

**University of Alberta**

**Institutional consumer preferences for Forest Stewardship Council  
certified paper**

by

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## Abstract

The Forest Stewardship Council (FSC) certifies forests that have been grown in an environmentally and socially responsible manner. It attempts to increase market share for certified paper via a Business Development Plan (BDP). This thesis provides analysis of the FSCs marketing using a survey and case study approach. The survey of institutional paper buyers reveals trends that suggest that the market for FSC and other certified papers is gaining popularity with institutional buyers, even though final consumers remain price sensitive. Components of institutional behavior that might cause an organization to adopt FSC are analyzed. This analysis reveals that adoption is more likely if it is important to an institution's stakeholders and if reputation can be increased, even given increased costs. However, much of the growth in market share of FSC remains unexplained by the BDP. Hence the market for FSC and certified paper may be expanding independent of FSC and BDP.

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## **Definitions of Acronyms**

Used throughout the Thesis.

FSC = Forest Stewardship Council  
CoC= Chain of Custody  
ECO= Eco-labeled (environmentally friendly) papers  
EPP = Environmentally preferred papers  
PPP = Paper procurement policy  
BDP = Business Development Plan  
CFP = Certified Forest Products  
U of A = University of Alberta  
SU = Students' Union  
CSR = Corporate Social Responsibility

Note:

- The Phase I, 2008, or year 0 survey is described as 'last year's' survey, and this year's survey is described as Phase II, 2010, or the year 1 survey. The descriptions are used interchangeably.

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## **Chapter 1: Introduction**

### **1.1 Thesis Preface**

Forest certification is a market mechanism to address consumer interest in responsible forestry. It is a market-based approach to incorporate environmental and social elements into product markets; a process that attempts to encourage forest managers to include environmental and social criteria in their forest management practices. The specific details of the environmental criteria are set out by the certification body, and based on the assumption that the criteria are important to consumers. These criteria include a number of environmental requirements that must be met in forest management. The wood harvested from certified forests is “tracked” along the entire supply chain from forest, to pulp mill, to consumer with the certification label ensuring that the information about the origin of the product is not lost. This tracking is what makes the mechanism work: the assumption is that there is consumer label recognition and consumer demand for “certified” forest management. The process assumes that consumer demand for certified forest products exists, and that they are willing to pay a premium for it, since products from certified forests are more expensive to produce.

The Forest Stewardship Council is one very prominent body in forest certification. It is widely accepted as the most popular and generally most highly trusted forest certification system among consumers (Greenpeace 2007; World Wildlife Fund 2007). It is unique in that it contains both environmental and social criteria, for instance criteria to address the needs of forestry communities and native land rights issues. The system is not without faults and criticisms, but it is considered by many environmental

organizations, government bodies, and institutional paper users as the “best” certification system that exists; meaning it addresses environmental and social concerns related to forestry most effectively compared to other certification schemes.

The FSC competes with other certification bodies, specifically the Sustainable Forestry Initiative, Canadian Standards Association (CSA) and The Programme for Endorsement of Forest Certification schemes (PEFC) (which are discussed in the next section) as well as “other” environmentally preferable papers (referred to as EPP’s for the duration of the thesis), such as recycled paper, and paper made from pulp with other sources, such as hemp, and alternate pulp sources, such as grain. Interestingly, the FSC also “competes” with initiatives to reduce paper use – many institutions are attempting to reduce paper use in their offices. An interesting question is, which activity – purchasing certified paper or reducing paper use – makes the biggest contribution to improving environmental sustainability? However, we are not out to answer this question in this thesis. We are interested in whether consumers perceive certification schemes as improving environmental stewardship, resulting in increased demand for certified products. Our objectives are also to investigate the factors that cause adoption or non-adoption of these certified products.

Many corporations, governments, and institutions choose certified paper, particularly FSC-certified paper, in their offices. The presence of the certification label transmits the information to consumers regarding their commitment to forest management standards in paper consumption. If this commitment is important to their consumers and stakeholders, it is likely the entity will adopt these papers. To promote the use of these papers, the FSC has implemented a marketing program, called the Business Development Plan (BDP), which targets institutional paper consumers. These

large consumers have been chosen as marketing targets over individual consumers because they purchase large volumes of paper in bulk and are more sophisticated buyers, being better informed about paper markets in general. The first part of this thesis evaluates the success of the BDP in increasing FSC adoption by analyzing results of surveys administered to paper buying firms and the second part investigates the institutional factors that can contribute to or inhibit adoption of FSC, using the University of Alberta, as an example of a large paper buyer. This second part is a complement to the survey, revealing more of the underlying reasons for choosing, and equally importantly for *not* choosing, EPPs, and FSC products in particular.

## **1.2 A Survey and Case Study Approach**

This thesis addresses the question “why would an institution prefer FSC certified paper, and what are the specific factors that would increase adoption of environmentally certified papers?” The empirical portion of this thesis is supported by two phases of data collection that were designed to evaluate the impact of the Forest Stewardship Council’s (FSC’s) Business Development Plan (BDP). The BDP was intended to raise awareness and purchases of FSC certified paper by a range of paper using agencies. The two phases of data collection included three rounds of surveys (two surveys in Phase I in 2007 and 2008, and one in Phase II, 2009) of paper buyers in Canada. A “quasi-experimental” or “matching” approach was used to evaluate the impact of the BDP. Paper buying agencies that were formally included in the BDP were “matched” with similar agencies or firms that were not formally included in the original BDP. In addition to the analysis of the formally identified BDP firms with those not formally identified, a number of other ways to assess the impact of formal and informal FSC marketing were also conducted. This approach provides an assessment of the extent

to which the BDP has an impact on purchases, whether the BDP has an effect separate from changes over time, and whether adoption of certified paper is increasing.

The Phase II survey was initiated in the fall of 2009. This survey was intended to be the follow up to the original survey, primarily to measure changes in adoption of FSC paper. Specifically, the main thrust was to assess the effectiveness of the FSC's BDP and to determine whether the marketing under BDP had resulted in increased awareness of the FSC brand, as evidenced by increased adoption. The survey also was intended to measure any change in adoption of other certified, certified-recycled, and other environmentally friendly papers, and to gauge the perceptions of these products. Addressing the finding that recycled papers are a substitute for certified paper (Dacyk 2009) was also a priority.

Following the survey, a case study of a large institutional paper purchaser is presented. Lessons about paper buying are drawn from a thorough literature review of organizational factors which are applied to inform the research question. Given what we learn from the survey, the case study gives a practical application of some of the reasons *why* we observe certain organizations' behaviors, pre-conceived notions and adoption or *non-adoption* to these types of paper products. It was important to investigate not only what organizational factors encourage an organization to prefer these products, but what role these factors play in preventing an organization from adopting them.

Environmentally-preferred products, such as FSC certified paper, can be good for business, but they often have higher costs. These goods must be valued by stakeholders of the firm, whether that be end-consumers or the employees of the firm,

in order for the higher cost of adoption to be justified. Firm characteristics, such as marketing strategies, institutional (or operational) characteristics, or accounting issues, can present hurdles or enable adoption of these papers. These organizational characteristics are examined in some detail and applied to the U of A case. From this, recommendations for the FSC about BDP are made, and more generally recommendations about the adoption of environmentally certified products by institutions are presented.

### **1.3 Adoption of Environmentally-Preferred Paper: A Summary**

Using data collected from Phase I and II survey rounds, several models are created to investigate whether the BDP has had an impact. Several of these models suggest that the market for FSC and eco-friendly papers is gaining momentum. As well, we see some slight evidence of the effectiveness of FSC's marketing: those contacted respondents appear to be adopting FSC and EPPs in increased proportions. There was also a notable increase in brand recognition. The initial survey conducted by Dacyk (2008) revealed that the BDP was not effective. However, after another year has elapsed, there is some evidence the BDP may be in part contributing to generating sales of not only FSC but of other EPPs. This uptake, however, may be the result of factors other than the BDP.

Phase I of the study (reported in Dacyk, 2008) found limited impact of the BDP on the proportion of FSC paper purchased, or on the proportion of other eco-labeled papers purchased. Phase I did find that respondents were interested in eco-labeled papers and felt that FSC was the best option in terms of meeting environmental objectives. However, this phase also pointed out that many firms felt that recycled

papers were substitutes for certified papers like FSC. An important finding from this phase was that firms with a formal paper procurement policy were significantly more likely to purchase environmentally preferred papers including FSC.

The same methods and nearly the same survey instruments were used in Phase II to collect the data on environmentally certified and recycled paper use and knowledge and perceptions of certified papers. Interestingly the outcome is quite different than Phase I. Even though the data were collected during a severe recession, it appears that EPP use is increasing. Our expectation was that cost-cutting would reduce the use of FSC and other certified papers but that does not appear to be the case. It is possible that sufficient time is required for the BDP to have its effect on paper buying, or some other factor is at work, or the combination of BDP and other factors. However, given the low significance of the BDP in Phase II, it is likely only one component causing increased purchases, if at all, and must be treated with caution. Other factors, such as the existence of a paper procurement policy, still result in increased purchases of environmentally certified papers. This sense of trends gained from analysis of two phases of data is a unique contribution of this work. The evidence of trends regarding certified paper adoption is not prevalent in the literature.

FSC paper continues to be perceived as the preferred environmentally certified paper among paper buyers. However, there are a number of remaining challenges. First, although the BDP has had a statistically significant impact, the total uptake of FSC paper remains a relatively small proportion of overall paper use. This is perhaps not surprising given that such papers are likely used for specialized purposes. Nevertheless, there remains room for additional uptake. Second, recycled paper continues to be

perceived as a substitute to certified papers and as such is a challenge for forest certification entities. In terms of limitations of our work, obtaining information on paper use is challenging and our results are based on a relatively small sample and for only a few paper-using sectors. Additional insights would be gained from larger samples and more detailed information on paper purchased over time and the impact of marketing plans and institutional arrangements associated with paper purchasing and corporate environmental objectives, however these processes are time consuming, and few of these studies appear in the literature. To partially address these limitations an institutional case study of a large paper buyer has been done to complement, inform, and extend the survey findings. This is another unique contribution of this work; while studies on certified uptake are rare, studies on the reasons for certified uptake are even more so. In this study we were able to complement our findings of trends with a deeper understanding of what factors may contribute to adoption of certified papers.

In summary, FSC's marketing plan and focus on certain paper buyers may have had a slightly significant effect on certified paper uptake. There were likely direct effects on those who were targeted by the BDP, as well as spillovers to others who heard marketing messages or were influenced by their peers using certified papers. One of the conclusions of the Phase I study – that there appeared to be a latent demand for certified papers – seems to be borne out in the Phase II results.

The case study intends to shed light on some of our survey findings. The case follows an extensive literature review of several institutional factors, accounting, marketing and operations components of an organization, and how they can serve as enablers or barriers in the paper procurement “story”. The literature review is applied

to the specific case of paper buying at the University of Alberta. Several lessons are learned which reinforce and clarify some of our survey findings. Using both the survey and the case we learn valuable lessons why institutions may prefer, or not prefer, FSC paper products. We find that in many cases, the marketing message is not reaching the “right” person, and that the alignment with institutional values is not clear. Also, many organizations do not understand certification, and prefer recycled as an alternative. Costs are a commonly cited reason for non-adoption. The case study reinforces the survey finding of the importance of a PPP as an enabler of FSC adoption. The empirical work coupled with the case study citing reasons for adoption is a distinct contribution to the literature.

#### **1.4 Document Organization**

This thesis is organized as follows. The next section, chapter 2, comprises a two-part literature review. This was necessary because this study uses a two-method approach to informing our research question. The first part reviews the purpose of certification and the FSC’s response, and market factors considering certification. It adds background to and motivates the survey component. The second part is a review of the literature on organizational components, and how they play a role in the paper procurement process. Organizational components investigated include operations, supply management and procurement, corporate social responsibility, accounting, disclosure and marketing. This second literature review is an important component of the case study portion of the thesis. In this section, we also do a literature review as it applies specifically to FSC’s marketing.

Next we review the survey methodology in chapter 3, giving a summary of earlier (Phase I) findings as well as expectations for this Phase. In the next chapter (chapter 4)



summary statistics are presented from both phases. We then compare phase I and II models and certified paper changes in adoption. Next phase II models are presented, and the following section offers merged survey data and a description of trends, or changes that we have seen in that year. Then we apply the survey findings as institutional lessons and lessons applicable to the BDP.

The case study is introduced giving a brief background on case study research, and presented in chapter 5, using the U of A as a specific institutional example. An overview of the University of Alberta's procurement system is given, and lessons learned from the organizational literature review are applied, and potentially useful lessons are extracted in chapter 6. In this chapter we also draw several important points that are learned from the survey and case study, as specific lessons for the FSC in promoting their products, and overall organizational and institutional lessons promoting understanding of behaviour. Then we give an evaluation of the BDP, and directions for future research given and the conclusions end the discussion of this two-method thesis.

## **2 Chapter 2: Literature Review**

This thesis includes a literature review completed in two parts. The first part will provide a background on certification, the FSC, and the market for certified paper products. The second part a review of the literature associated with the case study. It is an important component of the case study. The literature review on institutional factors informs the survey findings.

### **2.1 Part 1: Forest Certification**

#### **2.1.1 Certification**

Forest certification is a method to incorporate environmental production standards into forest management. It is tool for forestry companies to advertise their production processes to access consumer markets. Hence, certification was born to manage ineffective state regulatory mechanisms and establish market signals to slow deforestation. It is a strategy which attempts to address issues of deforestation and deficiencies in forest management, in the sense that negative environmental spillovers are controlled or mitigated (Pattberg 2005; Taylor 2005). Certification was initially created to address tropical deforestation in South America (Taylor 2005) however has since become most popular over time in Canada in an effort to improve forest management. About 80-90% of certified forests are in the Northern Hemisphere (UNECE/FAO and United Nations Economic Commission for Europe and the Food and Agriculture Organization of the United Nations 2009). Certification developed primarily in response to concerns regarding clearing of tropical forests to make room for land uses such as agriculture, citrus and cattle operations.

Certification is a consumer driven information process differentiating forest products that have been produced accordingly to environmental standards (Perera and Vlosky 2006). Forest stakeholders and the public in general became increasingly concerned about deforestation issues that were exacerbated by ineffective government regulation. Forest operators had no market incentives to curb harvesting and manage sustainable yields (Hock 2001). It is perhaps the best example of a voluntary mechanism to address environmental externalities (Cashore, van Kooten et al. 2003). It is interesting to note that certification has become more popular for forest management in countries where regulatory systems are more transparent instead of the less-transparent governments (such as those in some developing countries) that it was originally designed for. This may be because certification needs to overlay an established, transparent regulatory system in order to function effectively. The information about forest source transmitted in certified products needs to be retained, and without conspicuous government systems the incentives to adhere to environmental standards in forest production may not exist. For instance, this was an issue in Indonesia. “The dispute over forest tenure status, unsustainable forest management and un-conducive forest management policy has been the major problem of the forest practices in Indonesia” (Muhtaman and Prasetyo 2004, page 27). Practices are made more challenging by political, social and economic troubles and exacerbated by disputes with regions over who has forest management authority. This type of authority is established in countries such as Canada, and these types of complications do not exist.

In essence, certification is a regulatory mechanism that is layered on top of government requirements, and in the case of Canada, provincial regulations regarding

forest management. One specific certification scheme, the Forest Stewardship Council (FSC) program, is differentiated from other certification schemes via a non-state private regulator, while other schemes rely on self-regulation (Cashore, van Kooten et al. 2003). The voluntary nature of FSC makes it a unique regulatory system. In this case, producers must sense that there is demand in the market for certified products in order to make the investment in certified forests worthwhile.

**Figure 1 The FSC Mixed Sources Label**

Source: FSC Canada Website:  
<http://www.fscCanada.org/mixedsource/s1and2.htm>



Certification is a process that begins with the forest producer and is tracked throughout the supply chain to the final consumer. In order for certification to work, the end consumer must demand the final, certified product; preferring those to other substitutes, namely uncertified products. In order for certification to have value in the market, its identification must not be 'lost' in the delivery chain – that

is, certified wood should not be mixed with certified wood unless it is identified, such as when a percentage of certified wood is identified in a product (see Figure 1)<sup>1</sup>. When certified wood is blended with uncertified, and this is unaccounted for, it poses a challenge for producers, and certified wood loses its value since the producer is not able to recover the increased costs associated with managing a certified forest. For example, in 2006, industrial roundwood production from major certification schemes such as the Forest Stewardship Council (FSC) and the Programme for Endorsement of Forest Certification (PEFC) was 370 million cubic meters, or 23% of the world's annual

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<sup>1</sup> For the FSC, this is identified by the "Mixed Sources" label, image on previous page.

production and had risen to 385 million m<sup>3</sup>, or 24% by 2007. Yet only a small fraction of this wood reached the market carrying a logo (Auld et al. 2008). This is occurring because certified pulp is produced in such small quantities from some producers it is “lost” in the production process.

However, there are concerns that producers may be overstating or misleading consumers that there is any certified content at all<sup>2</sup>. These problems pose significant challenges to the development of both supply and demand markets for the FSC, and stress the importance of tracking certified wood throughout the fibre stream. It is imperative that it not be ‘lost’ since the whole mechanism will fail if this is the case.

Certification is essentially a solution to a broad social problem regarding forest management. Consumers became concerned about deforestation and increasing loss of forests, and it became necessary to build a type identification system where producers that followed stricter environmental production processes could be distinguished from forest products that do not meet the criteria. It gives the consumer more choice regarding source of forest products and the manner in which they were produced. It is important because it was, in the most elemental sense, borne from a social movement where concerns over forest health were pervasive. By distributing money to a plethora of interconnected organizations and stakeholders, including environmental interest groups, forest certification was transformed to a complex system (Bartley 2007). Without involvement of a foundation, or interest groups, forest certification would be more organizationally fragmented and have less market penetration than it does today.

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<sup>2</sup> Source, FSC Watch Webpage. “The joke that is FSC’s ‘Controlled Wood Standard’: the laundry is open for business.” November 13, 2006. Available at:  
[http://www.fscwatch.org/archives/2006/11/13/The\\_joke\\_that\\_is\\_FSC\\_s\\_\\_Controlled\\_Wood\\_Standard\\_\\_the\\_laundry\\_is\\_open\\_for\\_business](http://www.fscwatch.org/archives/2006/11/13/The_joke_that_is_FSC_s__Controlled_Wood_Standard__the_laundry_is_open_for_business)

### *2.1.2 The Forest Stewardship Council*

The Forest Stewardship Council, FSC, is a non-profit, membership-based organization that was founded in 1993 in Toronto, Ontario (FSC Canada 2010). The FSC is unique compared to other certification schemes for the fact that it was created by a diverse set of interests – environmental groups, industry, forestry professionals, community groups and aboriginal associations from 26 countries. Now this includes 640 members in over 70 countries. FSC forests include about 100 million hectares worldwide spanning over 80 countries<sup>3</sup>. FSC activities in Canada began in 1996. The FSC has deliberately been built around the principles of sustainable development which emerged around 1992 in terms of both organization and decision making (Bass 2002). The model has been proven to be a successful model of private rule making and implementation, in the sense that it has been adopted by forestry companies and chosen by environmental organizations as the “best” certification system. It has diffused to other areas such as marine conservation, aquaculture, tourism and mining, as a tool to control that environmental criteria is applied to production (Pattberg 2005).

FSC - Certified forests are managed according to many criteria outlined by the certification agency, and are specific to each individual forest. The uniqueness of separate criteria by forest gives it more complexity and sets it apart from other certification schemes. The criteria are meant to improve sustainability, protect forest eco-systems, endangered or threatened species, watersheds, as well as surrounding communities. For FSC, overall, the general management criteria encompass the following values:

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<sup>3</sup> FSC Canada Website, Accessed March 2010, Available at:  
<http://www.fsccanada.org/whoweare.htm>

**Table 1 Values of the FSC system**

- Prohibit conversion of forests or any other natural habitat
  - Respect of international workers rights
  - Respect of Human Rights with particular attention to indigenous peoples
  - Prohibit the use of hazardous chemicals
  - No corruption – follow all applicable laws
  - Identification and appropriate management of areas that need special protection (e.g. cultural or sacred sites, habitat of endangered animals or plants)
- (Source: FSC Canada<sup>4</sup>)

Due to the very specific and technical requirements for a forest to be certified, and particularly the specific stipulations for each individual forest, the FSC mandates will only be broadly discussed here<sup>5</sup>. In essence, there are 10 principles and 56 criteria that have to be met in order to achieve certification, and fall into the following general categories:

**Table 2 FSC International Principles and Criteria for Forest Management**

Principle 1 Compliance with laws and FSC Principles  
Principle 2: Tenure and use rights and responsibilities  
Principle 3: Indigenous peoples' rights  
Principle 4: Community relations and worker's rights  
Principle 5: Benefits from the forest  
Principle 6: Environmental impact  
Principle 7: Management plan  
Principle 8: Monitoring and assessment  
Principle 9: Maintenance of high conservation value forests  
Principle 10: Plantations  
(Forest Stewardship Council 1996)

Other major certification labels are the Sustainable Forestry Initiative (SFI), the Programme for Endorsement of Forest Certification (PEFC), and the Canadian Standards

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<sup>4</sup> Forest Stewardship Council (FSC) Webpage, Accessed July 2010. Available at: <http://www.fsc.org/pc.html>.

<sup>5</sup> Assessing the very technical requirements of certification schemes is not the goal of this thesis; we are more interested in the demand for the downstream product, specifically paper products.

Association (CSA)<sup>6</sup>. The SFI and CSA schemes differ from the FSC significantly: they are industry-run schemes, and do not incorporate major environmental groups or aboriginal communities in the development of its standards. Environmental groups recognize FSC as a more balanced collection of perspectives. FSC is considered the most rigorous certification system, with support from major environmental organizations such as Greenpeace, the World Wildlife Fund (WWF) and the Natural Resources Defense Council (Greenpeace 2007). In addition, FSC has forests in over 80 countries; hence it is the most internationally recognizable logo. FSC is claimed to be the most effective in terms of effect on forestry and political dialogue (Pattberg 2005).

To keep the FSC supply chain functioning, namely, to identify FSC wood fibre throughout the entire supply chain, the FSC has created the “Chain of Custody” (CoC) program, which tracks FSC fiber throughout the entire delivery process. The CoC certification ensures to the consumer that any FSC product can be tracked back to its approved source. Any entity that handles FSC fibre in any step of the process must have this CoC certification. For paper and printing, this includes: the pulp mill, paper mill, paper merchant and the printer.<sup>7</sup>

### *2.1.3 Challenges*

However, certification systems are far from perfect, and the FSC is not exempt from controversy. There is criticism that the FSC is not a ‘good enough’ system, and in fact, no certification system is really tackling forest management issues efficiently.<sup>8</sup>

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<sup>6</sup> The other three remaining certification systems will be referred to as SFI, PEFC and CSA for the duration of the thesis.

<sup>7</sup> The print broker or publishers do not need CoC. Costs of CoC are \$3000 application fee plus annual audit costs, which vary (Source: FSC Canada Website).

<sup>8</sup> Source: FSC Watch Webpage. “Norwegian government: FSC not good enough for procurement policy.” July 25, 2007. Available at: <http://www.fsc->



However, though imperfect, many agree that the FSC system is the best available (Pattberg 2005) and general consensus states that it is better than no forest certification at all (Rametsteiner and Simula 2003). That being said, there is no evidence that certified forests improve social welfare (Haener and Luckert 1998; Luckert and Boxall 2008). This may pose a very real and problematic barrier to development of markets for certified products; since it may become difficult to convince the consumer that their extra dollars are actually contributing to increased environmental stewardship.

Additional criticism of FSC is due to the costs associated with certification; in many cases, only large landowners can afford to become FSC certified, pushing small producers out of the certified forest products market. As well there are several sources saying that because of FSC's size and popularity, they have become the "Enron of forestry" (Mongabay 2008) meaning they have too much power as the most recognizable certification and that smaller producers, with sound environmental practices but cannot afford certification, are pushed out of the market. Certificates have been issued to forestry operations that are questionable according to many environmental groups, including one of FSC's founding members, the Rainforest Foundation (Counsell and Loraas 2002). Criticism on FSC practices is documented on the FSC-Watch website.<sup>9</sup> The World Wildlife Fund (WWF) supports FSC though it acknowledges that there are some major challenges associated with it, which they working to address (World Wildlife Fund 2007).

The FSC is a private entity. Private approaches to public good provision raise questions about their actual *performance* as providers of public goods because the

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[watch.org/archives/2007/07/25/Norwegian\\_government\\_\\_\\_FSC\\_not\\_good\\_enough\\_for\\_procurement\\_policy\\_](http://watch.org/archives/2007/07/25/Norwegian_government___FSC_not_good_enough_for_procurement_policy_)

<sup>9</sup> Available at: [www.FSC-Watch.org](http://www.FSC-Watch.org)

private politics of FSC go beyond the country in which they operate. Despite the challenges, the structure of FSC is interpreted as an innovative institutional model for sustainable development, rather than a voluntary initiative for maintenance of corporate agenda, for three reasons as outlined by Pattberg (2005). First, “the unique governance structure has prevented capture by strong economic interests, ... second, other economic actors have quickly tried to counter the strict FSC standards by creating business-driven certification, [namely, the SFI] and finally, increasing integration of private standards in national policy and parallel endorsement of FSC certification ... points to possible reintegration of forest governance into a more binding framework” (Pattberg 2005, page 365).

#### *2.1.4 Demand for Certified Products*

Another major challenge is measuring market adoption of certified products. In this research, we are focused on certified pulp (paper) but in general, there is little evidence of demand-side growth for certified products (UNECE/FAO and United Nations Economic Commission for Europe and the Food and Agriculture Organization of the United Nations 2009). The demand from producers appears to be much stronger than demand from end-consumers (Auld, Gulbrandsen et al. 2008). However, while Dacyk’s (2008) Phase I surveys of FSC adoption in Canada suggested that demand is weak and may be adversely affected by the economic downturn, there are some notable indications of *potential* increases in consumer demand. The following are recent examples of demand-side growth:

- The major banks in Canada either use or have committed to use FSC certified paper for their accountability reports<sup>10</sup>
- A number of globally recognized companies and government agencies identify a preference for FSC certified products in their procurement policies. The importance of a procurement policy as a factor explaining choice of FSC was identified by Dacyk (2009) in the Phase I component of this project. The FSC website identifies the following companies and agencies as preferring FSC certified products: “Dell Inc., Victoria Secret, Williams Sonoma, Alberta Ministry of Environment, Home Depot, Kodak, LL Bean, Lowes, Nike, and Norm Thompson” (FSC Canada Website<sup>11</sup>)
- Sales of EarthChoice® papers (Domtar Inc.) have grown 100% from 2006 to 2007 (FSC Canada website)
- Provincial governments, such as Alberta, Saskatchewan and Manitoba require FSC fibre for all print jobs (Personal Correspondence).
- At the Ontario Ministry of Environment, Requests for Proposals (RFPs) must be printed on FSC certified paper (Ontario Ministry of Environment 2010).
- The University of Alberta uses McCallum printing, an FSC Chain of Custody certified printer, for all jobs. All paper used at McCallum are FSC fibres<sup>12</sup>.

