the context of the triple bottom line approach which was introduced by Elkington (1998). A more accepted definition of TBL to come out in recent years, is by Savitz and Weber (2006), TBL “captures the essence of sustainability by measuring the impact of an organization’s activities on the world ... including both its profitability and shareholder values and its social, human and environmental capital” (p. 15). In a sense, the triple bottom line approach considers the impact of a firm in various ways.

Concerns about business-as-usual, which focus on short term profits and shareholder interests, started to raise in many studies decades ago. For example, Morgan (1980) pointed out that organizational theory needs to be updated according to the changing points of view on the consideration of SBPs. Businesses belonging to all sectors and sizes across the globe, have realized the importance of integrating sustainable practices in their businesses and aligning their growth model with those practices, helping buffer their operations in the face of highly variable markets.

### 2.3.1 Significance of Sustainable Business Practices

Businesses must strive and continually adapt in order to sustain competitiveness and remain viable within uncertain environments. Through turbulent economic, social and environmental periods, firms will experience disruptions and discontinuities. These disruptions can pose several threats to the incumbency of a business (Burnard & Bhamra, 2011). Within businesses,

sustainability resides in both the individual and firm's responses to turbulence and discontinuities. This involves both the ability to withstand systematic discontinuities as well as the capability to adapt to new risk environments (Starr, Newfrock, & Delurey, 2003)

The discussions around business sustainability become even more relevant, considering the growing new world threats, especially the issues of climate change, energy crisis and most importantly, survival for a small firm, which all require conscious and continuous efforts towards building a sustainable business. Therefore, firms need to develop strategies within their operations by keeping the interdependencies with outside forces in mind, and deal with markets in an efficient way.

Furthermore, the new age sustainability principles for businesses advocate numerous strategies which may be implemented within a firm's business framework to pursue sustainable business models. Stubbs and Cocklin's (2008) revealed a set of normative principles of organizational development that together form an "ideal type" of sustainability-oriented business, comprised of different structural and cultural attributes of an organization, such as developing community spirit, investing in employees' trust and loyalty, and engaging in sustainability assessments, and reporting practices. They also advanced propositions about sustainability-oriented firms, that deal with an organization's purpose and goals, its performance measurement approach, the need to consider all stakeholders, how nature should be treated, whether the organization's leaders drive the necessary cultural and structural changes to implement sustainability, and whether a systems-level, as well as a firm-level perspective should be employed. These strategies, in turn, become even more important when we look at the need for organizations to mitigate risks and be resilient. Given that businesses belong to different industries and are of different sizes, there is need for a tailored approach to

sustainability, an approach that suits their individual requirements. Larger firms have the freedom and resources to experiment with new innovative business practices. However, SMEs have limited resource capacity, and therefore need practices that meet their business objectives while simultaneously being cost effective in their use of limited financial and human resources.

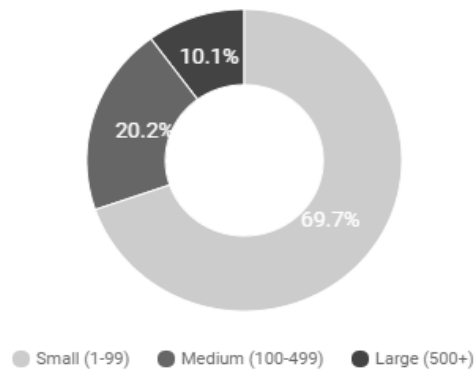
### **2.3.2 Sustainability: Small and Medium-Sized Enterprises**

SMEs represent a different type of organizations operating with a different set of principles than larger organizations. They are a “heterogeneous group in terms of size and sector diversity” (Hillary, 2006, p. 241) and different countries adopt different criteria (e.g. employment, sales, turnover) for definitional purposes (Klewitz & Hansen, 2014). However, SMEs mostly are defined by the number of employees – from the majority microenterprises and startups with virtually no employees to medium-sized enterprises with over 200 workers (Murillo & Lozano, 2006). Also, startups differ from SMEs in a way that startups are more technologically oriented and in most cases originate in a business incubator and innovate differently compared to more traditional mindset of larger SMEs or other new businesses. In Canada, in 2012, over 7.7 million employees, or 69.7 percent of the total private labor force, worked for small businesses<sup>1</sup> and 2.2 million employees, or 20.2 percent of the labor force, worked for medium-sized businesses<sup>2</sup>. In total, SMEs employed about 10 million individuals, or 89.9 percent of employees (Statistics Canada 2012).

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<sup>1</sup> small businesses- 1-99 employees

<sup>2</sup> medium-sized businesses- 100-499 employees



*Figure 1: Share of total private employment by size of business (Statistics Canada 2012)*

Therefore, SMEs must have a considerable economic impact, and with suitable sustainable practices adoption, could catalyze the proliferation of sustainable innovation across industries and the economy more generally. Furthermore, SMEs as a group contribute to a large share of overall pollution and also SMEs are not simply smaller versions of their larger counterparts (Hillary, 2006) therefore, ‘SME peculiarities’ (Noci & Verganti, 1999, p. 4) imply that they will innovate differently for sustainability (Moore & Manring, 2009; Klewitz & Hansen, 2014)

Conversely, smaller firms likely cannot afford the investments necessary to compete with larger firms and adopt similar practices, and thus exploit niches that are better suited to their capabilities. As the literature highlights, SMEs’ disadvantages (e.g. resource constraints, lack of formalized planning, difficulty to attract finance) may prevent them from engaging proactively in sustainability (Abor & Biekpe, 2007; Bos-Brouwers, 2010; Desouza, & Awazu, 2006). From this perspective- emphasized by most research- SMEs are considered to display ‘reactive’ behavior towards environmental and social issues (Klewitz & Hansen, 2014). Therefore, it can be said that firms of different sizes should pursue different business strategies, because their interests do not overlap. Combined, the business strategies of firms create and sustain economic growth (Garmestani, Allen, Mittelstaedt, Stow, & Ward, 2006). Large firms enjoy reputation effects that

help to maintain their status in financial markets and the public consciousness (Sleuwaegen & Goedhuys, 2002), and can “capitalize on production economies of scale” more effectively than smaller firms (Mittelstaedt, Harben, & Ward, 2001, p. 6). Small firms sometimes usurp the dominant firms, though the odds are against smaller firms, as their growth rates are variable leading to a mixed success relative to larger and dominant firms (Buzzelli, 2002). In a similar sense, patterns for sustainability are found in nature, where large and small species follow different strategies for survival.

The question also arises as to whether these SMEs are also encouraged to pursue SBPs and whether their corresponding decisions have an impact on their performance. As identified, stakeholders do want to see companies pursue SBPs or legitimacy, but more importantly, they want to see profitability and not let the pursuit of these practices act as a hindrance to growth. That being said, there is an important relationship between reporting practices and company performance (Chvatalová, Kocmanová, & Dočekalová, 2011) and little evidence to suggest that disclosure may adversely affect shareholders (Ioannou & Serafeim, 2014). Also, a recent study by Ameer & Othman (2012) on corporate financial performance, finds that of the top 100 global companies in 2008, sustainable companies have increased and sustained higher mean sales growth, return on assets, profit before taxation and cash flows from operations (Ameer & Othman, 2012). The high sustainability firms significantly outperform their counterparts over the long-term, especially in sectors where the customers are individual consumers and as such companies compete on the basis of brands and reputations (Ioannou & Serafeim, 2014). The World Business Council for Sustainable Development states that businesses can benefit from implementing sustainable practices in two ways; (Adams, 2012) firstly, by driving cost efficiencies, e.g. improved operational performance, minimizing business

risk and improving safety, improving recruitment and retention of talented employees, increasing income through improved employee morale and productivity; and secondly, as pointed by Ameer and Othman (2012), by generating top line growth through new markets, new products learning through innovation, improved customer loyalty, enhanced recognition and reputation. Literature suggests that SMEs must evolve from a largely internal technical orientation towards external, customer and service orientation, where management increasingly dedicates its attention to the needs of the customer and the marketplace (Soderquist, Chanaron, & Motwani, 1997; Gao & Zhang, 2006).

#### 2.4 Sustainable Business Practices

Size affects how firms cope with changes in their environments and markets. As Mittelstaedt and colleagues (2001) argue that, as firms increase in size, their operating rules and ways of working “become more formalized, hence their task differentiation and specialization increases” (p.13). Also, “large firms develop more operating rules, and rely more heavily on written communication” (p. 13), which is justified given their scale, age and number of employees. On the other hand, SMEs’ flexibility and dynamism are necessary organizational characteristics which drive them in the evolution towards sustainable enterprises (Moore & Manring, 2009). Many other scholars argue that large firms may have trouble innovating in the sense of creating new knowledge (Utterback & Abernathy, 1978) and are less likely than SMEs to introduce radical innovations. SMEs have more entrepreneurial spirit and have an innovative mindset, however given their limited resources and reach, which drives their actions, behave in a different manner than their established counterparts (Moore & Manring, 2009). Therefore, SMEs, conversely, tend to operate without formal rules or procedures, and decisions tend to be

collective (Mintzberg, 1979) and in collaborations with external affiliations with BSOs. Hence, sustainable innovations depend on coping strategies of firms, and also on diversity, but may well also depend on diversity of size within an industry, where firms of different sizes adapt to achieve sustainability differently. Moreover, as organizations age and grow larger, they are prone to inertia (Hannan & Freeman, 1984) which may reduce the innovativeness of the firms (Chandy & Tellis, 2000). Complex organizational structure, organizational formalizations and rigid communication channels may also provoke information loss (Arrow, 2000). Therefore, according to this logic, inertia, formalization of routines and internal process, and institutionalization of power structure may increase organizational rigidity and reduce the likelihood of adaptation and change for innovation (Kieser, 1979). Therefore, SMEs could gain from the early adopters benefit and may lead an innovative shift in business and organizational practices.

Also, SMEs with their limited financial and human resources may focus on sustainable practices which meet their needs and capabilities. Various studies carried out to date have revealed the need to learn more about the particular corporate culture and the framework of relationships that condition the economic and social functioning of SMEs (Spence & Rutherford, 2003; Vyakarnam, Bailey, Myers, & Burnett, 1997). Therefore, the focus should be on practices which may be considered to be feasible, for the size of SME's business operations. Hence, an SME's internal sustainability practices can be improved and assessed across two criteria, the implementation of SBPs (Bocken, Short, Rana, & Evans, 2013; Murillo & Lozano, 2006; Spence, Gherib, & Biwolé, 2011; Upadhye, Deshmukh, & Garg, 2010), and their communication and disclosure practices (Husillos, & Álvarez-Gil, 2008; Clarkson, Li, Richardson, & Vasvari, 2008). These are the dependent variables (DVs) of the



model and will be measured as a conduit of firm size, age, industry and external affiliations with BSOs (Porter, 1998) including incubators/accelerators, sustainability-oriented BSOs, academic institutions, student-oriented incubators, local and non-local BSOs (the independent variables (IVs)).

Furthermore, Implementing and communicating SBPs can be treated as different theoretical concepts, as disclosure may depend on various factors, influenced by internal and external forces alike. While implementing SBPs leads to building a firm's capability and certainly provides a competitive advantage (Hart, 1995; Simpson, Taylor, & Barker, 2004). Therefore, communicating a firm's capacity may not always be welcomed. Especially by an SME, as SMEs thrive in a highly competitive environment and some sustainable practices may lead to a business advantage, which may need to be kept within a firm. Further, Bansal (2005) argues that communicating sustainability may lead to unwanted media attention for a firm and invite more scrutiny from regulatory bodies, which may not be preferred by businesses. On the other hand, communication practices may affect firms differently, as efficient communication guides businesses to improve reporting practices, leading them to accurately track operations and realizing ways to profitability, while concurrently improving external perception to portray reputability. Internal audiences that work within reporting organizations, use sustainability reports as a means of incorporating TBL principles into business operations (Wheeler & Elkington, 2001). Eccles and Serafeim (2015) suggest that by focusing internal efforts on the most material indicators and honing on innovations that prioritize those concerns, it is possible for firms to boost TBL performance simultaneously. However, not only is it in the best interest of internal audiences to adopt disclosure practices, it is a proactive measure to identify and engage with external audiences before pressured do so. External audiences do show a need

for non-financial information and inadequate reporting practices can lead to a negative image for a firm (Vanstraelen, Schelleman, Meuwissen, & Hofmann, 2012) and may also affect innovations which are triggered by implementing better reporting. Nevertheless, regardless of interest in non-financial metrics, the majority of external stakeholders surveyed in a study by Deegan and Rankin (1997) agree that environmental information is less important than traditional financial information such as profits, net assets, cash flows, and dividend payments. Thus, it is important for all companies to create internal and external reports that span across traditional and non-financial considerations but the decision to report still depends on different factors.

