A Cross-National Study of Supplier Diversity

By

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Abstract

Demographics are changing and populations are becoming more diverse in many but not all countries. In some countries, an increasing number of businesses are owned by women, visible minorities and other diversity groups. In response, academics and practitioners are starting to pay attention to supplier diversity (SD), which encourages purchasing goods and services from suppliers owned by members of diversity groups. This study focuses on development of SD programs in various countries, along with facilitators or inhibitors of SD adoption. The primary research question is: What national or cultural characteristics make organizations in a country more (or less) likely to have SD programs? Characteristics of interest include ethnic diversity of the population, GDP and Hofstede's power distance index. Data collection included administration of a survey of purchasing and supply management professionals from 37 countries and gathering of secondary data for 55 countries.

Acknowledgements

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Introduction

Diversity is attracting more attention from researchers. Diversity of a population refers to the mix of people with different group identities within a single social system (Fleury, 1999). Loo (1999) and Bhadury, Mighty & Damar (2000) argue that a changing population structure lays a foundation for the development of diversity theory.

Worthington, Ram, Boyal and Shah (2008) assert that organizations have to adjust their strategies, e.g. purchasing strategy, to adapt to the growing number and influence of ethnic groups. Purchasing is one of the functions of supply chain management (SCM). "The field of supply chain management is concerned with how the processes of making, buying and selling goods and services are organized" (Whitfield, 2003, p.1). Thus, an increasing number of enterprises are regarding SCM as a new recourse to improve performance, increase profit and get competitive advantage. With the effects of demographic change, it is important to establish a relationship with minority suppliers. As a result, researchers and enterprises are beginning to pay attention to supplier diversity (SD). SD encourages buying from suppliers owned by visible minorities, women, Indigenous people and other diverse groups.

One important factor that inspires firms to pursue SD is the potential benefit. Gröschl (2011) argues that an increasing number of companies have introduced or intend to introduce diversity programs because they recognized the benefits, which include better diversity management, improved customer satisfaction, increased production, improved service quality and productivity, cost efficiency and effective decision making. Similarly, Aytemiz Seymen (2006) argues that diversity management can also help enhance communication amongst employees and improve their

cooperativeness. Worthington (2009, p. 54) suggests that “a SD programme can be seen as an indicator that an organisation is responding positively to changing external circumstances.”

Since the theory of SD is relatively new, only a limited number of academic articles on supplier diversity have been published (Larson, 2012). Furthermore, most existing literature focuses on a single country, e.g. Canada (Larson et al. 2016) or on the comparison of two countries. For example, Ram & Smallbone (2003) compare SD initiatives in the USA and UK, and attempt to learn from the American experience. Shah and Ram (2006, p. 78) survey three US multinationals to study the rationale of SD and conclude that there are common factors crucial for success, including outreach, raising awareness and monitoring participation. Still, academic literature regarding differences in SD initiatives between multiple countries is rare. Additionally, many existing studies focus on the English-speaking world. Worthington et al. (2008) is an example of a rare cross-national study covering the context of and motivations for SD development and practices.

Essentially, the purpose of this research is to explore cross-national differences that may explain the rise and presence of SD in some nations, along with its absence in others. Specifically, it focuses on one main research question: What factors are linked to the presence or absence of SD in different countries?

The thesis is organized into four more sections. The next section is a literature review covering relevant concepts, including facilitators of SD and SD national practices. The hypotheses are developed at the end of this section. The following section describes the methods used to collect and analyze the data. Then, statistical results are presented and discussed. The final section offers conclusions, limitations and future research ideas.

Literature Review and Context

Supplier Diversity (SD)

The Chartered Institute of Procurement and Supply (CIPS) defines SD as "initiatives that aim to increase the number of diverse (e.g., minority-owned, women-owned) businesses that supply goods and services to both public and private sector organizations, either directly or as part of a wider emphasis on smaller enterprises in general" (CIPS, 2013). The practices of SD date back to the 1960s in the United States, when the growing minority population started owning and operating more businesses. To help groups that were discriminated against in past years, the federal government launched SD initiatives to support minority businesses (Sonfield, 2010). Since then, there have been an increasing number of debates on supplier diversity, and support for SD has also become an issue of policy in many countries like the USA and Canada (Ram and Smallbone, 2002). According to CIPS, "diversity is increasingly important in business strategy throughout the world" (CIPS, 2016).

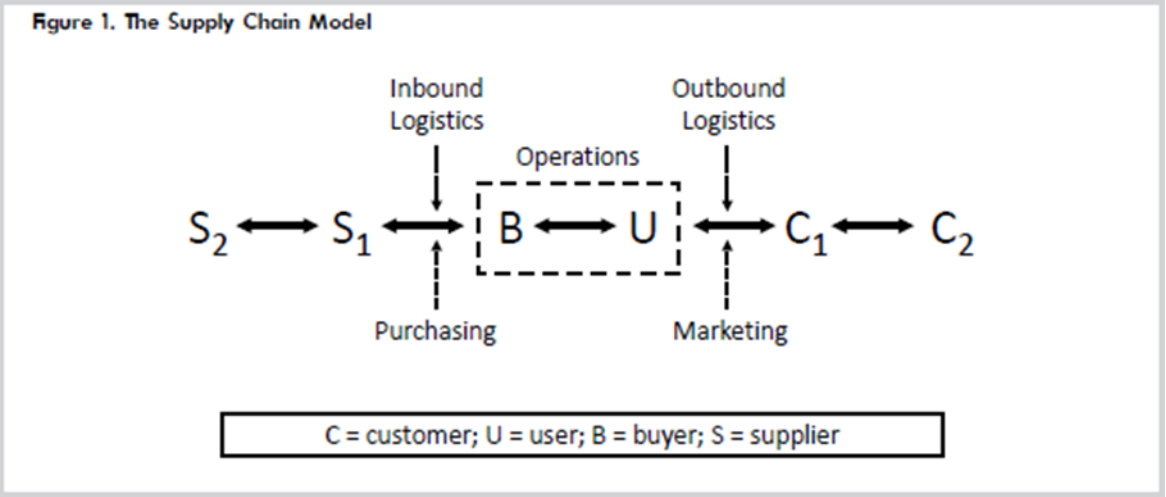
The University of Manitoba Department of Supply Chain Management defines SCM as the process of strategically managing flows of goods, services and information, along with relationships within and among organizations, to deliver greater economic and/or social value and customer service. SCM involves the interaction of logistics, operations, purchasing and elements of other functional areas like marketing and MIS, and it focuses on serving relevant stakeholders, such as customers, suppliers, shareholders, employees, communities, and policy makers. Purchasing is a core function of SCM.

Demographic changes also affect the supply chain. Larson (2012, p. 8) defines a supply chain as "a group of linked organizations, starting with raw material suppliers and ending with final

consumers." In this chain, companies purchase raw materials, products and professional services from other, often smaller organizations (Whitfield, 2003). SD provides minority business enterprises, often small or medium in scale, with equal opportunity to access the market (Larson, 2012).

Up-stream suppliers are connected to down-stream buyers by purchasing and marketing in this chain (see Figure 1). In the figure, C1 refers to direct or first-tier customers and C2 refers to second-tier customers. Similarly, S1 represents first-tier suppliers and C2 represents second-tier suppliers. Within organizations, buyers (B) make purchasing decisions on behalf of users (U), who are their colleagues.

Figure 1. The Supply Chain Model



Larson, 2012

SD is an effective method to help buyers establish relationships with an increasing number of diverse suppliers. According to Larson (2012, p. 5), "Diversity in the supply chain can lead to increased sales, reduced staff turnover, greater access to capital, improved public image, enhanced innovation, and better product service quality at lower costs due to greater and more diverse competition."

Increasingly, this business case is inspiring organizations to consider moving forward with SD initiatives. This is in sharp contrast to the past, when SD was pushed primarily by government regulations and laws (Worthington et al. 2008). In the meantime, many scholars are paying attention to successful SD practices. For instance, Sharma and Witt (2008) argue that there are two common features of companies with successful SD programs. First, the companies truly knew their requirements and took a series of actions to support this program and find visible minority suppliers. Second, these companies positively communicated with both suppliers and customers while estimating demand; and finding, choosing and contracting with suppliers. Theodorakopoulos (2012) affirms that for successful SD, both buyer and seller must make efforts toward the practice. For example, both parties must communicate frequently and formally to share information.

Catalyst of SD

The development of SD is driven by four factors: legislation/public policy, economic opportunities, stakeholder expectations and ethical influences. Government regulation/law may be the biggest driver. Shah and Ram (2006) argue that the reasons for enterprises to pursue supplier diversity are various, depending on their industry and market. For example, an interviewee from JPMorgan Chase said that one of the driving forces of SD is political power, which is affected by customer power. Moreover, minority owned enterprises, often small- or medium-sized, are more likely to survive by getting support from the government, which will in turn create a healthy economic environment. At the same time, survival of small and medium sized firms will increase competition for bids, which results in better value for money. Larson (2012) found that SD is more prevalent in Chicagoland than in the Greater Toronto Area, likely due to an earlier start and

established laws and regulations. For example, it can be necessary to have a supplier diversity policy if a company wants to do businesses with the (U.S.) federal and state governments. Pearson, Fawcett & Cooper (1993) also observe that several laws or regulations were enacted by the United States Congress, and enterprises were required to purchase a certain proportion of goods or services from visible minority owned firms.