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<sup>10</sup> From FSC Canada website: <http://www.fsccanada.org/factsandfigures3.htm>. Accessed September 2009.

<sup>11</sup> From FSC Canada website: <http://www.fsccanada.org/factsandfigures3.htm>. Accessed September 2009.

<sup>12</sup> Personal Correspondence, Darren Pohl, Contract Manager of the University of Alberta account for McCallum Printing. November, 2009.

- About 10% of print jobs requested on the University of Alberta campus are specified to be FSC,<sup>13</sup> and specific requests for FSC are perceived to be growing.<sup>14</sup>
- FSC recycled paper is now the standard in high speed print jobs in Staples U.S. copy centres.<sup>15</sup>

There are few studies which offer analysis on the status of the uptake of certified products, particularly papers. Newsom et al. (2008) found that over a period of 6 years, certification has led to economic benefits in the form of higher prices paid for state forest timber sales. They presume the willingness to pay is higher because the buyers are receiving financial benefits from their FSC sales further up or down the supply chain. Hence there is evidence that forestry operations are gaining a premium for FSC in some markets (Newsom et al. 2008). However, studies on the end-consumer uptake values are scant, so demand in this sense is not understood to a very large extent. Such is the purpose of this study (outlined in a later section).

#### *2.1.5 Supply of Certified Products*

On the supply side, the FSC is faring well, with an increase of certified area in Canadian forests (as illustrated in Figure 2). Regional distribution of certified forest area continues to be exceptionally uneven, given 54% of certified area is in North America, and 38% is in Europe. Canada has the highest percentage of certified forests, with over half of Canadian forests certified by the FSC, SFI or PEFC systems, in addition, Canada

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<sup>13</sup> The ordering department specifically requests FSC fibre. Even if they do not, they still get FSC regardless if they specify it or not.

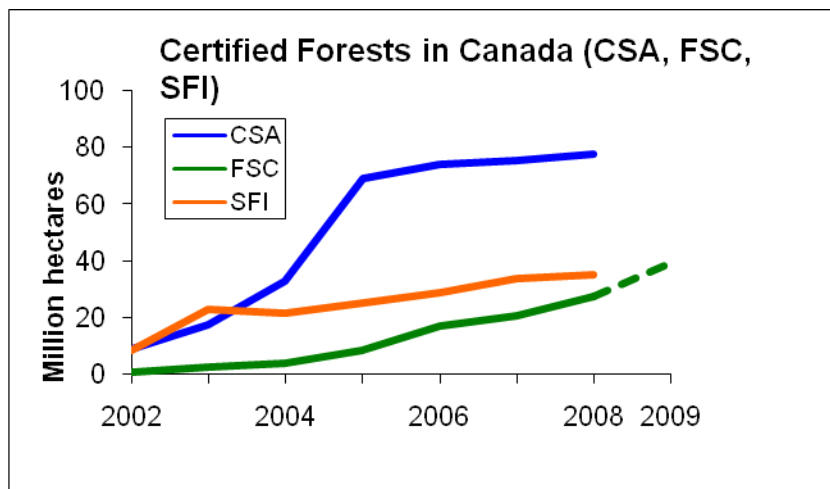
<sup>14</sup> Based on interviews with Darren Pohl, the McCallum contact for the University.

<sup>15</sup> Source: FSC Website. Available at:  
[http://www.fsc.org/news.html?&no\\_cache=1&tx\\_ttnews\[tt\\_news\]=19&cHash=056fa7386f](http://www.fsc.org/news.html?&no_cache=1&tx_ttnews[tt_news]=19&cHash=056fa7386f).  
 Accessed December 4, 2009

accounts for one-quarter of FSC certifications worldwide. Canada has 137.5 million hectares of certified forest area, with 27.3 million hectares belonging to the FSC (UNECE/FAO and United Nations Economic Commission for Europe and the Food and Agriculture Organization of the United Nations 2009).

Most certified areas belong to large holdings and exhibit scale economies. Creating awareness of forest certification among small landowners continues to be a challenge for all programs (UNECE/FAO and United Nations Economic Commission for Europe and the Food and Agriculture Organization of the United Nations 2009).

**Figure 2 Certified Forests in Canada by Certification Scheme.<sup>16</sup>**



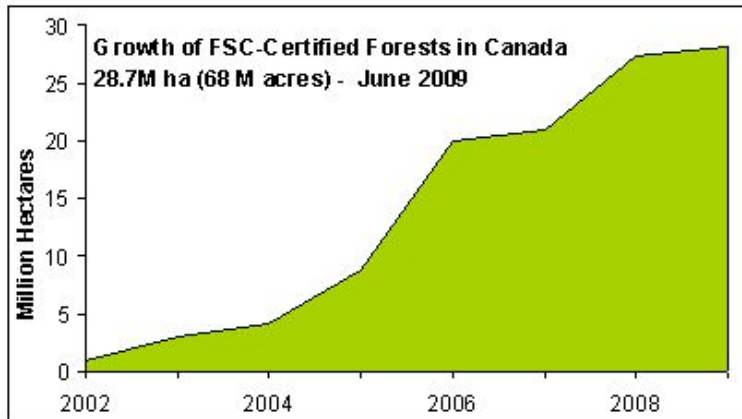
FSC Canada indicates that the distribution of Chain of Custody (CoC) certificates has increased over 40% in the year prior to May 2009. The total CoC number of certificates is now nearly 18,000. FSC certified forest has increased by 20% since November 2007 and nearly 20% of managed forests in Canada are FSC certified.

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<sup>16</sup> Source: FSC Canada Website: <http://www.fsccanada.org/factsandfigures3.htm>.

Canadian certified forests represent one quarter of the FSC certified forests in the world.<sup>17</sup>

Figure 3 FSC Forests in Canada<sup>18</sup>



Certified forest area continues to grow in Canada and thus the supply side of the market appears to be relatively healthy (Figure 4). Certification is often undertaken largely by large forest producers since it is more complex and expensive for the small landowner (Soderstrom and Bostrom 2010). Hence the supply of wood pulp is constant and sufficient<sup>19</sup> and restricted supply is not the barrier to market expansion. FSC paper products exhibit scale economies and crowding out is not a problem.

### 2.1.6 Substitutes for FSC Certified Products

As mentioned above, FSC is not the only certification scheme available to consumers. FSC's main competitors for certified products are the PEFC, SFI and CSA. Each agency has developed its own methods for attaining goals of sustainable forest

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<sup>17</sup> Facts and figures from: <http://www.fsccanada.org/factsandfigures3.htm>

<sup>18</sup> Source: FSC Canada Website: <http://www.fsccanada.org/factsandfigures3.htm>.

<sup>19</sup> The main dilemma surrounding FSC pulp has to do with the demand side, and not supply side availability.

management. Major differences arise from the separate and often opposing means of addressing these issues. For example, FSC chose to create separate regional standards designed specifically for each region and forest type (FSC Canada 2010) while SFI maintains one centralized system with the applying firm responsible for the criteria relevant to their situation (SFI 2010). Hence the SFI system offers a bit more flexibility and firm discretion, allowing the firm more discretion in forest management, and possibly putting organization goals ahead of environmental. The main attributes of FSC that are criticized by other schemes include the cost and the degree that it reduces corporate competitiveness (Li and Toppinen 2010). Other schemes are producer-backed compared to the more comprehensive stakeholder backing that FSC receives.

The thesis by Kruger (2010) investigated preference for FSC or CSA certified paper. He found that low awareness of certification is pervasive, though once consumers were made aware of certified options these tended to be favoured. Research showed that either CSA or FSC systems are similarly preferred, and appear as compliments rather than substitutes to consumers (Kruger 2010). A price premium (WTP) for certified paper was around 33-41%, though this should be treated with caution as often consumers stated WTP can differ from what they would actually pay. However, Kruger (2009) also finds that consumers have the highest WTP for commonly used goods such as paper (Teisl 2003).

### *2.1.7 FSC's Business Development Plan*

In response to the market bottleneck with healthy supply but restricted demand, the FSC has diagnosed one source of this disconnect between demand and supply as a lack of marketing on their part (Dacyk 2009). In order to increase brand recognition, and uptake of its paper products, the FSC designed a marketing plan

targeting institutional paper buyers, which are considered to be the major potential market for environmentally preferable papers. The BDP began in 2006 and initially had a 3-year lifespan, however, presentations to institutions are ongoing. The thrust of this plan is to increase label recognition and improve demand for FSC paper among Canadian consumers. The purpose of this study is to measure the effectiveness of this marketing program, much like in the Dacyk (2009) thesis, however in addition to this and because of the fact this is an extension of the initial study, we will also measure trends among the same respondent group that were surveyed in the first round of surveys.

The rationale for the BDP arises from the fact that there is potential for uptake in environmental papers and one of the barriers is lack of consumer education about these products. Studies have shown that Canadian consumers see value in forest certification and would potentially give preference to certified wood and paper products over conventional, uncertified products (Archer, Kozak et al. 2005). In one study, advertising was found to be particularly helpful with increasing label recognition, which increased from 1% to 12%, and after being shown the logo, increased further to 44%. In addition, 13% of the consumers who participated in that survey indicated they would look for the FSC logo in the future (World Wildlife Fund for Nature 2003). Advertising of forest certification began in North America in 1998, with an aggressive FSC print campaign (Cashore, Auld et al. 2003). However, to the best of our knowledge, no results are available on changing consumer attitudes arising from that study.



## 2.2 Part 2: Organizational Components

### 2.2.1 Introduction and Justification

The FSC targets specific departments at organizations strategically, however, these organizations exist within their own organizational and societal realm and are bound by these realms. These 'realm's may either serve as enablers or barriers to how the FSC message is received, and whether this results in adoption. The message may or may not penetrate depending on organizational characteristics. Though through the survey we have learned that over time the BDP marketing message has been successful in some organizations, we can now investigate the specific organizational components that can contribute to success.

The FSC must be aware of the specific organizational components they want to influence with their message. Since an organization is subject to several complex organizational forces, within these, a certain *marketing message* may be effective or ineffective for several reasons. The FSC message is standard: the procurement official is contacted at the organization where information about the FSC's products is presented. The scale of effectiveness may vary by organization due to specific organizational factors, rather than the content of the message itself. The fact the BDP does not change makes it simpler to focus on the structure of the organizations themselves to analyze why adoption is or isn't occurring.

We will focus on three general organizational components and analyze what barriers or enablers exist within those components to either prevent or allow the BDP message to be realized. At the end of our review of the three organizational factors, we apply this to the case of the University of Alberta, merging the previous section with this review. Lastly we will make general comments about general applicability to

organizations and overall organizational lessons that reveal firm approach to certified products.

We are also very interested in issues firm behaviour that would motivate them to adopt certified paper products, or EPPs. Ultimately, we want to achieve a general applicability, a framework of organizational attitudes and characteristics that would cause them to choose these types of goods. This is done to give clarity to *why* an institutional consumer would be interested in certified paper, and is done through a strictly academic discussion of to evaluate the demand side for certified products.

The next three sections are a review of the organizational literature as it could apply to environmental purchasing, and specifically FSC. Later, suggestions from the literature will be merged with survey findings to present an analysis of the BDP.

### *2.2.2 Accounting and Disclosure*

Organizations serve an important societal role. They are not only influential production systems that convert inputs into outputs, organizations are actually important cultural and social systems (Scott 2001). They serve the needs of society and operate in a way that is sanctioned by society. As society changes, environmental goals may be incorporated as necessary as members of society place those demands on their institutions. There is some evidence of this occurring. Increasingly, investors are diversifying their financial investments by contributing investment in organizations which address environmental impacts of their operations. These commitments can improve long-term shareholder value by welcoming opportunities and better managing risks stemming from economic, environmental and social developments (Knoepfel 2001). In addition, environmental management is being seen as an area of competitive concern for organizations (Lent and Wells 1992). It has become an area of competition

rather than compliance driven. Environmental reports and audits are the accounting *link* or connection that joins using FSC products with environmental accountability.

Assessments that reveal an organization's environmental practices to customers, investors and stakeholders may give the targeted organization incentives to better environmental practices. Is there a connection between being green in that sense – using environmentally preferred papers – and being seen as a 'green' organization? Therefore, is it worth the company's while to use these papers because they will be seen as environmentally progressive organization? Do consumers value this?

Company environmental assessments can take different forms. The advertisement below (Figure 4) attempts to make a connection between environmentally responsible behaviors (choosing sustainable wood fibre sources) and a company's social reputation. This type of benchmark elicited by a specialty group promoting sustainable forestry, ForestEthics, has become the mechanism that the corporation is responsible to since these types of campaigns have been successful in generating exposure that causes change.<sup>20</sup> The ads in a following section on marketing are not only just marketing examples, but another type of informal method that exerts pressure for a company to develop more sustainable practices.

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<sup>20</sup> This will be discussed in the marketing section. Limited Brands and Kleenex were examples of organizations that were targeted and changed their paper practices because of this pressure; because it was highlighted and accepted as important to society.

Figure 4 An example of Corporate Social Responsibility pressure on organizations



Source: ForestEthics website, <http://www.forestethics.org/advertisements>. Accessed October, 2010.

As customers integrate environmental values into their concepts of product quality, they buy more products with recognizable environmental attributes (Lent and Wells 1992). This drives change to a make the area of environmental management not a cost centre but a potential source of sales revenue and competitiveness, and allows the firm to differentiate itself from firms without these characteristics. This could be a reason for adoption of EPP or FSC products.

These public campaigns targeting organizations that are concerned about maintaining a good reputation with consumers target large institutions that utilize a large volume of paper and are reachable. Many of these campaigns have been effective

because they highlight procurement activities. According to O'Rourke (2005) a U.S. campaign targeting Staples was designed to discontinue sales of paper products made from endangered forests, and that the company increase its sales of recycled paper. Staples was selected as the campaign target because it is the number one retailer of paper by volume and office supplies in the United States. In addition to annual sales of \$11 billion per year, Staples has a large number of institutional customers and over 1000 retail outlets (O'Rourke 2005).

Due to Staples' high visibility, the campaign had physical targets in virtually every major city in the United States and Canada. Two years after the campaign Staples has committed to offering 30% recycled average across all paper products it sells and discontinue sales of paper made from endangered forests. The focus and pressure of the campaign thereby caused competing retailer Office Depot to also embark on a long-term plan to transform the US market for paper (O'Rourke 2005).

The campaign also targeted those organizations engaged in business relationships with Staples, such as their suppliers and buyers. Agreements by various companies and institutions such as universities shows that demand for EPPs is increasing. According to O'Rourke (2005), by 1998, "27 US companies including IBM, Dell, Kinko's, Nike and Levi's, were convinced to stop using old-growth wood and paper, and in 2001, a group of high tech companies including Microsoft, Intel, AT&T agreed to stop purchasing old growth products (Paper Campaign 2002) largely due to campaigns that were able to leverage consumer and university buying pressures on these firms" (O'Rourke 2005). Because of this pressure, the market for paper in large retail and wholesale institutions was altered as unacceptable sourcing practices were highlighted and assessed by the public. Staples and Home Depot changed their practices because it

was important to their customers that they do so, and the process was likely accelerated via the marketing by environmental groups.

Depending on the industry, use of FSC sustainable papers may help improve environmental image as it subjects the firm to stricter environmental responsibility. This is true in the case of paper-intensive industries, such as print shops and paper product manufacturers like Kimberley-Clark, as well, industries that use paper heavily such as Limited Brands did for their Victoria's Secret brand mail-out catalogues.

#### *2.2.2.1 Corporate Social Responsibility*

Corporate Social Responsibility (CSR) is a major concept that deals with organizational accountability (Steurer, Langer et al. 2005). CSR is "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis"(European Commission 2002). According to Cruz and Boehe (2008), "the emergence and growing importance of FSC certification have introduced ethical concerns at different points in some global value chains," (Cruz and Boehe 2008, page 1190). There may be room for FSC to improve a company's "green" image by promoting its contribution to sustainable value chains, for example, in the case of Chain of Custody (CoC).<sup>21</sup>

Environmental commitment on the part of organizations should be looked at in tangible terms, since managers likely view environmental responsibility instrumentally, as a tool which helps further their primary interest in maintaining or improving shareholder wealth. An environmental-focused strategy can help the firm differentiate themselves from other firms, or to consumers who seek firms with these particular

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<sup>21</sup> Governments that use FSC CoC for print jobs and consequently display the FSC logo on their mailed materials are relaying information on their adherence to "green" supply chains.

qualities. Corporations can adopt cost based or differentiation-based strategies to achieve sustainable competitive advantage. Corporate environmental policy, such as using “green” products can be part of these differentiation-based strategies (Porter and Linde 1999).

Challenges for organizations can occur when consumer pressure for environmental commitment is there but consumers are not always willing to pay a price premium. Of course there are the justifications that environmental concerns of consumers, though gaining entry into the mainstream, do not significantly and always alter consumer’s purchase decisions if there are price premiums (Eisner 2004).

Several market forces are encouraging organizations to adopt voluntary environmentally sustainable practices, practices which are not mandatory or outlined by regulation. The pressure generated from business to business relationships and green government procurement are causing changes (Porter and Linde 1999). The existence of a PPP where FSC or EPP’s are required can create an environmental “status quo,” or environmental minimum, if pursued by an influential organization. Most Canadian banks have adopted FSC for their marketing materials, starting with one bank, and the others following shortly after, and these are now the industry norm for these materials. This has been the case in many industries where FSC papers have just become an environmental minimum for sustainable paper procurement.<sup>22</sup> Environmental protection can improve image in some business sectors (Lemos and Giacomucci 2002) and procurement of FSC has achieved this with Canadian banks.

How a firm or industry responds to challenges associated with environmental issues can be an important determinant in overall competitiveness (Porter and Linde

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<sup>22</sup> This result was found in the survey component of this thesis.

1999). When environmental regulation is put into place, not all companies will be able to innovate successfully and achieve improved competitiveness as a result. Only certain companies and industries will respond to the new standards innovatively, those industries or firms not steered by innovation may strongly resist the regulation (Porter and Linde 1999).

To be able to better predict results of CSR, an understanding of the factors that drive successful returns on this type of investment are necessary. Benefits from CSR can vary based on individual characteristics. The benefits gained are perceived differently by each individual, and can vary even *within* the firm's stakeholders so in order for CSR to make financial sense, the initiatives must provide benefits to these individuals (Barnett 2005). The company will increase voluntary investments into environmental policies given the extent to which it faces stakeholder and social pressure (Clarkson, Li et al. 2008). Using financial and strategic tools to obtain the desired results of environmental management, the firm can adapt and deliver results to the stakeholder groups, and strengthen relationships, as well as accomplish organizational objectives (Henri and Journeault 2010). In fact those initiatives that build relationships with these stakeholders based on CSR investments generate better returns (Bhattacharya, Korschun et al. 2009).

Concerns about protecting old-growth forests have led to a range of campaigns focusing on changing supply and demand structures of wood and paper products (O'Rourke 2005). Though they have limitations, "market auditing" campaigns appear to be having important impacts on consumption and production practices in the sectors they target, and they have successfully created organizational accountability in many cases. Initiatives led by NGO's highlight problematic goods and try to drive down



demand, while at the same time help build new markets for products that are more environmentally (and socially) sound, thereby working to simultaneously change producers and consumers. This again is educating consumers not only about what product characteristics they want but what they *do not* want, which has been the thrust of the campaign targeting Limited Brands (described in section 2.3.2 of the thesis). The challenge is the general lack of more than anecdotal understanding on to what extent these NGO campaigns have helped create new markets for these products (O'Rourke 2005).

### *2.2.3 Operations, Procurement and Supply Management*

The challenges that can arise from the operations side of a company being targeted for marketing of EPPs may stem from an inventory and supply problem. Green procurement, or purchasing goods that are produced with more rigorous environmental protection claims and standards, can be good for business if a firm's stakeholders value it. "Competitive strategic issues, new market opportunities, process innovation, products and services ... [show that] protection of the environment can be considered good for business" (Lemos and Giacomucci 2002; Brown 2008).

The government has different pressures to their procurement procedures, as every element of the process has many different stakeholders, external decision makers, in different functional areas. Business decisions in government are subject to scrutiny particularly to taxpayers, to which the government is an employee. The stakeholders in a public procurement decision are "...the state, by imposing regulations, the market by providing products and services and citizens, by influencing decision makers through their voting" (Gunther and Scheibe 2006, page 63). There is increased pressure from

consumers, investors, shareholders and regulatory bodies to pay attention to environmental accountability, and “practicing green procurement demonstrates an organization's commitment to considering and minimizing the environmental consequences of its activities” (BSD global 2010, from web page). If this is valued to their customers, the firm will generally gain reputation with them, and increase business. In such case, it makes *both* environmental and economic sense.

Governments often favor more environmentally-friendly products in procurement,<sup>23</sup> even if they involve higher costs (Marron 1997). In addition, government procurement can influence private procurement and can cause further uptake of ‘green’ products (Marron 1997; New, Green et al. 2002; Brown 2008). However the specific direction of effect of this influence depends on production of the green products (Marron 1997). Environmental procurement policies also require the government to spend additional revenues, revenues which are funded partly by taxes. Taxes, of course are distortionary, hence any environmental gains are slightly counterbalanced (Marron 1997).

There are several barriers to green procurement, first of them price, but also lack of organizational commitment and organization. The main thrust considering procurement is once again, it must make economic sense. This is why we see most Canadian banks using FSC certified paper for most, if not all of their marketing materials – the fact that this is visible to their customers is important. Also, not surprisingly, the success of green supply initiatives must align with the organization’s main objectives (New, Green et al. 2002).

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<sup>23</sup> Procedures on how to include green procurement in public policy established by Canadian, US and EU governments are examples of environmental benchmarks.

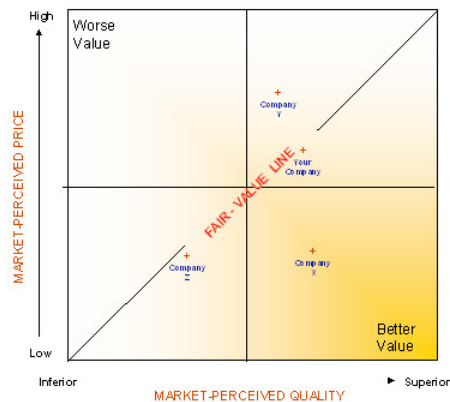
## 2.2.4 *Marketing*

In an organizational setting, how can messages about environmental attributes of products be transmitted? In this section, we will be looking at how an organizations' marketing department would serve as an enabler or barrier to FSC's message. The FSC wants the organization to use FSC paper, but they will only do so if the institutions' or organizations' marketing department, presumably perceives some sort of benefit or value. The University of Alberta may be open to FSC if they can promote the fact that it's being used, and their stakeholders value this use. Stakeholders may not only be students, but also the staff and professors of that department, and the community the University serves.

### 2.2.4.1 *Creating Value for the Organization*

In order for an organization to buy FSC paper, the activity has to create economic rents or increase *value* for the organization. Some ways to increase value is to increase their customer base, sales, revenues or through lower costs. To analyze this, we can view FSC certified paper on a quality- price continuum through which value is derived. Value is subjective to each organization, since each organization will have a different perception of value. Value is essentially quality over price, and a graphical example is shown in Figure 5. Higher quality is synonymous with higher price, and low quality with low price. In the diagram, different companies are represented, however, the points on the graph can be quality-price combinations of product characteristics of paper with its price.

**Figure 5 The Price-Quality Tradeoff**



Source: Forward Analytics Website<sup>24</sup>

Quality can be composed of many factors: quality or fineness of the paper, brightness, performance in office machines, recycled content, certified content and so on. In this continuum, virgin, recycled and certified will be somewhere along it at different quality and price points, and will create different perceptions of value depending on the audience. Fine papers with certified content may be the most expensive, and on the top right portion of the graph *if* it is viewed by an organization that values the high quality, high price tradeoff. For another firm this combination may be more left than in the other case, hence high quality is priced too high and the firm's notion of value does not justify the tradeoff. Regular (uncertified, non-recycled) papers may have a low quality characteristic but their low price gives them a high perceived value. In essence, it is important to the individual firm making the assessment, and whichever combination creates the best value will be adopted. Marketing dollars and

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<sup>24</sup> Forward Analytics Company Website. Customer Value Analysis. Available at: [http://www.forwardanalytics.com/quantitative\\_research/Customer\\_Value\\_Market\\_Research.html](http://www.forwardanalytics.com/quantitative_research/Customer_Value_Market_Research.html) Accessed February 2011.

effort may be better directed to an organization that values the tradeoff with price and environmental characteristics.

**Figure 6 Using FSC certified packaging fits with the corporate values of, and creates value for the organic chocolate producer, Green & Blacks'.**

"We aim to be as environmentally-responsible as possible. We know that using paper, cardboard, foil and inks contributes to environmental damage so we use FSC paper wrappers for our bars, FSC cardboard for our gift and outer boxes, and vegetable based inks or FSC materials wherever possible."

*Green & Blacks' Organic Chocolate, quote revealing information about the packaging for their chocolates.*<sup>25</sup>

An organization will value FSC if the stakeholders value it, and if it will improve the firm's reputation. For example, Green & Black's chocolate has decided to align its organic chocolate products along with responsible packaging (figure 6). It is likely that customers who consume environmentally-sensitive foods (such as organic chocolate in this case) would also be concern how the product is packaged. In this case, using FSC paper for packaging can add value and improve the firm's reputation. A firm's reputation is the sum of "perceptions of relevant stakeholders including: owners, society and community ... customers, employees, suppliers and strategic partners, government and non-government agencies, banks and lenders, non-governmental special interest groups, such as ENGO's" (Miles and Covin 2000, page 300). Better reputations have many benefits, as outlined by Miles and Covin (2000), to list a few: pricing concessions, better morale, reduced risk, increased strategic flexibility and enhanced financial performance. FSC should know if it can fit in improving reputation of the target organization.