Therefore, ignoring the possibilities offered by sustainability can produce a relatively limited and narrow vision, with even small firms being constrained as they attempt to operate in a global marketplace, if an expanding vision of sustainability is not included in a firm's culture, planning and benchmarking performance.

#### 2.4.1 Implementing Sustainable Business Practices

Implementation of SBPs plays an important role in defining an enterprise's sustainable business ideology and ways of working which shifts their focus on economic, social, and environmental impacts of their business. SBPs provide an opportunity to integrate social and environmental goals and responsibilities in a firm's core strategy and helps in identifying the significance of its stakeholders by considering their contributions an asset (Hillman & Keim, 2001). Therefore, an organization's resilience and ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments, are critical success factors for responding to disruptive innovations and changes (Moore & Manring, 2009).

The investments made in SBPs and latest sustainable technologies are an integral part of business sustainability and firm performance, equally for a small or a large business. Furthermore, business practices of a firm need to be responsive to the emerging global values and should consider stakeholder's opinions rather than just shareholders. "The proposition that business corporations can and should serve the interests of multiple stakeholders, rather than simply those of shareholders, is enjoying a considerable current vogue" (Preston & Sapienza, 1990, p. 361). Therefore, investing in implanting SBPs should become one of the goals of SMEs with inclusion of practices which consider policies like employee happiness; as many studies reveal that firms where Human Resource Management (HRM) departments focusing on a positive and ethical business environment observe improvements in employee job satisfaction, wellbeing (Lofquist & Dawis, 2002; Smith & Fischbacher, 1969) and a better workplace (Holt, Stewart, & Viney, 2000). These traits are considered necessary for a sustainable growth of a business (Tsui, Pearce, Porter, & Tripoli, 1997; Williams, Shaw, Hall, & Lew, 1998). SBPs create multiple opportunities through green technologies, reduction of raw material and energy use through Life cycle assessments (Gimenez, Sierra, & Rodon, 2012; Perrini & Tencati, 2006), and also "discovering innovative pathways for recovery and reuse of waste streams in place of virgin resources" (Cimren, Bassi, & Fiksel, 2010, p. 3). Similarly, adapting other latest technologies would add to sustainable operations of a small business, like green tech./energy savings (Chvatalová et al., 2011), collaborative software, and cloud services (Harmon & Auseklis, 2009) can still lead to not only cost savings and cutting emissions but also business efficiency and collaborative work environments.

### 2.4.2 Communicating Sustainable Business Practices

Effective communication practices play an increasingly important role in molding and presenting firms as responsible and influential stewards, not only of their own wellbeing, but that of the society, environment and larger economy as well. Internally, reporting and business governance go hand in hand. Governance with reporting is important as only what is measured can be managed, but on the flip-side, simply reporting without taking action is futile, with little measurable benefit. Prudent governance would therefore be more successful, when complemented with comprehensive reporting of material corporate objectives (Kocmanová, Hrebicek, & Docekalova, 2011). In fact, a study by Schaltegger and Burritt (2010) suggest that sustainability reporting must be orientated as a tool to improving corporate decision making. Thus, it is not surprising that the world's most prevalent multinational corporations increasingly adopt voluntary reporting and communication standards that span far beyond traditional financial measures. However, while most endeavors revolve around larger firms, it should not negate its importance for smaller businesses as well. Reporting standards for both small and large firms alike are an integral part of a sustainable business in documenting measurable progress over time.

The fundamental notion of sustainable practices framework holds that it must be in the interest of businesses to act as stewards not only to their own wellbeing, but that of the environment, society, and larger economy alike. Reporting on a company's sustainability practices expands beyond traditional measures to account for shareholder relations. Triple bottom line reporting expands on the larger sustainability strategy to include the no pecuniary tangible and intangible benefits of the business. A recent systematic review by Burritt and Schaltegger (2010) suggest that sustainability reporting should be orientated more towards

improving management decision making. Thus, effective communication practices are more than reporting; rather they are about adopting a sustainable path of governance that identifies the material concerns of the firm and enacts material solutions.

## 2.5 Business Support Organizations (BSOs)

Business relevant information and support to SMEs is usually supplied by a variety of agents in a business ecosystem: Incubators/Accelerators, Chambers of Commerce, Business links, Business networking platforms, Universities, Business consulting firms, Industry specific BSOs, Local & Non-local BSOs, and Local authorities (Arbonías & Moso, 2010; Porter, 1998; Bennett, 1995). Business ecosystem, as defined by Moore (1996), is “an economic community supported by a foundation of interacting organizations and individuals– the organisms of the business world” (p. 26). A business ecosystem is similar to a natural ecosystem in a way that it can sustain itself without an outside intervention while overtime it adapts and evolves with the changing environment (Peltoniemi & Vuori, 2004).

From the literature, it appears that BSOs share a common set of properties and they are broadly defined as organizations which provide business support service provisions, business voice (representation), social 'peer' support, non-sectoral (no industrial focus), voluntary membership to SMEs (Bennett 1995; Grant 2000; Quinn, 2004). BSOs are an important node in the value network created by business ecosystems wherein BSOs contribute by provide funding, working space, product ideation and more services, for new entrepreneurs and disseminate information necessary for established SMEs. This environment as pointed out by Peltoniemi & Vuori (2004), “emphasizes on decentralized decision-making and self-organization” (p. 6), which is helpful for SMEs as they often are struggle with necessary support

and guidance required in the initial stages of a venture. Thus, business ecosystem creates an environment of competition and cooperation between members and provides opportunities for a combined success. And inclusion of SBPs in this environment is helpful for all stakeholders in and outside of the ecosystem, because as this ecosystem helps its member firms grow it also encourages them to consider internalization of externalities (Buchanan & Faith, 1981). “There are a growing number of studies examining how networks and alliances influence the implementation of environmental and sustainability practices by SMEs around the world” (Lawrence, Collins, Pavlovich, & Arunachalam, 2006, p. 245). External influences in a business ecosystem usually consist of incubators/accelerators, academic institutions, sustainability incubators/accelerators, industry specific affiliations and chambers of commerce, play an important role to propel entrepreneurial actions and development of businesses. “Incubators help to create and stabilize the resources and competencies of new entrepreneurs in order to ensure the economic sustainability of their firms through periods of shock and crisis” (de Pinho, 2001, p. 352). Prior work in business sustainability argues that networks and clusters are important to firms as repositories of knowledge and hubs for maximizing the dissemination of knowledge (e.g., Porter, 1998; Lawrence et al., 2006). BSOs clearly create an environment of knowledge sharing where SMEs are provided with opportunities to understand various nuances of business from experienced professionals and most importantly each other. Hence, affiliations with BSOs should have a considerable positive effect on SME’s SBPs related decisions.

## 2.6 Theoretical framework

This section presents the theoretical model as drawn from literature to assess the relationship between internal/external influences and SBPs of SMEs.

As discussed above, firms especially SMEs, have considerable incentives in implementing SBPs internally and communicating their decisions to the stakeholders and public. This viewpoint is also supported and highly aligned to the “Institutional theory of organization” which states that, “organizations are influenced by normative pressures, sometimes arising from external sources such as the state, other times arising from within the organization itself” (Zucker, 1987, p. 443). In this study, internal pressures are initiated by internal stakeholders by way of employees and upper management, while external pressures stakeholders are initiated by BSOs, external stakeholders (suppliers, community etc.), customers, regulations, technologies, etc. Together, these internal and external pressures interplay in motivating a firm to implement SBPs internally and communicating them to the outside world. Also, these pressures can change be based on firm demographics and presence of business networks in the ecosystem. As mentioned in the studies captured in the sections above, larger firms work in a multi-stakeholder environment facing higher pressures and a higher influence from BSOs. Therefore, we find a gap in terms of measuring the direct impact of BSOs, in advocating knowledge which is prudent to SMEs. Also, there is a need to understand how firm demographics influence sustainability decisions made by SMEs present in Canada’s largest entrepreneurial and innovation hub.

The theoretical model presented here is comprised of various unobserved (latent) variables; each of which is operationalized by indicators supported by literature. I hypothesize unidirectional direct and indirect relationships between the constructs.

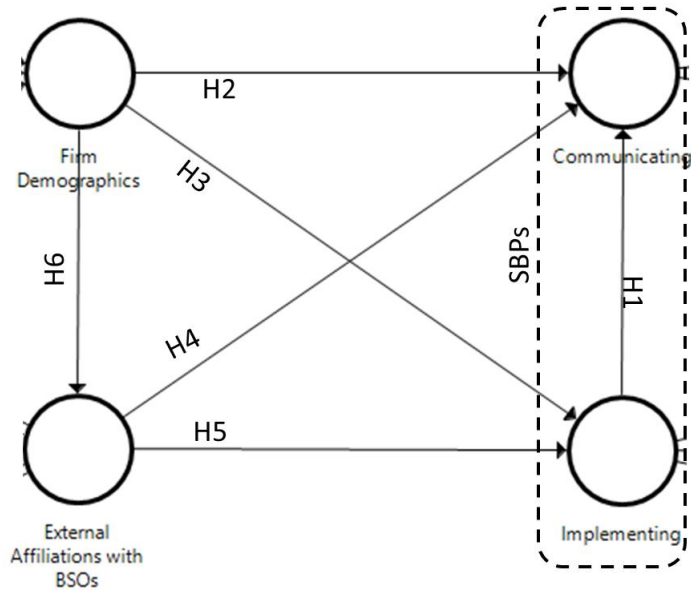


Figure 2: Theoretical Model

## 2.7 Hypothesis development

To understand the engagement in SBPs, this study assesses direct and indirect relationships between firm demographics (i.e. size, age and industry) and BSOs consisting of incubators/accelerators, academic institutions, sustainability-oriented BSOs, student-oriented incubators, local and non-local BSOs (IVs), and implementation and communication of SBPs (DVs).

### A. Implementing and Communicating SBPs

SBPs have been bifurcated into two different constructs based on supporting arguments presented in sections above. The idea that firms will be communicating the implemented SBPs seems reasonable; however, many previous studies have shown that firms may not be inclined to communicate their sustainable practices and capacities. Implementing SBPs is an outcome of efforts geared towards, considering the idea of TBL, building efficient business



capacities, ethical behaviors, and embedding pro-environmental efforts in business. On the other hand, communication of SBPs depends on many internal and external factors. Also, as pointed out in sections above, reporting on business operations helps firms track operational data which in turn helps them realize profitability and build efficiencies. Therefore, it seems that firms would be proactively reporting on their implemented SBPs. However, on the other hand, some businesses may or may not welcome media attention and scrutiny from regulatory bodies, generated by disclosure practices (Bansal, 2005). As some businesses may feel overburdened by questions raised by regulatory bodies and other concerned organizations, as a result of reporting on sustainability initiatives. Another argument for firms, which are not reporting, is competitive advantage gained from not reporting their business secrets to their counterparts (Hart, 1995; Simpson et al., 2004). SMEs take years of operational innovation and resources to build efficiencies in their business model and ways of working; therefore, reporting on those practices may result in losing a competitive edge. Therefore, I hypothesize a relationship as following:

### **H1: Implementing SBPs positively affects the communication of SBPs by SMEs**

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#### **B. Firm demographics and SPBs**

In the previous literature on business sustainability, firm demographics including size, age and industry have been depicted as the primary factor in terms of firm's interest in adapting sustainable practices (Petts, Herd, Gerrard, & Horne, 2001; Lepoutre & Heene, 2006; Perrini & Tencati, 2006; Williamson, Lynch-Wood, & Ramsay 2006). For the most part, the literature

suggests that “size can explain differences in firms’ capacities to comply with regulations and that larger firms are more likely to be engaged in environmental practices than smaller firms” (Uhlener, Berent-Braun, Jeurissen, & de Wit, 2012, p. 414). The argument is that smaller firms have limited resources; therefore, they remain more focused towards the practices essential for their survival. On the other hand, higher adoption of SBPs by larger firms is explained by their struggle for public and brand image (Uhlener et al., 2012). Also, large firms are more visible and under more pressure to perform legitimately by their stakeholders as compared to smaller firms. The pressure from scrutiny and visibility also affects how larger firms communicate those decisions as having a transparent model becomes a requirement in a multi stakeholder environment (Freeman, 1984; Hart & Sharma, 2004). Also, “with sufficient funds and manpower to respond to stakeholders and to react to sustainability-related pressures” (Gallo & Christensen, 2011, p. 322), larger firms are pushed to dedicate more resources to implement and also report sustainability decisions. Larger firms are “in greater need of legitimacy benefits” (Gallo & Christensen, 2011, p. 323) arising from external reporting structures and communicating with stakeholders; because “large firms encounter the public more frequently and tend to more often invite public comment” (Hart & Sharma, 2004, p. 15). On the other hand, as firms grow, they implement more stringent rules that can lead to rigid organizational strictures which lead to more efforts in changing a behavior and transitioning to sustainability practices. However, Rueda-Manzanares, Aragón-Correa, and Sharma (2008) argue that “there is no evidence to support this relationship” (p. 187).