The second catalyst is economic opportunities. A growing visible minority population is a key driver of SD. The influence of demographic trends on SD practices is apparent in the United States (Larson, 2012). Shah and Ram (2006) add that companies can achieve large business benefits by establishing relationships with minority communities; because these communities' purchasing power is expected to be as high as $6.1 trillion (in 1998 dollars) by 2045, assuming income disparity is eliminated. It is expected that the minority population will continue to grow as a percent of the overall U.S. population. Furthermore, minority- owned businesses are expected to have a 30% annual sales increase and 17% increase in number of enterprises, which is higher than non-minority businesses (Worthington et al. 2008). Worthington (2009) concludes that the minority market potential is so huge, that many enterprises in the U.S. regard SD as an important strategy in accessing the potential market of minority groups.

SD affects customers in two ways. One way is through positive business reputation. With the popularity of social media and social networking sites, information spreads more quickly than ever before. As a result, a good (or bad) reputation can spread quickly and widely. Usually, companies that are willing to support businesses owned by minority groups and employ people without discrimination, will earn a good image, and attract customers. As Abd-El-Salam, Shawky & El-Nah (2013) argue, good reputation has a positive effect on customer satisfaction, which is a driving force

for consumption. A company with good reputation and high customer satisfaction is attractive for investors. Current investors may be willing to increase their level of investment, and new investors may become interested in the company. As a result, financial flows will increase.

The other way customers are affected by SD is through retaining current talented and experienced employees and improving employee satisfaction. Larson (2012) suggests that employee satisfaction might improve through engagement in SD, which can reduce the rate of turnover. Retaining talented and experienced employees will ensure good customer service quality, because these employees are familiar with current customers and they understand how to meet customer demand. At the same time, there is a positive effect on employee satisfaction and customer satisfaction. Employees who have high satisfaction are more likely to serve customers with enthusiasm than those with low satisfaction. Satisfied employees yield satisfied customers.

Furthermore, Ram and Smallbone (2003) argue that one of the advantages of SD is that enterprises are expected to get more customized and flexible products or services from visible minority suppliers (which are often small-medium sized enterprises) than from large size enterprises. They also argue that practices of SD may help companies enhance innovativeness, which gives enterprises more opportunities to open new markets. SD also makes the supply chain flexible and results in added value to the products or services offered by companies. Additionally, businesses will understand their ethnic consumers better, in terms of what products and services they really want. This creates a good image within the ethnic minority community, resulting in long term advantages. For instance, more customers from the focal ethnic group are willing to buy products and services from the company (Carter and Jennings, 2000).

Stakeholder expectation is another motivation. For companies, the motivation for SD comes from both sides of the supply chain (Worthington et al, 2008). On the up-stream side, employees and investors supply firms with labor and capital. A representative of JP Morgan Chase, interviewed by Worthington et al (2008), said: "If we think of ourselves as a business, then the households who supply us with labour and lend us capital (our shareholders) before selecting us, look at what we do for their communities." On the down-stream side, for example, public sector (government) customers may require companies to support diversity if they want to get contracts (Worthington et al, 2008). The motivation to pursue SD may also come from international connections. Larson (2012) found that Canadian firms with a connection to American firms (as parent or subsidiary) are more likely to have SD programs.

Ethical influences are another catalyst (Worthington et al, 2008). Nations on a path towards equality of all people are likely to have interest in something like SD. According to Hofstede Centre (2016), power distance is "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally." Canada and the United States, which have SD initiatives, also have relatively low scores on power distance, meaning these countries value equality.

Larson (2012) and Larson et al. (2016) found that companies with employee diversity (ED) are more likely to have SD, too. In sum, an increasing number of scholars have been paying attention to SD, and many of them have great expectations about SD practices. However, there is a shortage of empirical studies and academic research on SD. A search of the ABI/INFORM Global business and management database was conducted, looking for peer reviewed, scholarly journal articles on "supplier diversity." This database search yielded only 17 hits. While more companies are paying

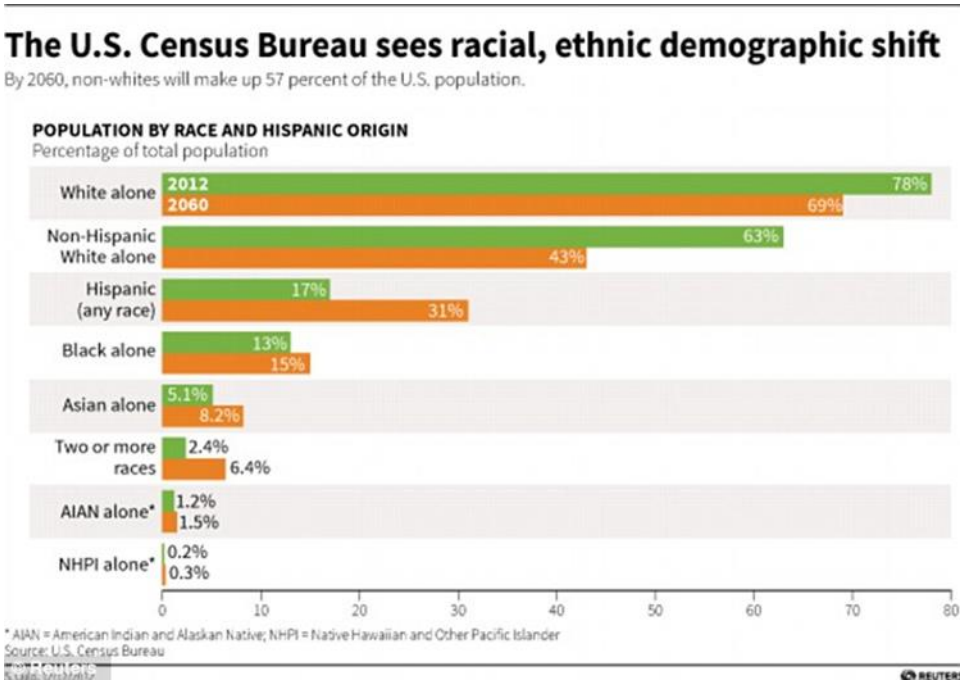
attention to diversity issues, there is still a gap between SD practices and theory development, resulting in a shortage of guidelines for companies (Cole, 2008).

SD National Context & Demographics

The history of SD dates back to the 1960s in the United States, where the emergence of the American civil rights movement preceded the rise of SD. Sonfield (2010) notes: "the earliest initiatives were launched during the 1960s by the federal US government for the development and support of minority businesses (mainly African-American-owned enterprises). Later, the focus of these programs expanded to include other minority groups (especially Hispanics), women-owned businesses, and veteran's businesses as well."

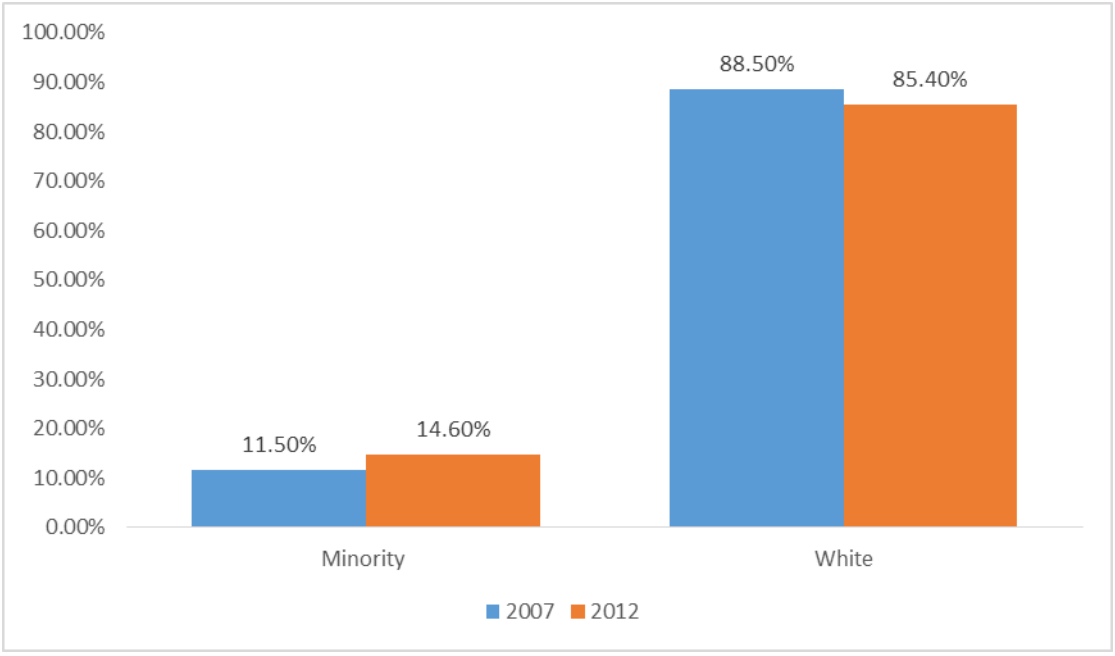
According to the U.S. Census Bureau, the "white alone" population will only occupy 69% of the total U.S. population in 2060, down from 78% in 2012 (see Figure 2). Hence, increasing size of the minority population is bringing about an increase in minority-owned businesses. Lichtenstein (2014) observes that the number of minority-owned businesses has been growing (14.6% in 2012 compared with 11.5% in 2007); though minority business owners are a small fraction of all U.S. business owners (see Figure 3).