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<sup>25</sup> Green & Black's Organic Chocolate Webpage. Accessed October, 2010. Available at: <http://www.greenandblacks.com/anz/information/frequently-asked-questions.html>

Marketing is, in essence, understanding what the consumer wants, and offering them the unique product attributes that they will value. In order for the purchaser to promote that their company uses this type of paper, their audience needs to recognize that this is a good product and aligns with their values. What is the *value* proposition of FSC products? Since in general, knowledge about FSC is an issue, pre-conceived notions could be a barrier to adoption. For example, consumers may think that these products are not better than recycled products. We are not saying that FSC are better than recycled, or other EPPs, but that this does not even matter; what matters is consumer's *perception* of which paper is the *best* environmental choice.

The procurement person needs a reason to purchase these products. The audience that the company promotes to that “we use FSC certified products in our offices” has to understand and value the decision and offering. If the audience does not value this, the company has little incentive to offer them.

## **2.3 The special case of FSC Marketing**

In addition to analyzing an organization's marketing components, and how they would facilitate FSC adoption, in this following section we will address the other side of the equation: FSC's specific marketing and how it contributes to reaching its customers. The organizational literature review on marketing is applied to the specific case of FSC's marketing.

### **2.3.1 *Generating Demand with Selective Marketing***

FSC's marketing strategy involves targeting institutional paper buyers; these are more sophisticated paper buyers who are better informed about paper choices. They have moved away from marketing to the consumer directly. This has been found to be

more effective at generating uptake and reducing marketing costs<sup>26</sup>. Informing the public about FSC could however, have benefits. The following image (Figure 8) advertises FSC-recycled paper use by a popular, easily accessible city newspaper. This is one example of channels through which information could be disseminated.

Figure 7 Advertisement in “Metro” Newspaper: Example of a public promotion of FSC and EPPs<sup>27</sup>



Increased visibility through channels such as exemplified in figure 7 advertising FSC use, could eventually result in some institutional or organizational FSC *policy*. Taxpayers educated about FSC could pressure local governments to adopt more sustainable practices, bearing in mind

if consumers judge FSC to be in fact, the *best* choice. In fact, citizens who are prompted by governments to be more environmentally sustainable expect that their governments should lead by example, by leading the way in sustainable environmental practices (Day 2005). Government contracting and procurement has been long used as a form of social regulation (McCrudden 2004).

This mechanism is at work. As previously mentioned, some governments have made it mandatory that they only will use print shops that are FSC certified (Personal

<sup>26</sup> Personal Correspondence with FSC Canada.

<sup>27</sup> Source: FSC Canada Website. Available at: <http://www.fsccanada.org/april08.htm>. Accessed October, 2010.

Correspondence<sup>28</sup>). Because of the pressure from this large customer, which is in fact a large assembly of public servants working for the taxpayer, the print shops that had government contracts and wanted to continue to keep these contracts had to adopt Chain-of-Custody (CoC) certification. Because of this mandate, all of the paper the print shop provides is FSC certified and all customers will get FSC paper even if they don't specify it, even if they don't understand what it is, even if they don't value it, further - even if they are not willing to pay more for it. Targeting these types of organizations has allowed FSC to increase their sales, and this may be expanded to other market sectors, such as. We may think of a similar scenario with regards to the market for office papers.

### 2.3.2 Marketing Campaigns

Many advertising strategies have actually focused on not what to buy, but on what not to buy. By highlighting negative characteristics of other products, it helps the

consumer focus on

favorable, or positive

product qualities.

Unilever crafted a

dialogue about the

concept of "real" beauty

in a marketing campaign

**Figure 8 The Dove "Search for Real Beauty" Marketing Campaign**



*Image Source: Shaping Youth Website Available at: <http://www.shapingyouth.org/?p=3548>. Accessed September, 2010.*

promoting Dove beauty products (Deighton 2008). In the "Campaign for Real Beauty,"

Dove took a risk in saying that: "the beauty industry portrays an unattainable and

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<sup>28</sup> Personal Correspondence with procurement officials.



stereotypical image of beauty, yet they were in the beauty industry” (Deighton 2008).

The strategy attempted to build meaning through controversy (Figure 8).

Though the campaign was popular and had resonated with the public, evidence of how this contributed to the market uptake of the brand was not known. Over time, this approach likely caused significant product exposure for Dove hence increased product recognition.

Many forest interest groups have launched very similar campaigns that promote dialogue about where popular products source the wood fibre they use. This is very similar to various marketing campaigns by promoters of recycled paper. The environmental group ForestEthics has launched several campaigns targeting many different organizations to phase out virgin paper and choose recycled paper instead. This has been the goal of a large (and eventually very successful) effort pressuring Limited Brand’s Victoria’s Secret to stop printing their catalogues on virgin wood from Canada’s endangered Boreal forest<sup>29</sup>. This campaign used catchy visuals and humour to capture attention (Alter 2006). Producers of recycled paper to promote recycled paper over any virgin paper product used a similar campaign<sup>30</sup>.

From 2004-2009, Greenpeace was involved in a marketing campaign called “Kleercut” to raise attention to the fact that Kimberley-Clark Corporation’s brand Kleenex, was using ancient and endangered forest in the production of their tissue. Pressure resulted in a new agreement, on August 5, 2009, when Kimberley-Clark unveiled a new environmental policy, which caused them to stop sourcing controversial

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<sup>29</sup> Available at: <http://www.forestethics.org/industry-success-stories>. Accessed October 2010.

<sup>30</sup> <http://www.juesatta.com/tag/recycle-paper/>. Accessed January 2011.

wood fibers for not only Kleenex brand products, but for other brands in the Kimberley-Clark group<sup>31</sup>.

**Figure 9 Success - Greenpeace campaign has caused Kleenex to stop using controversial wood fibres in production of tissue**



*Image Source: <http://www.shoppingblog.com/blog/8050915>*

These types of campaigns can be efficient because instead of focusing on what qualities the consumer wants, they educate what the consumer would not want – hence, consumers do not want questionable forest management in the production of their product. Therefore, these NGO's target efforts to major organizations where their reputation with consumers is important, and highlight practices regarding controversial paper sourcing. Through this conduit, many campaigns have been successful in establishing more sustainable paper practices throughout the supply chain. Given the above mentioned campaigns, and many more that are being used to address forestry practices, promoting sustainable forestry appears to be gaining popularity. These

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<sup>31</sup> Available at: <http://www.forestethics.org/industry-success-stories>. Accessed October 2010.

campaigns may be resonating with consumers more than before. In marketing, timing is incredibly important (Kalyanam and Zweben 2005).

We do not suggest that campaigns that target the particular paper procurement choices of organizations be employed by the FSC to gain market share. Instead, these are often initiated by environmental interest groups, who exert pressure on consumers or organizations to choose options that they believe are better for the environment. FSC is frequently one of the suggested options, selected by the interest group, to promote better environmental stewardship through responsible forestry. Although a controversial market campaign was likely successful for Dove products, it is a risky approach.

### *2.3.3 Product “Perceptions”*

Some consumers are attracted to FSC because they may feel it represents something that is ‘good’ for the environment, but without really knowing exactly what that something is. Since certified products are viewed favorably but knowledge about these products is low (according to survey responses), the FSC brand may have fallen into this problem. Building brand recognition is important for the FSC.

Building reputation among customers involves concentrating on the customer rather than the brand (Rust, Zeithaml et al. 2004). This means focusing on consumer values, and building customer equity, which involves offering a product that includes customer values. Consumer equity ties in the concept of value discussed earlier and how it varies from individual to individual. Brand equity has to do with customer’s own judgment of the brand’s intangible qualities. A strategy focused on the customer involves creating the brand considering customers instead of trying to “create” (or

stimulate) customers to align with the brand. This tailors a product to be a more natural fit and aligned with customer preferences (Rust, Zeithaml et al. 2004).

Educating the consumer might be less effective than attempting to align with their pre-existing goals and values. Attempting to shift values would be inherently expensive and may be unsustainable if it is ineffective. Since consumers understand recycled paper and products very well, it might be an effective strategy to promote certified along with recycled, rather than just virgin certified products. This way the FSC would be educating the customer about certified products, and dispelling the prevailing notion that virgin paper is 'bad,' while enjoying the customer's recognition and willingness to adopt recycled papers. Though the uptake of FSC seems to be steered by altruism, this is not necessarily a bad thing since the WTP for recycled papers has gone through the same market transition (Guagnano 2001).

Understanding of consumer preferences is particularly important for product policy and for pricing decisions (Dolan and Gourville 2006). Studies say that a concept statement should receive 80-90% favorable answers<sup>32</sup> to warrant further product development work (Taylor, Houlihan et al. 1975). In our survey, we received 84.6% favorable response to choosing FSC over conventional paper, suggesting, theoretically there is room for FSC in the market. However, those results fade when recycled paper is introduced: only 46.2% would choose FSC over recycled, suggesting very high substitutability pressure and increasing the possible effectiveness of promoting an FSC certified-recycled blend paper.

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<sup>32</sup> Probably will buy or defiantly will buy.

#### 2.3.4 Pricing Considerations

Pricing is also an important consideration (Dolan and Gourville 2006). Pricing is driven by a few factors, including the benefits the product delivers to the consumer,<sup>33</sup> and perceived value, the values the consumer understands the product delivers. In theory, the perceived value of the product, including the benefits, should equal the maximum WTP for the product. The firm also needs to have an incentive to sell the product, meaning it must be priced above cost. These factors form the value-pricing approach. The firm creates value by pricing a product that the consumer values at a price greater than the firm's costs (Dolan and Gourville 2006).

It also matters who pays: therefore it is not surprising that smaller organizations would be more price sensitive as the person who does the ordering might be subject to tighter budgets. Sensitivity also increases when the consumer does not perceive significant differences in alternative products, and when it is easy to compare products and prices, and when they can easily switch products (Dolan and Gourville 2006). Such information highlights importance of pricing for FSC.

The product may offer great value, but it is the market segment's perception of the value that matters. Most sellers assume that buyers understand the value of products and services, but this is not always the case. Companies don't always communicate all the economic, technical, service and social benefits they provide (Narayandas 2005). The firm cannot convince customers of their product offering's value if the customer is not initially aware of the goods. This appears to be a

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<sup>33</sup> Regardless of whether the consumer recognizes these benefits or not: this is likely true for the market for SFI paper on campus.

fundamental problem for FSC, as product awareness is low, even among sophisticated paper buyers.

There is some concern that for the end consumer a price premium for certified products does not exist (Anderson and Hansen 2004), however, willingness to stock certified goods in retail shops suggests that a price premium exists since retailers are willing to pay for the goods. Staples, Grand & Toy, and many other paper retailers sell certified paper products, hence they are willing to pay for certified goods; by stocking it, they believe demand exists. A study by Spinazze and Kant (1999) suggest a 10% price premium exists for all certified end products, including wood products and paper, but only 39% of people in their study indicate a willingness to pay a 10% premium for certified products, but “almost all ... are willing to purchase certified forest products if all other aspects, such as price and quality, are equal,” and not surprisingly either, “73% of consumers prefer to purchase recycled paper products over certified paper products” (Spinazze and Kant 1999).

Though the literature shows that a price premium likely exists in theory, in what we observe in the market leads some researchers to question whether or not one exists. However the fact that stores stock these goods leads us to conclude that there is willingness to pay a premium – it is just might be further up the supply chain than at the individual consumer level.

Some evidence of growth in sales of some specific products such as FSC certified wood is emerging (Ford 2001; O'Rourke 2005). In an experiment at two Home Depot stores, “university researchers showed that ecolabeled products outsold non-ecolabeled products by 2 to 1 when the price was equal, and by 1.7 to 1 with a 2% price premium”(O'Rourke 2005). Even so, markets for certified products remain

comparatively small, and it is not yet clear whether these products will be successful (Greenbiz 2004). As mentioned in the previous chapter, the supply side is forecast to remain healthy. Though benefits of sustainable logging are not yet clear to forestry companies, not having some sort of sustainable practice shrinks their market as it pushes them out of European markets (Sharma and Henriques 2005).

## **2.4 Conclusion**

We have just given a background on certification, the FSC, the BDP and a literature review of both certification and institutional factors that can determine the effectiveness BDP. We have also described the FSCs marketing approach and given a review of the literature that may help assess the BDP. This forms a basis for our research questions. With this foundation, next we will change direction and describe how we conducted the survey research component of this study. The following section shows how the survey was conducted and why, gives limitations of this approach, summaries of Phase I findings as well as expectations for the Phase II component. The survey variables tested in the regressions are also defined in the following section.

### **3 Chapter 3: Survey Methodology**

Phase I of the survey of paper buyers was completed by Dacyk (2008). The next phase (Phase II) of the survey began in April of 2009 after research ethics permission for the survey was obtained from the University. Respondent lists were organized from the previous phase into FSC's un-targeted and targeted groups, and the survey began after minor modifications<sup>34</sup> in design. A list of targeted institutions that was obtained from FSC Canada was re-used to try to obtain participation from the groups that were directly exposed to the BDP, and a list of untargeted institutions was also re-used from last year. Using these same phone lists, respondents were solicited the same way as they were in the 2008 survey.

The institutions were contacted from mid-October 2009 to mid-February 2010. A call was made to the institution seeking the person in charge of paper procurement. Eventually the person was located, though in a few instances we noted there was slight confusion as to who was responsible for those decisions, particularly in the case of small companies. In general, larger organizations had more organized procurement offices and responsibility was very well defined. This was variable in medium-size organizations, however, for small businesses procurement was a task delegated to the receptionist, a role with very high turnover.

Once the appropriate person was found, the survey was described and the potential respondent was asked if they would be willing to spare approximately 20 minutes to filling out the survey. For the bulk of interviewed respondents, the response was positive and in a few cases respondents were very enthusiastic and interested in the

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<sup>34</sup> There were few modifications, mostly slight editing. One notable modification was adding company logos to question 15 and 18. For the survey, please see the appendix.



research. Out of the one hundred (100) persons contacted on the list, only 8 refused to participate in the survey for various reasons. Lack of time was the most prominent reason for refusal of participation. In two cases, company policy prevented the participation in surveys, even those of an academic nature.

In several cases the name of that procurement administrator was given, and they were still in the paper procurement role as they were for the 2008 survey. In most cases however, the person had left the position. This was specifically in the case of small companies, where the office receptionist is responsible for ordering and very few of the original receptionists were still in the same position. Such a fact raises interesting questions about whether the FSC message would resonate with the organization and whether the FSC is actually reaching the correct person, which in essence is the purpose of the case study.

### **3.1 Limitations and concerns**

Since the same list of respondents was used in Phase I, several companies that have completed the survey may also have also completed the Phase II survey. In fact, 16 out of 39 (41%) of respondents recall filling out the survey, 16 did not (41%), and 7 are unsure (17.9%). It is likely though that the respondents who chose 'not sure' actually meant 'no' (Bertrand and Mullainathan 2001) so more people actually did not recall filling out the survey (59%) than those that did. It is possible that the same respondent has filled out the survey twice. While this presents us with good trend information, since the respondent is out of the same sample, compiled data may display a stronger tendency to certain conclusions than if the respondent list was not recycled.

However, since we are measuring the effectiveness of BDP we must use the companies that have been given to us by FSC, so recycling the respondent list is inevitable. In addition, companies that were interested in participating last year are familiar with the process and trust the academic nature of the survey, and are more likely to participate. Though theoretically we could have composed a new list of respondents for the non-BDP group, for sample balance we used the same list as last year. Since the BDP group may already have been exposed to Round 1 of the survey, the non-BDP group should also be drawn from the same list for consistency.

### **3.2 Summary of Findings of the Phase I Study**

In Phase I, 102 emails were sent and 36 responses obtained. In addition to the online survey, a second round of supplemental surveys for Phase I of the project was undertaken through direct phone interviews with a few questions. This round generated a 70% response rate. This response rate can be largely attributed to trust established with the researcher through the first set of surveys to the non-sales and educational nature of the call.

In Phase I of the survey, no statistical evidence was found to suggest that the Business Development Project (BDP) increased consumption of FSC-certified paper or understanding of this label among respondents. Perceptions (or misconceptions) of higher prices and limited availability of certified options appear to discourage consumption of FSC papers. As well, responses strongly demonstrated that label recognition and consumption of Certified Forest Products (CFPs) in Canada remains very low, even among institutional paper buyers.

In contrast however, the Phase I study uncovered significant corporate interest in environmentally preferable paper options and the principles of forest certification. The

results lend support to the hypothesis that non-certified recycled paper acts as a substitute for certified paper. Through more anecdotal observations, this study suggests that the corporate paper-purchasing environment is in a state of flux with respect to environmental options, perhaps indicating the potential for FSC-certified paper to be on the cusp of significant market transition (Dacyk 2009).

The Phase I research also measured corporate perceptions of FSC, especially in relation to other certification agencies and environmentally friendly paper products. Though results of this type are not necessarily conclusive, Dacyk (2009) suggests they seem to suggest in general that FSC markets in Canada are underdeveloped relative to those for other eco-labeled products. The surveys also offer indications of respondents' attitudes towards forest certification in general. Overall, results appear to suggest that expansion of these markets is probable, especially as environmental/social concerns heighten. However, this expansion is likely to be limited by a pervasive resistance to change in forest product industries (Werndle, Brown et al. 2006) and difficulties associated with informing consumers and producers of the benefits of these programs.

Respondents from Round 1 rank FSC certified fibre as the second most important environmentally preferable paper characteristic, falling behind only the ancient-forest-free property.<sup>35</sup> Firms seeking environmental purchasing to satisfy moral objectives (i.e. for internal validation) are those likely to select certified options (Moeltner and Kooten 2003). These firms are certifying (either production or consumption) as a result of the, in the words of a R2 respondent, "do the right thing" sentiment.

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<sup>35</sup> In the question, respondents were asked to rank a series of characteristics of environmentally preferred paper (referred to as EPPs in the thesis). By mode response, ancient-forest-free was the highest priority, followed by FSC certified fibre, chlorine-free, high recycled content and tree-free respectively.

Though firms who approach certification to satisfy ethical concerns are likely to find the experience satisfying, at the market level, certification must meet concerns pragmatically. This means that certification will only be undertaken by the majority of firms if it *makes economic sense*. If certification is ever to achieve near-universal acceptance as a good conservation mechanism, that is, become cognitively legitimate, it must become routine for the majority of the population (Bernstein and Cashore 2004). Certified Forest Products, or CFPs, must gain visibility to be granted legitimacy and must have legitimacy before they gain market share. The problem facing certification organizations appears to be cyclical, however market expansions based on the ethical considerations of a small number of organizations could provide a means of breaking down this barrier. The BDP must work to stimulate these considerations if it is to generate increases in FSC market share.

### **3.3 Expectations for Phase II Survey**

The Phase I survey was administered in the spring of 2008, with a follow up telephone survey in the fall of 2008. The Phase II survey began in September 2009. Given the findings of the Phase I study, and the economic downturn, expectations were such that both recollection of FSC and uptake of FSC and EPP would be even lower than last year. The graph below shows the dramatic economic downturn that has occurred since the initiation of the Phase I study, in which we might expect to see increased cost cutting as a result of tighter budgetary pressures in organizations.

**Figure 10 Falling Canadian GDP Growth Rate from Jan 2006 - July 2009**



Source – Statistics Canada<sup>36</sup>

It is possible that companies will attempt to recover costs by lowering purchases of certain office supplies, such as environmental goods, which on average tend to be more expensive. Since cost was a major pressure mentioned in the Phase I survey, we can expect the market downturn to contribute to the challenge of certified papers being adopted by businesses. Cost is a major priority, since in last year's survey the majority of respondents (almost half) chose cost (price of paper) as their number one priority in paper procurement.<sup>37</sup>

Table 3 below shows how much more has to be spent to purchase paper with green attributes (such as recycled or certified). SFI and FSC were chosen because these are the most widely available certification types available for purchase, and they should give a good indication of prices. This data shows that certified-recycled paper is the

<sup>36</sup> From website: <http://www.tradingeconomics.com/Economics/GDP-Growth.aspx?Symbol=CAD>. Website accessed December 7, 2009.

<sup>37</sup> Other options to be ranked include quality and utility in office machines, highest percentage post-consumer recycled content, certified wood fibre supply, ease of delivery and marketing effort by producer.

most expensive EPP option available. FSC costs 6% more than regular, and FSC-recycled blends cost on average 31% more. In contrast, SFI-recycled blends are 18% more expensive, and SFI virgin costs about 7% more than regular, which is comparable to the FSC virgin premium of 6%.

**Table 3 Price Comparisons between paper types<sup>38</sup>**

| Type of Paper                | Average Price per Case<br>(5000 Sheets) <sup>39</sup> |
|------------------------------|---|
| Regular                      | \$48.96   |
| SFI Certified                | \$52.47   |
| FSC Certified                | \$51.96   |
| 30% Recycled                 | \$64.82   |
| 50% Recycled                 | \$66.50   |
| SFI Certified- 30% Recycled  | \$52.99   |
| SFI Certified- 100% Recycled | \$62.93   |
| FSC Certified- 30% Recycled  | \$74.78   |
| FSC Certified- 50% Recycled  | \$51.99   |
| FSC Certified- 100% Recycled | \$66.02   |

### 3.4 Survey Questions and Variables Used in the Quantitative Analysis

The regression analysis involved examination of two independent variables, percentage FSC used (variable FSC) and percentage eco-labelled paper used (variable ECO). Eco-labelled paper was any certified-recycled, certified, recycled or tree-free paper. The certified-recycled variables (CERTREC) were used only for the Phase II survey calculations. They are listed in Table 2. In the regression, we want to measure whether any of the tested survey variables, which consist of a series of questions on paper

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<sup>38</sup> Prices are averages for paper of the same size and product attributes: 92 bright, acid free, letter size (8.5" by 11"). They are taken from the following websites: Office Depot, Staples Canada, Office Max and Grand & Toy. Accessed September 2010 and March 2011.

<sup>39</sup> Please note no data on 100% recycled non-certified nor 50% recycled SFI certified was found. They are omitted from the table.

attitudes and beliefs, knowledge about environmental options, and most importantly targeting by BDP, contributed to FSC or EPP adoption. We ask respondents for their adoption (if any) of FSC or EPP products and measure those against other survey variable to measure what characteristics contributed to adoption, and how strongly.

The survey consisted of 27 questions (for the survey, see appendix), which tested respondents about paper procurement behaviors and attitudes. Many survey variables in the survey are subject to endogeneity; therefore were forced to be very selective in choosing which variables to test. Though we did not have many variables to choose from; we were still able to obtain some interesting conclusions with the variables available to us. Variables that were in a position to produce endogenous results in the regression were still useful in constructing summary statistics and graphs that are useful in gaining a perspective on paper procurement attitudes and knowledge about environmental papers.

Below is a list of the variables used in the regressions. Not all variables are presented in the final models due to lack of significance or endogeneity problems. Of left-hand side variables, FSC and ECO are the most important and the CERTREC variable for certified-recycled papers is used only for this year's survey data.

**Table 4 Exploratory (Independent) Variables**

| Variable Name | Description  | Type   | Expected Sign (FSC) |
|---------------|--|--------|---------------------|
| TYPE          | Whether or not the respondent was contacted by FSC as part of BDP  | Binary | +                   |
| BUSIN         | Small or large private business  | Binary | ?                   |
| PPP           | The company has a paper procurement policy (PPP)   | Binary | +                   |
| SENSITIVE     | Respondent perceives their organization's paper purchasing decisions as sensitive as to environmental and social product characteristics | Binary | +                   |
| PERSONAL      | Respondent recalls being personally contacted by a member of FSC Canada  | Binary | +                   |
| REP           | Respondent recalls their company being personally contacted by FSC Canada  | Binary | +                   |
| CONF          | Respondent has come into contact indirectly with a member of FSC Canada at a conference, workshop or tradeshow                           | Binary | +                   |
| CONTACT       | Respondent has been contacted directly or indirectly by a member of FSC Canada (a yes to any of the above three contact variables)       | Binary | +                   |
| YEAR          | Survey was administered in Phase II. This variable measures the time trend, whether FSC or EPPs are being adopted over time.             | Binary | ?                   |

**Table 5 Dependent Variables**

| Variable Name | Description  | Type       |
|---------------|--|------------|
| FSC           | Proportion of paper used that are FSC certified  | Continuous |
| ECO           | Proportion of paper used that are environmentally-friendly (eco-papers); papers that are certified by FSC, CSA and SFI, and/or are recycled, and/or are made of non-wood fibres (ie, hemp) | Continuous |
| CERTREC       | A proportion of the paper used at the company is certified-recycled (by FSC, SFI, CSA or other certification scheme)   | Continuous |
| RECYC         | A proportion of the paper used at the company is recycled paper  | Continuous |



## **Chapter 4: Survey Results**

### **4 Changes in FSC and EPP Adoption**

#### *4.1.1 Survey Response*

Overall, if the right person is located at the organization they are generally initially very willing to discuss paper procurement and offer their opinions on environmental papers. Overall, 100 respondents agreed to the survey and we received 39 surveys in return, giving a survey response rate of 39%. This is up slightly from last year's survey response rate of 36%, however, the two response rates are very comparable. Though the number of surveys received is low, the response rate is high for surveys of this style and given highly sophisticated (qualified) nature of the respondents (Cook, Heath et al. 2000). The low number of surveys is not an impediment for this study since the actual response rate is impressive for surveys of this type, (Sax, Gilmartin et al. 2003) as it was for the Phase I survey.

The suggestion from last year's survey to contact companies outside of year-end reporting obligations (the end of April) did not seem to make an important difference. In Phase I, phone calls were made during this reporting period and many respondents noted that they could not participate due to this deadline. The comment was made that if calls are placed outside of this time period the response rate may be much higher, however, this was not found to be the case. In December we received a very high number of returned surveys in a short period of time. In the few weeks before Christmas many respondents submit their surveys after being prompted with a reminder email. This may be perhaps an effort to clear all of the remaining tasks and obligations from their desks before the holiday break and the start of the new year.

In Phase II, 64% of respondents indicated that they were the appropriate person that makes paper procurement decisions, therefore we were reaching the correct audience. In approximately 36% of cases the respondent was unsure or they were not the correct person in charge of paper procurement. This is very comparable to last year (58% of respondents indicated they were the person responsible for paper procurement decisions).

#### *4.1.2 Summary Statistics from the 2009 Survey*

Below, the summary stats of proportions of environmental papers are given.

The values are given in percentages, and the data has been corrected for missing values. For instance if, a “yes” was chosen for “do you use a proportion of certified/recycled, recycled, or environmental paper (depends on particular question for type of paper)”, but the proportions field was left blank, the median value for the variable was entered.<sup>40</sup>

The most striking observation is the dramatic increase of environmental papers in all categories, particularly certified-recycled, has increased almost 2.5 times. However, standard deviations for most variables of interest remain high, so we must approach these values cautiously. There is a higher count of variables this Phase as well. For example, in Phase 1 only 8 respondents used a percentage FSC paper, whereas this year the number is double at 16. Standard deviation is high for FSC at 28% however it is similar to the standard deviation in Phase II, but the mean in Phase II is twice as high.