Furthermore, research on organizational culture suggests that employees have a great influence on cultures and norms at organizations (Gallo & Christensen, 2011). While on the other hand, a firm’s size, policies and decisions have a strong influence on employee behaviors

(DiMaggio & Powell, 1983; Gallo & Christensen, 2011; Mischel, 1977). “And the dominant idea that small firms are reluctant to invest in environmental practices is clearly more nuanced: firm size matters most for engagement in greening processes” (Hoogendoorn, Guerra, & Zwan, 2014, p. 761). Hence, it becomes clear that firm size plays an important role when it comes to influencing a firm’s decisions to implement SBPs and how it communicates its decisions to the outside world.

On the other hand, Age of a firm also seem to play an important role in influencing its passion for innovation and adoption of new business practices. Hannan and Freeman (1984) argue that as organizations age and grow larger, they are prone to inertia which may sluggish their adoption of innovative business practices and follow old norms of a business, which in-turn may reduce their innovativeness (Chandy & Tellis, 2000). Older firms also develop stronger relations with their stakeholders and shareholders and may be influenced by them to attain better disclosure practices. (Hart & Sharma, 2004). Also, to a great extent “a firm’s business sector determines its potential usage of natural resources as well as its potential to pollute” (Uhlener et al., 2012, p. 414). Firms belonging to different industry sectors clearly have different needs viz. a manufacturing firm may gain from implementing Life Cycle Analysis (LCA) for its products more than a technology firms, for which implementing an energy saving technology may prove to be more useful. Hence different implementation which in-turn leads to different communication behaviors based on sector specific requirements. The amount of resources, waste and level of pollution also differs based on the type of service/product a firm offers. Therefore, I hypothesize two different relationships as follows:

**H2: Firm demographics positively affects the communication of SBPs by SMEs**

### **H3: Firm demographics positively affects the implementation of SBPs at SMEs**

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#### **C. External affiliations with BSOs and SBPs**

Sustainable business model and transparent business are some of the key aspects considered significant for upcoming and established SMEs. As discussed in the literature review section above, SBPs are not only needed but a responsibility for SMEs as SMEs represent more than 98% of all the enterprises in Canada (Statistics Canada, 2012). It has been shown in many studies that SMEs significantly benefit from transparency by reporting on various economic, environmental and social metrics. Also, “evidence suggests that firms increasingly report a commitment to one or more variations of sustainability reports” (Gallo & Christensen, 2011, p. 320). As often, SMEs are bounded by access to capital and resource scarcity but reporting practices infrastructure can be a distinctive value proposition in assisting the venture capitalists and other funding opportunities for SMEs. And “networks, with their ability to provide specialized information and mentoring, may be a way to encourage all sustainability practices among SMEs (Lawrence et al. 2006, p. 246). Therefore, BSOs should be disseminating knowledge about sustainable reporting practices which help SMEs to become more responsible, transparent and sustainable. As SMEs build on and leverage each other’s learnings rather than working in isolation, those learnings let them imitate and act like a large firm while retaining the dynamism and attributes of an SME viz. flexibility, ability to move into new markets and more. These relationships help build an environment where clusters provide, at arm's length, resources to SMEs. Also, while on one hand BSOs provide resources for growing businesses, on the other “the uneven performance

and poor sustainability in many situations have become serious issues with the governments and sponsors who continue to subsidize many of them” (Lalkaka, 2001, p. 14). Therefore, for an emerging business and economic hub like KW region, understanding the collaboration between BSOs and SMEs, becomes significant.

**H4: External affiliations with BSOs positively affects the communication of SBPs by SMEs.**

**H5: External affiliations with BSOs positively affects the implementation of SBPs by SMEs**

#### **D. External affiliations with BSOs and Firm demographics**

Business incubators/accelerators have always been a fertile ground for origin and development of small businesses. They also play an important role in guiding SMEs through initial stages of their ventures and later by acting as knowledge sharing hub for growing businesses. “Support networks may be defined as the formulation of a group (or groups) of organizations or individuals who are able to offer assistance, advice or other forms of support on a specific problem or issue” (Holt et al., 2000, p. 30). The problems and issues are different for small and larger businesses depending on their specific size, age and industry needs: therefore, different forms of networks need to be utilized for meeting those needs. For businesses just starting out, incubators play a vital role however as they scale-up, their specific needs and challenges also grow by performing in complex multi-stakeholder environments (Lawrence et al., 2006). Therefore, larger firms need more expert advice, share learnings rather than work in silos, and network with similar businesses; to be aware of

ever changing regulations and norms of industries they are a part of. Also, as a firm grows older it understands the business specific requirements and regulations better than a firm which is just starting out (Uhlener et al., 2012) and may need to attain services of different types of BSOs. A startup may gain more from being affiliated to an incubator rather than a chamber of commerce and an established SME would gain and/or share knowledge better by being affiliated with a chamber of commerce or an accelerator. Further, expertise and guidance requirements for a technology-oriented firm may be vastly different from a firm focused in food industry hence they may need to acquire services of different BSOs. Therefore, I hypothesize that larger firms need greater number of networks than their smaller counterparts and that specific differences will affect the number/types of affiliations adopted by SMEs.

**H6: Firm demographics positively affects the number of external affiliations with BSOs at SMEs**

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## Chapter 3: Methods

### 3.1 Introduction

This chapter introduces the research methodology implemented to assess the research questions and the hypotheses stated in Chapter 2. The primary objective of the thesis was to assess the adoption of SBPs by SMEs in KW region by analyzing the relation between firm demographics, external affiliations with BSOs and implementation & communication of SBPs. The assessment was conducted through a quantitative survey, responded to by local SMEs, to measure their trends of adoption of SBPs, key demographics and affiliations with BSOs. An SME's behavior was assessed across two criteria: implementation and communication of SBPs. Also, external affiliations to BSOs were assessed as a conduit for access to external opportunities while implementation and communication strategies represent internal influences for assessing SME's behaviors.

### 3.2 Assessment procedures

#### 3.2.1 Survey design

As discussed in chapter two, a firm's SBPs should be improved and can be assessed across two criteria, the implementation of SBPs (Bocken et al., 2013; Murillo & Lozano, 2006; Spence & Rutherford, 2003; Upadhye et al., 2010) and communication practices (Husillos & Álvarez-Gil, 2008). The aspects that need to be kept in mind are SMEs will only be enticed towards practices which require minimal financial and other resources. As noted in the literature review, economic, environmental and social are considered 'the three pillars' of sustainability (Elkington, 1998), each of which are important for SMEs to be consider. Also, external affiliations with BSOs also play an important role in assisting SMEs in their sustainability

decisions. These additional practices which build sustainability of a firm, underlying different criteria supported by literature, provide a framework which can be replicated for assessing SBPs for SMEs across industry, size, age and location. Therefore, the survey was operationalized based on the framework below and incorporates the concepts discussed above, including the pillars of TBL, firm demographics and affiliations with BSOs, in order to assess SBPs of firms in KW region.

<b>Implementing SBPs</b>	<b>Communicating SBPs</b>	<b>Firm Demographics</b>	<b>External Affiliations with BSOs</b>
Sustainability discussions	Reporting metrics	Number of employees	Incubators/Accelerators
Sustainability in operations	ESG reporting	Years in operation	Local and Non-local BSOs
Sustainability across departments	Auditing	Industry	Sustainability-Oriented BSOs
			Academic institutions
			Student-oriented incubators

*Table 1: Survey Structure*

The survey consisted of close-ended quantitative questionnaire, beginning with questions on firm’s strategies for implementing and communicating SBPs followed by questions on firm demographics and external affiliations with BSOs. The ‘implementing SBPs’ section consisted of a total of five multiple choice questions related to a firm’s business culture, sustainability across departments and various other sustainability practices and technologies implemented. The ‘reporting practices’ section was comprised of two questions on the social and environmental metrics used by the focal firm. Respondents were



given an option to choose from the listed metrics on social and environmental reporting practices. The next section consisted of questions covering firm demographics like number of employees, industry and years in operation. There were six different categories for “number of employees” and “years in operations” questions based on different categories with an option to select one, and also twelve Industry groups to choose from. External affiliations with BSOs question had a list of incubators/accelerators, student-oriented incubators, academic institutions, sustainability-oriented organizations, local and non-local BSOs, this information was gathered to assess the level and type of external affiliations with BSOs.

Together, the survey consisted of 11 questions and was designed to take less than 10 minutes to complete. For further details, please refer to a copy of the survey in Appendix 3.

### 3.2.2 Survey dissemination

The survey, containing close-ended questionnaire, was disseminated to and completed by key decision makers of SMEs in the KW region. To identify these participants, the investigator requested a list of affiliated SMEs from local BSOs and the project’s advisory board, consisting of academics and practitioners in the field of entrepreneurship and innovation.

The design of the questions, coding process and use of SEM helped in providing quantitative description and answers to the research questions asked in the study. The survey instruments usually consist of forwarding questionnaires through e-mail, telephone, internet, one-on-one interviews, or group administration for data collection (Fowler & Cosenza, 2009). The survey for this study was built and disseminated through SurveyMonkey™ and later, a special Twitter™ account was created for the dissemination.

Also, various business support organizations, businesses, institutions were encouraged to “tweet” specific messages and blurbs to their networks of local SMEs. In addition, one-on-one meetings were scheduled with local SMEs in incubators and accelerators in the KW region and survey was responded to in person.

The survey was forwarded to participants over email and through Twitter™, with a link to the questionnaire. The link redirected the participant to a cover letter, highlighting the objective, purpose, and benefits of the questionnaire, and requesting consent for participation. All the participants were informed about the confidentiality of their responses and at any point during the process no personal information, of the participants and the businesses they represented, was collected. The demographic information collected for responding businesses was limited to number of employees, years in operation, and affiliations with BSOs. Therefore, no information collected could lead back to the identity of the respondents. A copy of the research ethics certificated has been provided in Appendix 2.

### 3.2.3 Assessment sample

Participants were categorized through an inclusionary criterion, subject to their business size and region. SMEs included are firms with fewer than 200 employees, located in the KW region of Southern Ontario. Quality control was undertaken to ensure that the survey was completed primarily by owners, directors, or managers of the business. Participants were identified and contacted through connections or affiliations with the investigator and local BSOs (see Appendix 1). The survey was circulated to 400 SMEs in the KW region and I received 82 responses. However, 21 surveys were deemed incomplete and were therefore excluded from the final study. A total of 61 completed surveys were used in the analysis, resulting in a response rate of 15.5%.

### 3.2.4 Respondent demographics

The largest number of SMEs in the sample had 1-4 employees (24%) followed by 5-9 (21%), 50-99 (21%) and 20-49 (14%). Overall, the sample had a mix of SMEs of all targeted sizes with the minimum (3%) of 100+ employee firms.

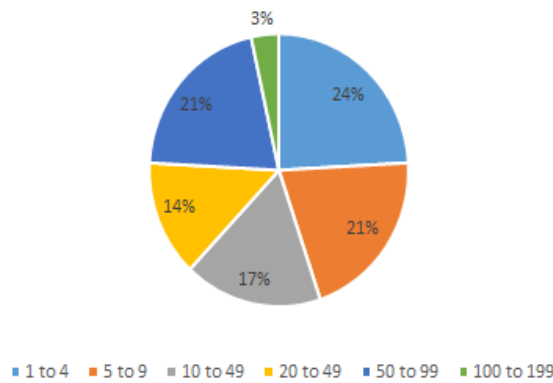


Figure 3: Number of employees

The sample also had a mix of all age firms from relatively newer a year-old businesses (12%) to more established 6+ years old firms (35%). Also, 2 years old firms (22%), followed by 3 years (12%), 5 years (10%), and 4 years (9%).