Figure 2.American Demographic Shift



http://www.dailymail.co.uk/news/article-2247119/2043-census-prediction-US-whites-longer-majority-Hispanic-population-surges.html

Figure 3. Race of U.S. Business Owners



Lichtenstein, 2014

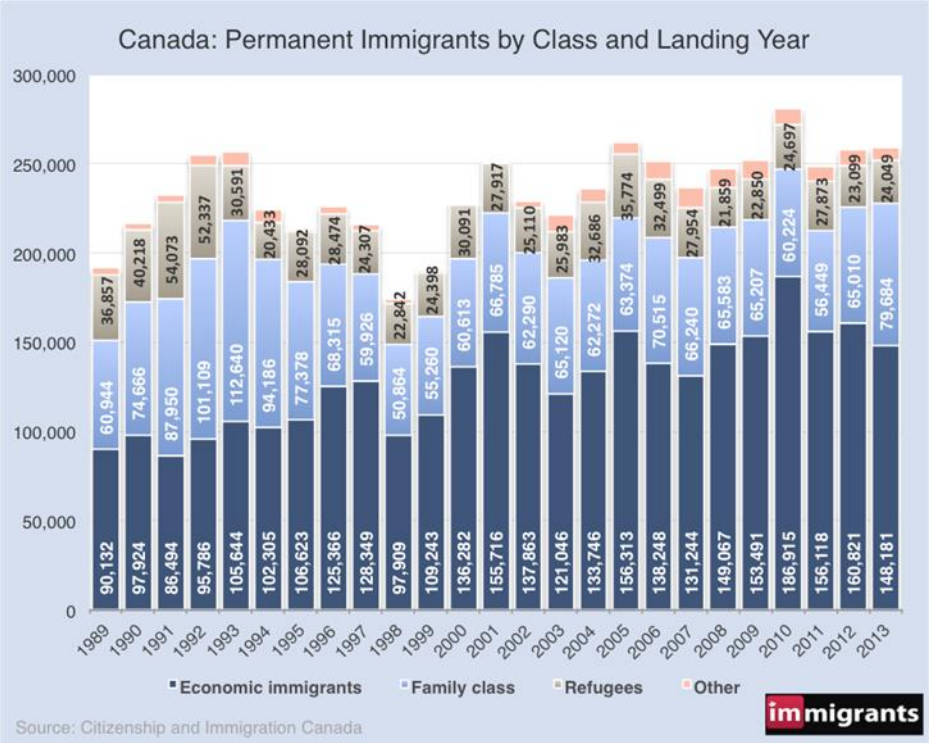
SD development was advanced by Public Law 95-507, which mandates that contracts over $10,000 include a clause about utilization of small businesses owned and controlled by "socially and economically disadvantaged individuals." Still, it was difficult for companies to conduct business with minority owned businesses, as it was hard to find qualified suppliers. The establishment of the National Minority Supplier Development Council (NMSDC) in 1972 addressed this problem (Ram, Smallbone and Linneker, 2002).

The NMSDC acts as a bridge, connecting enterprises with minority-owned suppliers. It qualifies suppliers who meet the criteria of minority-owned enterprises, helps train their staff, and assists with funding or loans (Adobor and McMullen 2007). NMSDC facilitates SD by recruiting new members and helping them find qualified suppliers through their certification system (Worthington et al, 2008). In 1984, NMSDC member companies purchased $6.6 billion of goods and services from minority businesses. This amount increased to more than $100 billion in 2013. According to NMSDC (2015), "This was accomplished not by lowering corporate purchasing standards—in fact, these standards have grown more rigorous in recent years—but by sourcing qualified firms and giving them business on a competitive basis."

The situation is similar in Canada. According to the Canadian Trade Commissioner Service (2015), "what was once a growing trend is now a full-blown opportunity for minority suppliers such as women, Aboriginal, disabled and visible minority entrepreneurs." Figure 4 shows an increasing number of immigrants (compared to less than 200,000 in 1989, there were more than 250,000 immigrants in 2013). Figure 5 indicates that the top three immigrant source countries in 2015 were: Philippines, India and the Peoples' Republic of China (PRC). There are also an increasing number of minority-owned businesses in Canada. Given the growing diversity of Canada's population,

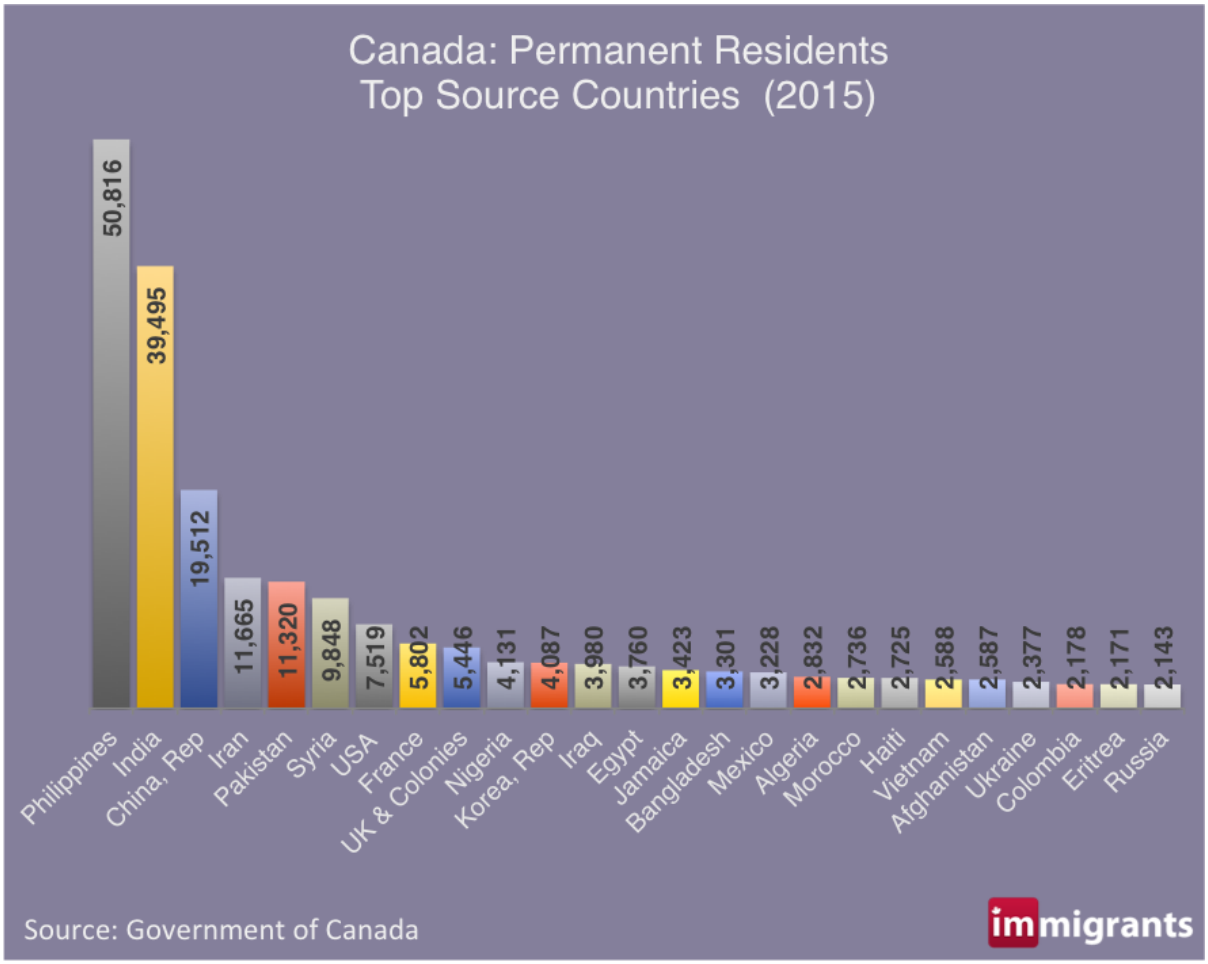
organizations that embrace SD are preparing for tomorrow (Supplier Diversity Canada, 2016).

Figure 4 Canadian Immigrants, from Fast Forward: Canada in 2060



https://www.smore.com/j906a-fast-forward-canada-in-2060

Figure 5. Canadian Magazine of Immigration.



http://canadaimmigrants.com/canada-immigration-by-source-country-2015/

To support the development of certified visible minority owned enterprises, governments and large companies could have an annual goal, which would be met if they spend a certain amount in contracts with certified visible minority owned enterprises, i.e. companies with certification through WEConnect or the Canadian Aboriginal and Minority Supplier Council (Canadian Trade Commissioner Service, 2015). WEConnect International (2015) is a not-profit organization that "identifies, educates, registers, and certifies women's business enterprises based outside of the U.S. that are at least 51% owned, managed, and controlled by one or more women, and then connects them with multinational corporate buyers."

CAMSC is also a private sector-led, non-profit membership organization. Its mission is "to be the nationally recognized, respected and trusted business partner, leading supplier diversity in all industry segments with proven results in wealth and job creation for Aboriginal and minority suppliers. Economic value is created by deepening business and diverse supplier relationships through the innovation, competitiveness and brand loyalty in the supply chain" (CASMC, 2015). Essentially, with database support from groups like CAMSC, WEConnect and the Canadian Gay and Lesbian Chamber of Commerce, Canadian firms can find and access qualified suppliers from diverse communities. As a result, visible minority owned businesses have more opportunities to broaden their customer base.