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<sup>40</sup> This is consisted with the method used by Dacyk (2008).

**Table 6 Summary Statistics of Proportions of Environmental Paper used at Organizations**

|                    | <b>Percentage Certified-Recycled</b> |          | <b>Percentage Recycled</b> |          | <b>Percentage FSC</b> |          | <b>Percentage Other Certified<sup>41</sup></b> |          | <b>Percentage Eco-labeled<sup>42</sup></b> |          |
|--------------------|--------------------------------------|----------|----------------------------|----------|-----------------------|----------|--|----------|--|----------|
| <i>Phase</i>       | <b>II</b>                            | <b>I</b> | <b>II</b>                  | <b>I</b> | <b>II</b>             | <b>I</b> | <b>II</b>                                      | <b>I</b> | <b>II</b>                                  | <b>I</b> |
| Mean               | 64.14                                | 25.65    | 45.5                       | 41       | 19                    | 8        | 19   | 8        | 61.5                                       | 39       |
| Median             | 70                                   | 26       | 80                         | 25       | 21.5                  | 22.5     | 0  | 0        | 70   | 30       |
| Standard Deviation | 26.66                                | 35       | 39                         | 34       | 28                    | 29       | 32   | 20       | 31.67                                      | 34       |
| Count              | 29                                   | 14       | 20                         | 23       | 16                    | 8        | 16   | 29       | 33   | 31       |
| High Value         | 100                                  | 100      | 100                        | 100      | 95                    | 81       | 95   | 95       | 100  | 100      |
| Low Value          | 0                                    | 0        | 0                          | 0        | 0                     | 0        | 0  | 0        | 0  | 0        |

The most dramatic information from this Phase is in the increased use of certified papers. Use of recycled has gone up by a few percent at mean values (though the median value is much higher). However, FSC, certified-recycled, other certified and eco-labeled all have dramatic increases in mean, count, and median values. Again since standard deviations remain high, they are a similar to last year but are reported with higher means, so they have also improved from last year. Amongst the survey respondents in Phase II, there is a dramatic improvement in use of all of these environmental papers.

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<sup>41</sup> Including (but not limited to) Sustainable Forestry Initiative (SFI) and Canadian Standards Association (CSA)

<sup>42</sup> This is one of the two y-variables used in analysis (the other being the FSC variable). Eco-labeled includes any certified paper, certified-recycled, and “other” types of environmental paper. For example, paper made of hemp or other non-wood fibre products. However, the responses of the survey did not include many of these kinds of paper – there was only one response at 10% proportion of total paper use.

#### 4.1.3 The Statistical Models

To test whether any of the survey variables drive uptake of FSCs or EPPs, we investigate four sets of econometric equations (equations 1 through 4) in different variations. Overall there are 24 separate sets of regression results presented. The first sets of equations test three separate sets of data, the Phase I data, the Phase II data and lastly the two sets of data together, in four equations. It is broken down this way to isolate the effectiveness of the variables as predictors of FSC or EPP adoption, and because repeated trials found few significant variables. This first regression is estimated on Phase I and II and merged (both Phase I and II data) producing 12 sets of results.

##### Equation 1 Regression 1a and 1b

$$FSC = f(CONSTANT, PPP, Type)$$

$$ECO = f(CONSTANT, PPP, Type)$$

$$FSC = f(CONSTANT, PPP, Contact)$$

$$ECO = f(CONSTANT, PPP, Contact)$$

The next regression tests the Phase II data only, producing 4 sets of results. These are only presented for Phase II data because the CERTREC and RECY variables were not significant for Phase I or the merged data sets.

##### Equation 2 Regression 2a and 2b

$$CERTREC = f(CONSTANT, PPP, Contact)$$

$$RECY = f(CONSTANT, PPP, Contact)$$

$$CERTREC = f(CONSTANT, PPP, Type)$$

$$RECY = f(CONSTANT, PPP, Type)$$

Finally, we test the full data set, that is with both sets of data from Phase I and Phase II merged into one data set. We used merged data for this analysis because that way we can test trends, which are given by the variable “year.” The regression is similar to those characterized by equation 1, however these test more variables.

The following regressions are tested with both sets (Phase I and II) of data, producing eight (8) sets of results:

#### Equation 3 Regression 3a and 3b

$$FSC = f(CONSTANT, BUSINESS, PPP, YEAR, SENSITIVE, Type)$$

$$ECO = f(CONSTANT, BUSINESS, PPP, YEAR, SENSITIVE, Type)$$

$$FSC = f(CONSTANT, BUSINESS, PPP, YEAR, SENSITIVE, Contact)$$

$$ECO = f(CONSTANT, BUSINESS, PPP, YEAR, SENSITIVE, Contact)$$

#### Equation 4 Regression 4a and 4b

$$FSC = f(CONSTANT, BUSINESS, PPP, YEAR, Type)$$

$$ECO = f(CONSTANT, BUSINESS, PPP, YEAR, Type)$$

$$FSC = f(CONSTANT, BUSINESS, PPP, YEAR, Contact)$$

$$ECO = f(CONSTANT, BUSINESS, PPP, YEAR, Contact)$$

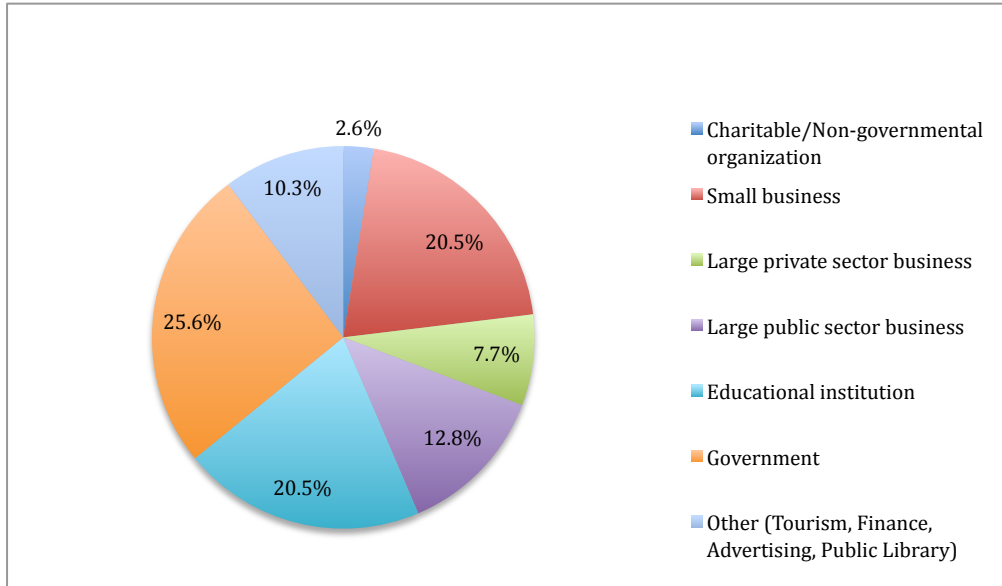
Therefore, the total sets of results that will be presented in the thesis are four from equation 1, twelve from equations 2, and eight from equation 3 and 4, giving a total of 24 regressions or sets of results. These are presented in a condensed table format.

#### 4.1.4 Sample Balance

In Phase II our sample balance is fairly evenly split amongst all respondent organizations (figure 11). In Phase I most respondents were from the educational sector

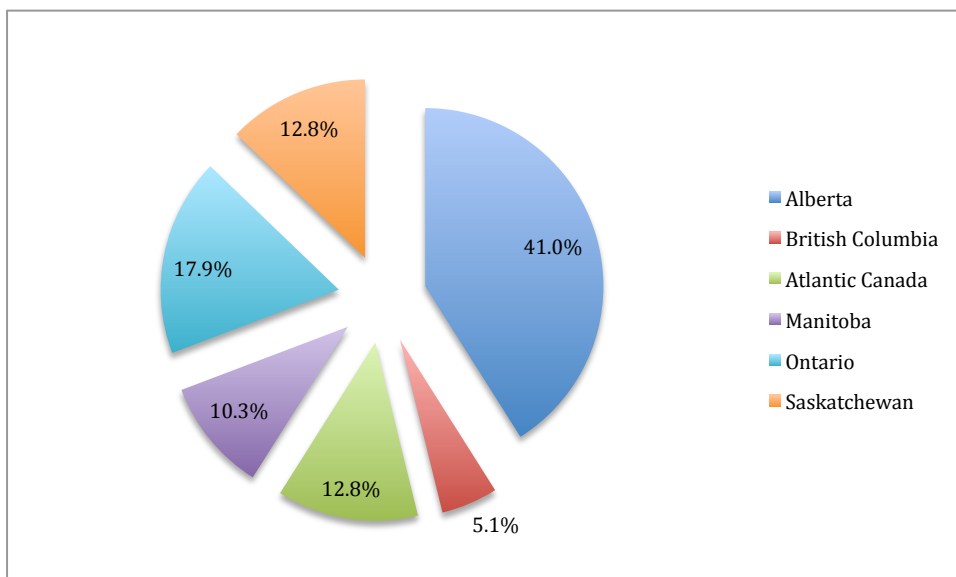
whereas this year we have a more balanced representation of organizations – more government respondents and many more small businesses.

**Figure 11 What business/institutional sector is your organization involved in?**



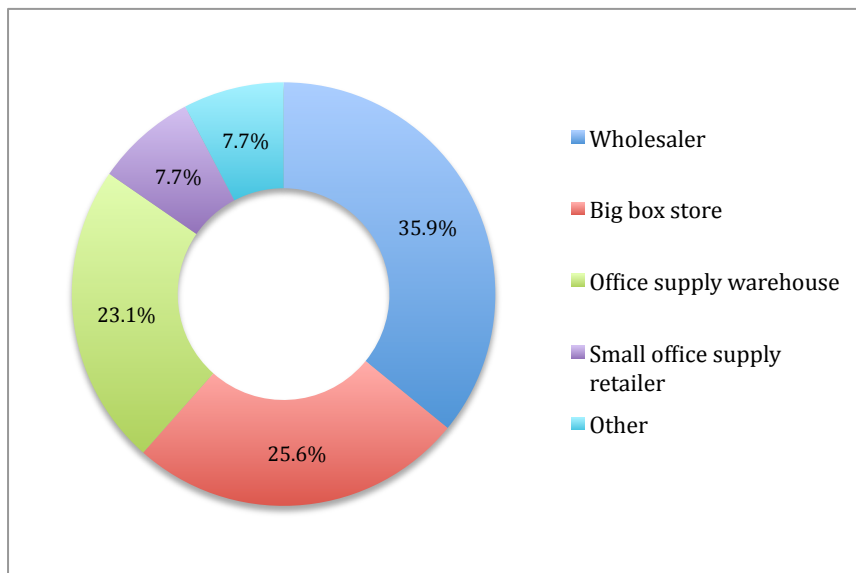
As in Phase I, most respondents were from Alberta, and this was found to be the same case this year.

**Figure 12 What province/territory is your organization located?**



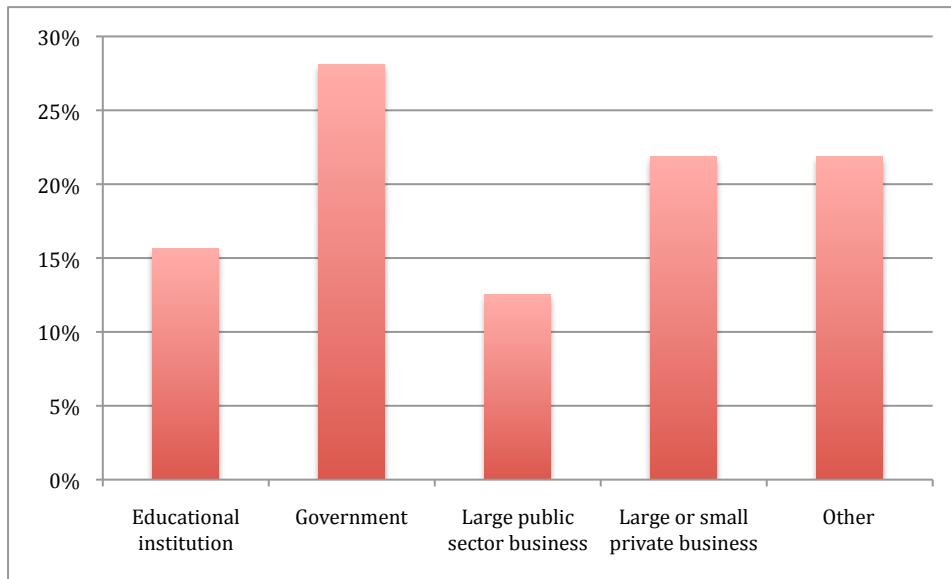
Paper suppliers of most organizations are the standard big business supply vendors (see figure 13). Often, organizations will have a contract with the supplier where a relationship is developed and maintained for several years. Often vendors are chosen based on pricing but for larger organizations with more sophisticated procurement departments, vendors are also chosen based on service, expediency and selection. This is particularly true when finer papers are required for specialized jobs.

**Figure 13 Major Paper Suppliers of Surveyed Organizations**



It appears that users of certified or certified-recycled are also fairly evenly distributed. Governments take the highest proportion of users of this type of paper, but only marginally (see figure 14). Proportion of certified or certified-recycled means that a proportion of the papers that the organization uses are of this type. In the survey, this range is 30% to 100% certified or certified-recycled. That is, an organization can use 40% (for example) certified paper and the rest (the other 60%) is regular paper. In the case of governments, for example, almost 30% of governments use a proportion (30-100%) certified or certified-recycled paper.

**Figure 14 Percentage of organizations using a proportion (30-100%) of certified or certified-recycled papers.**

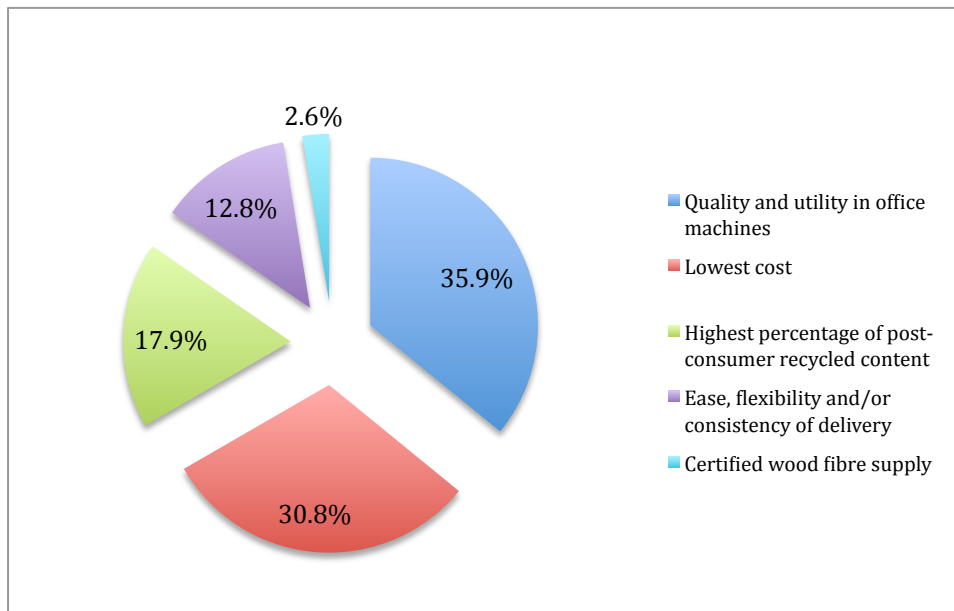


#### **4.1.5 Perceptions of Certification**

In the previous section we mentioned that cost was chosen as the most important characteristic in paper procurement. This year of surveys (Phase II), most important paper characteristic is not cost; 'quality and utility in office machines' has taken precedence (see figure 15). It is unknown why this is the case, however anecdotally we have noticed that many respondents have switched to a percentage of recycled paper have had problems with dust in office machines, particularly old machines. Perhaps those respondents have accepted the higher cost of these papers and now wish to focus on papers that are compatible with their printers and photocopiers.

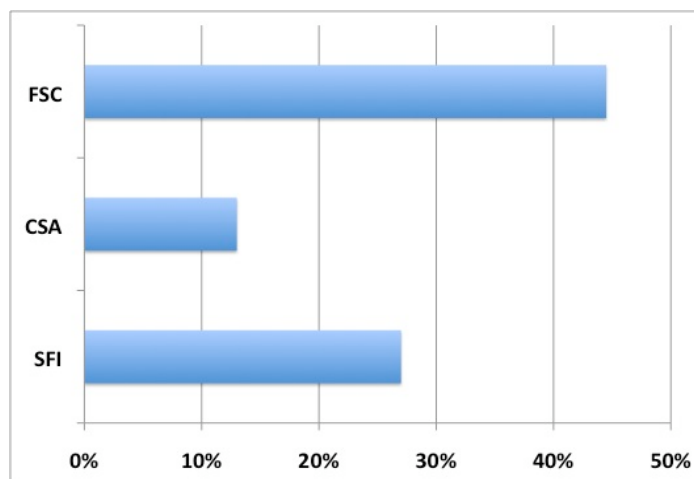


**Figure 15 Most Important Characteristic of Paper Procurement (Phase II)**



As was in Phase I, FSC remains to be the number one choice when certified paper is required (figure 16). Respondents in the survey reveal that FSC paper use is 20% greater than the next most popular certified paper (which is SFI). This coincides with more anecdotal observations from respondent interviews, that FSC is generally the most widely accepted and “best” certification scheme.

**Figure 16 Of the certified paper used in your organization, how much is certified by the following certification schemes?**



#### 4.1.6 *Recalling the Forest Stewardship Council's Marketing*

Since the key premise of the survey was to gauge the effectiveness of the BDP, one of the most important elements was whether or not the respondent recalls FSC contact. In this context, we blended the contact variables into one variable and compared this with the 'type' variable, to assess whether the respondent recalled contact. The respondent was asked three questions about whether or not they recalled the FSC from any of the three listed avenues<sup>43</sup> representing three modes of contact. 'Contact' is the revealed contact variable whereas 'type' is actual contact (see Table 1).

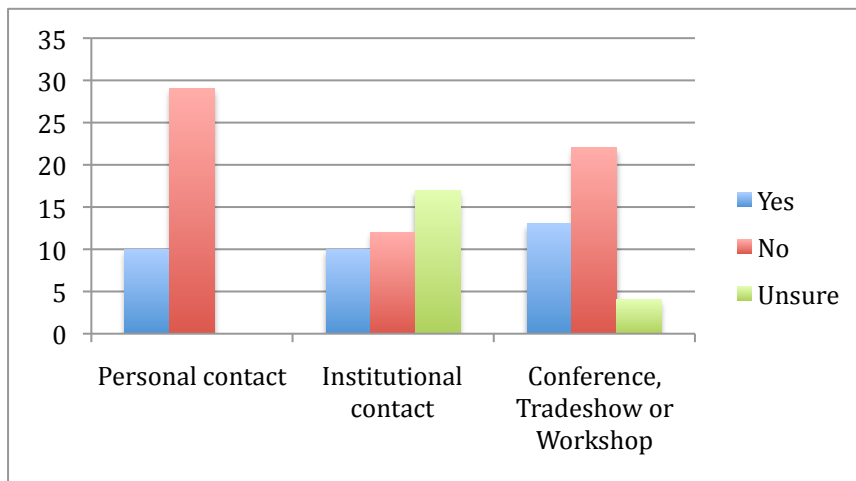
The first of the three questions tested direct personal contact, the second question direct institutional contact, and the third a more indirect type of contact, for example if the respondent recalls speaking with an FSC representative at a trade show, workshop or conference. This year, the respondents recall much more contact with FSC than last year. Last year only one respondent recalled personal contact, the same respondent one noted their institution was contacted, and eight noted indirect contact. This year particularly, there is a significant improvement in recalling personal contact.

*Note: respondents were given a choice of yes, no, or unsure in recalling contact. A response of 'unsure' was assumed to be a 'no' and was coded as such in the final (econometric) analysis.*

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<sup>43</sup> These are questions 24, 25 and 26 of the survey. For a list of the survey questions, please see the Appendix.

**Figure 17 Have you been contacted by the FSC in the last two years regarding your paper purchasing decisions? (Number of Respondents)**



The contact variable was constructed from the three questions because the responses from only the direct variable, even though were higher than Phase I, were too low for analysis. As mentioned above, last year, only one respondent (out of 36) recalled direct contact with FSC, and institution direct contact, and eight respondents noted indirect contact. This survey round, more respondents recalled some kind of contact – twelve reported direct contact (out of 39) and thirteen reported indirect contact (out of 39). Interestingly, four respondents reported direct contact when their organization was not targeted in the BDP. Those respondents likely recall FSC from a tradeshow or conference and believe that their company was targeted directly, when this in fact constitutes indirect contact in our study.

The recollection of the BDP this year improved from 2.7% last year to 20.5% not counting the respondents who recalled contact who have actually not been targeted under BDP and almost 30% if we do count these responses. Recalling contact with FSC, using both years of survey data we notice that there is some recognition of FSC among

organizations that were not contacted as part of BDP (last row of table 1). The following table reveals how respondents recall FSC in general.

**Table 7 Recalling FSC Contact (Both Surveys, n=76)**

| Contacted by BDP | Contact Reported | Percentage |
|------------------|------------------|------------|
| Yes              | Yes              | 22%        |
| Yes              | No               | 25%        |
| No               | Yes              | 10.5%      |

We demonstrate change from last year specifically using both years of data:

**Table 8 Recollection of BDP Among Survey Respondents – Trend**

| Criteria   | Phase I | Phase II | Both Years |
|--|---------|----------|------------|
| Contacted as part of BDP                         | 50%     | 46%      | 48%        |
| Recalling direct FSC contact                     | 16%     | 28%      | 22%        |
| Recalling direct <i>and</i> indirect FSC contact | 22%     | 43%      | 33%        |

This year, a much larger proportion of respondents have recalled FSC’s marketing. Out of just under half the sample, 43% of those respondents recall FSC contact in some way. However, the results are much less dramatic when we include only those that recall the actual BDP contact. In the above table, we have included direct and indirect contact with FSC. This means the respondent could have met with FSC presenters at a tradeshow or conference.

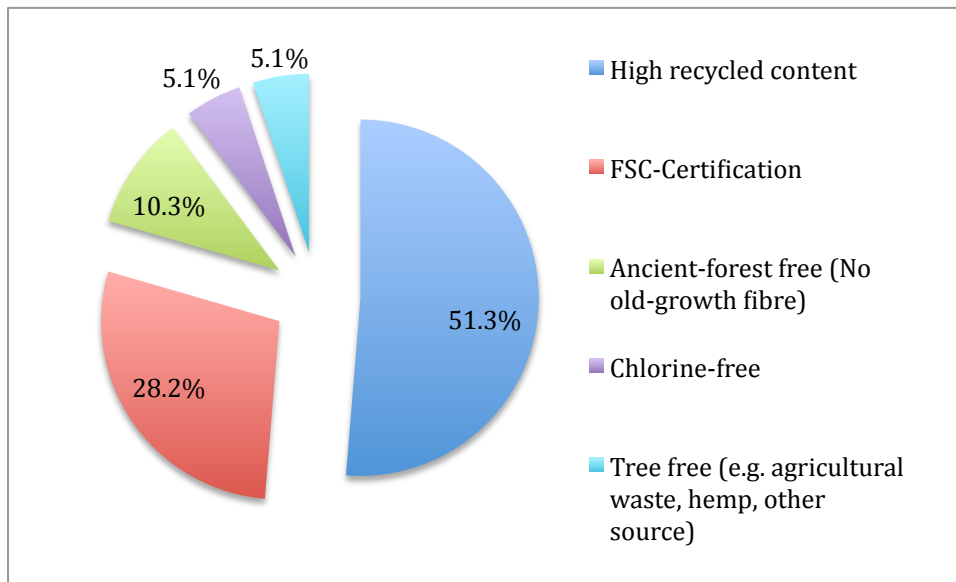
The summary tables suggest that BDP has resulted in increased recollection of FSC; there is an improvement from the year before. Further, this suggests that the BDP may have translated into increased uptake of FSC products. However, we will see if there has been any influence when we present models and compare if the BDP has in

fact increased FSC purchases, as well as purchases of other environmental paper products.

#### *4.1.7 Substitute for Certified – The Particular Case of Recycled Paper*

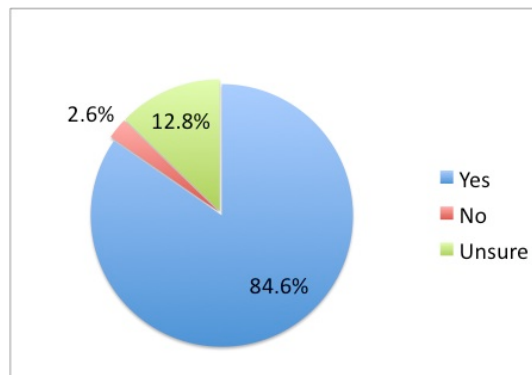
In Phase I, survey results revealed that there might be a tendency for respondents to substitute recycled paper for certified paper in the effort of making an environmentally friendly selection. This Phase results appear to strengthen that finding. When respondents are asked which are the most important characteristic of eco-papers, respondents consistently rank 'high recycled content' (see figure 18 below). However this year, FSC-certification is increasing in importance (compared to Phase I findings). Last year, ancient forest-free was number one, at 27.8%, followed by high recycled content at 19.4%, and FSC is third with 16.7% of respondents choosing it as their number one environmental paper characteristic. Both paper characteristics of FSC certification and high-recycled content are now high on the list of preferred environmental characteristics. Substitutability will be discussed at length in the case study chapter.

**Figure 18 What is the most important characteristic of environmentally friendly paper?**



The figures below show potential for development of the FSC market *if prices were not a*

**Figure 19 Would you choose FSC paper over conventional paper, given identical prices?**



*factor*. Though initially one would think it is encouraging, that 84% of respondents would choose FSC over conventional paper, the fact many are not willing to pay more does not particularly benefit the FSC situation. At identical prices, production of certified paper is

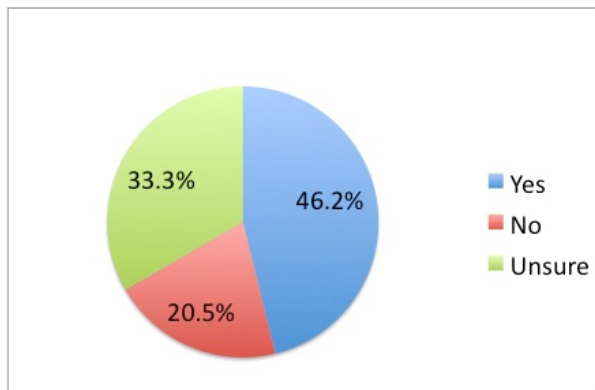
unattainable. FSC certified wood is more expensive to produce and the costs must be recovered somewhere along the supply chain. At some point, consumers must be willing to pay the increased cost that is required to produce FSC wood. In order for certification to work, consumers must value that they are paying more, they are getting more – it is similar to paying for an environmental service. The results are an

improvement from last year, where 75% of respondents said that yes, they would choose FSC over conventional at same prices.