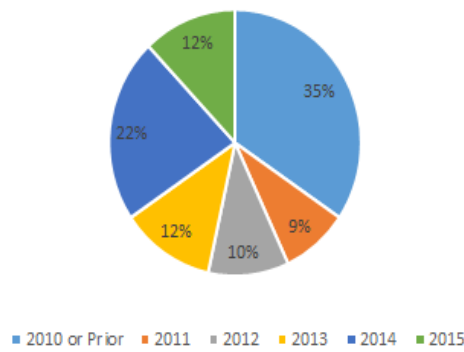


Figure 4: Years in operation

Also, the responding SMEs belonged to different industries with majority (27.9%) of the firms belonging to Information, communications and technology sector, which was expected as KW region is one of the upcoming technology hubs in Canada. Followed by SMEs belonging to business and enterprise solutions (14.8%), professional, scientific and technical (13.1%), accommodation and food services (8.2%), followed by 6.6 % of the firms belonging to entertainment, media, and fashion and materials & manufacturing, 3.3% belonging to finance, accounting, & insurance and health care and social assistance sectors and 4.9 % belonging to real estate & construction and energy & environment.

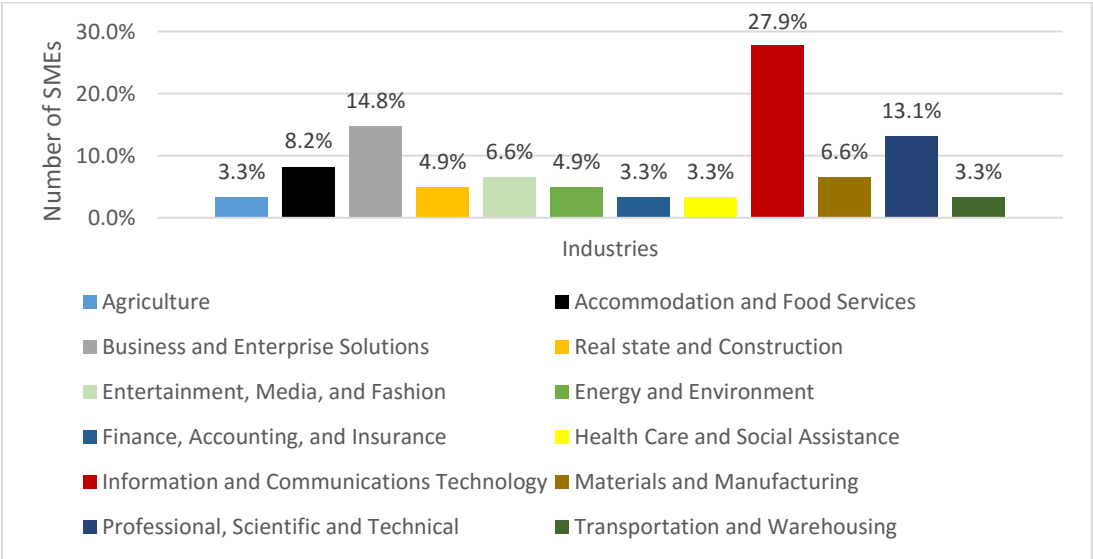


Figure 5: Industry mix

Furthermore, the survey also captured different sustainable practices implemented by firms in their business operations and as depicted in figure 6 below, stakeholder management, life cycle analysis and green tech. practices are being followed by larger firms in the sample. However, Technical services like cloud services, collaborative software, paperless business systems, Bring Your Own Device (BYOD) and also practices like business model planning

are being consistent in all firm sizes. These observations indicate that smaller firms are inclined towards practices which may need a low initial implementation cost and as they grow, they may start focusing on practices requiring higher cost.

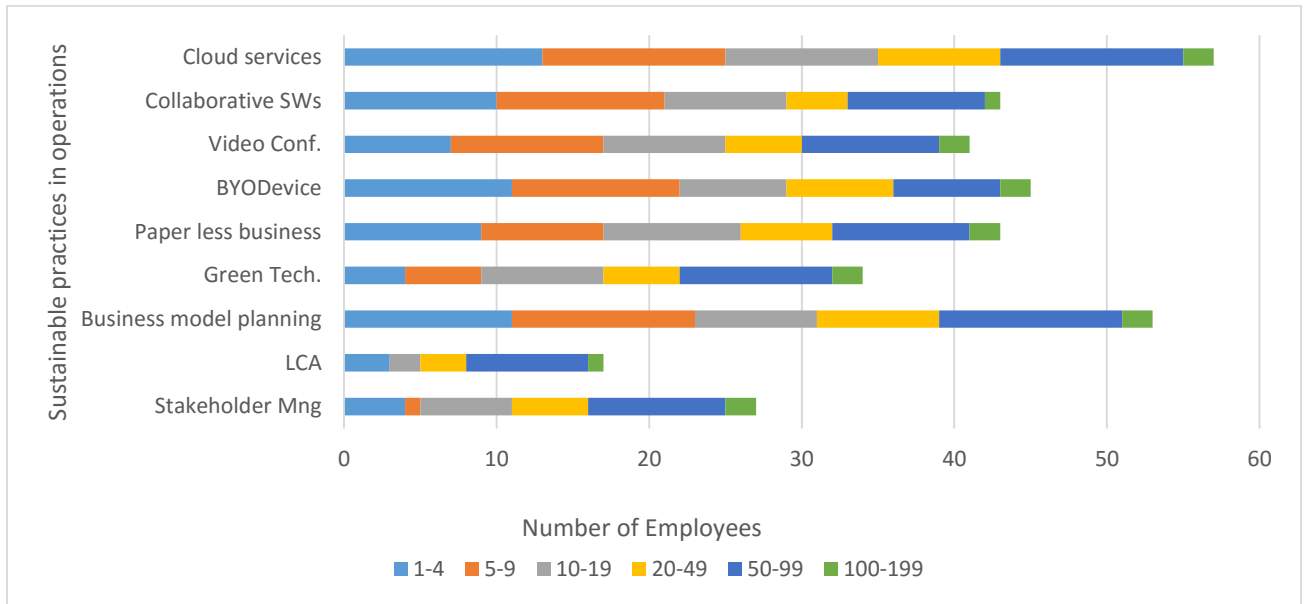


Figure 6: Sustainable practices in operations

### 3.3 Statistical procedures

#### Introducing Dependent and Independent variables

This section introduces the indicators used as measures for each construct in the SEM technique utilized for the tests. The existing literature and previous research for SMEs were reviewed to identify relevant practices for different firm demographics, business sustainability, internal and external influences. In addition, feedback was gathered from local incubator/accelerator managers, new and established businesses, members of the committee and other stakeholders involved in this project. Therefore, the measures and

practices used in each of the constructs were based on the literature and expert feedback. The questions asked in the survey can be viewed in the copy of the survey in Appendix 3.

### 3.3.1 Dependent Variables

#### **A. Implementing SBP**

Implementing SBPs construct consists of three measures, the first being the “awareness of employees of social and environmental issues related to business operations” as employee eco-innovations play an important role for SMEs in their sustainability decisions because firms where employees are knowledgeable about sustainability issues related to their industry, tend to come up with innovative ideas for sustainable innovations (Amabile, 1996; Hostager, Neil, Decker, & Lorentz, 1998; Ramus 2004). Also, as discussed in Chapter 2, given the considerable pressure that employees can have on the sustainability decisions of small businesses, firm size as “number of employees” has been used as a measure of firm size in a number of similar sustainability studies for SMEs (Collins, Lawrence, Pavlovich, & Ryan, 2007; Dangelico & Pujari, 2010).

Further, consideration and inclusion of sustainable practices in business operations is the second and third measure for this construct respectively. The first being measured based on how often the SMEs discuss sustainability considerations for their business and this measure has been dummy coded based on the frequency of the discussions. As identified in the literature, one key aspect of delayed or no adoption of sustainability by SMEs, “is the lack of expertise and understanding of strategies to address environmental issues” (Collins et al., 2007, p. 731). Therefore, considerations and frequency of discussions to strategize sustainable practices into operations could be considered as the first step towards considerations of SPBs.

The responses are dummy-coded based on how often those considerations are discussed with a higher value assigned to discussions done more often.

The second measure is the inclusion of sustainable practices which have been considered and used in many similar studies assessing sustainable operations like stakeholder management (Perrini & Tencati, 2006; Hillman & Keim, 2001; Hart & Sharma, 2004), life cycle assessments (Vinodh & Rathod, 2010; Gimenez et al., 2012), energy savings/green energy (Chvatalová et al., 2011; Masurel, 2007; Gadenne, Kennedy, & Mckeiver, 2009), paperless business systems (Beckett, 2012), and cloud services (Upadhye et al., 2010; Harmon & Auseklis, 2009). Sustainability from the operations management field becomes prudent because of the fundamental reason that “firms have to account for the energy and other resources they use and the resulting footprint they leave behind” (Gimenez et al., 2012, p. 149).

## **B. Communicating SBPs**

The communicating SBPs construct consists of environmental and social reporting indicators being reported by the sample firms. One of the key challenges in assessing a firm's environmental and social disclosure practices especially in the case of SMEs, is coming up with indices which accurately measure the requirements (Clarkson et al., 2008; Ilinitich, Soderstrom, & Thomas, 1999). Reporting practices have been used as a conduit to measure sustainability of firms in many previous works (Gallo & Christensen, 2011; Jasch, 2002; Ameer & Othman, 2012; Clarkson et al., 2008). Since, this study seeks to assess SME disclosure practices, I target the practices that have been supported by previous literature related to social and environmental reporting practices. Therefore, those are environmental and social performance indicators have also been used in previous sustainability and SME

disclosure practices studies. For environmental reporting, emissions and material use (Hřebíček, Soukopová, Štencl, & Trenz, 2012; Jasch 2002), energy use or conservation (Ameer & Othman, 2012; Clarkson et al., 2008), water use or conservation (Hřebíček et al., 2012; Clarkson et al., 2008) and recycling (Al-Tuwaijri, Christensen, & Hughes, 2004).

For social reporting, the indicators used are employee retention strategies (Rezaee, 2015; Lapinskaite & Radikaite, 2015), diversity and equal opportunity (Ameer & Othman, 2012), occupational health and safety (Hřebíček et al., 2012), community involvement (Lapinskaite & Radikaite, 2015), and philanthropy (Rezaee, 2015) have been used to collect data from the sample SMEs. The responses were coded using dummy variables as the sum of the number of indices each for environmental and social reporting measures being reported by the respondents.

### 3.3.2 Independent Variables

#### **A. Firm demographics**

*Firm demographics* has been measured as a combination of size (number of employees), age (years in operation) and industry. Studies have indicated that “small businesses received significant internal pressure from employees to adopt social and environmental practices” (Collins et al., 2007, p. 731). Number of employees in a firm also provides capacity, innovative power and bandwidth availability to invest in implementing and communicating SBPs. This categorical variable was coded as follows: 1 (1-4 employee); 2 (5-9 employees); 3 (10-19 employees); 4 (20-99 employees); and 5 (100-199 employees). (The age of the responding firms has been calculated by their respective years in operation (Evans, 2006). And, this categorical variable was coded as follows: 1 (1 year), 2 (2 years), 3 (3 years), 4(4 years), 5 (5



years) and 6 (6+ years). Also, firm's industry has been used as a criterion to reflect the effect of the sector on their sustainability decisions. As, to a great extent "a firm's business sector determines its potential usage of natural resources as well as its potential to pollute" (Uhlener et al., 2012, p. 414) and hence should affect their decisions. This categorical variable resulted in 14 categories given the breadth of industries represented in the sample.