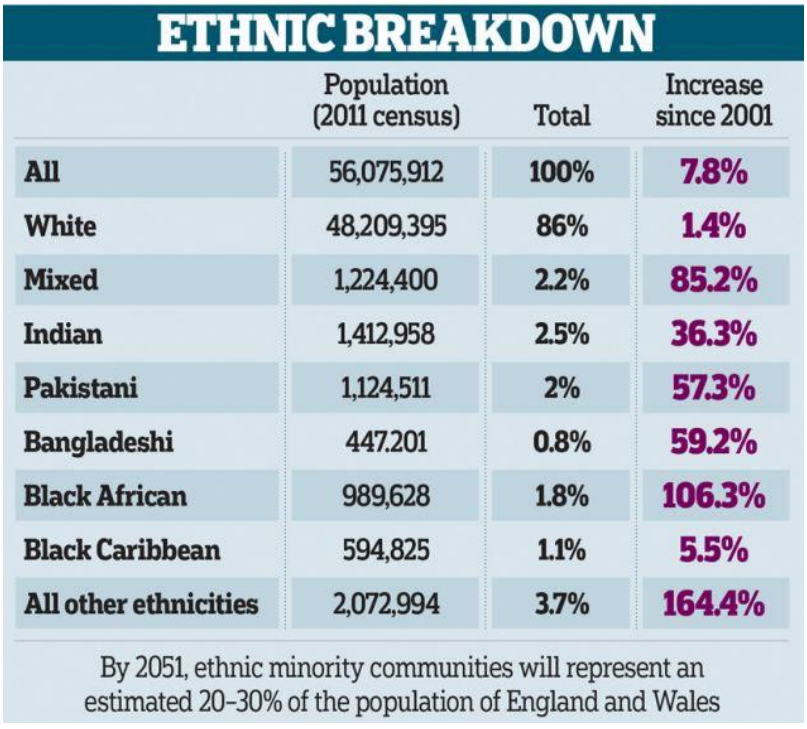
However, SD in Canada is still less advanced than in the United States, primarily due to its short history in the country. CAMSC observes that the push for SD in Canada appeared only within the last decade. For instance, a survey of 165 organizations and web scan of 138 organizations conducted by Larson (2012) revealed that only 13% of organizations were operating a SD program, while 73% of them had ED.

SD in the United Kingdom is also not as advanced as in the United States, for several reasons. First, the number of visible minorities in the UK is comparably small (less than 10% of total population in 2007, and 14% in 2011; see Figure 6). Thus, there is not enough social force to advance SD (Ram, Theodorakopoulos & Worthington, 2007). Government regulation also presents some barriers. For example, the Amended Race Relations Act 2000, which is helpful for the promotion of equality, puts a restriction on SD programs, because it is not allowed to prefer one group over another (Ram et al., 2007). As Ram and Smallbone (2003, p. 189) assert; in comparison to American affirmative action policies, which aim to make up for past discrimination by having

quotas or “set-asides” for disadvantaged groups, rules in the UK constrain the idea of differential treatment based on ethnicity or other characteristics of the business owner.

In addition, it is not mandatory for UK private sector organizations to have SD under the Race Relations Act (RRA). However, they may be required to have SD when “working under contract to public authorities” (Worthington et al, 2008). Moreover, before 2006, there were no organizations like CAMSC or NMSDC to promote SD in the UK. However, with the 2006 establishment of Minority Supplier Development United Kingdom (MSDUK), more firms are encouraged to adopt SD practices.

Figure 6. Ethic Breakdown in the UK



ETHNIC BREAKDOWN

	Population (2011 census)	Total	Increase since 2001
All	56,075,912	100%	7.8%
White	48,209,395	86%	1.4%
Mixed	1,224,400	2.2%	85.2%
Indian	1,412,958	2.5%	36.3%
Pakistani	1,124,511	2%	57.3%
Bangladeshi	447.201	0.8%	59.2%
Black African	989,628	1.8%	106.3%
Black Caribbean	594,825	1.1%	5.5%
All other ethnicities	2,072,994	3.7%	164.4%

By 2051, ethnic minority communities will represent an estimated 20-30% of the population of England and Wales

Chapman,2014

Australia is also experiencing an increasingly diverse population. According to the Department of Immigration and Border Protection of the Australian Government, 60% of population growth was

attributed to net overseas migration (NOM) by the end of 2013. The main sources of immigrants to Australia are people from India and China (see Figure 7). SD in Australia seems more advanced than in the UK, because of a strong policy environment. The establishment of the Australian Indigenous Minority Supplier Council (AIMSC) has also facilitated the advance of SD. Like NMSDC in the U.S., AIMSC helps other organizations conduct business-with minority business enterprises (Rogerson, 2012).

Figure 7. Australia's Migration Trends 2013–14

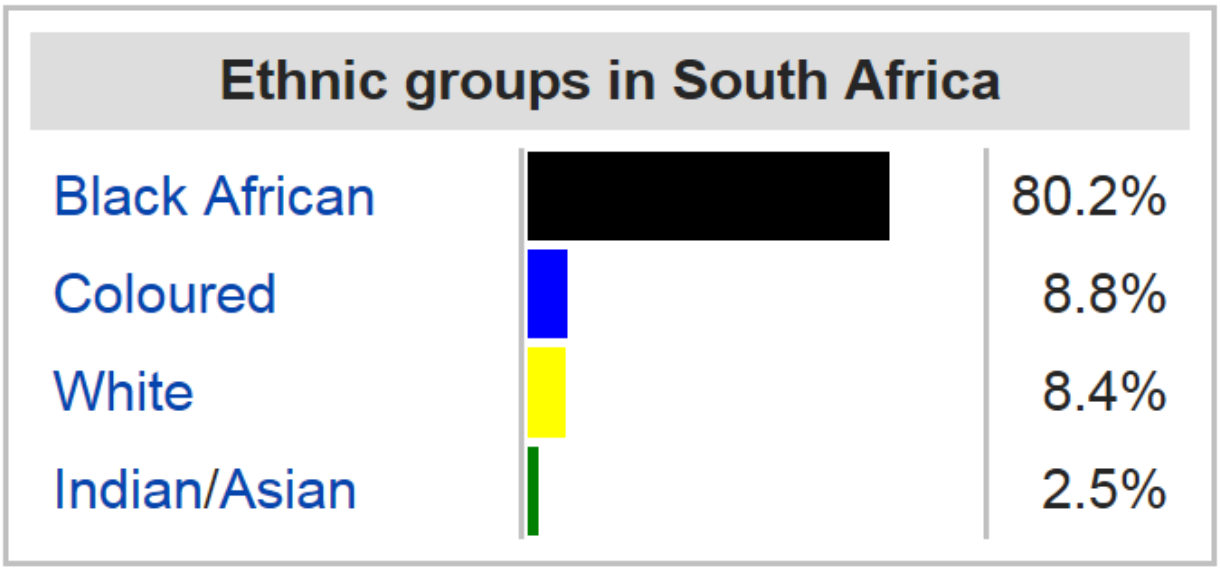
Citizenship	Migration Programme visa places 2013–14
India	39,026
People's Republic of China	26,776
United Kingdom	23,220
Philippines	10,379
Pakistan	6275
Other countries	84,324
Total	190,000

Source data: Migration Reporting, DIBP

Australia's Migration Trends 2013–14

SD practices in Australia have been advanced further by the Indigenous Opportunities Policy, which came into effect on July 1, 2011. This policy gives more opportunities for government contracts to minority business enterprises. It also mandates that enterprises which conduct business with government help local minority groups by providing training and employment opportunities. These enterprises are also required to conduct more business with suppliers owned by minorities (Marsden, 2011).

Figure 8. Ethnic groups in South Africa



https://en.wikipedia.org/wiki/Ethnic_groups_in_South_Africa

Figure 8 profiles ethnic diversity in South Africa. SD in South Africa began in 1980 (NBI 2006a, b). Its main purpose was to improve the reputation of companies (Rogerson, 2012). The government began to promote the development of SD by launching a ten-point plan in 1995 to create opportunities for small, medium, and micro-enterprises (SMMEs) to participate in government procurement, and increase their chances to win government contracts. In 2011, the South African Supplier Diversity Council (SASDC) was established. "The SASDC became part of a global network of five supplier diversity councils, which included the UK, Australia, Canada and China" (SASDC 2011a).

In conclusion, policy environment is important for the development of SD. A common feature of countries where SD practices are popular is an organization parallel to NMSDC. However, some enterprises may find it difficult to find qualified visible minority business suppliers because they cannot get help from organizations like NMSDC. Larson (2012) found that the biggest obstacle for

organizations in pursuing SD is finding qualified suppliers. One method of overcoming this obstacle is to learn from successful cases, at organizations in the United States, Canada and Australia.

Changing demographics toward greater diversity strengthens the case for SD. The minority population is expected to keep growing and become 46 percent of the American population by 2045. It is also expected that the increasing minority population will bring in large purchasing power, representing 70 percent of total purchasing power increase. As a result, enterprises in the U.S. have introduced SD to expand their business opportunities by establishing closer relationships with minority groups (Worthington et al. 2008).

As customers, employees and investors become more diverse, it is expected that suppliers will become more diverse as well (Larson 2012). In addition, social norms and/or laws stressing equality (across genders and ethnicities) are likely to support greater interest in SD. Thus, the first two hypotheses are as follows:

H1: SD is more likely in countries with greater cultural diversity.

H2: SD is more likely in countries with lower gender inequality.