The second graph (figure 20) demonstrates that recycled is being used as a substitute environmental paper, when compared with figure 19. Just under half of respondents would choose FSC over recycled – substantially less than who would chose FSC over conventional.

Similarly, when respondents are asked whether or not they would choose certified over both conventional and recycled, the results are not as dramatic as Figure 19, and the result is similar to Figure 25: 43% of respondents would choose FSC over both conventional *and* recycled paper, given equal prices. The findings are given below in figure 20.

**Figure 20 Would you choose FSC paper over recycled paper given identical prices?**



## **4.2 Certified Paper Changes in Adoption**

The most notable difference between the Phase I and II surveys is that the proportion of FSC papers is up significantly by users from the 2008 study. The mean values are more than two times the 2008 values for eco-labeled papers and over one and a half times higher for FSC. This is especially surprising considering it is the exact opposite of expectations, given the current economic situation. On the other hand, since pressure to be environmentally friendly still exists or is even stronger than two years ago, the fact that organizations are choosing to be more conscientious perhaps should not be overly surprising. A form of natural momentum seems to be at work regarding environmental papers. Many, if not most government agencies and educational institutions have made FSC certified paper mandatory for their print jobs, causing many printers to achieve chain-of-custody (CoC) certification. The fact that print shops are converting to FSC may be causing increased visibility for the brand and a natural evolution towards those environmentally - friendly type paper products is occurring. However, we found no corresponding evidence that FSC sales are increasing in the market. This type of information has proved elusive, if it does indeed exist, so unfortunately we do not have a way to compare it in a larger sense.

### **4.2.1 *Structural Differences between the Phase I and Phase II surveys***

To measure if the respondent's choices produced consistent (similar) models or if the two models were inherently, structurally different, a likelihood ratio (LR) test was administered. The log likelihood values were taken from each of the two separate models, which are models of increasing complexity (more and more variables were added each iteration). In another set of LR tests, identical models are run with the same variables, for each separate data set or phase. The likelihood ratio test compares structural similarity between two identical models using the different datasets in



question (Moreira 2003). The model is estimated twice, once with the restriction and once with the null hypothesis imposed, then we check if the difference in log likelihood values is significantly different from zero (Verbeek 2008).

Tests of likelihood revealed that indeed, the models have a different structure, revealing that something within the respondents has changed, signaling a possible market transition to FSC-certified but also other environmental papers. This is discussed below the table of results.

In order to produce the LR statistic, logit models were produced for each year with the same variables using only the different data sets – one for 2008, one for 2010 and the dataset that has both surveys merged. The model structures were identical; the only difference was that different data sets were used. Along with data to use for the LR tests, we also created models to discuss the impact of FSC's BDP.

**Table 9 Comparing Model Structures – Model 1**

| Y-variable:               | FSC                             |                                 |                                 | ECO                             |                             |                                     |
|---------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------------|-------------------------------------|
| Variable / Year           | 2008                            | 2010                            | Full Model                      | 2008                            | 2010                        | Full Model                          |
| <b>CONSTANT</b>           | -4.295***<br>(2.033)<br>(0.035) | -1.93****<br>(0.729)<br>(0.008) | -2.39****<br>(0.602)<br>(0.000) | -1.380***<br>(0.597)<br>(0.021) | 0.166<br>(0.505)<br>(0.743) | -0.469*<br>(0.355)<br>(0.186)       |
| <b>PPP</b>                | 3.314*<br>(2.263)<br>(0.143)    | -0.405<br>(0.915)<br>(0.659)    | 0.205<br>(0.703)<br>(0.771)     | 1.5517**<br>(0.843)<br>(0.066)  | 0.989<br>(0.790)<br>(0.211) | 1.0360*<br>**<br>(0.515)<br>(0.044) |
| <b>TYPE</b>               | -0.812<br>(1.509)<br>(0.591)    | 1.199 *<br>(0.860)<br>(0.163)   | 0.855<br>(0.720)<br>(0.235)     | -0.023<br>(0.844)<br>(0.978)    | 0.371<br>(0.695)<br>(0.594) | 0.183<br>(0.485)<br>(0.706)         |
| Log likelihood function   | -7.220                          | -18.330                         | -29.056                         | -20.474                         | -24.229                     | -49.571                             |
| McFadden Pseudo R-squared | 0.458                           | 0.269                           | 0.288                           | 0.221                           |                             | 0.052                               |

Note: \*\*\*\*, \*\*\*, \*\*, \* = Significance at 1%, 5%, 10%, 20% level.

Coefficient, standard error in brackets and p-value in second brackets.

## 4.2.2 Discussion

### 4.2.2.1 Model 1

The paper procurement policy variable is positive as expected in all models, however it is important for the previous survey year (2008, Phase I) for FSC, but not for this year (2010, Phase II). These results can be found in Table 8. For the ECO variable, having a PPP is also important for the 2008 survey, however not nearly as much for the 2010 survey. Overall, having a PPP is an important positive determinant in procuring environmentally friendly papers since the variable is highly significant and positive. The ECO variable produces more significant variables with regard to PPP than the FSC variable, meaning an organization is more likely to purchase environmentally friendly paper when they have a PPP but not necessarily FSC paper. In fact, the importance of having a PPP to adopting FSC is lower this year than last.

The type variable produces only one significant coefficient, and it is very weakly significant at 20%. The positive and significance of it means that increases the chances that the company will purchase FSC papers if they have been contacted by the FSC as part of BDP, however, given the low significance the BDP may have had no effect.

**Table 10 Comparing Model Structure - Model 2**

| Y-variable                | FSC                              |                                  |                                  | ECO                             |                             |                                |
|---------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|-----------------------------|--------------------------------|
| Variable / Year           | 2008                             | 2010                             | Full Model                       | 2008                            | 2010                        | Full Model                     |
| <b>CONSTANT</b>           | -4.607** *<br>(2.033)<br>(0.024) | -1.737****<br>(0.666)<br>(0.009) | -2.434****<br>(0.559)<br>(0.000) | -1.338***<br>(0.531)<br>(0.012) | 0.221<br>(0.491)<br>(0.653) | -0.512*<br>(0.330)<br>(0.121)  |
| <b>PPP</b>                | 2.794*<br>(2.176)<br>(0.199)     | -0.435<br>(0.909)<br>(0.632)     | 0.208<br>(0.706)<br>(0.769)      | 1.66***<br>(0.813)<br>(0.041)   | 0.975<br>(0.788)<br>(0.216) | 1.0256**<br>(0.511)<br>(0.045) |
| <b>CONTACT</b>            | 0.574<br>(1.417)<br>(0.686)      | 0.950<br>(0.829)<br>(0.252)      | 1.1835**<br>(0.696)<br>(0.089)   | -0.431<br>(0.955)<br>(0.652)    | 0.270<br>(0.698)<br>(0.698) | 0.408<br>(0.512)<br>(0.426)    |
| Log likelihood function   | -7.280                           | -18.698                          | -28.330                          | -20.370                         | -24.297                     | -49.324                        |
| McFadden Pseudo R-squared | 0.453                            | 0.254                            | 0.306                            | 0.225                           |                             | 0.057                          |

Note: \*\*\*\*, \*\*\*, \*\*, \* = Significance at 1%, 5%, 10%, 20% level.

#### 4.2.2.2 Model 2

Model 2 is exactly the same as model 1, the only difference being that the variable TYPE is replaced by the variable CONTACT. This is designed to test whether self-professed contact, measured by the variable CONTACT, changes the model rather than *actual* contact, which is represented by the variable TYPE. PPP is significant in the 2008 data and in the combined data, but not in 2010. Nevertheless it shows that PPP enhances the selection of these paper choices, mostly in the case of ECO, but also to a certain extent for FSC. In Model 1, the variable TYPE in 2010 shows that the marketing plan is having an impact on FSC choice, but (as expected) not on ECO papers overall. This is intuitive and suggests that no positive externalities were generated in the BDP. The second model basically tells the same story as the first. PPP matters most for ECO, but CONTACT affects FSC.

#### 4.2.3 The Likelihood Ratio Test

A structural differences test is computed by comparing likelihood values produced by the regression according to the formula: (*note: LR is shorthand for likelihood ratio*).

##### Equation 5 Chi-Square Test Statistic

$$LR_{test} = -2 * [(LogLR_{both} - (LogLR_{PhaseI} + LV_{PhaseII}))]$$

The test statistic is compared to the table of Chi-squared values to see if it falls within the accept range. If it does, we revert to the alternate hypothesis that our models are structurally the same.

**Table 11 Likelihood Ratio Comparisons**

| Model | FSC                         |           | ECO                         |            |
|-------|-----------------------------|-----------|-----------------------------|------------|
|       | Chi-Squared<br>(Calculated) | Reject?   | Chi-Squared<br>(Calculated) | Reject?    |
| 1     | 7.013                       | Yes (5%)  | 9.736                       | Yes (2.5%) |
| 2     | 4.705                       | Yes (10%) | 9.314                       | Yes (2.5%) |

Where the null hypothesis is that the calculated beta values for year 0 (Phase I) are equal to the calculated betas for year 1 (Phase II) and they are not equal in the alternative hypothesis:

**Equation 6 Null and Alternative Hypothesis Test**

$$H_0 : \beta_{0,Year0} = \beta_{0,Year1};$$

$$H_a : \beta_{0,Year0} \neq \beta_{0,Year1}$$

In this case, the null hypothesis is that the models are structurally identical. The LR test shows us that in our four simple models we can reject the null hypothesis that our models are the same. This is an interesting result because it supports our summary findings that the market for FSC and other environmental papers is in a transition phase, a finding postulated in the first survey round in 2008. The results of the test signify that the market is in a state of natural growth and transition as postulated in the Phase I findings (Dacyk 2009).

In addition, a model including PPP, TYPE and CONTACT was estimated, however it didn't yield any new information. PPP was significant for both dependent variables in 2008, and CONTACT was significant in the full model for FSC but not ECO. In the LR test, the null hypothesis that the two sample years had the same parameters was rejected (as

it was in the previous two models) for FSC at the 10% level and ECO at the 2.5% level.

In any case, Type and Contact are fairly similar (and slightly correlated at 28%) and this model did not inform more than the previous two models.

### 4.3 Phase II Survey Models

Neither the FSC nor ECO variables yield much insight beyond the models used for the LR test. The alternative dependent variables, certified-recycled and recycled are closely related, and the models produced are not as good as those where FSC or ECO is the dependent variable. Rho-squared values are low: as low as 4% - 8 % for the certified-recycled model. The models where recycled is used as the dependent variable are slightly better, with R-squared values of around 22% and more significant variables. Results on the impact of PPP and contact with FSC are assessed in the below models:

**Table 12 Models with Phase II survey results**

| Model 1                      |                                      |                                  | Model 2                      |                                      |                                  |
|------------------------------|--------------------------------------|----------------------------------|------------------------------|--------------------------------------|----------------------------------|
|                              | Percentage<br>Certified-<br>Recycled | Percentage<br>Recycled           |                              | Percentage<br>Certified-<br>Recycled | Percentage<br>Recycled           |
| <b>CONSTANT</b>              | -0.554<br>(0.498)<br>(0.266)         | -1.4586***<br>(0.593)<br>(0.014) | <b>CONSTANT</b>              | -0.864*<br>(0.540)<br>(0.110)        | -1.3077***<br>(0.587)<br>(0.026) |
| <b>CONTACT</b>               | 0.728<br>(0.671)<br>(0.278)          | 0.464<br>(0.736)<br>(0.528)      | <b>TYPE</b>                  | 1.3034**<br>(0.696)<br>(0.061)       | 0.127<br>(0.731)<br>(0.862)      |
| <b>PPP</b>                   | 0.858<br>(0.714)<br>(0.230)          | 1.787***<br>(0.748)<br>(0.017)   | <b>PPP</b>                   | 0.948*<br>(0.743)<br>(0.202)         | 1.785***<br>(0.744)<br>(0.016)   |
| Log likelihood<br>function   | -25.654                              | -22.161                          | Log likelihood<br>function   | -24.391                              | -22.346                          |
| Number of<br>parameters      | 3                                    | 3                                | Number of<br>parameters      | 3                                    | 3                                |
| AIC                          | 1.469                                | 1.290                            | AIC                          | 1.405                                | 1.300                            |
| BIC                          | 1.597                                | 1.418                            | BIC                          | 1.533                                | 1.428                            |
| McFadden<br>Pseudo R-squared | 0.042                                | 0.227                            | McFadden<br>Pseudo R-squared | 0.089                                | 0.221                            |
| Chi squared                  | 2.250                                | 13.049                           | Chi squared                  | 4.776                                | 12.680                           |
| Degrees of<br>freedom        | 2                                    | 2                                | Degrees of<br>freedom        | 2                                    | 2                                |
| Prob[ChiSqd ><br>value]      | 0.325                                | 0.001                            | Prob[ChiSqd ><br>value]      | 0.092                                | 0.002                            |
| P-value                      | .76161                               | .54864                           | P-value                      | .68977                               | .04480                           |

Note: \*\*\*\*, \*\*\*, \*\*, \* = Significance at 1%, 5%, 10%, 20% level.  
Coefficient, standard error (in brackets) and p-value (in second brackets)

Overall it appears that “type” is a stronger predictor of purchasing EPPs than “contact”, at 10% significance, which makes sense: FSC’s marketing may be increasing uptake purchases of certified-recycled paper. It is interesting that this is not significant when the model is run with FSC as the dependent variable. Perhaps there are some positive externalities being produced, or the respondent does not identify certified-recycled fiber as FSC certified.

These models suggest that FSC’s BDP had an impact on certified – recycled overall, but not on percent recycled (as one would expect). Having a PPP matters for recycled in both models, and only very slightly for certified-recycled, in the second model, however the effect is marginal. Type appears to be significant for certified-recycled choices. It is interesting that the variable type, rather than contact, is significant. This shows potential effect of BDP marketing increasing uptake of environmental papers in general, and pushes the notion that certified papers with some recycled content may be preferred to just certified non-recycled (virgin) papers.

The contact variable includes companies that recall some sort of contact, direct or indirect, with the FSC; and therefore the definition of contact is actually very broad (as explained in an earlier section), making it surprising that contact would not be significant. It is also surprising because of the 46% of the sample that was actually contacted by FSC as part of BDP, 43% (almost the whole sample) recalled the contact. This supports the finding that FSC’s marketing is having some impact for this test group.

#### 4.4 Analysis of Merged Survey Data

A few simple models for both survey years have already been presented however, we add a few more variables to these final models. In these, results are similar meaning that the variables type and contact continue to play a role, and year is positive and significant re-affirming the finding of increased uptake of FSC and ECO papers. Model 3 and 4 are broken down into parts *a* and *b*. Parts *a* and *b* are the same model with the exception of type and contact, where type is used in part a and contact in part b. Model 3 and 4 are also similar, but model 3 has the variable 'sensitive' and in model 4 this is taken out.

**Table 13 Models with Both survey rounds: Model 3a and 3b**

|                           | Model 3a                          |                                  | Model 3b                      |                                 |                                   |
|---------------------------|-----------------------------------|----------------------------------|-------------------------------|---------------------------------|-----------------------------------|
|                           | FSC                               | ECO                              | FSC                           | FSC                             | ECO                               |
| <b>CONSTANT</b>           | -3.4685****<br>(1.009)<br>(0.001) | -1.792****<br>(0.636)<br>(0.005) | <b>CONSTANT</b>               | -2.99****<br>(0.919)<br>(0.001) | -1.839****<br>(0.641)<br>(0.004)  |
| <b>BUSIN</b>              | -0.624<br>(0.906)<br>(0.491)      | -1.018*<br>(0.680)<br>(0.135)    | <b>BUSIN</b>                  | -0.501<br>(0.900)<br>(0.578)    | -0.991*<br>(0.677)<br>(0.144)     |
| <b>PPP</b>                | 0.346<br>(0.731)<br>(0.636)       | 1.1995***<br>(0.592)<br>(0.043)  | <b>PPP</b>                    | 0.386<br>(0.737)<br>(0.600)     | 1.27054***<br>(0.598)<br>(0.034)  |
| <b>YEAR</b>               | 1.4304**<br>(0.806)<br>(0.076)    | 1.8894****<br>(0.581)<br>(0.001) | <b>YEAR</b>                   | 1.096*<br>(0.827)<br>(0.185)    | 2.06513****<br>(0.633)<br>(0.001) |
| <b>SENSITIVE</b>          | 0.301<br>(0.795)<br>(0.705)       | 0.794*<br>(0.602)<br>(0.187)     | <b>SENSITIVE</b>              | -0.050<br>(0.949)<br>(0.958)    | 1.109**<br>(0.683)<br>(0.104)     |
| <b>TYPE</b>               | 0.945<br>(0.763)<br>(0.216)       | 0.186<br>(0.561)<br>(0.740)      | <b>CONTACT</b>                | 1.023<br>(0.879)<br>(0.245)     | -0.525<br>(0.668)<br>(0.432)      |
| Log likelihood function   | -27.135                           | -42.550                          | Log likelihood function       | -27.230                         | -42.288                           |
| AIC                       | 0.884                             | 1.295                            | AIC                           | 0.886                           | 1.288                             |
| BIC                       | 1.069                             | 1.480                            | BIC                           | 1.072                           | 1.473                             |
| McFadden Pseudo R-squared | 0.335                             | 0.186                            | McFadden Pseudo R-squared     | 0.333                           | 0.191                             |
| Chi squared               | 27.384                            | 19.479                           | Chi squared                   | 27.193                          | 20.002                            |
| Degrees of freedom        | 5                                 | 5                                | Degrees of freedom            | 5                               | 5                                 |
| Prob [ChiSq > value]      | 0.000                             | 0.002                            | Prob [ChiSq > value]          | 0.000                           | 0.001                             |
| P-value with 8 deg.fr.    | .80822                            | .99818                           | P-value with 8 degree freedom | .87468                          | .84072                            |

Note: \*\*\*\*, \*\*\*, \*\*, \* = Significance at 1%, 5%, 10%, 20% level.  
Coefficient, standard error in brackets and p-value in second brackets.

#### 4.4.1 Discussion – Model 3

The survey results from both years of survey data are very interesting and surprising. Use of EPP's has gone up –suggesting some form of momentum. Type is almost significant at 20% (actual value is 25%), and of expected sign – namely that type increases use of FSC, but not ECO. The other model has contact in place of type: which appears to be very slightly significant (19%) for FSC.

Sensitive was also an important variable for the ECO model. The more sensitive the company is to information about social impacts and environmental footprints of paper products, the more likely they are to buy environmentally friendly papers – but not FSC papers. This suggests that an organization's sensitivity to information would aid the uptake of most EPP's, but not particularly FSC paper. This could mean that organizations with widespread views, opinions and levels of information about EPP's and paper in general would theoretically be open to receive the FSC's message, since sensitivity appears to encourage adoption (though marginally).

Model 4 is presented below. It is the same as Model 3 above, with the exception that the variable 'sensitive' is removed.



**Table 14 Model with both survey rounds: Model 4a and 4b**

| Model 4a                  |                                  |                                   | Model 4b                  |                                   |                                  |
|---------------------------|----------------------------------|-----------------------------------|---------------------------|-----------------------------------|----------------------------------|
| Variable                  | FSC                              | ECO                               | Variable                  | FSC                               | ECO                              |
| <b>CONSTANT</b>           | -3.310****<br>(0.909)<br>(0.000) | -1.3495****<br>(0.516)<br>(0.009) | <b>CONSTANT</b>           | -3.0127****<br>(0.797)<br>(0.000) | -1.192***<br>(0.463)<br>(0.010)  |
| <b>BUSIN</b>              | -0.627<br>(0.898)<br>(0.485)     | -1.085*<br>(0.662)<br>(0.101)     | <b>BUSIN</b>              | -0.498<br>(0.899)<br>(0.579)      | -1.028*<br>(0.657)<br>(0.118)    |
| <b>PPP</b>                | 0.390<br>(0.721)<br>(0.588)      | 1.340**<br>(0.583)<br>(0.022)     | <b>PPP</b>                | 0.378<br>(0.722)<br>(0.600)       | 1.4157**<br>(0.587)<br>(0.016)   |
| <b>YEAR</b>               | 1.39583*<br>(0.799)<br>(0.081)   | 1.7494****<br>(0.556)<br>(0.002)  | <b>YEAR</b>               | 1.107*<br>(0.803)<br>(0.168)      | 1.7234****<br>(0.571)<br>(0.003) |
| <b>TYPE</b>               | 1.022*<br>(0.738)<br>(0.167)     | 0.373<br>(0.538)<br>(0.488)       | <b>CONTACT</b>            | 0.995*<br>(0.711)<br>(0.161)      | 0.014<br>(0.564)<br>(0.980)      |
| Number of observations    | 75                               | 75                                | Number of observations    | 75                                | 75                               |
| Log likelihood function   | -27.208                          | -43.445                           | Log likelihood function   | -27.232                           | -43.686                          |
| Number of parameters      | 5                                | 5                                 | Number of parameters      | 5                                 | 5                                |
| AIC                       | 0.859                            | 1.292                             | AIC                       | 0.860                             | 1.298                            |
| BIC                       | 1.013                            | 1.446                             | BIC                       | 1.014                             | 1.453                            |
| McFadden Pseudo R-squared | 0.334                            | 0.169                             | McFadden Pseudo R-squared | 0.333                             | 0.165                            |
| Chi squared               | 27.237                           | 17.687                            | Chi squared               | 27.190                            | 17.206                           |
| Degrees of freedom        | 4                                | 4                                 | Degrees of freedom        | 4                                 | 4                                |
| Prob[ChiSqd > value]      | 0                                | 0.001                             | Prob [ChiSqd > value]     | 0                                 | 0.002                            |
| P-value with 8 deg.fr.    | 0.980                            | 0.902                             | P-value with 8 deg.f      | 0.926                             | 0.855                            |

#### 4.4.2 Discussion – Model 4

The removal of ‘sensitive’ causes the variable ‘type’ to become significant for the 4a model for FSC, however does not cause much change to significance of the other variables. In the 4b model, the story is much the same: the variable ‘contact’ becomes significant for FSC, but there is no loss or gain in significance of the other variables. This model improves the significance of the variables that measure BDP and exposure to FSC. The 4a model reveals that the respondent who was *actually* exposed to BDP

marketing is more likely to use FSC products, suggesting some success with the initiative. As well, in 4b, respondents who have themselves revealed they recall FSC marketing, are also more likely to use FSC products. The 4b result is perhaps not as profound as the 4a result: since a respondent recalls FSC in some way they have in fact taken initiative to learn more about FSC, and obtain FSC products. However, both results, but particularly the 4a result reveals positive news attesting to success of BDP. Overall these models are good, with rho-squared values of between 16% and around 33%. The models for FSC are slightly better, which makes intuitive sense.

#### 4.4.3 *Marginal Effects*

Marginal effects are reported for Models 3 and 4. In our models they are straightforward to interpret. Marginal effects report the effect of a unit change in the independent variable on the choice variable. In our case, because our model is composed solely of dummy variables on the RHS, a unit change specifies a 0 or 1 change, and not any change in range. Marginal effects are defined as:

##### Equation 7 Marginal Effects General formula

$$\Pr(Y = 1 | X_n = 1, X_*) - \Pr(Y = 1 | X_n = 0, X_*)$$

Where probability is defined as:

##### Equation 8 Marginal Effects: definition of probability

$$\Pr(Y = 1) = \frac{1}{1 + \exp^{-X\hat{\beta}}}$$

Marginal effects were computed in the LimDep software along with the logit regressions. Results for marginal effects are similar to the logit results: the same variables are significant at their mean values. The variables PPP and year remain

important. For Model 3a and 3b, the marginal impact of a firm being a private business decreased their propensity to adopt ECO papers by about 23-24% (both a and b models). The importance of PPP remains important, though not as important as last year. In Phase I, calculated marginal effect for PPP was 37.2%, meaning that an average firm with a PPP uses about one-third more EPPs than a firm without PPP guidelines (Dacyk 2009). This year, that value is between 28-30%.

Interestingly, when other factors are held constant, respondents from this year use between 10-14% more FSC products than last year and uses between 43-47% more ECO products than last year (for Model 3a and 3b, at variable means). These results are striking. The results for marginal effects in Model 4a and 4b are similar. Respondents with a PPP and in this year compared to last year, use a higher proportion of ECO products. The marginal effects results are significant in FSC only for the variable year, again, point strongly to momentum of a market transition to FSC.

In Phase I, a strong propensity for government users with EPPs was found. We found no such evidence this year, given the higher number of government respondents this Phase. The only indication we have is that private businesses are 23% less likely to use EPPs than other organizations in the survey. Either, the strength of private business respondent's tendency not to use EPPs is overpowering a weak tendency of government to use EPPs, or governments are not particularly high users of EPPs as estimated in Phase I. Type appears again as weakly significant (20%). The respondents who have been exposed to BDP use 9% more FSC products. The tables are presented below.

**Table 15 Marginal Effects for Model 3a and 3b**

| Model 3a |                     |                       | Model 3b |                   |                       |
|----------|---------------------|-----------------------|----------|-------------------|-----------------------|
| Variable | FSC                 | ECO                   | Variable | FSC               | ECO                   |
| BUSIN    | -0.053<br>(0.067)   | -0.243**<br>(0.149)   | BUSIN    | -0.044<br>(0.071) | -0.237*<br>(0.15)     |
| PPP      | 0.035<br>(0.077)    | 0.2897***<br>(0.133)  | PPP      | 0.040<br>(0.079)  | 0.30551***<br>(0.133) |
| YEAR     | 0.1408**<br>(0.074) | 0.4396****<br>(0.117) | YEAR     | 0.108*<br>(0.079) | 0.474****<br>(0.122)  |
| SENSITIV | 0.029<br>(0.073)    | 0.195*<br>(0.143)     | SENSITIV | -0.005<br>(0.094) | 0.2688**<br>(0.156)   |
| TYPE     | 0.095*<br>(0.077)   | 0.047<br>(0.140)      | CONTACT  | 0.116<br>(0.111)  | -0.130<br>(0.163)     |

Note: \*\*\*\*, \*\*\*, \*\*, \* = Significance at 1%, 5%, 10%, 20% level.  
Coefficient, standard error in brackets.