## **B. External affiliations with BSOs**

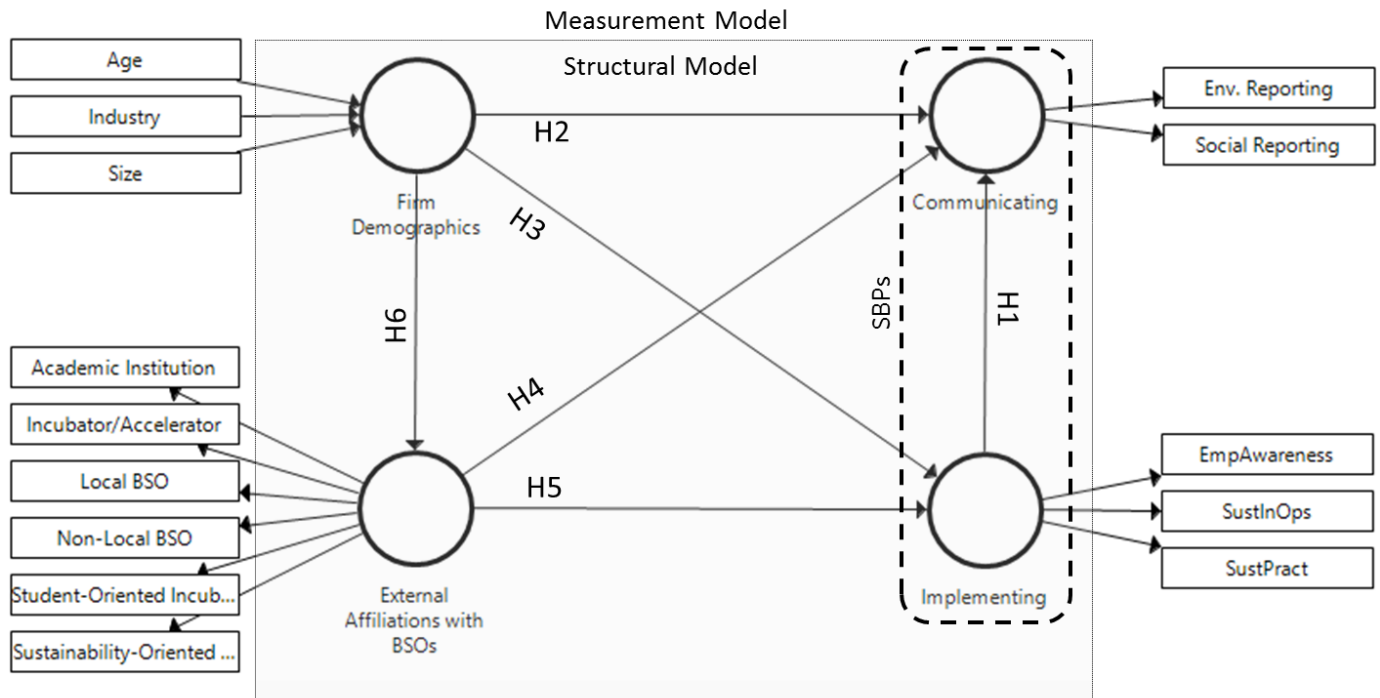
The survey collected information on affiliations of SMEs with BSOs consisting of incubators/accelerators, academic institutions, student-oriented incubators, sustainability-oriented BSOs, local and non-local BSOs. Many previous studies signify the importance of external affiliations and position BSOs as repositories of knowledge and hubs for dissemination of important business practices for SMEs (Porter, 1998; Collins et al., 2007). Therefore, role of external affiliation with networks becomes important in assessing the SBPs of SMEs. Also, many previous similar sustainability studies have utilized external affiliations with BSOs as a conduit for measuring the sustainability of firms (e.g., Collins et al., 2007; Kohl, Orth, & Galeitzke, 2015). As discussed in the chapter 2, BSOs share a common set of properties (Bennett 1995; Grant 2000), "business support service provision, business voice (representation), social 'peer' support, non-sectoral (no industrial focus), voluntary membership "(Quinn, 2004, p. 98). The external affiliations with BSOs construct has been operationalization as a categorical variable with five groups based on the BSOs in the KW region's business ecosystem. The first group is "incubators/accelerators", "they help ventures define and build their initial products, identify promising customer segments, and secure resources, including capital and employees" (Cohen, 2013, p.19). The second group is

“sustainability-oriented BSOs” based on their importance for the dissemination of sustainable business practices (Kohl et. al. 2015). The third and fourth groups, “academic institutions” and “student-oriented incubators” respectively, were included as Arbonías and Moso (2002) argue that academia plays an important knowledge generating role in the business ecosystem, whereas student-oriented incubators act as networking/socializing groups where new entrepreneurs connect, understand new opportunities and share innovative ideas with their counterparts. The fifth and sixth group, “local BSOs” and “non-local BSOs” respectively were also included, some of which were member-run chambers of commerce, provincial level networking platforms for entrepreneurs, industry specific affiliations etc. These organizations also play a key role in bringing SMEs out of their silos to share knowledge, understand specific regulations and voice their opinions collectively (Collins et. al, 2007; Peltoniemi & Vuori, 2004; Kailer & Scheff, 1999). All the external affiliations with BSOs categorical variable were coded into six different categories, which represented Incubator/Accelerator, Academic Institution, Student-Oriented Incubator, Sustainability-Oriented BSO, Non-Local BSO and Local BSOs.

### 3.4 Data analysis: Structural Equation Modeling approach

A combination of SEM-Partial least squares (PLS) through SmartPLS and MS Excel tools was used to analyze the data. SEM through PLS has been shown to be useful when measuring small sample sizes as it helps in examining theory by a confirmatory approach to data analysis. That is, “It tests a hypothesized model statistically to determine the extent the proposed model is consistent with the sample data. SEM incorporates “observed (indicator) and unobserved (latent) variables, which are separated into, measurement model (outer) and a structural model (inner)” (Wisner, 2003, p. 8). Further, “SEM can model multiple

independent variables (IV) and multiple dependent variables (DV), chains of causal effects and indirect effects, and the latent constructs that variables are meant to measure” (Lowry & Gaskin, 2014, p. 127). Hence, SEM statistical models represent causal relationships between the latent variables known as “paths”. A path is a hypothetical relationship between latent variables representing the theoretical connection between them. “Each path, therefore, is a hypothesis for testing a theoretical proposition” (Lowry & Gaskin, 2014, p. 128). Hence, the research model, depicted in Figure 7, is based upon a similar approach, and has been created using SmartPLS tool.



Age	Years in operation	Env. Reporting	Environmental reporting practices
Size	Number of employees	Social Reporting	Social reporting practices
Industry	Industry of SMEs	EmpAwareness	Employee's awareness on social and environmental issues related to business
SustPract	Consideration of sustainability in business practices	SustInOps	Sustainability practices in operations

Figure 7: The Research Model (Output of SmartPLS)

The SEM research model presented above can be understood by separating the measurement (outer) model and the structural (inner) model. Following the procedures for PLS assessment procedures (e.g., Chin, 1998; Fornell & Bookstein, 1982; Goodhue, Lewis, & Thompson, 2006; Wong, 2013; Lowry & Gaskin, 2014; Wisner, 2003) the measurements will be performed accordingly.

### 3.4.1 The Measurement (Outer) model

The measurement model assesses by how much, and to which latent variables the indicator variables are related. The measurement model consists of two types of indicators, reflective and formative. In a formative construct, the indicators cause the construct, whereas in more conventional latent variables, sometimes called reflective constructs, the indicators are caused by the latent variable (Diamantopoulos & Siguaw, 2000). The formative and reflective properties are defined by the supporting literature for relationships among the indicators and how they come together and relate to the latent variable. Establishing the correct relationship between indicators and respective variables is very important as the tests to establish the factorial validity for reflective indicators are quite different than the approach used to validate formative indicators. Incorrectly specifying the indicators can increase both type I and type II error (Lowry & Gaskin, 2014).

With respect to this study, firm demographics is a formative construct as it is caused by uncorrelated indicators, size, industry and age of a firm. However, rest of the constructs are all reflective as they form, and thus precede all the measures. Also, the resulting measures can all said to be correlated with each other hence reflective constructs.

Further, measurement models often suggest ways in which the observed measurements can be improved. SEM techniques have been utilized in this study, to estimate the fit of the hypothesized model to the survey data. The use of SEM reinforced the literature review conducted, which provides good support for the conceptual model (Mayorga, 2010).

### 3.4.2 The Structural (Inner) model

The structural model consists of the latent variables, which specify the measurements for the outer model. The inner model specifies and tests the causal links between the latent variables being assessed and also provides the unexplained variance, significance and other reliability criterion for the hypothesized relationships. The latent variable in structural model consists of endogenous (dependent) variables and exogenous (independent) variables. The endogenous variables can be said to represent 'effects', while exogenous variables represent the 'causes' (Lowry & Gaskin, 2014). Firm demographics and external affiliations with BSOs are acting as exogenous variables as their effects are being assessed on the endogenous variables implementing and communicating SBP. Also, external affiliations with BSOs and implementing SBPs have been treated as both an endogenous and exogenous variable as their effects on other constructs are being tested.

### 3.5 Criteria and steps for testing

For statistical testing of our model, path coefficients, item loadings/weights, t-statistics, and collinearity statistic (VIF) were used. Item loadings/weights greater than 0.5 are considered acceptable for exploratory research (Peng & Lai, 2012). T-statistics above 1.96, which translates to a p-value <0.05 is considered significant. This significance is "an estimation of how much a particular indicator loads onto a construct in the model. Results above the mentioned thresholds indicate a strong convergent validity in our model for the constructs" (Lowry & Gaskin, 2014, p. 136). The structural model was run using the bootstrap technique of 5000 resampling. Also, VIF statistics that are below 3.3 indicate that multi-collinearity is not an issue for concern (Peng & Lai, 2012; Diamantopoulos & Siguaw, 2000).

### **Steps for testing**

To confirm the robustness of the path model, SEM requires an outward to inward approach. Wherein, if all the indicators in the measurement model are loading well ( $> 0.5$ ) on to their construct, then the path coefficients of structural model can be analyzed. Therefore, following a similar approach, SEM model for this study will be run after removing all insignificant path loadings for measurement indicators. Hence, the items with insignificant and lowest loadings/weights in their particular construct will be removed and the iterations of the model will be analyzed again to check for loading values. The final model with the remaining indicators will be analyzed for its structural significance (T-statistics) and path coefficients.

## Chapter 4: Results

### 4.1 Introduction

This chapter provides an overview of results from the analysis of data collected. Further, results and significance of the SEM research model and outcome of our stated hypotheses is also been discussed in detail. The focus of the study was to understand the relationship between firm demographics, implementing and communicating SBPs, along with assessing the impact of external affiliations with BSOs on those relationships. Therefore, keeping in mind the objectives of the study, this chapter presents the results of the analysis obtained through the research model discussed in Chapter 3.

### 4.2 Statistical Results

This section presents the SEM-PLS research model consisting of the inner structure with four latent variables, each consisting of various indicators based on theoretical reasoning and supporting literature as presented in Chapter 3. The firm demographics and external affiliations with BSOs are considered antecedents while implementing and communicating SBPs are treated as outcomes. The model also consists of formative as well as reflective constructs, which have been formed based on the properties of their indicators and theoretical reasoning behind them.

Also, as the measurement criteria for measurement and structural models are different, they have been explained in different sections. The metrics for both the models have been depicted in the tables below.



#### 4.2.1 Results (Run No. 1)

The research model presented in Chapter 3 was run and as a result some item loadings found to be insignificant based on the minimum thresholds as noted above in section 3.5.

After the first iteration, age, industry, incubator/accelerator, academic institution, and student-oriented incubator constructs were found to be below the loading value threshold, hence were removed from the model. Also, with the removal of age and industry constructs from the firm demographics latent variable, it has become a single item (size) construct.

<b>Construct</b>	<b>Variable</b>	<b>Item Loading/Weight</b>
<b>Communicating SBPs</b>	Env. Reporting	0.94
	Social Reporting	0.94
<b>Implementing SBPs</b>	Emp. Awareness	0.82
	SustInOps	0.70
	SustPract	0.86
<b>Firm demographics</b>	Age	0.25*
	Size	0.71
	Industry	-0.17*
<b>External affiliations with BSOs</b>	Academic Institution	-0.25*
	Incubator/Accelerator	-0.24*
	Local BSO	0.58
	Non-Local BSO	0.52

	Student-Oriented Incubator	-0.50*
	Sustainability-Oriented BSO	0.73

\*Insignificant item loadings/weights

Table 2: Results for Run No.1

#### 4.2.2 Results (Run No. 2)

The second iteration with all the insignificant loadings/weights removed, presented significant results. As observed in the Table 3 below, the item loadings have significantly improved. As this is the final model, I'm also looking at T-statistics and collinearity to analyze significance and interdependence of the items.

Construct	Variable	Item Loading/Weight	T-Stat	Collinearity Statistic (VIF)	Significance
<b>Communicating SBPs</b>	<b>Env. Reporting</b>	0.94	62.02	2.62	Significant at p < .05
	<b>Social Reporting</b>	0.94	55.41	2.63	Significant at p < .05
<b>Implementing SBPs</b>	<b>Emp. Awareness</b>	0.81	11.16	1.56	Significant at p < .05
	<b>SustInOps</b>	0.70	7.17	1.30	Significant at p < .05
	<b>SustPract</b>	0.86	24.21	1.47	Significant at p < .05
<b>Firm demographics</b>	<b>Size</b>	1.00	0.00	1.00	Significant at p < .05
	<b>Local BSO</b>	0.64	4.14	1.16	Significant at p < .05
	<b>Sustainability-</b>	0.84	14.21	1.07	Significant at p < .05

External affiliations with BSOs	Oriented BSO				
	Non-Local BSO	0.58	3.47	1.17	Significant at p < .05

*Table 3: Results of Run No. 2*

### 1. Analysis of the measurement model

The observations from the measurement model are as follows:

- The environmental reporting and social reporting are strong indicators for communicating SBPs construct with 0.94 and 0.94 respective loading values. Also, their paths are highly significant with T-stats of 62.02 and 55.41.
- For implementing SBPs construct, all three indicators are loading well onto the latent variable with significant values of 0.81 for Emp. Awareness, 0.70 for SustInOps and 0.86 for SustPract indicator.
- Similarly, for external affiliations with BSOs, all three remaining indicators significantly load.