H1 draws on the changing demographic context element of the business case for supplier diversity (Worthington, 2009; Larson, 2012). To anticipate, cultural fractionalization (CF) is borrowed as an independent variable to test H1. “Cultural fractionalization uses a measure of the structural relationship between languages to take into account the cultural distance between groups in a country” (Fearon, 2003). An alternative independent variable to test H1 would be an estimate of percent of a country’s population from the largest ethnic group. The gender inequality index (GII) could be used to test H2.

Most of the literature on SD comes from "developed" as opposed to "developing" countries. Apparently, the 10 best cities for minority-owned business in the U.S. have strong economies, e.g. they have lower unemployment rates than the rest of country. Thus, they can support minority-owned business better than other cities (https://www.nerdwallet.com/). Furthermore, nations on a path towards equality of all people are likely to have keener interest in something like SD. According to Hofstede, a nation/society with a high power distance score "believes that inequalities amongst people are acceptable" while a culture with a low power distance score "is marked by interdependence among its inhabitants and there is value placed on egalitarianism" (https://geert-hofstede.com/china.html). The next hypotheses are:

H3: SD is more likely in developed countries, i.e. those with higher GDP

H4: SD is more likely in "equal" countries, i.e. countries with low power distance.

H3 is the national expression of the relationship between organizational size and likelihood of SD found in previous research (Larson 2012; 2016). In further anticipation, Hofstede's power distance (PD) index is used as an independent variable (IV) to test H4. According to Hofstede, power distance expresses the attitude of the culture towards the inequalities among people.

Methodology

The data used in this thesis come from two sources: a survey and secondary data. A survey methodology was chosen for two reasons. First, compared to other methods, such as international qualitative research interviews, a survey saves time and is more cost efficient (Gershuny, Lader& Short, 2005). For example, case study may require researchers to spend lots of time and money on travel, as interviewers travel to other cities or countries. These costs are avoided by using a self-administered survey. Second, a survey can address research questions about practices of SD in different countries and ascertain motivations and barriers of SD from a global perspective.

Survey design

The survey population consists of members of the International Federation of Purchasing and Supply Management (IFPSM) and the Chartered Institute of Purchasing and Supply (CIPS). IFPSM includes 48 national and regional purchasing associations, representing about 250,000 purchasing professionals. Its members include the China Federation of Logistics and Purchasing, the Supply Chain Management Association (SCMA) in Canada and the American Production and Inventory Control Society (APICS) in the United States (IFPSM, 2016). Appendix A lists all the members of IFPSM. Similar to IFPSM, "CIPS is the premier global organization serving the procurement and supply profession." CIPS promotes best practices and provides a range of services to its members and the broader business community (CIPS, 2016). See Appendix B for a profile of CIPS' branches around the world. Both groups, but especially CIPS, focus on the English-speaking business world. These organizations were used to identify survey participants at the national level.

Survey design was guided largely by the SD literature. An email-list of respondents was developed from the IFPSM member and CIPS branch online lists. Name, title, e-mail address and association of each person were included in the database. Items on the questionnaire focus on presence (or absence) of SD in a country, and possible incentives or obstacles to introduce SD programs.

The purpose of the survey is to find evidence of SD, in the countries represented by survey recipients. A questionnaire was designed and coded into Qualtrics survey software. A link to the questionnaire was embedded in e-mail invitations sent to the sampling frame: 77 people in 37 countries. A reminder was sent to those who did not return their questionnaires after about one month.

Participant confidentiality will be maintained throughout the process. All the materials will be carefully preserved and coded. All the collected data will be stored in a computer dedicated for this project. The collected data will be protected by password and only accessible by the student and his advisor. Meanwhile, all hard copies will be stored securely in the principal investigator's office at University of Manitoba, and only be accessible by the project investigators. All collected data will be purged from the machines after the project is completed.

Secondary data

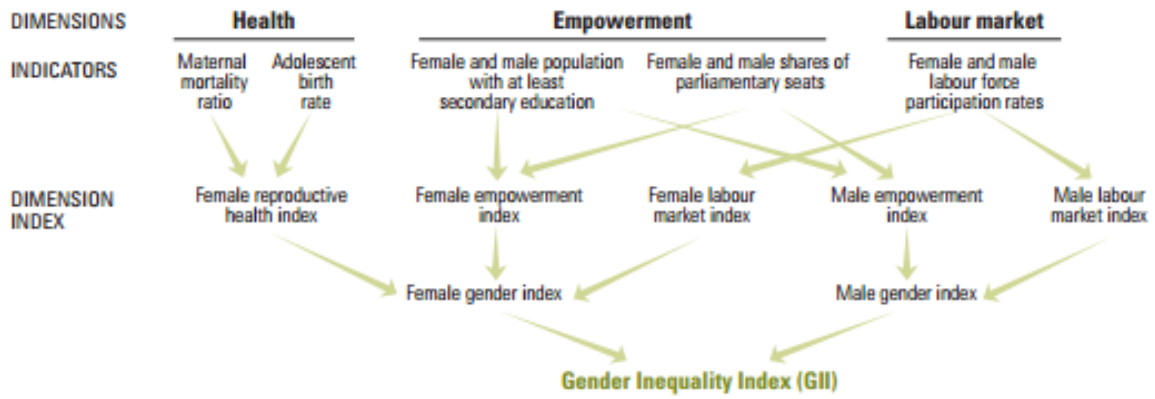
The secondary data will be used to compare differences in SD across countries—and to test the hypotheses. One item in the questionnaire was: "Do organizations in your country tend to have supplier diversity (SD) programs?" Possible responses were: "Yes, no or I don't know." This is the dependent variable from the survey.

The independent variables for hypothesis testing consist of the following four indices or measures from published sources: cultural fractionalization (CF), gender inequality index (GII), GDP and power distance (PD). Each of these measures, along with their sources, is briefly described below. The following four paragraphs are used with permission from a recent piece on cultural influences and supplier diversity (Larson 2016).

CF – the cultural fractionalization (CF) measure is borrowed from Fearon (2003, pp. 215-219). Conceptually, this measure is derived by randomly drawing two people from a country and computing their expected "cultural resemblance." In countries with only one language group or various ethnic groups that all speak very similar languages, resemblance will be close to 1. In contrast, in countries with many ethnic groups speaking structurally distinct languages, resemblance will be closer to zero. Thus, CF is the probability that two randomly drawn individuals (from any given country) are not from the same cultural group. A high CF scores means greater cultural diversity. This is the primary independent variable used to test H1.

GII – Constructed by the United Nations Development Programme (UNDP), the Gender Inequality Index (GII) estimates gender inequality across three important aspects of human development: reproductive health; empowerment; and economic status, measured by labor force participation rates of men and women (see Figure 9). A higher GII score means greater gender disparity. The index is computed for 155 countries, revealing gender gaps and pointing to possible public policy options for overcoming obstacles faced by women. This index is used to test H2, i.e. the relationship between gender inequality and SD.

Figure 9. Composition of the Gender Inequality Index.



UNDP (http://hdr.undp.org/en/content/gender-inequality-index-gii)

GDP – Gross Domestic Product (GDP) is a primary indicator of the health of a nation's economy. It is the total dollar value of all goods and services produced during a given time period, usually one year. It is a proxy for the size of a country's economy. Annual (2015) GPD is used to test H3, the link between economic development and SD. It was drawn from the World Bank website (http://data.worldbank.org/indicator/NY.GDP.MKTP.CD).

PD – Hofstede defines culture as "the collective programming of the mind that distinguishes the members of one group or category of people from others". National Culture is about value differences between nations and/or regions. Based on data from IBM, a multinational firm with operations in more than 60 countries, Hofstede identified four dimensions of national culture: power distance, uncertainty avoidance, individualism/ collectivism and masculinity/ femininity. The relative position of countries on these dimensions is expressed as a score ranging from 0 to 100. Power distance (PD) focuses on the lack of equality among people living within societies. It assesses attitudes of a national culture toward inequalities amongst its people. A high PD means that there is a hierarchical order in societies and people accept the inequalities of power. The index is used to show

effects of national culture on SD. PD is the extent to which less powerful members of institutions within a country expect and accept the unequal distribution of power (https://geert-hofstede.com/).

As a backup, an alternative dependent variable was derived using Google advanced search capabilities, to find the evidence of SD. Figure 10 is a shot of Google's advanced search screen, showing the example of searching for SD in Canada. For each country, name of the country was typed into the "all these words" field and *supplier diversity* was inserted into the "this exact word of phrase" field. Searches were narrowed by selecting the "in the URL of the page" option in the "terms appearing" field. All "hits" were studied closely, in search of evidence of SD programs in the respective countries.