**Table 16 Marginal Effects for Model 4a and 4b**

| Model 4a |                     |                      | Model 4b |                   |                      |
|----------|---------------------|----------------------|----------|-------------------|----------------------|
| Variable | FSC                 | ECOL                 | Variable | FSC               | ECOL                 |
| BUSIN    | -0.054<br>(0.067)   | -.25788*<br>(0.143)  | BUSIN    | -0.044<br>(0.071) | -.24569*<br>(0.144)  |
| PPP      | 0.040<br>(0.077)    | .32064**<br>(0.128)  | PPP      | 0.039<br>(0.078)  | .33694***<br>(0.126) |
| YEAR     | 0.13789*<br>(0.074) | .41110***<br>(0.115) | YEAR     | 0.110<br>(0.076)  | .40579***<br>(0.119) |
| TYPE     | 0.103<br>(0.074)    | 0.093<br>(0.133)     | CONTACT  | 0.113<br>(0.089)  | 0.004<br>(0.141)     |

Note: \*\*\*\*, \*\*\*, \*\*, \* = Significance at 1%, 5%, 10%, 20% level.  
Coefficient, standard error in brackets.

## 4.5 Discussion of Results

The survey results from this year are surprising. The dramatic uptake of environmental papers appears to be explained by something *other* than the variables we tested in the model. The increase was not captured, or explained to a large degree by any of the survey variables. There appears to be another mechanism at work that is driving this increase. There are a variety of possibilities.

Surprisingly, the type and contact variables are showing some significance this year. When merged with the Phase I data, they are less strong, since the Phase I data

did not find evidence of success of the BDP. PPP appears to be a very key enabler of EPP adoption, since it shows up again strongly this year. Indeed PPP seems to be the main determinant of EPP uptake. It is particularly encouraging that the variable 'type' shows significance in the FSC models. Evidently, time is an important determinant influencing adoption, and the slight influence of the BDP needs a certain amount of time to elapse before users process the information and change their organization's procurement practices to include these types of items.

Other than information received by the BDP, and having a PPP, what else could be driving organizational preference for EPPs and FSCs? It is likely that the environmental movement may be influencing the consumption all sorts of 'greener' products; items that are *relatively* low-cost and high-visibility. For example, energy-efficient light bulbs, fuel-efficient company cars, office recycling programs are all becoming more popular. Environmental papers are a relatively inexpensive way for an organization to advertise its commitment to the environment in order to gain reputé with consumers. Many consumers make purchasing decisions based on the organization's environmental reputation (Drumwright 1994).

The tendency to be more environmentally conscious also may be fashionable (Carter, Carter et al. 2006). A growing tendency to be more cautious with procurement practices is a practiced phenomenon (McCrudden 2004). The FSC may improve the purchasing organizations commitment to environmental and social objectives.

Many government/educational organizations require FSC certified paper for all their print jobs, essentially forcing the print shops with whom they have a relationship to become fully FSC certified (this is discussed at length in the case study). It is possible

that a trickle-down effect could be created that would lead to increased visibility of the FSC brand to other organizations. That being said, larger organizations tend to have advanced procurement offices with highly sophisticated buyers, and often have a very detailed procurement policy, would be good targets of the BDP.

This Phase we were able to question the relevance of government buyers, which was one of the stronger results of Phase I, and confirm the importance of the PPP. Our survey has once again yielded very good, detailed data about a very specific purchasing group relevant to the FSC. In addition, the weak influence of BDP suggests that time may be an important factor encouraging adoption, but the effect is so weak we can only speculate at the effectiveness of the BDP. But, and perhaps most importantly, there is a form of positive momentum occurring with regard to environmental certified products, which appears to be independent of FSC marketing, particularly independent of the BDP. There is some sort of transition in effect, as time has resulted in an increased use of environmentally friendly papers. The comment in Dacyk (2009) that these papers could be on the verge of significant market transition is justified and is verified again this year.

## **5 Chapter 5: Paper Procurement Policies: University of Alberta Case**

### **5.1 Introduction to Case Study Research**

We hope to extend our findings via a practical example using a case study of a major paper buyer. The goal of the case study is to extend this empirical description, provide a more conceptual discussion and provide an procurement system example in an effort to give tools to be able to evaluate the potential of the BDP. We want to enrich the survey findings using a specific example of a paper buyer, and using the literature review of organizational factors, present factors of which might be expected to contribute to success of BDP. Though the empirical analysis shows evidence that the BDP has been somewhat successful, the case analysis may show us that the BDP has not reached its full potential.

We chose the University of Alberta as a case study. This case was chosen because the process of analyzing the University is more transparent than another organizations due to proximity, and these facts make the particular case likely to extend or replicate already established information (Eisenhardt 1989) on paper procurement systems. The university, with many procurement systems (since each department is responsible for its own ordering), will give an indication of ‘firm’ performance, and allowing us to build generalizations about firm performance in terms of paper procurement.

A case study also allows us to justify selective sampling<sup>44</sup>. By combining the case study with the survey data, we are able to get qualitative and quantitative evidence that together can inform, strengthen and improve our survey, or quantitative, findings.

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<sup>44</sup> Sample selection bias is an issue in econometrics but in case study research this method is often necessary in building a framework.

## 5.2 Benefits and Limitations of Case Studies

Case studies are useful because they may allow insight to be gained, increasing the probability that we can build a new understanding of paper procurement practices. There are a few weaknesses, for instance lessons learned may not be generally applicable since we are only focusing on one organization to build our understanding (Eisenhardt 1989). This may happen for the current case study because a particular type of organization is examined and not all organizations function the same way. Case studies are important tools to understanding organizational behaviors because they provide: “a framework for analysis ... clear explanations for the pragmatic world” (Wacker 1998, page 363). Cases are important initial steps to understanding behaviors particularly in the social sciences (Stuart, McCutcheon et al. 2002). In the social sciences controlled experiments or observations are particularly limited, and a vast proportion of what is known about behaviour is derived from case studies and their interpretations (Walton 1992). Comparing multiple case studies have become the main approach to enriching understanding in social sciences topics (Dubois and Araujo 2007).

Presenting this one case study about the University of Alberta will perhaps enable other case studies in the future build a richer understanding on paper procurement, and further knowledge in how the BDP can be more successful. Knowledge about firm or organizational behaviour can provide insights into the processes used in FSC's BDP, but more importantly can provide more general information about organizations relating the attitudes and propensity to adopt certified products and EPPs. It is an important first step in building understanding of paper procurement practices of organizations,



particularly in our case, when it comes to increasing adoption of environmental products.

### **5.3 Introduction to the University of Alberta Case Study**

We use the University of Alberta as an example of a major paper purchaser. Empirical information and published research, whether in academic journals or magazine journals, on FSC adoption in the market is nearly non-existent. It is difficult to discern how FSC products are faring in the market: most observations are anecdotal, and repeated attempts for data have yielded no results. There is evidence that FSC and other EPPs are becoming more popular in the market, for example Staples commitment that 50% of its papers for sale will be FSC certified<sup>45</sup>. In addition, however also anecdotal information (gained through internet search) that more organizations are switching to FSC are found.

In order to get a sense of whether FSC is being adopted and why people buy it – and equally important why they *don't* buy it - we attempt to model a small example of the larger market. This case may not be relevant to all markets, but only one example, where we may be able to discover attitudes and preferences that would resemble a larger, or *whole* market. This way, the case study will inform some of the survey results – enabling us to understand them better and possibly point to more research questions, more cases to analyze, and so forth.

Once we get an idea of what attitudes, process, or characteristics of organizations or the people, or internal processes, help in making paper purchasing decisions, we may be able to get a sense of what drives purchasing decisions for certified products – or

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<sup>45</sup> Available at: [www.forestethics.org/downloads/Staples\\_GG\\_summary\\_2010.pdf](http://www.forestethics.org/downloads/Staples_GG_summary_2010.pdf). Accessed February 2011.

what deters those decisions. Such insights may offer very useful information to a certification agency to craft a marketing strategy to increase uptake of their brand. Such insights will complement the survey because they will offer an additional layer of detail into characteristics of paper buyers and organizations that the survey cannot measure.

#### **5.4 The University of Alberta – A Representative Market**

The University of Alberta was chosen as a representative example of a large paper purchaser for several reasons. First of all, presence of a central purchasing department and many individual ordering departments can serve as a model market ‘microcosm;’ where the individual departments, who each do their own ordering, can be modeled to represent individual ‘businesses’ in the overall market: the entire market being represented by the University of Alberta as a whole. Since each department is responsible for its own ordering, it can represent an independent business *within* that market. As well, the organization studied need not be of any particular type, since the FSC is attempting to establish reputé with a large, broad body of organizations, and therefore, proximity of the organization for the research was a major advantage.

Modeling the University as a representative market for paper procurement has many advantages. We can examine the processes through which key individuals receive product information, and if this learning causes recognition that product benefits align with values, and results in purchase. Each department receives information from the market about available products and technologies – and decides whether to adopt certain products. The conduit through which this information reaches the people making these purchasing decisions is of significant interest to us. The people making the decision have to be reached, and they have to decide if the product has value for them

or for the people they order the products for in order for the information to generate demand.

#### *5.4.1 Introduction to paper purchasing at the U of A*

The purpose of this section is to build on the understanding of paper purchasing at the U of A, a specific institutional case. How do marketing, operations, and accounting organizational characteristics fit in to paper purchasing at U of A? We could not get at the institutional issues with the survey. How does the organization function and how, theoretically can we expect them to respond to environmental options?

The University of Alberta has five campuses: one main campus, two south campuses, Enterprise square, the Augustana campus in Camrose, and the University of Alberta Campus Saint-Jean, a Francophone campus. Saint-Jean campus adopted a paper purchasing policy that specifies that as of September 2008, all paper purchased by this Campus must be FSC certified (University of Alberta 2009). The main campus opts instead to aim for campus-wide use of 100% recycled. Also at the University, the AMS Copy Centre, the Department of Computer Science and the President's office at the University of Alberta have all switched to 30% recycled<sup>46</sup>. The OneCard office has switched to 30% recycled, responding to pressure from students. SMS has switched to 100% recycled for all their office needs.

Other Universities, comparable in size to U of A, are strong advocates of recycled paper on their campuses (for example, the University of British Columbia,

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<sup>46</sup> <http://www.sustain.ubc.ca/campus-sustainability/purchase-recycled-paper>

UBC<sup>47</sup>). At UBC, the current thrust is to encourage all divisions to order at minimum 30% recycled paper.

The university has a main ordering entity, the Supply Management Services (SMS) a stand-alone department which negotiates contracts for supplies going in to the U of A. This is separate from the paper used at the U of A print shops and photocopiers available for use throughout. The paper supplies to the print shops are obtained by those print shop managers, and the photocopiers available for public use throughout are serviced by McCallum printing. We are mainly interested in how the individual department orders for the case study portion, but will also present a case on University print shops.

#### *5.4.2 The University Procurement System*

At the University of Alberta, each University department is responsible for ordering its own paper. Within each department, generally administrative staff is responsible to the Chair of that department for ordering, generally, the lowest cost, brightest white paper.<sup>48</sup> The University has a contractual relationship with Grand & Toy (G&T) as their preferred supplier where they have access to substantial discounts on all office supplies. Though they are not legally obligated to order from them, favorable pricing steers them toward using Grand & Toy. University departments are discouraged from ordering from anyone else because of this contract. Financially, as well as procedurally, there is little incentive to establishing an alternative vendor; therefore it is

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<sup>47</sup> Information from university website, available at: <http://www.sustain.ubc.ca/campus-sustainability/purchasing-tool>. Accessed September 2010.

<sup>48</sup> Information based on personal communication or from information gathered in the survey discussed in the previous chapters.

reasonable to assume that G&T is used for all procurement transactions (Personal Communication).

In most departments, the administrator orders the paper and they do not have any restrictions as to which paper they order, and amount spent is determined internally<sup>49</sup>. There are no university-wide rules about spending. Ordering is done based on need, however, departmental budget restrictions affect purchasing. If the department is ordering University of Alberta letterhead, this is done internally through McCallum Printing on campus. There are very strict guidelines as to how it can look and what paper can be used. McCallum printing group is an FSC-Certified printer.<sup>50</sup>

The access to special prices and discounts arising from the University's contractual relationship with Grand & Toy is the enticement that causes most departments to select the preferred paper supplier, which offers FSC and other certified paper, as well as 30-100% recycled, and certified-recycled in their catalogue. The university negotiates volume discounts on types of paper, and have, in the last year negotiated favorable pricing on 100% recycled paper. The favorable pricing must be justified with volume – the departments actually have to purchase the paper in order to justify bulk discounts. This means that they must believe that the type of paper they negotiate will actually be in demand by the individual departments<sup>51</sup>.

One year of paper consumption data which was made available by G&T revealed that University-wide annual consumption is over 136,000 reams of paper. Currently,

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<sup>49</sup> Source: personal communication with departments.

<sup>50</sup> Please refer to the section about FSC-certified printers as a special case of the case study.

<sup>51</sup> Therefore, it is not feasible for SMS to negotiate on two types of paper, for example certified and recycled. SMS must choose one type of EPP, that they believe will be more popular and sell better – in this case, recycled paper is chosen.

departments order what they likely perceive is regular (virgin) paper, it is the cheapest, and the rest is either certified or recycled.

Interestingly enough, University paper use (copy paper) has an extremely high percentage of SFI certified product. However, contacts at the University supply management services (SMS) have indicated said that the University uses almost “all” – 99% of cheap white paper (uncertified, non-recycled) where in fact this is 92% certified-recycled most of which is 85% certified, specifically 84% certified by SFI and only 1% FSC certified. Recycled is only 3 % of total paper consumption. See Table 1 below (Source: Grand & Toy).

**Table 17 University of Alberta Annual Paper Consumption**

| <b>Volume</b>                       | <b>Total (Reams)</b> | <b>Percentage</b> |
|-------------------------------------|----------------------|-------------------|
| Certified-Recycled                  | 126,416              | 92.42%            |
| Recycled Only                       | 4,189                | 3.06%             |
| Certified Only                      | 116,262              | 85%               |
| Certified by FSC                    | 1,431                | 1.05%             |
| Certified by FSC and Recycled       | 6,206                | 4.54%             |
| Certified by SFI                    | 114,841              | 83.96%            |
| Certified by SFI and Recycled       | 2,958                | 2.16%             |
| Regular, Uncertified & Non-recycled | 7,261                | 5.31%             |
| <b>Total</b>                        | <b>136,786</b>       |                   |

The data from the table above raises several interesting questions. Likely due to a particular supply agreement on G&T’s end, they are able to sell the University SFI certified paper at the cheapest possible price. It is important to note that the University’s individual departments are actually choosing the *lowest cost, brightest white paper* over certified and recycled paper. In fact, the paper that meets those criteria, cheapest and brightest white, happens to be certified paper. At both ends,

from print shops to procurement, the university is, unbeknownst to them, consuming mostly certified paper products.

The university very much wants to promote campus-wide consumption of EPPs but the fact that they are using EPPs, and do not know so – is interesting and suggest that when these decisions are made up the supply chain. For example in this case, G&T negotiated an agreement with a paper producer for this product, it ‘pushes down’ the product in mass quantities to the point where the price differentials either disappear nor become negligible amongst regular and EPP papers. Hence, the general university population consumes certified products without being aware of it. The same scenario exists for CoC print shops: many customers of the print shop do not know about certified products yet are consuming them. If an agreement to use certified paper has been reached and consumers aren’t aware they are getting certified products but are still content with consuming the paper then this suggests that marketing promoting these types of papers is best situated further up the supply chain.

#### *5.4.3 Pressure to be “green”*

The University does have a few pressure groups who encourage more environmentally sustainable consumption practices. The Office of Sustainability (OS) is a University department dedicated to making the University campus as sustainable as possible, subject to 16 identified focus areas. The potential areas of interest that switching to certified paper can contribute to are the initiatives under ‘sustainable supply chain’ and ‘ecological footprint.’<sup>52</sup> The OS would like to see the University move to use sustainable paper sources (certified, as well as certified-recycled), particularly

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<sup>52</sup> University of Alberta Office of Sustainability, Webpage, available at: <http://www.sustainability.ualberta.ca/>. Accessed February 2010.

FSC-certified paper sources, which are favored by the department.<sup>53</sup> However, it is not clear how the OS would encourage this type of ordering, since paper procurement is entrenched within each University department. As well, the OS, currently, has no specific and fixed plan or policy and has not taken initiative to encourage sustainable paper use. A paper policy may eventually be developed for the entire University, however, this may be several years in the future.

The university is a specialized study in paper procurement; it is a more progressive business than average businesses because of intense student pressure, which are often ecologically progressive and push socially and environmentally sustainable initiatives. Students are very receptive to environmental initiatives (Scherhorn 1993). However other organizations, particularly governments, are currently phasing out heavy paper use in offices and switching to a proportion recycled paper,<sup>54</sup> due to taxpayer pressure. The interesting question is why should the University switch to FSC when they are already a heavy user of SFI? It only makes sense to switch to FSC if the University stakeholders feel that FSC satisfies environmental objectives better.

At the University of Alberta there is no standard protocol for ordering, but it appears there are general guidelines. A study conducted by Clark and Davidson entitled “Paper Cuts” gives good insight for paper procurement practices, and prospects for EPPs at the University.

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<sup>53</sup> Interview with individuals at the Campus Sustainability Coalition, Office of Sustainability, October 2009.

<sup>54</sup> Again, we see evidence of substitution of reduction in paper use and recycled paper. The City of Calgary is pursuing a paperless initiative to reduce paper use all together Personal Communication, November 2009.



## 5.5 Paper Cut Study

The Paper Cut study (Clark and Davidson 2009) involved a survey, which allowed researchers to develop a measure of attitudes and behaviours governing paper consumption attitudes at the U of A. Given the high probability that the University population of administrative and professional officers (total of 477) use more paper than the average department, they are likely more knowledgeable about paper, printer and copier purchasing decisions and likely have a higher awareness of department level paper consumption standards. Hence this group was one of the two groups targeted in the study. The other target was the school of public health (SPH) an academic faculty who volunteered for the study. Therefore there were two samples: the administrative and professional officers (APO) and the SPH.<sup>55</sup>

The main objective of this study was to decrease paper use, but introducing more sustainable paper procurement practices, such as the adoption of FSC and/or recycled EPP's, was also encouraged. The study found "an inverse relationship between conservation behavior and level of effort to adopt sustainable behaviours ..." (Clark and Davidson 2009, page 15). Conventional paper remains the main paper type being purchased and consumed on campus: indicated by over half of respondents (although we know from the data this is actually SFI paper). Nearly a third of each sample indicated their units used recycled paper, and only 3-5% used certified paper (type of certified was not indicated)" (Clark and Davidson 2009). A large proportion of the participants of this study were unsure of the type of paper purchased<sup>56</sup>.

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<sup>55</sup> The APO more likely has a higher awareness of paper procurement and types of paper for the university as a whole. The SPH is more representative of most university departments.

<sup>56</sup> This attitude is pervasive in our study of institutions as well.

When prompted to gauge their awareness of EPPs, almost half of the respondents ranked their awareness as low. In fact, only 20% of the APO sample and 7% of the SPH sample revealed high awareness. Hence respondents do not monitor or evaluate their paper consumption habits be it trying to minimize unnecessary printing or to use more environmentally friendly paper. Sustainability of paper consumption practices was ranked moderately for both groups, with APO's providing rankings slightly higher than SPH respondents.

Barriers to sustainable paper consumption habits cited are both institutional and economic. Lack of information or knowledge is frequently cited as a barrier, or the lack of knowledge about sustainable paper options, but others were insufficient technology, lack of leadership/support, mandatory record-keeping requirements, no priority in the department and entrenched habits or individual resistance to change. Because their project focused mostly on reducing paper use, price was not cited as a factor. However, of course, for the portion of their project that involved certified papers price would also be a barrier given that EPP's are more expensive. See appendix 2 for cost savings attained from reducing paper use.

#### *5.5.1 Lessons Learned*

According to Paper Cuts (Clark and Davidson 2009) the failure to use FSC-certified, other certified, and certified-recycled paper appears to be because most University departments are not aware of certified paper.<sup>57</sup> An awareness campaign was successful in increasing awareness of FSC-certified, certified-recycled and recycled products, as well as the environmental contributions of such purchasing. Using simple

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<sup>57</sup> Claiming further that price-wise, it is not much more expensive from regular paper.

marketing, such as email tips, bulletins, posters promoting reducing paper use in offices, the study successfully encouraged participants to cut paper use by over 23%. Through moral suasion, respondents were eager to use sustainable options once they were aware of them. Financially, a department can switch to certified paper and save money – however *only* if they reduce paper use. The authors find “no financial reason *not* to use the most sustainable paper available” (Clark and Davidson 2009, page 33). The financial benefit from reducing paper consumption will generate enough savings to offset the use of EPPs. Though paper may represent an easy way to exploit financial and sustainability performance improvements, regular adoption of FSC and other certified paper will likely take time and learning by paper purchasers (Clark and Davidson 2009).

#### 5.5.2 *Lessons for FSC*

The Clark and Davidson (2009) experiment was challenging considering the justifications required to make EPPs financially feasible. It appears that certified paper fails to be adopted where it is not visible, which is not surprising or new information: certified paper is often used only in marketing/promotional materials but seldom in an office environment where it cannot be identified. Awareness is an issue, but it would be interesting to find out once consumers are more educated about paper options, including knowledge about the different certification schemes, if they would in fact switch to sustainable options. It may be interesting to follow up again within a year or a few years to observe if any switch was executed, but it is doubtful that awareness was the only obstacle preventing adoption.

There are concerns about whether knowledge about certified products will be retained at SPH given there is significant turnover in the administrative positions that

manage paper purchases. This is important because the strategy used by Paper Cut is similar to the strategy used by the BDP<sup>58</sup>.

### *5.5.3 Lessons on Institutional Behavior*

The main lessons on institutional behaviour learned from Clark and Davidson (2009) are that using moral suasion may improve environmental outcomes, if costs can be saved. The study strongly encouraged the departments switching to EPPs, however this was only made feasible if costs were reduced by reduced paper consumption. In general, firms are interested in balancing cost-savings with gains in reputation that may be attained by using EPPs. The study highlighted the fact that programs focused on reducing paper use are peripheral “competitors” to using EPPs, as each system strives to make environmental gains. The importance of cost is once again emphasized.

## **5.6 Print Shops on Campus: Examples of FSC Adoption at the University**

### *5.6.1 Chain of Custody Certification*

The University does not order a large volume of FSC certified or other EPP paper products.<sup>59</sup> However, an interesting fact involves the success that FSC has found with University print shops. In addition to targeting institutions to increase uptake of their products, the FSC also encourages print shops to become FSC Chain of Custody (CoC) certified.

Though any print shop can offer FSC paper, as well as offer regular, uncertified paper, when a print shop is CoC certified, they are not permitted to have *any* uncertified

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<sup>58</sup> The strategy, like BDP is contacting the person who makes the paper purchasing decisions.

<sup>59</sup> Actually, mostly SFI-certified papers are used on campus, however unknowingly and unintentionally to procurement officials, and is due to a supply arrangement at Grand & Toy (Table 1).

paper in their paper stock at the print shops: FSC certified fiber is the only type of paper allowed. This allows a strict guideline of certified paper to flow throughout the supply chain: from forest, to pulp mill, to distributor, and on to the print shop. Therefore, all print jobs are on FSC paper by default, even when the customer does not specify they want FSC paper.

Ensuring CoC is essential to credibility of the FSC brand because it promotes visibility and reliability of the brand (Pattberg 2005). Growth of CoC is propagated by increasing channel and market concerns relating to sourcing wood products manufactured from certified forests (Vidal, Kozak et al. 2003). This is also a great situation for the FSC – their papers are exclusive in the print shops by mandate; the print shop is an *exclusive* consumer of the FSC paper. This increases visibility of FSC to all the customers of the print shop, and allows the print shop to retain its customers that demand FSC CoC paper for their print jobs.

Ultimately, the pressure to become CoC certified is driven much farther down the supply chain: it stems from customer demand. When the print shops largest customers demand FSC CoC, the print shop often has no choice but to subscribe to this or risk losing the contract with the customer. Such appears to have been the case with McCallum printing, the print shop that supplies most large off-campus print jobs for the University of Alberta. Their largest customer, the Government of Alberta specified FSC CoC for all their print jobs, hence, McCallum had no choice but to get this certification or risk losing their largest customer. As a result of this, volume of FSC increases, and a

positive externality is created for the FSC in terms of distribution of their papers, since all of McCallum's customers now receive FSC by default<sup>60</sup>.

Obtaining CoC is a financial and time commitment: it is both a time-consuming and costly process. There is heavy administrative work, and initiation costs as well as annual costs, including bringing an FSC inspector to the shop on an annual basis<sup>61</sup> that are prohibitive for small operators. The privilege of CoC certification costs between \$5,000-6,000 annually (FSC Canada 2010), an amount that would likely be prohibitive to print shops of a smaller size. Due to the costs and administrative work involved, clearly, a print shop would only pursue CoC only if it made financial sense. Obtaining CoC in particular must either increase business or profit, or allow the shop to retain their customers who demand FSC. Because there is a "policy" that printing jobs for the Alberta Government should be on FSC paper, this means that McCallum would have trouble competing for these jobs unless they were FSC certified. This ties in with the PPP discussion from the previous chapter. If there is a PPP, this trickles down to the print shops and encourages them to become CoC FSC certified.

In this case, the process to get FSC paper into the institution was simplified via some *mandate* by downstream consumers. The consumers have to be of a particular size to cause a change: such as in the case of McCallum printing switching to CoC due to the Government of Alberta's requirement for FSC, and this trickling down to users such

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<sup>60</sup> Differential pricing becomes an issue. McCallum's costs have gone up, but those costs would be offset by those who request FSC (would theoretically be willing to pay for it). But should those customers that do not request/want FSC still be required to pay for it, even though they are receiving it? McCallum used a price scale initially, but that was too complex to maintain so now they charge only one price grade for all print jobs (Personal Communication).

<sup>61</sup> The annual visit by an FSC representative is mainly to investigate whether the print shop indeed stocks only FSC certified fibre, and is complying with other regulations governing CoC print shops.

as U of A. Alberta Ministry of Environment and Government of Ontario also specifies FSC (facts from FSC Canada website)<sup>62</sup>, organizations that are sufficiently large in terms of paper volume used that they could cause a change.