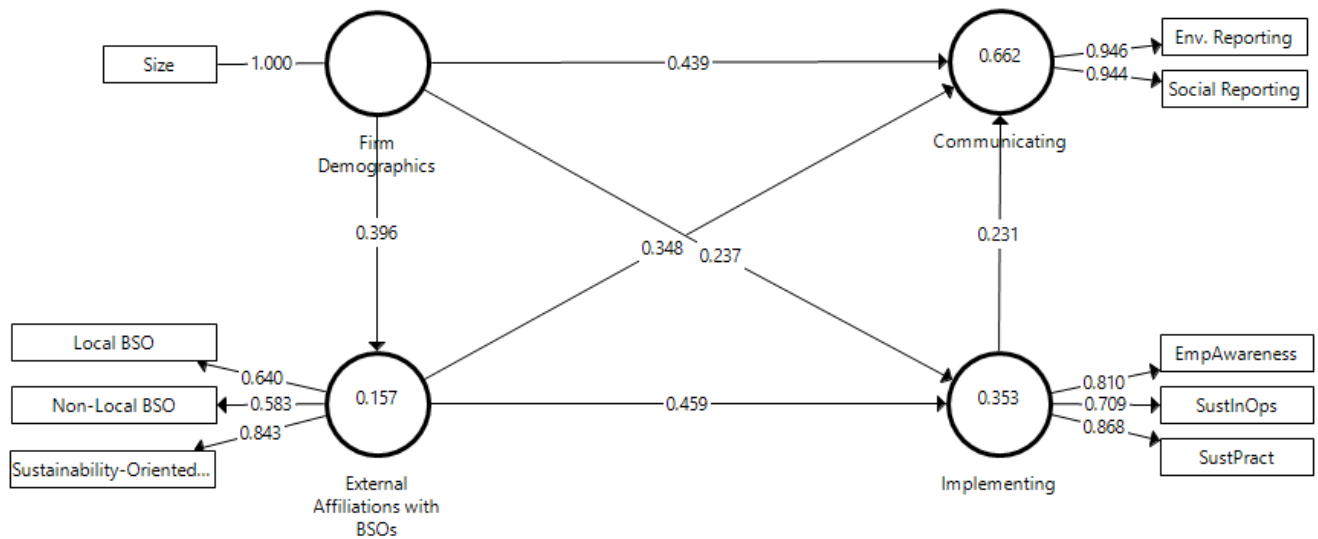


Figure 8: Final path model (Output of SmartPLS)

#### 4.2.3 Structural reliability and validity analysis

Since the response data for this study was collected using scaled responses, it becomes necessary to test for reliability. All the constructs used in the analysis have been tested by reliability and validity metrics as shown in the table 4. Composite reliability for an exploratory research like this, 0.6 or higher is acceptable (Wisner, 2003; Bagozzi & Yi, 1988), therefore the items tested were deemed reliable. Also, to check convergent validity, each latent variable's Average Variance Extracted (AVE) was evaluated (Wong, 2013) and for a construct to be valid, AVE should be 0.5 or higher (Bagozzi & Yi, 1988). Cronbach's alpha should be higher than 0.7 threshold (Peng & Lai, 2012).

Construct	Number of Items	Cronbach's Alpha	Composite reliability	Average Variance Extracted-Validity Coefficient
Firm demographics	1	1.00	1.00*	1.00*
Implementing SBPs	3	0.721	0.83	0.64

<b>External affiliations with BSOs</b>	2	0.711	0.71	0.62
<b>Communicating SBPs</b>	2	0.881	0.94	0.89

\*Single item construct

*Table 4: Structural reliability and Validity results*

#### 4.2.4 Mediation Tests

In addition to the tests above, I performed mediation tests “to establish a full nomological validity of our research model, a check that, by necessity, must be done in stages” (Lowry & Gaskin, 2014, p. 139). A mediator can be defined as a construct in a causal chain which affects two other constructs. I performed Baron and Kenny’s (1986) three step mediation test for Firm demographics – communicating SBPs, and firm demographics- implementing SBPs with keeping external affiliations with BSOs as a mediator in both cases.

##### **A. Firm demographics and communicating SBPs**

In this model external affiliations with BSOs acts as a mediator between firm demographics, which only has one indicator remaining (size) and communicating SBP constructs, which signifies that firm size first affects the external affiliations with BSOs of a firm, which in-turn affects their communication practices. The three-step process as proposed by Baron and Kenny (1986), for a single mediator, was used. The process required running three different PLS models, while comparing the path coefficients and  $R^2$  values in each step (Wetzels, Odekerken-Schröder, & Oppen, 2009; Lowry & Gaskin, 2014)

First, a direct relationship between firm size and communication practices was tested while keeping all our original indicators for each construct. The path coefficient was highly significant with a value of 0.70 and resulted in an  $R^2$  of 0.50 for communicating SBPs. Second, the relationship between size and external affiliations with BSOs was tested. The path coefficient was significant with a value of 0.55 and an  $R^2$  of 0.42 for external affiliations with BSOs. Finally, the third model was run with firm size and external affiliations with BSOs predicting communication practices. This step signifies that a relationship exists between external affiliations with BSOs and communicating practices even in the presence of firm size. As a result of this model the new  $R^2$  increased to 0.52 and both of the path coefficients were significant with size and communication practices as 0.46 and between external affiliations with BSOs and communication practices as 0.31. Therefore, the results suggest that external affiliations with BSOs 'partially meditates' the relationship between firm size and communicating SBPs.

## **B. Firm demographics and implementing SBPs**

In this model, a mediation test is performed between firm demographics (now firm size) and implementing SBPs constructs by keeping external affiliation as a mediator.

First, a direct relationship between firm size and implementing size was tested with keeping all our original indicators for each construct. The path coefficient of 0.44 was significant and resulted in a weak  $R^2$  of 0.19 for implementing SBPs. Second, the relationship between firm size and external affiliations with BSOs was tested. The path coefficient was significant with a value of 0.58 and an  $R^2$  of 0.42 for external affiliations with BSOs. Finally, the third model was run with size and external affiliations with BSOs predicting implementing SBPs. This step

reveals a significant relationship exists between external affiliations with BSOs and implementing SBPs even in the presence of firm size. As a result of this model the new R<sup>2</sup> increased to 0.24 with both of the path coefficients being significant. The path value between firm demographics and implementing SBPs as 0.31, whereas between external affiliations with BSOs and implementing SBPs was 0.23. Therefore, even in this model, we can say that external affiliations with BSOs ‘partially meditates’ the relationship between firm size and implementing SBPs.

### 4.3 Structural model and hypotheses testing

This section provides a summary of results for the testing of hypothesized relationships. The standardized path coefficients associated with our structural model are provided in Figure 8 and Table 5. The model exhibits adequate predictive validity for the majority of hypothesized relationships between constructs. Based on the hypothesized relationships as introduced in Chapter 2, the results are reported below.

Hypotheses		Original Sample (O)*	Sample Mean (SM)	Standard Deviation (SD)	T Statistics	Significance
H1	Implementing > Communicating	0.231	0.231	0.102	2.26	p < 0.01
H2	Firm demographics > communicating SBPs	0.439	0.433	0.103	4.25	p < 0.05
H3	Firm demographics > communicating SBPs	0.237	0.232	0.125	1.99	p < 0.05

	implementing SBPs					
H6	Firm demographics > External affiliations with BSOs	0.396	0.416	0.114	3.16	p < 0.01
H4	External affiliations with BSOs > communicating SBPs	0.348	0.352	0.099	3.37	p > 0.05
H5	External affiliations with BSOs > Implementing SBPs	0.459	0.466	0.112	2.26	p < 0.05

\* Path coefficient

*Table 5: Structural model (Output of SmartPLS)*

#### 4.3.1 Implementing and communicating SBPs

##### **H1: Implementing SBPs positively affects the communication of SBPs by SMEs**

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As hypothesized in H1, implementing SBPs positively affects the communication practices, with a path coefficient of 0.231 (p-value <0.01). This supports the arguments put forth by various studies which have shown that firms which focus on implementing internal practices by innovating, perform better in disclosure practices (Eccles & Serafeim, 2015). However, these results contradict the evidence that firms may not be willing to communicate their internal practices due to unwanted media attention and resulting scrutiny (e.g., Bansal, 2005). In contrast, the competitive advantage gained from disclosing those practices (e.g.,



Hart, 1995) may be worth the risk given SMEs thrive in a competitive environment (Bansal, 2006).

#### 4.3.2 Firm demographics

The following hypotheses with regards to firm demographics were tested:

**H2: Firm demographics positively affects the communication of SBPs by SMEs**

**H3: Firm demographics positively affects the implementation of SBPs by SMEs**

**H6: Firm demographics positively affects the number of external affiliations with BSOs at SMEs**

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As hypothesized in H2, results reveal positive and significant correlation between firm demographics and communicating SBPs. The age and industry indicators were found to be insignificant as already mentioned, therefore firm demographics becomes a single item construct and the path coefficient with a value of 0.439 (p-value <0.05) suggests that firm size has a strong positive effect on communicating SBPs; which is also in line with the findings of a similar study by Gallo and Christensen (2011). The results also indicate that communicating SBPs also depend on other factors unexplained by its associated constructs in our model. This can be further justified through our mediation tests where external affiliations with BSOs proved to be a partial mediator between firm size and communicating SBPs.

For H3, results indicate that firm size has a considerable positive effect on implementing SBPs decisions. The path coefficient between firm demographics construct and implementing SBPs was 0.237. This result aligns with prior research (e.g., Collins et al., 2007; Dangelico &

Pujari, 2010). External affiliations with BSOs were also found to be a mediator between firm size and implementing SBPs.

The hypothesized relationship (H6) for firm demographics and external affiliations with BSOs was also supported ( $p$ -value  $< 0.01$ ). The path coefficient between firm demographics and external affiliation with BSOs was found to be 0.396, which suggests a positive relationship between both constructs. Therefore, its reflected in the results that firm size leads to higher number of external affiliations with BSOs.

#### 4.3.2 External affiliations with BSOs

The following hypotheses with regards to external affiliations with BSOs were tested:

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**H4: External affiliations with BSOs positively affects the communication of SBPs by SMEs**

**H5: External affiliations with BSOs positively affects the implementation of SBPs by SMEs**

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External affiliations with BSOs have a significantly positive effect (0.348) on communicating SBPs. Also, the mediation tests suggested that the external affiliation construct is a partial mediator between firm demographics and communicating SBPs constructs. Therefore, it can be argued that external affiliations with BSOs lead to better communication practices in firms (Collins et al., 2007).

For H5, the effect of external affiliations with BSOs on implementing SBPs was supported ( $p$ -value $<0.05$ ) with a path coefficient of 0.459. Even this relationship can be further

justified by our mediation tests where external affiliations with BSOs were shown to be a partial mediator between firm demographics and implementing SBPs constructs.

Together these results indicate a higher level of knowledge and awareness in SMEs in KW region, which is clearly the result of affiliations with BSOs. Therefore, the role and the ability of external networks to educate its members can be clearly observed from these results (Collins et al., 2007).

## Chapter 5: Discussion

### 5.1 Introduction

This chapter consists of description of statistical analysis, contributions, and limitations of this study. The results reveal significant correlations in support of hypothesized relationships between firm size, external affiliations with BSOs, implementing and communicating SBPs. These relationships have been listed in the Chapter 4. These results and their further interpretation in this chapter aim to provide a visibility into the SBP adoption in KW region and the role external affiliations with BSOs play in advocating those practices.

During the course of our assessment procedures, which includes direct and indirect interactions with the project committee members, local entrepreneurs, BSOs and SMEs, I observed various aspects of local business practices and entrepreneurial culture in KW region; I have tried to capture those in this chapter. And have listed down some limitations and also potential future research opportunities created by this project.

In the following sections I have described the observed impacts, of firm demographics and external affiliations with BSOs on SBPs, from our statistical model.