Figure 10. Google Advanced Search Screen

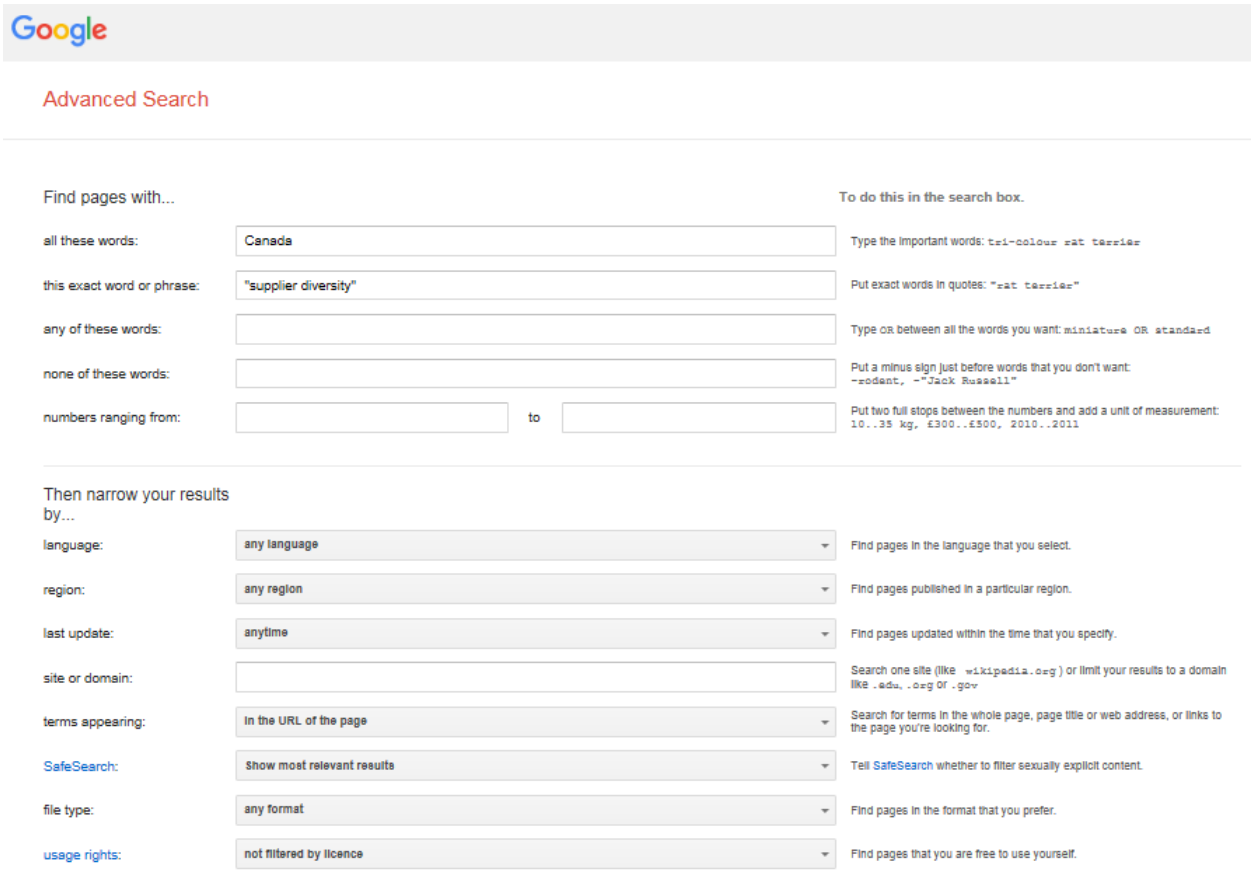


Figure 11 is one page of the google advanced search results for SD in Canada. Figure 12 shows the google advanced search results for Germany, where no evidence of SD was found.

Figure 11. Google Advanced Search Results – Canada

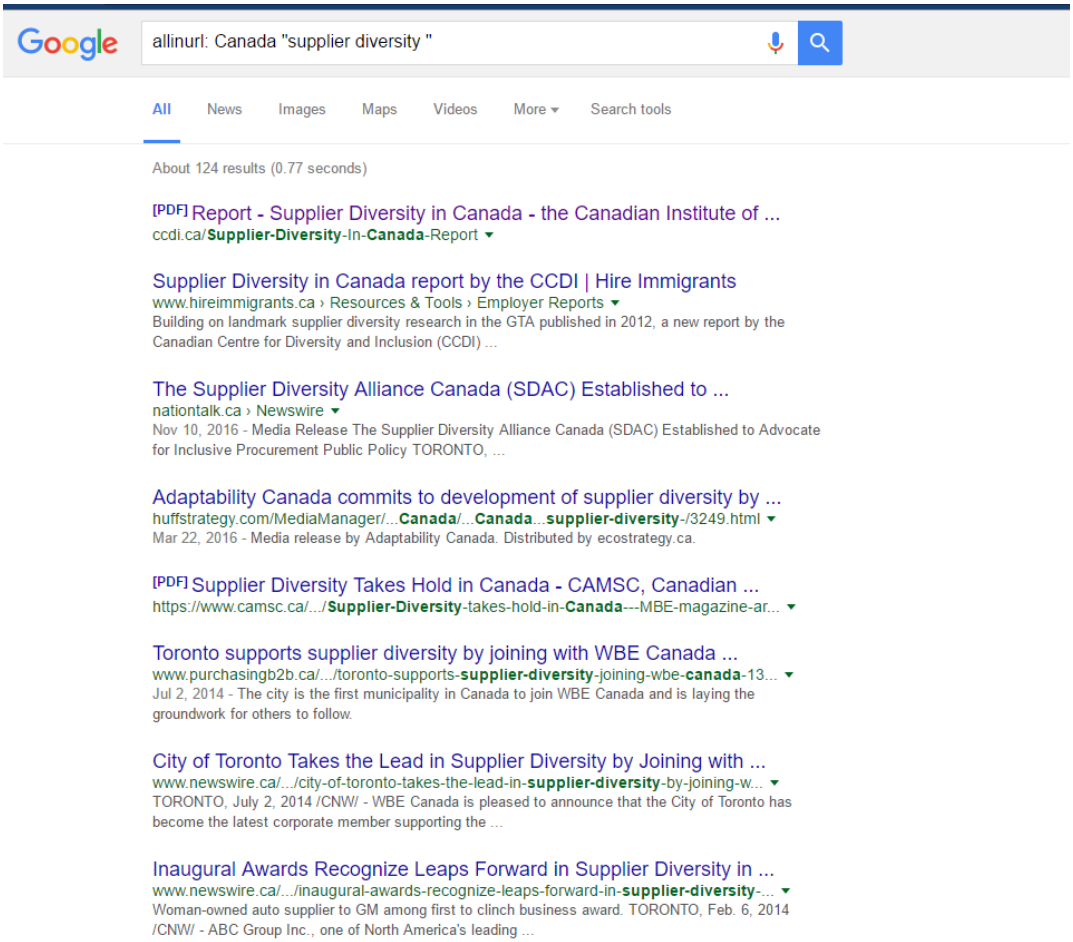
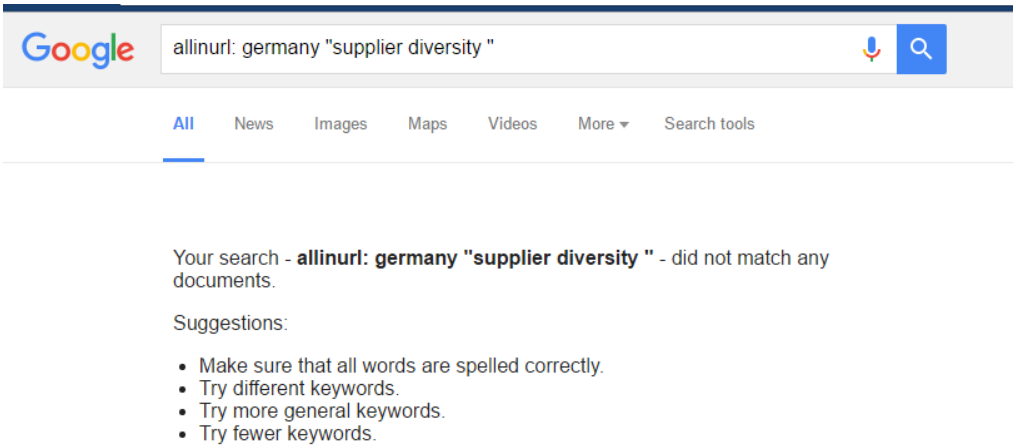


Figure 12. Google Advanced Search Results – Germany



Statistical Results

Characteristics of Respondents

The data comes from two sources: a survey and secondary data. The survey was sent to 77 purchasing specialists in 37 countries across Africa, the Americas, Asia and Europe (see Table 1). These countries are all members of IFPSM or branches of CIPS. Six e-mails were returned as "undeliverable." So far, 17 people have answered the survey, for a response rate of 23.9% (17/71).

Table 1. Survey recipients and responses by region

Region	Recipients	Responses	Undeliverable
Africa	21	6	3
Americas	8	3	
Asia	24	3	3
Europe	24	5	
Total	77	17	6

Table 2 shows survey responses to the question: "Do any organizations in your home country have SD programs?" Several aspects of this response are notable. First, the sample size is rather small – only 14 countries are represented. Second, there are three instances of disagreement within countries. For both Nigeria and the United Kingdom; one supply chain leader expressed presence of SD in the country, while another responded "don't know." Third, in the case of Canada, one supply chain leader gave the "wrong" answer. Though the survey respondent indicated there are no SD programs in Canada, the research team knows that there are such programs in the country. The research team is also skeptical about the presence of SD in one or more of the African countries, such as Ghana.

Table 2. Presence or Absence of SD

SD: yes	SD: no	Don’t know
Australia	Canada	Bangladesh
Canada	Sri Lanka	Estonia
Ghana	Zambia	Lesotho
Ireland		Nigeria
Kenya		UK
Nigeria		
Poland		
UK		
United States		
9	3	5

Thus, the hypotheses will be tested using the alternative dependent variable, derived from the Google advanced search.

In the final database for analysis, there are 8 SD countries and 47 non-SD countries, representing 14.5% and 85.5% of the total sample, respectively (see Appendix C). Six of the Google search SD countries – Australia, Canada, China, South Africa, the United Kingdom and the United States – were also noted by Rogerson (2012) as having some SD activity.