This points to the hypothesis that having a sort of *mandate* would help increase visibility and uptake of FSC products. The requirement is that the group be viewed as an environmental leader, and have influence over other consumers. In fact, organizations use environmental stewardship as a promotional tool, giving them a green image, in part because of stakeholder pressure<sup>63</sup> (Dechant and Altman 1994). The increased demand would allow the volume of these environmental goods to increase, and visibility would increase. Hence, the marketing effort would be more organic – less push, and more pull.

### 5.6.2 *Unique Target Customer*

Another interesting case of FSC success on campus is the story of the undergraduate print shop. Several years ago, the undergraduate student's union print shop, SUBprint, was approached by FSC to become a CoC certified. Unlike the departments who order paper from SMS, we are unsure whether SUBprint used G & T for ordering and hence used SFI paper, or if they had another contract where they used regular, uncertified paper. In the case where FSC replaced SFI, we have to ask, is this as an improvement since one type of certified paper is pushing out another? This is an improvement only if the stakeholders, the students and patrons of the print shop, feel

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<sup>62</sup> A list of organizations which procure FSC certified goods are listed on the FSC website Available at: <http://www.fsccanada.org/ProcurementPolicies.htm>. Accessed October 2010.

<sup>63</sup> Other pressures include staying ahead of regulations, stakeholder activism and competitive pressures.

that FSC meets environmental criteria better. This is particularly important given that the SFI paper was much cheaper.

Since the Undergraduate Students' Union (SU) operates the shop the FSC targeted the SU directly, and they unanimously voted in favor of becoming CoC certified. The student group is unique, because they do not bear all of the costs of this strategic decision, as normally stakeholders would have to bear in the real business would. Though SUBprint is subsidized by student's union fees, hence students do bear the increased cost associated with CoC, it is spread out over many student programs and not proportionally felt by students. The SU would theoretically divert their funds from another area to fund the CoC but this effect is diluted. Students tend to be a unique, socially and environmentally progressive set of consumers (Scherhorn 1993; Strong 1996; Gatersleben, Steg et al. 2002).

Following this decision, students now pay a premium to get FSC paper for all their copy jobs, printing costs went from 5 cents per page to 8 cents per page: this is a 60% increase in price. Are the students better off from this decision? Perhaps obtaining the CoC and having the marketing "rights" to advertise CoC affiliation fulfills broader environmental goals of the SU. The switch to CoC involves additional administrative effort, paperwork and cost, and it is not clear whether SUBprint would have ratified CoC *without* student pressure; particularly given that they have a kind of monopoly on printing services on campus given their proximity and convenient location. Though students are faced with higher prices they may not directly feel any of the other costs involved with obtaining CoC. Since the SU subsidizes the process, there will be fewer services elsewhere. Other costs are borne indirectly and spread out over a large body of students. Direct costs include higher prices for print jobs.



## 5.7 University's Centralized Procurement System

The SMS department negotiates all of the pricing and terms for university suppliers, collects information on overall University-wide paper usage, but not by individual departments and by specific paper types (conventional, recycled, certified, etc). The whole university is on one contract and specific information about goods, particularly when there are different types of paper ordered (for example, certified, uncertified, recycled, etc.) is not stored. The departments have latitude to order what they like and specific details on orders and consumption can only be obtained from individual departments.<sup>64</sup>

Paper is an important consumption item at the University: is in the top three for volume of office supplies that the university orders (Personal Communication with SMS). SMS is able to negotiate a heavy discount on paper because of volume. In order to do this they must have a good idea that demand will be high enough from the University as a whole to warrant those kinds of price discounts. After all, since SMS wants more sustainable paper use on campus, they must strategically, choose *one kind* of EPP that they want to promote.

SMS has negotiated a preferential price for recycled paper (100%) on contract as fall 2009 (along with 30% recycled). The university as a whole has used some volume of 100% recycled since 2008. The SMS is currently promoting 100% recycled paper, using tools like an article in the university newsletter, "Folio" and a contest that will give incentives to switch (this is a "push" distribution strategy as will be discussed later in the Marketing component of the case). After the volume discount, the price that

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<sup>64</sup> Approaching each department individually and asking for their ordering history is simply not feasible.

departments will get on 100% recycled is about 11% higher than regular paper. In reality 100% recycled paper can be up to 70% more expensive than comparable regular paper<sup>65</sup>. FSC certified paper is not on the contract – the U of A does not obtain discounts on this type of paper, hence, there is little *financial* incentive to use it.

### *5.7.1 Lessons from the Literature*

#### *5.7.1.1 Accountability*

The university will only use environmental procurement to foster relationships with stakeholders if it is valued by their stakeholders. As an educational institution, the university may have greater environmental accountability expected from it, and may be expected to be an environmental “leader” much like the public sector. How would green accounting practices influence the university? They would certainly raise costs, but perhaps those costs may be balanced with social gains. If other educational institutions are turning to “green” procurement this also increases pressure on the U of A. In addition, university uptake of greener products will create visibility of these products and may cause further market uptake. The University faces pressure from unique groups, students, which may cause a higher level of environmental accountability (such as in the case of SUBprint). Such characteristics make the university a special case, unlike other businesses, because of this specialized group.

#### *5.7.1.2 Operations: Inventory Constraints*

SMS has made the decision which paper line to promote, but not without an understanding of which EPP is most likely to be adopted by the departments. The

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<sup>65</sup> According to comparisons on Staples website, Office Depot website, and comparisons in-store.

actual purchasing behavior is executed from the department level: this is where the actual tradeoff of environmental attributes versus cost happens. SMS can merely offer suggestions as to what they would like to see the department purchase by offering price incentives and information about the products environmental impact. The operations issue from the side of SMS is that the volume of paper the university uses is fixed; annual consumption of about 130,000 reams<sup>66</sup>. They cannot increase the amount of paper consumed.

In negotiating a discount for volume with their supplier, they have to be mindful of this volume restriction because effectively they are promoting a certain type of paper over the other – they are giving their customer (the university department) more choice and increasing their information burden which may be taxing and ineffective (Jacoby 1984; Herbig and Kramer 1994). They have to make a very specific choice as to what they promote to the departments to justify the volume discounts. Negotiating a favorable price on both certified and recycled paper is not feasible for them: since sales will be split between all product lines offered, they would simply not support the volume discounts offered.

Effectively, SMS wants to make the university have a very specific environmentally sustainable image by encouraging campus to use EPP's, however, the issue is they don't incur any of the direct costs - the individual departments will incur these costs because each department manages its own budget for these sorts of purchases. The department will only use this paper if they have made the tradeoff themselves SMS themselves, as an individual department has adopted this paper for

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<sup>66</sup> One ream is 500 sheets of paper.

internal use, however they do not pay for each departments supply requirements so the decision is left with each individual department to do its own ordering.

SMS has unique pressures in terms of ordering. Because predicting aggregate sales of one product line is hard enough, predicting aggregate sales of two or three competing product lines is even more onerous and leads to increased uncertainty. Stocking more product lines also increases inventory variability and causes inventory issues (Caplin 1985) to the point that it is not justifiable for SMS to offer increasing choice and variety because of issues of limited space and stock management costs. SMS has a decision to make about how many product lines to offer and part of the limit of what they can bring in becomes an inventory problem because of aggregate variability (Kelle and Milne 1999). They can only store so many different lines of product before costs exceed benefits of extra product lines (increased choice), not only from the consumer's perspective – that is, the individual department in this case, but also from the inventory storage perspective.

Therefore, when the FSC targets the U of A paper buyer (SMS) they may want to align their offering with a recycled-certified blend paper. The probability that SMS will negotiate volume discounts on two environmental product lines is low, since this would increase variability in SMS inventory. The U of A already has preferred pricing on 100% recycled. They may want to compete directly with the uncertified 100% recycled fiber and sell a paper that already has recycled content but is FSC certified fiber. Enhancing certified fibre within a product offering that SMS already understands and supports, recycled fibre, would allow them to piggyback on their willingness to adopt recycled paper and introduce buyers to certified products as well, addressing the information gap about certified paper. Promoting certified paper without recycled content would be

more difficult as splitting inventory – that is, SMS carrying both one recycled *and* one certified product does not justify the quantity discount. Storage is a problem because it increases costs: stocking two types of paper costs more than stocking one (Caplin 1985; Kelle and Milne 1999).

In choosing an EPP to offer, SMS have made the decision to promote and encourage consumption of 100% recycled papers. Recycled paper was chosen specifically as the “best” environmental option, over certified paper in particular. The papers are essentially the same – same quality and brightness<sup>67</sup> the only difference is the source of the paper: recycled versus certified virgin forest, and price. So the essential trade-off is a function of these two variables related to each EPP product.

#### 5.7.1.3 Marketing

At the University of Alberta,<sup>68</sup> there is a disconnect between who orders the paper: since this is decided by the individual departments, and who would eventually promote or market the green practice (the University as a whole). Why would the University of Alberta be interested in marketing or promoting these ‘green’ practices if it is not ultimately the one who decides if they are adopted or not? Can the university achieve positive social outcomes by following green procurement?

The only reason why the University (or any organization) would want to adopt these products and *advertise* that they using these products is because it *matters to their stakeholders*. If it does not matter to their stakeholders, who in a University’s case

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<sup>67</sup> Paper is 92 bright, ISO of 104 for most comparable types

<sup>68</sup> And at most Universities, since almost all Universities have a centralized purchasing department but the ordering and choice is made at the departmental level.

may be students, professors, academic staff, staff, the general public, et cetera, they have no incentive to use the products.

The BDP delivers a standard message, which has had both successes and failures at the University, the success stemmed from a result of effective targeted marketing to the student's union. The Students Union *values* having an FSC CoC print shop. However, on another level, FSC was not successful. They were apparently not able to convince SMS that FSC certified paper should be the *most* widely used copy paper on campus, and negotiate a deal with G&T for a volume discount on FSC instead of recycled paper.

The SMS is not the entity who makes the decision to purchase paper for individual departments, and they may have chosen to promote recycled instead of FSC for several reasons. They may think either that departments are less likely to adopt FSC paper (when deciding on an EPP to promote), or they don't think that when promoting sustainability on campus, that FSC paper is the *best* choice (recycled does the job better). Since when EPPs are assumed to be environmentally beneficial, in promoting them environmental issues are balanced with primary needs of stakeholders (or customers). Attainment of environmental betterment is weighed against price. Therefore, green marketing factors environmental costs into financial results of operations and must be valued by stakeholders.

## **5.8 Reaching the University: Case study conclusions**

It appears that the FSC may not always be strategic enough when identifying a target customer, and this applies in the case of the University of Alberta. Marketing to SMS at the University has apparently not been successful; SMS has chosen to promote 100% recycled products instead of certified products to university departments. In fact, many Universities are adopting the environmental image and choosing to promote

recycled papers on their campuses. The FSC needs to reach individual departments to increase their chances of adoption. However, this may be a costly marketing endeavor and overly complex.

The BDP faces an environment of disconnect at the U of A. The blanket marketing approach to SMS has not been successful because though SMS negotiates the inventory supply for the University, they do not bear any of the costs. This is a major issue, and it is no surprise that FSC has not been able to increase orders of FSC office papers. On the other hand, FSC has been successful by targeting a specialized group at the U of A, the Student's Union.

One also may imagine a similar upstream situation could be created for FSC that has allowed for the wide consumption and adoption of SFI paper on campus. Some supply arrangement that has occurred at the supply level has allowed SFI paper to be the "cheapest, brightest-white" paper offered to the U of A by G & T. Perhaps if the FSC targeted marketing further upstream, such as to G&T, and other large institutional suppliers, FSC could be distributed on a larger scale.

In essence, FSC should try to focus on the specific connection between who has the ordering ability and who pays for the product as the particular entity who may cause the value/price decision to be made. Where that entity is influenced by the presence of a stakeholder group that values these products, adoption would tend to be higher. A blanket promotional strategy that does not bring together "who orders" and "who pays" is missing an important and vital element of the BDP strategy. The example of SUBprint illustrates the fact. The SU has *both* the decision making power and the financial power to make procurement decisions. In addition, the stakeholders, the SU, also *values* the FSC product.

Since promotion at the U of A should be department-based, it is important that the department's stakeholders, which are the students, the professors and staff, value FSC. It would be useful to pursue larger departments with larger budgets where the price/value tradeoff can be made more easily. Addressing smaller departments with tighter budgetary pressures may be more difficult. This being said, promoting to individual departments may be expensive and overly complex. In addition, there is also the issue that other papers are priced comparatively much lower given SMS inventory agreement, making it even less likely that the department would be able to justify the discount they receive from ordering through the supply agreement, particularly now the heavy discount that is available on 100% recycled paper. Since we have already illustrated the importance of price, this issue becomes even larger.

The U of A is likely not a good target of BDP marketing efforts. The disconnect between "who decides what will be offered" and "who pays" is too great. On one hand, SMS decides which papers will be the cheapest for the departments, and the department, often budget-tight, will make the decision largely on price. The power that SMS has over price negotiations is difficult to ignore.



## **6 Chapter 6: Organizational Characteristics and FSC Products: Summary of Institutional Lessons**

Next we will illustrate a few findings arising out of the literature review, survey and case study that apply to the BDP. These findings are general institutional lessons that will allow us to understand when and why the BDP may or may not be successful. Several of these points emphasize organizational and firm behavioural aspects that would cause an organization to adopt FSC and other certified products. Eight particular lessons are described, and the ninth section gives a summary of the factors as they would apply to FSC.

### **6.1 Importance of Public Sector Adoption**

Governments experience pressure to be sustainable through taxpayers and lobby groups. In fact, many procurement officials think that the FSC has become status quo in larger organizations. Large organizations, like the public sector may change demand patterns upstream and cause prices to decrease, leading to further uptake. If a procurement policy would make use of FSC-recycled papers mandatory, like the City of Calgary which has a 'green' procurement policy (The City of Calgary 2008) then depending on volume, the supplier would experience an increase in demand for these product lines.

The supplier would have to stock more of these papers, and prices for these products may decrease. A decrease in price could cause further uptake, given price is often cited as a barrier to adoption. This increased volume could potentially cause an increase in visibility. If the products are more visible, there is a higher chance of customers becoming more educated about certified products at the retail level. The

retailer may be encouraged to promote the products at their stores. Since visibility and lack of information are also inhibitors to adoption, we can generalize that this may possibly create a scenario where increased information, marketing and advertising at the retail can lead to purchases and develop general knowledge about certified paper over time. What makes this mechanism work is the unique stakeholder pressures that public sectors are subject to (taxpayers and lobby groups), and their high volume usage of paper that could cause a increase in stock, decrease in price and increase in visibility.

The process illustrated above may have the same effect in increasing adoption as the university's volume discounts from G & T encourage departmental purchasing. Departments would respond to favorable pricing of certified products and increase their demand. The increased demand from the University may have effects down the supply chain – the paper supplier will have to increase sales from the pulp/paper manufacturer. As a result the process becomes less expensive, costs go down, and certification becomes more accessible for smaller pulp producers if the demand (and customer recognition) exists. Increasing demand on a large scale could potentially have repercussions down the supply chain.

Selecting a customer audience, those that have a strong ability to shape public opinion (Dye 2000) or those that are heavy users of paper (having an influence can be synonymous with being a heavy user in terms of volume) can be a good way to for FSC to increase product learning. Campaigns that highlight desirable environmental benefits of using FSC compared to uncertified paper can be pursued. An important goal is targeting organizations that have an increased social role and environmental obligation – like a public or government agency, or a large organization that has more shareholders

and whose activities are more visible. The FSC already does this by targeting Canadian banks.

## **6.2 Targeting Large Paper Buyers**

Along the same vein as promoting adoption in the public sector, targeting large buyers is also important. An important barrier for FSC highlighted in past chapters is that information about their products isn't widespread among consumers. In order to generate knowledge, they may benefit from a scheme to create excitement about their product so organizations will have incentive to advertise that they use certified paper products – this may be achieved in the fashion described earlier, where increased volume demand from a large buyer increases visibility. Making the message visible to the firm's customers or stakeholders would help increase visibility and improve the conduit of pressure – if it's important to the firm's customers, it will be important to the firm.

## **6.3 Clear Alignment with Organizational Values**

The FSC must understand how FSC is contributing to a target organization's *values*, values which are tied to the values of its customers and stakeholders. Marketing is not trying to convince people to adopt a good; it is actually addressing an already existing demand. This tailors marketing to specific organizational details. The marketing message, carefully crafted, knows that there is an underlying reason why the consumer may want to purchase this product: that it satisfies an *underlying need* that the consumer already has. Companies determine what products or services may be of interest to consumers, and build a strategy to use in sales, communication and business development. Marketing is: "an integrated process where companies create value for

customers in order to capture customer loyalty” (Kotler, Armstrong et al. 2008, page 7). The FSC should use the BDP advertise how it can create value for their target customers.

Understanding the conduit is imperative. The BDP must assume that there is some existing demand among consumers for EPPs and that they are targeting the right person. Does using FSC align with corporate objectives?

#### **6.4 Highlight a Direct Contribution to Accountability**

Basically if there is a strong correlation between firm performance and FSC use, and higher environmental ranking, this would create an incentive for FSC use. If using FSC will give a company a higher environmental benchmark – the company will have more incentive to use them. We postulate that if the company is subject to an informal assessment mechanism, such as those campaigns highlighting negative practices distributed by Greenpeace and ForestEthics, there may be a higher chance of sustainable procurement and hence FSC adoption.

Organizations that sell paper, such as Staples, are natural targets. They are rated by ForestEthics’ “Green Grades” campaigns that gives a ‘grade’ to each paper distributor based on the sourcing of the paper it sells (ForestEthics 2009). Here, though the end-consumer may not know or be concerned with the origin of the paper they buy for personal use, because a higher auditing authority has accentuated the organization’s buying practices, the consumer is purchasing a more environmentally (and socially) sustainable paper by mandate. This also fits in with our notion that a policy would help increase uptake of FSC papers – in this case, the policy is the auditing mechanism’s enforcement of stricter environmental standards to propel the institution to sell more EPPs, and the consumer is purchasing them by default – because they are there.

## **6.5 Adoption may be Highly Organization-Specific**

The FSC must understand each institution that they target and what the FSC is contributing to its *values*. Of course, the values of the organization are inexorably tied to the values of its customers and stakeholders. Understanding the conduit is imperative. Though it would be infeasible to understand every single organization that they target, it is viable to classify organizations into general industry groups that share the same values and face the same pressures. For example, Universities are generally the same. Large print shops, with large government or University contracts are also similar. Resource industries are similar in some ways: higher environmental impact means that stakeholders are more aware of the environmental choices the organization makes.

Hence, using FSC could be a financially feasible ‘low hanging fruit’ where these organizations can relatively quickly make a contribution to environmental sustainability and improve reputation among customers. Though more specific analysis of this area is limited in this thesis due to constraints, the types of organizations would be a good area for future research and investigation.

## **6.6 Reaching the Appropriate Audience**

The FSC’s current marketing strategy has some basic assumptions. They assume that with the BDP they are stimulating demand that will stay with the company – that the FSC “message” will remain. Therefore it is important to target the appropriate entity at the organization. Of course, none of the above lessons are of much value if the right person is not reached at the organization – the person who is in tune with company values and can influence procurement culture and purchasing decisions. This concept can be expanded into a larger role in reaching the organization that is most likely to be receptive of the FSC message. Certain types of organizations may have more to gain by

using FSC. The FSC already does this type of specific targeting with the BDP. The University of Alberta's SUBprint shop is a good example of a strategic target where values merged and WTP existed. When strategically targeted, marketing dollars will be better positioned to achieve sales targets.

It is clear that the FSC message does not always resonate with corporate buyers. Not only are there issues with not targeting the 'right' person in some cases, where the institutional paper buyer is either not in sync with company priorities, or those priorities just do not exist in the company at all, the company has no incentive to use FSC, hence the presentation does not stimulate demand. As was found in the survey, in many cases once the person that was the target of the marketing presentation leaves their position, the knowledge leaves the company with them. This is pervasive in many companies where administrative officials procure the paper. It can also happen when the person in that position is removed from exerting any influence in purchasing decision and merging company values with procurement.

## **6.7 Potential of Mixed FSC-Recycled products**

An important survey and case study finding was that people and organizations understand recycled paper products and state a strong preference for them. It may be worthwhile for the FSC to promote its products with recycled content more strongly than those without. This would allow them to reach those consumers that are already perceptive to recycled paper and more willing to pay for it. In the purchasing process they can become acquainted with certified products. The FSC already has FSC-Recycled labeling that includes a percentage recycled paper, so the FSC does not have to create a new product or brand. This would create a product bundle that the consumer may be

more familiar with and more likely to adopt, and be a good vehicle to introduce the customer to certified products.

## **6.8 Importance of Paper Procurement Policy**

Once an agency has reached the appropriate audience, and by this we mean the appropriate organization and the appropriate person *within* that organization, we find that uptake is improved with the existence if the organization has a PPP. FSC is more likely to be adopted where an organization has a PPP, but to expand this policy concept, a policy of a large organization influences smaller organizations or smaller groups of end-consumers, is important. The case study review strongly repeats the suggestion originating from the surveys that some form of policy would help give incentive for organizations to uptake the products; in that way, the company using FSC could advertise themselves as environmentally progressive and the organization could in turn use it as a tool to educate the public about benefits of using FSC products. The benefit could potentially be two fold. The organization would use FSC to build merit with their customers, and the FSC would get exposure to the public as a by-product of increased uptake.

## **6.9 FSC adoption at the U of A: an application**

It is challenging to model the University as a market microcosm. There are too many differences between the university and how the actual market for paper likely functions. One main difference is that the individual departments, though of differing size, are a very homogenous group. From the operations standpoint, pricing has been negotiated for them, via SMS and they chose mainly on the basis of price. Most organizations are subject to this sort of negotiating power, but in the case of the

University, this has been removed from the organization's control to create a larger 'buyer' and hence benefit from favorable pricing that is not available to many small and mid-size organizations.<sup>69</sup> Pricing is key because price has been found to be an important determinant of adoption of FSC and other EPPs in many cases.

The inventory constraint is absorbed by SMS and does not pertain to the individual departments as it would in most other organizations. The departments are "shielded" in several ways from certain organizational functions pooling their collective power for price bargaining and inventory storage functions.

In terms of marketing, the university in general may be subject to more rigorous environmental and social standards than some other organizations. That means that university promoters have to market themselves a certain 'way' that fits with the values of their stakeholders. Universities are subject to more socially and environmentally 'progressive' stakeholders such as students. Once problematic practices are highlighted, stakeholders want those to be addressed – for example as was in the case of SUBprint. Once FSC has highlighted that some of the paper being used may not be preferable, students decided that maintaining and practicing a 'green' image is important. That being said, many organizations have pressure to be environmentally and socially sensitive: resource industries, energy companies, companies with strong community ties, et cetera. This is not explored in detail here but would be an interesting area of investigation for future research.

Often, environmental groups assess the sustainability practices of organizations, particularly larger ones. At the University, it appears that they are willing to fulfill this

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<sup>69</sup> The paper consumption at small or mid-size organizations is usually not enough to justify volume discounts.



function themselves with an “Office of Sustainability”. This office “pushes” the university into finding creative ways to lessen the University’s impact on the environment. The OS encourages more sustainable practices at the University but does not bear any of the increased costs of these behaviors, creating a disconnect between benefits and costs. The department bears the cost but the University as a whole benefits through improved image. Though presumably if the image of the University is improved because of more environmental accountability could eventually help them achieve their growth goals as well. This can also be applied to organizations in general.

Unfortunately, the time-lag of benefits of such behaviors may be an issue, particularly for an institution as complex as the University, and the benefits may be too dispersed. This is also unique as most organizations may not have such a disconnect, though the dispersal of benefits from adopting more environmentally preferable practices may be too long for some organizations to justify the cost outlay.

The “right” person at the University department, hence, may be hard to find. Typically this is an administrative position where the individuals are subject to budget restrictions and cost pressures, and paper is seen more of a ‘cost’ rather than a contributor to image or repute. It may be difficult to infiltrate these departments with the FSC message. From this standpoint, the individual department would be a difficult scenario for FSC marketers, as there may be too many barriers and no corresponding recognition of benefit.

## **6.10 Lesson Evaluation and Applications**

### ***6.10.1 An Evaluation of BDP***

Considering the lessons we have from three survey rounds (two in Phase I and an additional one in this phase, Phase II) and the case study, we can now turn our

attention specifically to how successful we can expect the BDP to be in increasing organizational adoption of FSC paper throughout organizations. The case study has both reinforced some ideas that were brought up as issues in the survey and introduced new possible explanations and arguments that can be used as organizational “lessons” for the FSC.

First of all, the survey strongly suggests the importance of having a PPP in terms of increasing likelihood of adopting EPPs and FSC products. Those findings are supported by the literature as well, and extend the understanding that by having a large organization request FSC, this can cause a larger, more comprehensive “policy” where smaller entities are consuming FSC or EPPs by mandate. This is happening at the University, departments are using SFI certified products presumably and likely because of some supply arrangement organized by the University’s supplier (Grand & Toy). By allowing this supply to go through, price sensitivity has been addressed because the arrangement has allowed the SFI paper to be the ‘lowest cost, brightest white’ paper offered, as required by many department purchasers.

In terms of strategy the BDP has it “right” in several ways, but there is much room for improvement. Targeting large organizations instead of individual consumers is a good strategy. Marketing dollars spent on individual consumers are not optimally used, because they have less incentive to use EPPs than a company would, since often companies adopt EPPs because their paper use is visible and marketable<sup>70</sup>. In addition, the volume they purchase is low in aggregate, particularly when compared with institutional buyers.

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<sup>70</sup> Marketing “We use FSC/recycled/other EPPs,” and so on.

Organizations that are seen as environmental 'leaders' could make a difference to influence other organizations or types of consumers. Resource and energy industries may have more incentive to use 'greener' products such as EPPs because they have a higher environmental impact due to their industry, hence may be expected to be more socially accountable. Essentially, the organization has incentive to adhere to behaviors that are more sought after by their consumers and stakeholders. Environmentally altruistic behaviors are becoming more pervasive in industry however this is brought on by a higher environmental 'status quo' by other organizations in certain industries and more environmentally sophisticated consumers and supply chains. Targeting these institutions may be successful in increasing adoption particularly with restricted marketing dollars. However, this type of targeting may involve time-consuming research and may not be financially feasible, and may be an area for further research.

Another suggestion is the substitutability of recycled paper. The prospect of promoting the FSC-Recycled product may be a good step to increase adoption of FSC, expose consumers to certified paper, and piggyback on preference for, and understanding of recycled paper products. A certified product paired with percentage recycled may have a higher probability of adoption. Though this also may be a tricky endeavor, since some consumers uphold the notion that any virgin paper is "bad", and recycled may be a substitute for certified. However, this method does address the inventory storage challenge that exists at the University as buyers would not have to negotiate on yet another product line.