### 5.2 Firm demographics and communicating SBPs

Firm demographics have been used as one of the independent variables for assessing firm's decisions based on their size, which was measured as number of employees, age (years in operations) and industry. Age and industry were found to be insignificant indicators based on their lower loading value and were removed. Therefore, size (number of employees) was the only indicator used for firm demographics latent variable in my final statistical model. I explain and interpret the results for the firm size in this section by assessing its impacts on

communicating SBPs construct. Looking at the statistical results received from the SEM techniques, we observe that firm size has a highly positive impact (0.439) on communication practices adopted by firms. Which have been measured by environmental and social reporting practices present at firms. Therefore, these results can be attributed to firms' increased attention and investments in transparent and responsible ways of working as they scale up as well as increased focus towards disclosing SBPs. This is in line with previous studies which show that new businesses tend to focus on their basic survival needs for attaining a stable position in their markets (Lepoutre & Heene, 2006; Collins et al., 2007). And as they become larger and start interacting with multiple stakeholders and become a part of public scrutiny, they invest resources in transparent and responsible business practices (Freeman, 2010; Hart & Sharma, 2004). Also, mediation tests indicate that external affiliations with BSOs have a significant role in enticing firms towards better communication practices. This is an interesting finding as it indicates that BSOs in KW region are disseminating knowledge which is leading SMEs, at least larger ones, towards adoption of SBPs. Which works particularly in favor of SMEs as these decisions favor their struggle for access to more capital and makes them attractive for mergers and acquisitions (Porter, 1998; Anam, 2016). Also, the adoption of environmental and social practices also contributes in making SMEs more aware of the current and upcoming regulations in their markets.

Further, environmental and social indicators both indicate a high correlation to each other and load equally well to the communicating SBPs construct, which indicates that sample SMEs in KW region, who are reporting environmental metrics are also equally focused on social reporting indices. This result contradicts the arguments, to some extent, that social reporting is least adopted by SMEs (Foot & Ross, 2004; Sharma, 2003; Collins et

al., 2007), which seems unlikely in the case for our sample as both practices show a high correlation with each other.

### 5.3 Firm demographics and Implementing SBPs

Firm demographics which only consisted of firm size indicator in the final research model, has a 0.237 positive effect on implementing SBPs of the responding SMEs. This can be justified as we look at the indicators used to measure implementing SBPs at SMEs in KW region. “Employee awareness of social and environmental issues related to business”, “sustainability practices & technologies implemented in operations”, and “frequency of discussions about sustainability in business” were the three indicators present in the model. Hence, 23.7% positive impact, which is not very high and could be due to the reason that employee’s awareness of sustainability in business and frequency of sustainability discussions at a firm may not depend on the size of a firm as firms may not need to invest considerable resources in making employees aware of social and environmental issues in their businesses and also to engage in discussions regarding sustainability in business. They are based on the fact that the analysis of the survey data has shown that almost 80% of the firms said yes to both of the implementing SBPs indicators. On the other hand, similar arguments can be made regarding the remaining indicator, sustainable practices and technologies in operations, which consisted of practices like stakeholder management, life cycle analysis, green tech/energy savings, cloud services, video conferencing etc., these practices could equally be adopted by an established or a smaller business because of low investment and high return of some of the practices captured in these indicators as these

have been readily supported by previous studies for SMEs (Gimenez, 2012; Harmon & Auseklis, 2009; Chvatalová et al., 2011).

Further, mediation tests indicate that external affiliations with BSOs construct also positively affects the relation between firm size and implementing SBPs. This is consistent with prior research that BSOs have been shown as the knowledge sharing and business best practices dissemination hubs (Porter, 1998; de Pinho, 2001). Results from this study indicate that BSOs in KW region are advocating practices, which are important for sustainability at SMEs. The fact that these support organizations are playing a role in creating environments where employees in local SMEs are becoming aware of social and environmental issues, firms are being encouraged to implement sustainability in operations and are engaged in sustainability discussions, is an indicator of the presence of sustainability in KW's local business ecosystem.

#### 5.4 Firm demographics and external affiliations with BSOs

It is evident from the 0.396 positive effect of firm size on the number of affiliations with BSOs, that larger firms have more affiliations than their smaller counterparts. Smaller businesses may only need to be associated with incubators/accelerators and as they establish and scale up operations, connecting with other organizations and institutions becomes a business requirement (Collins et al., 2007; Holt et al., 2010).

This can be further supported by the results of our first model, where “affiliations with incubators/accelerators” indicator has negative correlation with firm size, indicating that larger firms tend to move away from the incubator environments and focus on affiliations with accelerators and chambers of commerce. However, our results also indicate that there are

other factors, not captured in our model, which affect affiliations of firms apart from size. Therefore, it is indicated that the need for external affiliations with BSOs may depend on different factors based on specific needs of firms and doesn't only depend on size.

### 5.5 Implementation and communication of SBPs

The objective of testing this relationship was to assess that if firms, which are implementing SBPs are also communicating those practices through social and environmental reporting practices. As the results indicate, there is a positive relationship (0.231) between implementing and communicating SBPs in our sample. The need for communicating internal business practices, social and environmental metrics originates from a sense of morality, accountability and to some extent need for transparency (Lawrence et al., 2006; Roberts, 1991; Schweiker, 1993). Also, the counter arguments are made, as pointed in chapter 2, that firms may prefer not to report and disclose their internal sustainability practices so as to limit unwanted media attention (Bansal, 2005) and for the fear of losing a competitive advantage by revealing trade secrets and best practices (Hart, 1995; Simpson et al., 2004) especially in the case of SMEs as they perform in a highly competitive environment. The results indicate that firms in KW region are more inclined to disclose their SBPs, which can be attributed to the need for transparency and potentially responsible behavior. The need for transparency may originate from the reason that SMEs mostly struggle to find opportunities for funding from various sources, which may require firms to disclose relevant financial and non-financial data for many reasons.



## 5.6 External affiliations with BSOs and Communicating SBPs

External affiliations with BSOs have been used as our next independent variable for assessing firm's decisions for communication practices based on their affiliations with BSOs consisting incubators/accelerators, academic institutions, sustainability-oriented BSOs, local and non-local BSOs and student-oriented incubators. External affiliations with BSOs construct was measured as the sum of the number of affiliations with each type of business support organizations. The objective of this construct was to assess how SME's affiliations with these support organizations are affecting their decisions by measuring the impact of affiliations on their implementation and communications decisions for SBPs. Affiliations with incubators/accelerator, academic institutions, and student-oriented incubators was found to be an insignificant indicator for external affiliations with BSOs construct based on their lower loading value, which in turn was affecting the significance of other variables of our model. Therefore, affiliations with sustainability-oriented BSOs, local and non-local BSOs were the only indicators utilized for external affiliations with BSOs latent variable in our final statistical model. I further discuss and interpret the results for this construct in following sections by assessing their impacts on implementing SBPs in further sections.

As discussed in the mediations tests, external affiliations with BSOs partially mediate the relations of firms and their decisions to implement SBPs. Which is further justified by external affiliation construct's 34.8 % positive impact on reporting decisions, in our statistical model. This effect is line with arguments made in previous literature on the role of business networks in dissemination of reporting practices, which indicates that with increasing interest of SMEs in practicing reporting to be a transparent and responsible business, the role of business networks in advocating reporting practices is on the rise (Gallo and Christensen,

2011; Collins et al., 2007). This also confirms a direct contribution of sustainability-oriented BSOs towards sustainability focused communication and disclosure practices, which highlights their importance as a BSO, assisting SMEs with their sustainability initiatives.

### 5.7 External affiliations with BSOs and Implementing SBPs

The results indicate that external affiliations with BSOs construct has a 0.459 positive impact on implementing SBPs by firms. These results can be further explained by looking into our indicators for implementing SBPs. BSOs have been considered repositories of knowledge and hubs for maximizing the dissemination of knowledge (Porter, 1998; Collins et al., 2007) and employee awareness about social and environmental issues and engaging firms into sustainability reveal the importance of BSOs such as Sustainability Colab (Sustainable Waterloo Region), GreenHouse etc. present in KW region, in adopting SBPs, sustainability in operations. Also it's important to mention that during our conversations with BSOs in KW region, it was observed that BSOs are gradually moving away from predefined frameworks being followed in last few decades to support and advocate business practices for SMEs (Bergek, 2008). Greater focus on the individual needs of firms is evident in previous studies that mention that “incubator service and activities appear to be better guided by venture needs and resources available” (Scillitoe & Chakarabarti, 2010, p. 157) and “the readiness of the venture to gain such support” (Rice, 2002, p. 165).

## Chapter 6: Conclusion

### 6.1 Contributions

The findings of this study are primarily targeted towards local BSOs and SMEs involved in the project, however they can be extended to building awareness of sustainable practices across SMEs, and also provide insights which can lead to improving business resilience in the KW region.

The information gathered also contributes to the epistemological understanding of business networks and reflects on their contribution to the entrepreneurial activities in Canada's one of the biggest upcoming innovation and business hub. BSOs would also benefit from the results of this study, because it helps these institutions gain a deeper understanding of the business practices adopted by their affiliated startups and other established firms. Significant contribution was observed by sustainability-oriented BSOs towards dissemination of SBPs.

This study was also designed such that the results can provide a direct benefit to its participants, the local SMEs in the region. Foremost, through the results of this study I intend to shed light to business practices that may have been overlooked in traditional business models. For instance, by asking whether the startups consider the external impacts of their suppliers or utilize cost-minimizing technologies, some startups may be inspired to look deeper into such opportunities. This information sharing through questionnaires and results could further identify what sorts of practices are most fruitful to pursue, subject to low adoption or correlation with affiliations with BSOs.

Finally, the study is valuable to the larger society. While startups often play an influential role in the local economy, they are often overlooked by regulators focused on the

practices of larger organizations. However, overall the impact of SMEs is significant. This study lays the foundational groundwork to better understand how SBPs can be adopted across SBPs, thus encouraging sustainable growth across the larger economy of the region.

## 6.2 Limitations

As we know that the objective of this study was to assess the relation between firm demographics, external affiliations with BSOs and SBPs through a quantitative survey. It's important to mention that the data on implementing and communicating SBPs was self-reported by owners of the businesses, the validity and accuracy of the data cannot be verified by industry standards of sustainability and reporting practices. Also, the responding firms belonged to different industry sectors therefore variations in the adoption of sustainable practices could have been dependent on the nature and tangibility of the products/services. Such disparity may have created differences in the adoption and are a limitation as I have only looked into demographics and affiliations with BSOs as our variables. Also, this study doesn't look into the internal decision making processes at SMEs and how meaning of sustainability differs for each of them as I have only captured their final decisions and knowhow of sustainability practices.

Further, as one of the objectives of our study was to assess the role of external affiliations to BSOs, I haven't corresponded with firms which are not associated with BSOs listed in Appendix 1. Hence, this study isn't a good predictor of sustainability trends of SME population in KW region. Also, it is important to mention that affiliations with incubators/accelerators, student-oriented incubators, academic institutions, sustainability-oriented BSO, local and non-local BSOs have been treated equally as a part of this study.

Finally, sustainability decisions especially in case of SMEs are significantly influenced by the owner's values and innovation orientation of a firm (Uhlener et al., 2012; Morad, 2007) therefore these factors also may have a considerable role in affecting the sustainability decisions and their associations with business support organizations.

### 6.3 Directions for future research

Future research directions could be developing a framework or a curriculum to be used by incubators/accelerators and other institutions for proliferating SBPs to firms. Moreover, research on entrepreneurship and innovation also has an important role in academia for the current and future entrepreneurial initiatives by local educational institutions, and in cementing their reputation and strategic strengths in proliferating new business developments.

Also, a further analysis of the gathered data could identify which group of accelerators and incubators are most responsive to proliferating SBPs amongst their members and also whether a model of SBPs pursued by the surveyed SMEs. A low adoption rate sets a warrant for future support systems towards these developments by utilizing these insights by BSOs for future sustainability initiatives. Another important aspect of sustainability which is often discussed especially in case of SMEs, is financial gains from adopting sustainable practices. Therefore, a future similar study could be conducted for analysis between the adoption of SBPs captured in data and financial performance of SMEs, which can identify (if any) common strategies are adopted among top financial performers. SBPs that are also financially beneficial would be valuable endeavors for local startups.