During preliminary study of the data, it was discovered that power distance (PD) and gender inequality (GII) are highly correlated ($r = .518$; p-value = .000). These variables are also conceptually similar – both describe the extent to which there is a culture of equality within nations, though the GII is specifically focused on gender equality. Thus, H2 (see page 20) and GII (see pages 24-25) are dropped from further consideration and statistical testing. Logistic regression was used to test the hypotheses, since the dependent variable is binary and the independent variables are interval-scaled.

Figure 13. Logistic Regression R Square

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	19.800	3	.000
	Block	19.800	3	.000
	Model	19.800	3	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	22.321[a]	.356	.586

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

The model summary table in Figure 13 shows the Cox & Snell and Nagelkerke R Square values. These are estimates of explained variation in the binary dependent variable (SD) given the regression model containing CF, PD and GDP as independent variables. Note that the Nagelkerke R Square, which is a modification of the Cox & Snell estimate, implies that the three independent variables explain 59 percent of the variation in SD.

Binomial logistic regression estimates the probability of an event occurring, e.g. organizations in a given country having SD programs. If the probability of occurrence is greater than or equal to 0.5, the model classifies the event as occurring. On the other hand, if the probability is less than 0.5, the event is classifed as not occurring. The classification table in Figure 14 reveals the accuracy of the model in terms of classifying cases. Overall, 91.1 percent of the countries were correctly classfied. Only one country (Germany) was mis-classified as having SD programs. Three countries (Australia, South Africa and Sweden) were mis-classifed as not having SD programs.

In the Variables in the Equation section of Figure 14, the Wald test is used to test the hypotheses. Note that all three hypotheses are supported by the data, i.e. all three independent variables are significant predictors of whether or not a country has SD initiatives.

Figure 14. Logistic Regression

Classification Table[a]

Observed		Predicted SD: no	Predicted SD: yes	Percentage Correct
Step 1	SD: no	36	1	97.3
	SD: yes	3	5	62.5
	Overall Percentage			91.1

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	CF	9.819	4.474	4.818	1	.028	18386.556
	PoDi	-.077	.037	4.263	1	.039	.926
	GDP (US$mil.)	.000	.000	5.724	1	.017	1.000
	Constant	-2.641	1.539	2.945	1	.086	.071

a. Variable(s) entered on step 1: CF, PoDi, GDP (US$mil.).

H1, H3 and H4 are tested by the model shown above. Recall that H2 was omitted due to correlation between GII and PD. One-tail tests were conducted since all three hypotheses are one-directional, i.e. higher CF, lower power distance and higher GDP make SD more likely.

Analysis and discussion

Hypothesis 1: SD is more likely in countries with greater cultural diversity.

The independent variable is CF, borrowed from Fearon (2003). The result of the Wald test (4.818; p-value = 0.028/2 = 0.014 < 0.05) supports H1. Countries with greater cultural fractionalization are more likely to have SD initiatives. High CF implies a more diverse population, which lays a foundation for SD development. SD practices often begin because of changing demographics toward increasing diversity. An increasingly diverse population means more minority-owned businesses—and a case for governments and large businesses to support these potential suppliers.

Hypothesis 2: SD is more likely in countries with lower GII scores. {This was omitted}

Hypothesis 3: SD is more likely in countries with higher GDP.

The independent variable is GDP, taken from the World Bank. The result of the Wald test (5.724; p-value = 0.017/2 = 0.009) supports H3. Countries with higher GDP are more likely to have SD initiatives. With considerable economic strength, high GDP country governments have the ability to support SD development. For example, to support Australian Indigenous Minority Supplier Council (AIMSC), the Australian government provides direct funding. Further, with high GDP, countries have bigger markets—and more business opportunities for minority-owned businesses. This is the national level equivalent of the organizational size hypothesis in SD research where the organization is the unit of analysis (Larson 2012, 2016).

Hypothesis 4: SD is more likely in countries with greater cultures of equality.

The independent variable is "power distance," borrowed from Hofstede. The one-tailed Wald test statistic (4.263; p-value = 0.039/2 = 0.020) is significant at alpha < 0.05. Thus, countries with lower power distance scores (i.e. with greater culture of equality) are more likely to have SD initiatives.

The following paragraphs profile the SD countries, grouped according to the logistic regression classification results. The profiles are largely drawn from the CIA World Factbook (https://www.cia.gov/library/publications/the-world-factbook/).

SD based on Google search, correctly classified by model

United States. With a population of 324 million people and GDP (in 2015) of $17.95 trillion, the United States is the world's largest economy today. GDP per capita is around $54,800. In terms of population ethnicity; the United States is 80% white, 13% black, 4% Asian, and 1% American Indian. English is the primary language spoken in 79% of American homes, followed by Spanish at 13%. The median age is 38 years, and 81.6% of Americans live in urban areas. Finally, the United States is toward the middle of the pack of countries studied on both CF (.271) and PD (40), suggesting it has a reasonable culture of diversity and equality.

Canada. The 2016 Canadian census estimated a total population of 35,362,905. With 2015 GDP of $1.55 trillion and GDP per capita of $45,600, Canada is the 10th largest economy in the world. The Canadian population is largely of European descent (19.8% English, 15.5% French, 14.4% Scottish, 13.8% Irish, 9.8% German and 4.5% Italian), with a significant Indigenous population (4.2%) and various visible minorities, e.g. Chinese (4.5%). However, the population is becoming increasingly

diverse. English and French are the official languages, spoken in 59% and 22% of households, respectively. The median age is 42 years, and 81.8% of Canadians live in urban areas. Canada has an above average CF score (.499) and is in the middle on PD (39), implying it is culturally diverse with a rather strong culture of equality.

China. With 2015 GDP of $10.98 trillion and GDP per capita of $14,100, China is the second largest economy. China's population in 2016 is 1,373,541,278. Of 56 distinct ethnic group, Han Chinese is the largest (at 91.6% of the population), followed by Zhuang at 1.3%. Numerous languages are spoken in China, led by Mandarin. The median age is 37 years, and 55.6% of Chinese citizens live in urban areas. China has a relatively low CF score (0.154), which follows from the dominance of the Han population, and high PD (80), implying absence of a culture of equality.

India has a GDP of $2.09 trillion and GDP per capita of $6,200. It is the 7th largest economy in the world. India's population in 2016 is 1,266,883,598, classifies ethnically as 72% Indo-Aryan, 25% Dravidian and 3% "other." Many languages are spoken in India, though Hindi is the most widely spoken and first language of 41% of the population. The median age is 27.6 years, and 32.7% of Indians live in urban areas. India has a PD score of 77 and high CF (0.667), making it similar to China in terms of inequality but much more culturally diverse.

UK. With 2015 GDP of $2.85 trillion and GDP per capita of $41,200, the UK is the 5th largest economy in the world. In 2016, the UK population is 64,430,428, ethnically classified as 87.2% white, 3% black/African/Caribbean, 4.2% Asian (Indian and Pakistani) 2% mixed and 3.7% other; based on 2011 estimates. While English is the primary language, various regional languages are recognized, such as Gaelic, Welsh and Irish. The median age is 40.5 years, and 82.6% of people live in urban areas. The UK PD (35) is slightly below Canada and the United States, but its population is

somewhat less diverse culturally (CF = 0.184).

SD based on Google search, incorrectly classified by model

Australia. This is the 12th largest economy in the world, with a 2015 GDP of $1.22 trillion and GDP per capita of $65,400. Australia's population in 2016 is nearly 23 million. While the country is ethnically diverse, it is dominated by people of European descent, led by those of English ancestry (25.9%). There is a small Indigenous population (< 1%). English is the primary language spoken at home (by 76.8% of the population), followed by Mandarin (at 1.6%). The median age is 38.6 years, and 89.4% of Australians live in urban areas. Cultural diversity is modest down under (CF = .147) and the PD score (36), is nearly identical to the UK.

South Africa. With 2015 GDP of $313 billion and GDP per capita of $13,200, South Africa is the 31st largest economy in the world. The country's 2016 population of 54.3 million is made up of 80.2% black Africans, 8.4% white, 8.8% colored and 2.5% Indian/Asian people. There are eleven official languages in South Africa, led by IsiZulu (spoken in 22.7% of homes), followed by IsiXhosa (16%), Afrikaans (13.5%) and English (9.6%). The median age is 27 years, and 64.8% of people live in urban areas. South Africa has a rather high CF score (0.53) and a PD of 49. This is a culturally diverse country with relatively high power distance, compared to Canada, the United States and the UK.

Sweden. This Nordic nation's 2015 GDP of $492.6 billion and GDP per capita of $47,900 make Sweden the world's 22nd largest economy. Sweden's population is 9.9 million (2016). Swedes are in the majority, with notable Finnish and Sami minorities, along with a variety of immigrant communities. Swedish is the only official language, though the Finnish and Sami communities speak

their own languages. The median age is 41 years and 85.8% of Swedes live in urban areas. Sweden has a strong culture of equality (PD = 31), with relatively low cultural diversity (CF = .189).

Non-SD based on Google search, incorrectly classified by model

Germany. With a 2015 GDP of $3.36 trillion and GDP per capita of $46,900, Germany is the 4th largest economy in the world. Germany's 2016 population of 80,722,792 is 91.5% German 91.5%, 2.4% Turkish, and 6.1% "other," mostly European. German is the official language, but there are a number of regional and minority languages. The median age is 46.8 years and 75.3% of people live in urban areas. While Germany's PD (35) is identical to that of the UK, its low CF (0.09) reveals a relative lack of cultural diversity.