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## Appendix A

### List of External Affiliations with BSOs

Incubator/Accelerator	Academic Institution	Student-Oriented BSO	Sustainability-Oriented BSO	Non-local BSO	Local BSO
Accelerator center	Conestoga College	Startup Laurier	Sustainability Colab	Ontario centers of excellence	Centre for Family Business
Communitech	University of Waterloo	Launchpad	GreenHouse	Ontario Network of Entrepreneurs	Waterloo Region Small Business Centre
Centre for Entrepreneurship(C4E)	Wilfrid Laurier University	Entrepreneurship Society of Waterloo		Food Incubator network	KW chamber of commerce
Velocity	Conrad Grebel (CBET)	Research Entrepreneurs Accelerating Prosperity		Cambridge chamber of commerce	Manufacturing Innovations Network
				Golden Triangle Angel Network	Rockstar café



# Appendix B

## Research ethics certificate

UNIVERSITY OF WATERLOO

<https://oreprod.private.uwaterloo.ca/ethics/form101/ad/reports/certifi...>

### UNIVERSITY OF WATERLOO

### OFFICE OF RESEARCH ETHICS

#### Notification of Ethics Clearance of Application to Conduct Research with Human Participants

<b>Principal/Co-Investigator:</b> Michael Wood	<b>Department:</b> School of Environment, Enterprise, and Development
<b>Principal/Co-Investigator:</b> Truzaar Dordi	<b>Department:</b> School of Environment, Enterprise, and Development
<b>Principal/Co-Investigator:</b> Ranjit Kalra	<b>Department:</b> School of Environment, Enterprise, and Development
<b>Student Investigator:</b> Truzaar Dordi	<b>Department:</b> School of Environment, Enterprise, and Development
<b>Student Investigator:</b> Ranjit Kalra	<b>Department:</b> School of Environment, Enterprise, and Development

**ORE File #:** 20529

**Project Title:** A strategy to sustainable capacity building efforts for SMEs

*This certificate provides confirmation the above project has been reviewed in accordance with the University of Waterloo's Guidelines for Research with Human Participants and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. This project has received ethics clearance through a University of Waterloo Research Ethics Committee.*

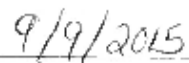
**Note 1:** *This ethics clearance is valid for one year from the date shown on the certificate and is renewable annually. Renewal is through completion and ethics clearance of the Annual Progress Report for Continuing Research (ORE Form 105).*

**Note 2:** *This project must be conducted according to the application description and revised materials for which ethics clearance has been granted. All subsequent modifications to the project also must receive prior ethics clearance (i.e., Request for Ethics Clearance of a Modification, ORE Form 104) through a University of Waterloo Research Ethics Committee and must not begin until notification has been received by the investigators.*

**Note 3:** *Researchers must submit a Progress Report on Continuing Human Research Projects (ORE Form 105) annually for all ongoing research projects or on the completion of the project. The Office of Research Ethics sends the ORE Form 105 for a project to the Principal Investigator or Faculty Supervisor for completion. If ethics clearance of an ongoing project is not renewed and consequently expires, the Office of Research Ethics may be obliged to notify Research Finance for their action in accordance with university and funding agency regulations.*

**Note 4:** *Any unanticipated event involving a participant that adversely affected the participant(s) must be reported immediately (i.e., within 1 business day of becoming aware of the event) to the ORE using ORE Form 106. Any unanticipated or unintentional changes which may impact the research protocol must be reported within seven days of the deviation to the ORE using ORE form 107.*

  
Maureen Nummelin, PhD

  
Date

## Appendix C

### Survey tool

Dear Participant,

You are invited to participate in a research study conducted by Ranjit Kalra and Truzaar Dordi at the University of Waterloo's School of Environment, Enterprise, and Development (SEED), under the supervision of Dr. Michael Wood. The objectives of the research study are to identify the rate of adoption across the select sustainability and vulnerability measures, identify which common strategies are adopted among SMEs in Kitchener-Waterloo region, and collate results into a framework of sustainable strategies to guide local clusters in proliferating the adoption of sustainable business development.

If you decide to volunteer, you will be asked to complete a 5-10 minutes online survey that will be completed anonymously and collected in aggregate. Participation in this study is voluntary; you may decline to answer any questions that you do not wish to answer and you can withdraw your participation at any time by not submitting your responses. However, there are no known or anticipated risks from participating in this study.

It is important for you to know that any information that you provide will be confidential. All of the data will be summarized and no individual could be identified from these summarized results. Furthermore, the web site is programmed to collect responses alone and will not collect any information that could identify you (such as machine identifiers).

This survey uses SurveyMonkey™ which is a United States of America company. Consequently, USA authorities under provisions of the Patriot Act may access this survey data. If you prefer not to submit your data through SurveyMonkey™, please contact one of the researchers so you can participate using an alternative method (such as through an email or paper-based questionnaire). The alternate method may decrease anonymity but confidentiality will be maintained.

The data collected from this study will be maintained on a password-protected computer database with no personal identifiers, in a restricted access area of the university. Moreover, the data will be electronically archived after completion of the study, maintained for one year and then erased entirely.

Should you have any questions, please contact either Ranjit Kalra (rskalra@uwaterloo.ca) or Truzaar Dordi (tdordi@uwaterloo.ca), or Dr. Michael Wood (mowood@uwaterloo.ca). Further, if you would like to receive a copy of the results of this study, please contact either investigator.

We would like to assure you that this study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee. However, the final decision about participation is yours. If you have any comments or concerns resulting from your participation in this study, please feel free to contact Dr. Maureen Nummelin in the Office of Research Ethics at 1-519-888-4567, Ext. 36005 or maureen.nummelin@uwaterloo.ca.

Thank you for considering participation in this study.

#### Consent to Participant

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

- "I agree to participate."
- "I do not wish to participate (please close your web browser now)."

<b>Organizational culture of Sustainability</b>				
<b>Please indicate the level of consideration your company has given to each of the following practices?</b>				
<b>(Select ONE that applies for each option)</b>				
	Adopted	Not Adopted	Not Important	Don't know
Stakeholder Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Life Cycle Assessments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business Model Planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Energy Savings / Green Energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paperless business system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bring Your Own Device to Work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Video Conferencing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Collaborative Softwares	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------	--------------------------	--------------------------	--------------------------	--------------------------

**Does your organization account for sustainable practices in business operations?**  
**(Select ONE that applies)**

Yes, we discuss these considerations *more* than once a month

Yes, we discuss these considerations *less* than once a month

No, *but it is* an important consideration for our business

No, *and it is not* an important consideration for our business

**Please indicate which departmental leads account for sustainability in key decision making processes**  
**(Select ALL that apply)**

Finance                       Human Resources                       Operations

Marketing                       Strategy                       Research and development

Executives                       Other: \_\_\_\_\_

Sustainability is not an important consideration                       Don't know

**Please rate the level of importance of the each of the following stakeholders on your company? (Select ONE that applies for each option)**

	Extremely Important	Somewhat Important	Somewhat Unimportant	Extremely Unimportant	Don't Know
Board of Directors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shareholders/Investors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competitors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

External Suppliers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External Regulators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Please select the statements that best represent your company's employee management strategy**

**(Select ALL that apply)**

- Employees can allocate time to work on projects that they are passionate about
- Employees can move between tasks or projects to best suit their needs
- Employees are knowledgeable on social and environmental issues related to business processes
- The company has a feedback process in place for performance appraisals
- The company has a formal reward and recognition system for employees

## Foresight and Continuity

Please indicate whether your company has considered or prepared a contingency plan, for each of the following events. (Select ONE that applies for each option)

	Prepared	Unprepared	Not Important	Don't know
Natural Disaster	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flood, Fire, or Restoration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Terrorist Threat or Attack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fraud, Safety, or Legal Issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of Information or Servers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Failure of critical systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please select the statement that best represents your company's information retention practices: (Select ONE that applies)

- Data is backed on an internal cloud storage instantaneously
- Data is backed on an internal cloud storage occasionally
- Data is backed on an external cloud storage instantaneously
- Data is backed on an external cloud storage occasionally
- Data is not backed on an internal or external cloud storage
- Don't know

How far into the future does your business plan forecast for general business growth? (Select ONE that applies)

- 1 Year or less
- 2 years
- 3 years
- 4 years
- 5 years or more

- We do not have a business plan

## Reporting Standards/Communication

Please indicate which reporting practices your company has ever adopted **(Select ALL that apply)**

- The company produces any form of reports for internal use
- The company produces any form of reports for external dissemination
- The company has a well-documented "Corporate Social Responsibility" (CSR) strategy in place
- The company has an internal or external auditing process to validate reporting

Please indicate which of the following metrics your company reports on, on an annual basis: **(Select ALL that apply)**

### Economic

- Profitability
- Financial assistance
- Return on Investment
- Operating costs
- Taxation and Regulation
- Competitive Advantage

### Social

- Employee retention
- Diversity and equal opportunity
- Occupational health and safety
- Jobs created
- Community involvement
- Philanthropy

### Environmental

- Emissions and effluents
- Material use
- Energy use or conservation
- Water use or conservation
- Recycling

## Demographic Questions

Which of the following industries best represent your company? (Select ONE that applies)

- |   |  |
|---|--|
| <input type="checkbox"/> Agriculture                        | <input type="checkbox"/> Health Care and Social Assistance         |
| <input type="checkbox"/> Accommodation and Food Services    | <input type="checkbox"/> Information and Communications Technology |
| <input type="checkbox"/> Business and Enterprise Solutions  | <input type="checkbox"/> Legal and Ethics                          |
| <input type="checkbox"/> Construction                       | <input type="checkbox"/> Materials and Manufacturing               |
| <input type="checkbox"/> Culture and Recreation             | <input type="checkbox"/> Professional, Scientific and Technical    |
| <input type="checkbox"/> Design, Fashion and Arts           | <input type="checkbox"/> Real Estate and Leasing Solutions         |
| <input type="checkbox"/> Educational Services               | <input type="checkbox"/> Trades                                    |
| <input type="checkbox"/> Entertainment, Media, and Gaming   | <input type="checkbox"/> Transportation and Warehousing            |
| <input type="checkbox"/> Energy and Environment             | <input type="checkbox"/> Utilities                                 |
| <input type="checkbox"/> Finance, Accounting, and Insurance | <input type="checkbox"/> Other Goods or Services                   |

How many employees work for your company? (Select ONE that applies)

- 1-4     5-9     10-19     20-49     50-99     100-199     200+

In which year was your company founded? (Select ONE that applies)

- 2010 or prior     2011     2012     2013     2014     2015

Please indicate which of the following institutions your company has been affiliated with during the past 5 years (Select ALL that apply)



- |   |  |
|---|--|
| <input type="checkbox"/> Accelerator Centre                             | <input type="checkbox"/> Centre for Family Business                        |
| <input type="checkbox"/> Centre for Entrepreneurship                    | <input type="checkbox"/> Food Incubator network                            |
| <input type="checkbox"/> Communitech                                    | <input type="checkbox"/> Golden Triangle Angel Network                     |
| <input type="checkbox"/> GreenHouse                                     | <input type="checkbox"/> Manufacturing Innovations Network                 |
| <input type="checkbox"/> Launchpad                                      | <input type="checkbox"/> Ontario centres of excellence                     |
| <input type="checkbox"/> Research Entrepreneurs Accelerating Prosperity | <input type="checkbox"/> Ontario Network of Entrepreneurs                  |
| <input type="checkbox"/> Rockstar Cafe                                  | <input type="checkbox"/> Waterloo Region Small Business Centre             |
| <input type="checkbox"/> Sustainability CoLab                           | <input type="checkbox"/> KW chamber of commerce                            |
| <input type="checkbox"/> Velocity                                       | <input type="checkbox"/> Cambridge chamber of commerce                     |
| <input type="checkbox"/> Conrad Grebel (CBET)                           | <input type="checkbox"/> Other accelerator/incubator support institutions: |
| <input type="checkbox"/> Conestoga College                              | _____  |
| <input type="checkbox"/> University of Waterloo                         |  |
| <input type="checkbox"/> Entrepreneurship Society of Waterloo           |  |
| <input type="checkbox"/> Wilfrid Laurier University                     | <input type="checkbox"/> My company has not been affiliated with any       |
| <input type="checkbox"/> Startup Laurier                                | accelerator/incubator support institutions                                 |

**COMPLETE AND SUBMIT**

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**THANK YOU!**

For participating in our study “*A strategy to sustainable capacity building efforts for SME’s*”.

**Your feedback is extremely valuable!**

If you are interested in viewing the results of the survey, please provide your email address below. To maintain confidentiality, your email address is not connected to your completed survey. ( \_\_\_\_\_@\_\_\_\_\_.com)

If you have any general comments or questions related to this study, please contact investigators, Ranjit Kalra at rskalra@uwaterloo.ca or Truzaar Dordi, at tdordi@uwaterloo.ca or Dr. Michael Wood, the lead supervisor, at mowood@uwaterloo.ca.

We would like to once again assure you that this study has been reviewed by, and received ethics clearance through a University of Waterloo Research Ethics Committee. If you have any concerns regarding your participation in this study, please contact Dr. Maureen Nummelin, the Director, Office of Research Ethics, at 1-519-888-4567, Ext. 36005 or maureen.nummelin@uwaterloo.ca.

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