Based on the above national profiles, it appears that SD is linked to some combination of a very large GDP and/or a culture of equality (low PD) or culture of diversity (high CF). The SD countries misclassified by the regression model had relatively lower GDP (South Africa and Sweden) and/or low cultural diversity (Australia and Sweden).

Conclusion

The results show that SD exists in countries with large economic strength, national cultures of equality and greater cultural diversity. Perhaps these conditions compel national governments to consider policies affecting diverse groups. These conditions may also support the rise of facilitating organizations, such as NMSDC in the United States and CAMSC in Canada. Such organizations are indispensable to resolving one of the key obstacles of SD: how to find qualified minority business suppliers.

Contribution

SD is still a relatively new concept and only a limited number of academic articles discuss it. Most current literature focuses on SD in organizations rather than nations. The small number of studies with a national focus are mostly about SD in the United States, e.g. Shah and Ram (2006) and Worthington (2009). Only two studies were found that either paid attention to SD in multi-countries or made cross-country comparisons (Worthington et al., 2008; Larson, 2012). Specifically, Larson (2012) compared SD programs in Chicago (USA) and Toronto (Canada). Further, nearly all current literature focuses on the English-speaking world. This thesis studies 55 countries, attempting to find the possible connection between SD practices and national cultural traits. This is the theoretical contribution of the thesis. Scholars could use these results as a starting point in searching for more national traits that may affect SD.

There are also implications for practitioners/policy makers. Survey results show that some national supply chain leaders appear to be unaware about SD and its possible presence in their countries. SD is a new concept for many countries. It could also be a new opportunity to improve

competitiveness of companies within various countries, while enhancing national and organizational reputation, employee satisfaction and customer satisfaction. SD could also help attract investment capital to certain companies and countries.

Limitations of the Study

There are several limitations to this study. First, there is the possibility of non-response bias in the dataset. The survey link was e-mailed to 77 specialists from 37 countries and only 17 responses were obtained. Such a small dataset was rather lean for testing the hypotheses. This was overcome by using Google advanced search to create an alternative dependent variable. In addition, various secondary sources, e.g. Fearon (2003) and the Hofstede Center, were relied on as proxies for the independent variables.

Areas for Further Study

Further exploration is needed in several areas. Recall that H2 and the gender inequality index (GII) were ultimately omitted from the study due to high correlation between GII and PD. Future research could attempt to drill into specific groups covered by SD programs, such as women-owned suppliers. The hypothesis would be: SD programs including businesses owned by women are more likely in countries with greater gender equality (low GII scores).

The current study focused on the English-speaking business world. Future research could expand the countries studied by translating the survey French, German, Spanish, etc. The Google advanced search measure of SD could also be extended to more countries by searching web-sites in the various languages. Scholars could also study more factors that may affect national SD practices.

For instance, they could study the effects of national educational achievements on SD.

Final Words

This study was conducted to explore cross-national cultural differences as possible factors to explain the absence or presence of SD within some countries. Lots of interesting information was gathered and analyzed. However, given limited resources, further study would be useful to obtain more in-depth knowledge. SD is a young but interesting concept, which integrates social responsibility into the business sector. This area of research will definitely keep attracting my attention.

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Appendices

Appendix A. Members of IFPSM

Africa

Kenya – Kenya Institute of Supplies Management

Malawi – Malawi Institute of Procurement and Supply

Nigeria – Chartered Institute of Purchasing & Supply Management of Nigeria

Uganda – Institute of Procurement Professionals of Uganda

Americas

Argentina – Asociación Argentina de Compras Administracion de Materiales y Logistica

Brazil – Brazilian Council of Purchasing Executives

Canada – Supply Chain Management Association

Mexico – Asociación de Profesionales en Compras, Abastecimiento y Logística, A.C.

Trinidad & Tobago – Caribbean Association of Procurement Professionals

United States – American Production and Inventory Control Society, Inc.

Asia Pacific

China – China Federation of Logistics and Purchasing

Hong Kong – The Institute of Purchasing and Supply of Hong Kong

India – Indian Institute of Materials Management

Indonesia – Ikatan Ahli Pengadaan Indonesia

Japan – Japan Materials Management Association

Malaysia – Malaysian Institute of Purchasing & Materials Management

Philippines – Procurement & Supply Inst. of Asia; Philippine Institute for Supply Management

Singapore – Singapore Institute of Materials Management

Sri Lanka – Institute of Supply and Materials Management

Taiwan – Supply Management Institute, Taiwan

Thailand – Purchasing and Supply Chain Management Association of Thailand

Europe and Middle East

Austria – Forum Einkauf; Bundesverband Materialwirtschaft, Einkauf und Logistik in Osterreich

Belgium – Association Belge des Cardes d'Achat et de Logistique; Vereniging voor Inkoop en Bedrijfslogistiek

Croatia – Croatian Association of Purchasing

Denmark – Danish Purchasing and Logistics Forum

Estonia – Estonian Purchasing and Supply Chain Management Association

Finland – Finnish Association of Purchasing and Logistics

Germany – Bundesverband Materialwirtschaft, Einkauf und Logistik

Greece – Hellenic Purchasing Institute

Hungary – Hungarian Association of Logistics, Purchasing and Inventory Management

Ireland – Irish Institute of Purchasing and Materials Management

Israel – Israeli Purchasing & Logistics Managers Association

Netherlands – Nederlandse Vereniging voor Inkoop Management

Norway – Norsk Forbund for Innkjøp og Logistikk (Norwegian Association of Purchasing and Logistics)

Poland – Polskie Stowarzyszenie Menedżerów Logistyki

Portugal – APCADEC – Portuguese Association for Purchasing and Supply Management

Russian Federation – Federation of Purchases and Supply Management of Russia

Serbia – Serbian Association of Professionals in Public Procurement

Slovenia – Zdruzenje nabavnikov Slovenije (Slovenian Purchasing Association)

Spain – Associación Espanola de Professionales de Compras, Contractión y Aprovisionamientos

Sweden – Swedish Purchasing and Logistic Association

Switzerland – Swiss Association for Purchasing and Supply Management

Turkey – TUSAYDER

United Kingdom – International Federation of Purchasing & Supply Management

Source: http://www.ifpsm.org/regions/

Appendix B. Branches of CIPS by Region and Nation

Africa

Botswana, Ghana, Kenya, Lesotho, Malawi, Nigeria, Swaziland, Uganda, Zambia, Zimbabwe

Americas

Canada, Trinidad & Tobago

Asia

Bangladesh, China, Hong Kong, India, Malaysia, Singapore, Sri Lanka, Thailand

Australasia

Australia (Capital Territory, New South Wales, Queensland, South Australia/Northern Territory, Victoria/Tasmania, Western Australia), New Zealand

Europe

Channel Islands, Ireland, Switzerland

Middle East and North Africa

Egypt, Qatar, United Arab Emirates

United Kingdom

34 Branches (across England, Northern Ireland, Scotland and Wales)

https://www.cips.org/community/branches/branchlisting/

Appendix C. The Database

Country	PD	CF	GDP	SD		Country	PD	CF	GDP	SD
Argentina	49	0		0		Netherlands	38	0.077	752,547	0
Australia	36	0.147	1,339,539	1		New Zealand	22	0.363	173,754	0
Austria	11	0.1	374,056	0		Nigeria	80	0.66	481,066	0
Bangladesh	80	0.141	195,079	0		Norway	31	0.098	388,315	0
Belgium	65	0.462	454,039	0		Philippines	94	0.116	291,965	0
Botswana		0.161	14,391	0		Poland	68	0.041	474,783	0
Brazil	69	0.02	1,774,725	0		Qatar			166,908	0
Canada	39	0.499	1,550,537	1		Russia	93	0.311	1,326,015	0
China	80	0.154	10,866,444	1		Serbia	86		36,513	0
Croatia	73	0.185	48,732	0		Singapore	74	0.388	292,739	0
Denmark	18	0.128	295,164	0		Slovenia	71	0.17	42,747	0
Estonia	40	0.492	22,691	0		South Africa	49	0.53	312,798	1
Finland	33	0.132	229,810	0		Spain	57	0.263	1,199,057	0
Germany	35	0.09	3,355,772	0		Sri Lanka	80	0.386	82,316	0
Ghana	80	0.388	37,864	0		Swaziland		0.143	4,060	0
Greece	60	0.05	195,212	0		Sweden	31	0.189	492,618	1
Hong Kong	68		309,929	0		Switzerland	34	0.418	664,737	0
Hungary	46	0.185	120,687	0		Taiwan	58	0.169		0
India	77	0.667	2,073,543	1		Thailand	64	0.431	395,282	0
Indonesia	78	0.522	861,934	0		Trinidad &	47	0.38	27,806	0
Ireland	28	0.157	238,020	0		Turkey	66	0.299	718,221	0
Israel	13	0.246	296,075	0		UAE	90	0.65	370,293	0
Japan	54	0.012	4,123,258	0		Uganda		0.647	26,369	0
Kenya	70	0.601	63,398	0		United Kingdom	35	0.184	2,848,755	1
Lesotho		0.057		0		United States	40	0.271	17,946,996	1
Malawi	70	0.294	6,565	0		Zambia	60	0.189	21,202	0
Malaysia	100	0.564	296,218	0		Zimbabwe		0.141	13,893	0
Mexico	81	0.434	1,144,331	0						

PD = power distance; CF = cultural fractionalization