#### *6.10.2 Institutional Lessons*

The main goal of this study is to provide insights into firm or agency behaviour relating to the adoption of FSC and other certified papers. The findings can be useful for

the FSC, but our main objective is to uncover a notions of firm behaviour regarding certified products and EPPs. The survey reveals some interesting behavioural issues. The responses show that prices, substitutes and quality of printing matter to consumers, which is not in and of itself surprising. Though consumers reveal they are interested in environmental outcomes, they trade these interests with other things, particularly price and the availability of other types of papers or behaviours, such as reducing paper use.

Mainly, the survey and case has revealed that there is some sort of momentum at work regarding these types of paper products, a “force” that is causing increased adoption that is not completely explained by either the survey factors or the case. Of course the case has given us reasons why a firm would respond to BDP, mainly a firm with high public accountability, a PPP, and the ability to weigh the costs and benefits of use accordingly. However, we must acknowledge that the effectiveness of the BDP, and why an organization would adopt FSC is not fully explained by the research, prompting us to speculate that a kind of market trend for certified paper products is occurring regardless of the BDP.

The recommendations made for the BDP are mainly to be more targeted, however, the BDP is *already* a targeted strategy. It would appear that it has a particularly tough job promoting more expensive products given the challenging economy and consumers price sensitivity, however we found the opposite – increased use is being obtained regardless of BDP efforts. There is likely another trend at work that has not been identified with the survey and case study, and could be a result of an increased propensity for environmental goods in general.

### **6.11 Future Research**

This thesis outlines the outcomes of three rounds of surveys, giving us a good

empirical understanding of EPP and FSC institutional markets. Certainly additional surveys administered on an annual basis would be useful, as they would give better indications of time trends and changes in adoption. Increasing the sample size over time would be useful, as the FSC continues to market to an increasing number of organizations.

Additional case studies on specific market segments would help improve understanding of particular procurement systems. The U of A example was useful as it illustrated the disconnect between who decides on the product offering and who bears the cost. However, the U of A could not be modeled as a market ‘microcosm’ as we had hoped. Initially we had hoped the U of A’s specific departments could be modeled as individual businesses as players in the ‘whole’ market, which was the entire university. However we found that the university behaved quite differently. A case study that could achieve this would be useful, as it would increase understanding of the paper procurement ‘system’ in a general sense and could be widely applicable to a number of industries, organizations and institutions. In any case, additional case studies on procurement systems would add richness, specific lessons and perhaps enlighten more of our survey results.

Data on uptake of FSC and EPPs is very difficult to collect. Our efforts have resulted in few studies that focus on specifically on these products. Additional research, particularly data collection on the adoption of FSC and EPPs are important to understanding how the market for certified paper products is faring.

## **7 Chapter 7: Thesis Conclusions**

In this project, we analyze the adoption of demand side elements for certified paper products, specifically Forest Stewardship Council (FSC) certified paper. In order to ascertain whether certification is being adopted, two phases of surveys of institutional paper buyers were administered. The first phase, consisting of a main survey and a follow up, was conducted in 2008. This phase is reported on in Dacyk 2009. A second phase of institutional paper buyer surveys was initiated in the fall of 2009. This phase was intended to be the follow up to the original survey, primarily to measure changes in adoption of FSC paper. Specifically, the main thrust was to assess the effectiveness of the FSC's Business Development Plan (BDP) and to determine whether the marketing under BDP has resulted in increased awareness of the FSC brand as manifested by increased adoption. The survey also was intended to measure any change in adoption of other certified, certified-recycled, and other environmentally friendly papers, and to gauge the perception of these products. Addressing the extent to which recycled paper is perceived as a substitute for certified paper (Dacyk 2009) was also a priority.

In this phase, we observe somewhat surprising results given the current economic situation, which are encouraging for those supporting the adoption of environmentally certified papers, and particularly for the FSC. Several models suggest that the market for FSC and eco-friendly papers is gaining momentum. As well, we see some weak evidence of the effectiveness of FSC's marketing, since contacted respondents appear to be making FSC and environmentally preferable paper purchases. There was a notable increase in brand recognition. The initial survey (Dacyk 2009) suggested that the BDP was not effective. Phase II analysis suggests that the BDP appears to have a weak effect, however the significance is so low it is doubtful whether we can attribute increased

uptake and recognition to the BDP. More importantly, a major lesson from this study is that the reason for increasing demand of certified paper is ambiguous and may or may not be related to the BDP. There is some sort of trend or momentum at work that suggests to us that the market for certified paper may be in significant positive transition. Some of this momentum may be attributed to the BDP, however, our models suggest that increased adoption is at least as much or more a result of this momentum phenomenon.

The case study complements the survey in giving more rigorous view of organizational purchasing behaviours. Such detailed analysis was simply not possible in the survey. Through a review of relevant literature in marketing, accounting, and operations management, we have developed a particular insight into the complexity of paper purchasing behavior. Much of the evidence points to the importance of low price and alignment with organizational values. Addressing the entity who selects the paper and who pays is of paramount importance.

If the FSC product is important to the stakeholders of the particular organization in question, they are more likely to adopt them. If the papers can contribute to improving organizational reputation in terms of commitment to organizational values, then adoption may also be higher. The importance of a PPP is highlighted, suggesting that the FSC would attain adoption of their products in those organizations. Larger corporations and governments tend to have PPP's, however, medium and small firms do not always have them, and universities are too dispersed because each department does its own ordering: most departments do not have a PPP.

The survey suggests that the market for EPPs, and FSC paper is gaining momentum. While there is very slight evidence of BDP success, our case study and literature review

on institutional factors shows that there may be potential in the BDP to be more successful if it is better targeted. This was a unique contribution of this work. We must also acknowledge that because we were unable to locate further information on FSC uptake trends, the lack of this market data questions the effectiveness of the BDP further – we have nothing to compare the increased adoption we saw in the survey to other studies where there was no BDP marketing.

When the BDP targets organizations that may be in the first place more likely to have incentive to adopt the papers through stakeholder pressure, in addition, have a PPP, and also *bear the cost* of the purchase hence be able to weigh the benefits with the costs, the likelihood of success will be higher. It may be that the BDP has not yet reached its full potential; and there is likely still room in the BDP for a more targeted approach.

The survey and case show that firms continue to view the use of certified paper as set of tradeoffs. Though most tradeoffs are done through price, other tradeoffs are between recycled paper and with other certified, or “FSC-like” paper. Because most organizations understand recycled products better than certified, FSC-Recycled products may be more successful than just a non-recycled, or certified virgin product. Though this is not clear since consumers understand recycled and these types of products likely are used as substitute for any virgin paper, including certified. Just like for any other good, standard factors of cost and substitutes play a very important role for adoption of certified products. This can be an extension of the general trend of environmentally-friendly production, or “green” production, particularly among those firms that are subject to public scrutiny and maintaining public image is important: larger organizations may have a more demanding social role, institutions like governments,



universities, banks, major retail chains, and so forth. It is possible that information flow about certified products is occurring regardless of the BDP, or in conjunction with it, and is itself or in large part responsible for the increase in adoption.

The work undertaken as part of this thesis contributes to the empirical knowledge about certified products and raises several unique issues about organizational consumption of certified products. First of all, the information about firm level uptake on certified products is very rare, and the review of literature suggests it is not done very often, or consistently. In addition, few studies examine the uptake over time, giving a sense of trends, something that we have done here. There is very little empirical analysis on whether adoption is occurring, on the particular factors influencing certified paper adoption, and the impact of marketing initiatives and campaigns such as that undertaken by FSC. Given that there is relatively little empirical analysis of the factors governing uptake of certified papers, we have given both a sense of trends with the two phases of surveys and very importantly an idea of some of the underlying reasons why those trends may be occurring—both of which currently are not prevalent in the literature. We have contributed to an increased understanding of the market for certified products via the empirical analysis and the case study.

## 8 References

- Alter, L. (2006). Victoria's Secret goes Green.  
[http://www.treehugger.com/files/2006/12/victorias\\_secre.php](http://www.treehugger.com/files/2006/12/victorias_secre.php). Toronto, treehugger.com.
- Anderson, R. C. and E. N. Hansen (2004). "Determining Consumer Preferences for Ecolabeled Forest Products: An Experimental Approach." Journal of Forestry **102**(4 ): pp. 28-32(5).
- Archer, H., R. Kozak and D. Balsillie (2005). "The impact of forest certification labelling and advertising: An exploratory assessment of consumer purchase intent in Canada." The Forestry Chronicle **81**(2): pp. 229-244.
- Auld, G., L. H. Gulbrandsen and C.L. McDermott (2008). "Certification Schemes and the Impacts on Forests and Forestry." Annual Review of Environment and Resources **33**: pp. 187-211.
- Barnett, M. (2005). "Stakeholder influence capacity and the variability of financial returns to corporate social responsibility." Academy of Management Review **October 2005**.
- Bartley, T. (2007). "How Foundations Shape Social Movements: The Construction of an Organizational Field and the Rise of Forest Certification." Social Problems **54** (3): pp. 229-255.
- Bass, S. (2002). "Global forest governance: Emerging impacts of the Forest Stewardship Council." (SUSTRA workshop "Architecture of the global system of governance of trade and sustainable development): Berlin: Ecologic.
- Bernstein, S. and C. Cashore (2004). Nonstate global governance: Is forest certification a legitimate alternative to a global forest convention. In: Hard Choices, Soft Law: Voluntary Standards In Global Trade, Environment And Social Governance (Chapter 2)., Ashgate Publishing Ltd.
- Bertrand, M. and S. Mullainathan (2001). "Do People Mean What They Say? Implications for Subjective Survey Data." The American Economic Review **91**(No. 2, Papers and Proceeding of the Hundred Thirteenth Annual Meeting of the American Economic Association (May, 2001)): pp. 67-72.
- Bhattacharya, C. B., D. Korschun and S. Sen (2009). "Strengthening Stakeholder-Company Relationships Through Mutually Beneficial Corporate Social Responsibility Initiatives." Journal of Business Ethics **85**: pp. 257-272.
- Brown, D. (2008). "It is good to be green: Environmentally friendly credentials are influencing business outsourcing decisions." Strategic Outsourcing: An International Journal **1**(1): pp. 87-95.

- BSD global (2010). "Business and Sustainable Development: A Global Guide, Green Procurement." Retrieved September 2010, from [http://www.iisd.org/business/tools/bt\\_green\\_pro.aspx](http://www.iisd.org/business/tools/bt_green_pro.aspx).
- Caplin, A. S. (1985). "The variability of aggregate demand with (S,s) inventory policies." Econometrica **53**(6): pp. 1395-1409.
- Carter, P., J. R. Carter, R. Monczka, T.H. Slight and A.J. Swan (2006). "The Future of Purchasing and Supply: A Ten-Year Forecast." Journal of Supply Chain Management **36**(1): 14-26.
- Cashore, B., G. Auld, and D. Newsom (2003). "Forest certification (eco-labeling) programs and their policy-making authority: explaining divergence among North American and European case studies." Forest Policy and Economics **5**(3, September 2003): pp 225-247.
- Cashore, B., G. van Kooten, I. Vertinsky, G. Auld and J. Affolderbach (2003). "Private of self-regulation? A comparative study of forest certification choices in Canada, the United States and Germany." Forest Policy and Economics **7**(1): pp. 53-69.
- Clark, M. R. and D. J. Davidson (2009). Paper Cut: A Contribution to Campus Sustainability. Edmonton, AB, University of Alberta: 58.
- Clarkson, P. M., Y. Li, G. Richardson and F.P. Vasvari (2008). "Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis." Accounting, Organizations and Society **33**(2008): 303-327.
- Cook, C., F. Heath and R.L. Thompson (2000). "A Meta-Analysis of Response Rates in Web-or Internet-Based Surveys." Educational and Psychological Measurement **60**(6, December 2000): pp. 821-836.
- Counsell, S. and K. T. Loraas (2002). Trading in Credibility: The myth and reality of the Forest Stewardship Council. The Rainforest Foundation UK Special Report. London, U.K.
- Cruz, L. B. and D. M. Boehe (2008). "CSR in the global marketplace: Towards sustainable global value chains." Management Decision **46**(8): pp. 1187-1209.
- Dacyk, A. (2009). Evaluating the Adoption of Environmentally Certified Paper in Canada: An Analysis of the Forest Stewardship Council Canada's Business Development Project. Edmonton, Alberta, University of Alberta. **Master of Science**: 151 pp.
- Day, C. (2005). "Buying Green: The Crucial Role of Public Authorities." Local Environment **10**(2): 201-209.
- Dechant, K. and B. Altman (1994). "Environmental leadership: From compliance to competitive advantage." The Academy of Management Review **8**(3): pp. 7-27.

- Deighton, J. (2008). Dove: Evolution of a Brand. Case Study. H. B. School. Boston, MA, Harvard Business School: 13.
- Dolan, R. J. and J. T. Gourville (2006). Principles of Pricing. Case Study. H. B. School. Boston, MA, Harvard Business School.
- Drumwright, M. E. (1994). "Socially Responsible Organizational Buying: Environmental Concern as a Noneconomic Buying Criterion." Journal of Marketing **58**(July 1994): pp. 1-19.
- Dubois, A. and L. Araujo (2007). "Case research in purchasing and supply management: Opportunities and challenges." Journal of Purchasing & Management **13**(2007): pp. 170-181.
- Dye, R. (2000). "The Buzz on Buzz." Harvard Business Review(November-December 2000): pp 139-146.
- Eisenhardt, K. M. (1989). "Building Theories from Case Study Research." The Academy of Management Review **14**(4 (Oct., 1989)): pp. 532-550.
- Eisner, M. A. (2004). "Corporate Environmentalism, Regulatory Reform, and Industry Self-Regulation: Toward Genuine Regulatory Reinvention in the United States." Governance: An International Journal of Policy, Administration, and Institutions **17**(2. April 2004 ): pp. 145-167.
- European Commission (2002). Communication from the Commission concerning corporate social responsibility: a business contribution to sustainable development. Available at: [http://europa.eu.int/comm/employment\\_social/social/csr/csr2002\\_en.pdf](http://europa.eu.int/comm/employment_social/social/csr/csr2002_en.pdf). Page 5.
- Ford, D. A. (2001). Certified wood: State of the marketplace. Environmental Design+Construction.
- Forest Stewardship Council (1996). FSC Principles and Criteria for Forest Stewardship. 1996 Forest Stewardship Council, A.C. F. I. Standard. Bonn, Germany, [www.fsc.org](http://www.fsc.org).
- ForestEthics (2009). Green Grades 2009: A Report Card on the Paper Practices of the Office Supply Sector. Green Grades. D. Alliance.
- FSC Canada (2010). "Forest Stewardship Council Canada Website." Retrieved Accessed repeatedly., 2010, from <http://www.fsccanada.org/default.htm>.
- Gatersleben, B., L. Steg, C. Vlek (2002). "Measurement and determinants of environmentally significant consumer behavior." Environment and Behavior **34**(3): pp. 335-362.
- Greenbiz (2004). "FSC-certified wood out-sells non-certified 2 to 1." Accessed October 2010, from <http://www.greenbiz.com/news/newsthird.cfm?NewsID=26307>.

Greenpeace (2007). Consuming Canada's Boreal Forest: The chain of destruction from logging companies to consumers. Greenpeace Report.

Guagnano, G. A. (2001). "Altruism and Market-Like Behavior: An Analysis of Willingness to Pay for Recycled Paper Products." Populations and Environment: A Journal of Interdisciplinary Studies **22**(4): 425-438.

Gunther, E. and L. Scheibe (2006). "The Hurdle Analysis. A Self-evaluation Tool for Municipalities to Identify, Analyse and Overcome Hurdles to Green Procurement." Corporate Social Responsibility and Environmental Management **13**: 61-77.

Haener, M. K. and M. K. Luckert (1998). "Forest Certification: Economic Issues and Welfare Implications." Canadian Public Policy **24**(s2): pp 83-94.

Henri, J.-F. and M. Journeault (2010). "Eco-control: The influence of management control systems on environmental and economic performance." Accounting, Organizations and Society **35**(1): pp. 63-80.

Herbig, P. A. and H. Kramer (1994). "The effect of information overloada on the innovation choice process: innovation overload." Journal of Consumer Marketing **11**(2): pp. 45-54.

Hock, T. (2001). "Role of Eco-Labels in International Trade: Can Timber Certification Be Implemented as a Means to Slowing Deforestation?" Colorado Journal of International Environmental Law and Policy(2 (Summer 2001)): pp. 347- 366.

Jacoby, J. (1984). "Perspectives on Information Overload." Journal of Consumer Research **10**(4): pp. 432-435.

Kalyanam, K. and M. Zweben (2005). "The Perfect Message at the Perfect Moment." Harvard Business Review **November 2005**: pp. 3-10.

Kelle, P. and A. Milne (1999). "The effect of (s,S) ordering policy on the supply chain." International Journal of Production Economics **59**(1-3): pp. 113-122.

Knoepfel, I. (2001). "Dow Jones Sustainability Group Index: A Global Benchmark for Corporate Sustainability." Corporate Environmenal Strategy **8**(1): pp. 6-15.

Kotler, P., G. Armstrong and V. Wong (2008). Marketing defined. Principles of Marketing (5th Edition): p. 7.

Kruger, C. R. (2010). Public Preferences for SFM: Case Studies in Tenure Policy and Forest Certification. Department of Rural Economy. Edmonton, University of Alberta. **Master of Science in Forest Economics**: 133.

- Lemos, A. D. d. C. and A. Giacomucci (2002). "Green procurement activities: some environmental indicators and practical actions taken by industry and tourism." International Journal of Environment and Sustainable Development **1**(1): 59-72.
- Lent, T. and R. P. Wells (1992). "Corporate environmental management study shows shift from compliance to strategy." Environmental Quality Management **1**(4): pp. 379-394. Summer 1992.
- Li, N. and A. Toppinen (2010). "Corporate responsibility and sustainable competitive advantage in forest-based industry: Complementary or conflicting goals?" Forest Policy and Economics **XXX**(Article in Press): 11.
- Luckert, M. K. and P. C. Boxall (2008). "Institutional vacuums in Canadian forest policy: Can criteria and indicators of certification of sustainable forest management fill the void?" The Forestry Chronicle **84**(6): 8.
- Marron, D. B. (1997). "Buying Green: Government Procurement as an Instrument of Environmental Policy." Public Finance Review **25**(3): 285-305.
- McCrudden, C. (2004). "Using public procurement to achieve social outcomes." Natural Resources Forum **28**: pp. 257-267.
- Miles, M. P. and J. G. Covin (2000). "Environmental Marketing: A Source of Reputational, Competitive and Financial Advantage." Journal of Business Ethics **23**: pp. 299-311.
- Moeltner, K. and G. C. v. Kooten (2003). "Voluntary environmental action and export destinations: the case of forest certification." Journal of Agricultural and Resource Economics **28**(2): 302-315.
- Mongabay (2008, April 17, 2008). "An interview with Simon Counsell, Director of Rainforest Foundation UK: The FSC is the 'Enron of forestry' says rainforest activist, Jeremy Hance, mongabay.com." Retrieved August 14, 2010, 2010, from [http://news.mongabay.com/2008/0417-hance\\_interview\\_counsell.html](http://news.mongabay.com/2008/0417-hance_interview_counsell.html).
- Moreira, M. J. (2003). "A Conditional Likelihood Ratio Test for Structural Models." Econometrica **71**(4): 1027-1048.
- Narayandas, D. (2005). "Building Loyalty in Business Markets." Harvard Business Review **September 2005**: 9 pages.
- New, S., K. Green, and B. Morton (2002). "An analysis of private versus public sector responses to the environmental challenges of the supply chain." Journal of Public Procurement **2**(1): 93-105.
- Newsom, D., T. Bensei and V. Bahn (2008). "Are There Economic Benefits from Forest Stewardship Council (FSC) Certification? An analysis of Pennsylvania State forest timber sales." Working Paper. Rainforest Alliance **April 8, 2008**: 11pgs.

O'Rourke, D. (2005). "Market Movements: Nongovernmental Organization Strategies to Influence Global Production and Consumption." Journal of Industrial Ecology **9**(Number 1-2): 115-128.

Ontario Ministry of Environment (2010). "Ontario Ministry of Environment Website." Retrieved December, 2010, 2010, from <http://www.ene.gov.on.ca/en/>.

Paper Campaign (2002). "www.thepapercampaign.com. Accessed October 2010."

Pattberg, P. (2005). "What Role for Private Rule-Making in Global Environmental Governance? Analysing the Forest Stewardship Council (FSC)." International Environmental Agreements **5**: pp. 175-189.

Pattberg, P. H. (2005). "The Forest Stewardship Council: Risk and Potential of Private Forest Governance." Journal of Environment and Development **14**(3): 356-374.

Perera, P. and R. P. Vlosky (2006). A History of Forest Certification. Working Paper #71. L. F. P. D. Center, Louisiana State University Agricultural Center.

Porter, M. E. and C. v. d. Linde (1999). "Green and Competitive: Ending the Stalemate." Harvard Business Review **September-October**: pp. 120-134.

Rametsteiner, E. and M. Simula (2003). "Forest certification - an instrument to promote sustainable forest management?" Journal of Environmental Management **67**(1): pp. 87-98.

Rust, R. T., V. A. Zeithaml and K.N. Lemon (2004). "Customer-Centered Brand Management." Harvard Business Review(September 2004): 3-13.

Sax, L. J., S. K. Gilmartin, and A.N. Bryant (2003). "Assessing Response Rates and Nonresponse Bias in Web and Paper Surveys." Research in Higher Education **44**(4): pp. 409-432.

Scherhorn, G. (1993). "Consumers' concern about the environment and its impact on business." Journal of Consumer Policy **16**(2): pp.171-191.

Scott, W. R. (2001). Institutions and Organizations, Second Edition. Thousand Oaks, California, Sage Publications Inc.

SFI (2010). "Sustainable Forest Initiative Webpage." Retrieved Accessed repeatedly, 2010, from <http://www.sfiprogram.org/>.

Sharma, S. and I. Henriques (2005). "Stakeholder influences on sustainability practices in the Canadian forest products industry." Strategic Management Journal **26**(2005): pp. 159-180.

Soderstrom, S. and M. Bostrom (2010). FSC and the challenging management of a multi-scale and multi-actor system. Annual International Sustainable Development Research Conference. Hong Kong.

- Spinazze, M. C. and S. Kant (1999). "Market potential for certified (wood) products in Ontario, Canada." The Forestry Chronicle **75**(1): pp. 39-48.
- Steurer, R., M. E. Langer, A. Konrad and A. Martinuzzi (2005). "Corporations, stakeholders and sustainable development I: a theoretical exploration of business-society relations." Journal of Business Ethics **61**: pp. 263-81.
- Strong, C. (1996). "Features contributing to the growth of ethical consumerism - a preliminary investigation." Marketing Intelligence & Planning **14**(5): PP. 5-13.
- Stuart, I., D. McCutcheon, R. Handfield, R. McLachlin and D. Samson (2002). "Effective case research in operations management: a process perspective." Journal of Operations Management **20**(5): 419-433.
- Taylor, J., J. Houlahan, and A. Gabriel (1975). "The Purchase Intention Question in New Product Development: A Field Test." Journal of Marketing **January 1975**: pp. 90-92.
- Taylor, P. L. (2005). "In the Market But Not of It: Fair Trade Coffee and Forest Stewardship Council Certification as Market-Based Social Change." World Development **33**(1): pp 129-147.
- Teisl, M. F. (2003). "What we may have is a failure to communicate: Labeling environmentally certified forest products." Forest Science **49**(5): pp. 44-50.
- The City of Calgary (2008). Sustainable Environment and Ethical Procurement Policy (SEEP). Council Policy. P. N. F. R. N. FCS2007-02. Finance & Supply Units.
- UNECE/FAO and United Nations Economic Commission for Europe and the Food and Agriculture Organization of the United Nations (2009). Certified Forest Products Markets 2008-2009. F. P. A. M. R.-C. p.-A. f. <http://timber.unece.org/index.php?id=208>.
- University of Alberta (2009). Sustainability Measures and Initiatives: Greening the Campus. Edmonton, University of Alberta: 21.
- Verbeek, M. (2008). A Guide to Modern Econometrics, 3rd Edition. West Sussex, England, John Wiley & Sons. Inc.
- Vidal, N., R. Kozak and D. Cohen (2003). "Chain of custody certification: an assessment of the North American solid wood sector." Forest Policy and Economics **7**(3): pp. 345-355.
- Wacker, J. G. (1998). "A definition of theory: research guidelines for different theory-building research methods in operations management." Journal of Operations Management **16**(4): 361-385.



Walton, J. (1992). Making the theoretical case. In: Ragin, C.C., Becker, H.S. (Eds.), What is a Case? Exploring the Foundations of Social Inquiry. Cambridge, Cambridge University Press. pp. 121-138.

Werndle, L. N. Brown and M. Packer (2006). "Barriers to certified timber and paper uptake in the construction and paper industries in the United Kingdom." Corporation Social Responsibility and Environmental Management **13**: 121-134.

World Wildlife Fund (2007). The WWF Guide to Buying Paper. WWF for a living planet. WWF.

World Wildlife Fund for Nature (2003). Forestry and Wood Certification Newsletter No. 3. Copenhagen, Denmark.

## 9 Appendices

### 9.1 Appendix 1: Survey

#### An Evaluation of the Effectiveness of the Forest Stewardship Council's (FSC's) Integrated Paper Market Business Development Project

*Welcome to the Survey!*

Thank you for your participation in this research project being conducted by the University of Alberta. The project is attempting to determine the effectiveness of marketing campaigns initiated by forest certification organizations promoting certified paper.

Please find below the online survey, expected to take approximately 20 minutes. Questions are in regards to your organization's current paper purchasing behaviors and attitudes.

Your participation in this study is voluntary. The data collected by this study is confidential and will be used in a Master's thesis on certified paper in the market. Also, by indicating you are willing to participate in this study you are not in any way obligated to actually complete the survey if you should later change your mind.

#### **SECTION 1: PLEASE TELL US ABOUT YOUR POSITION AT YOUR ORGANIZATION:**

1. What is your official job title?
2. How long have you held this position?
3. What province or territory is your office located in?
4. What business/institutional sector is your organization involved in?
  - a. Charitable/Non-governmental organization
  - b. Small business
  - c. Large private sector business
  - d. Large public sector business
  - e. Educational institution
  - f. Government
  - g. Other, please specify
5. Does your office have a paper procurement policy (PPP)? (YES, NO)
6. Please rank the importance of the following paper characteristics in accordance with the purchasing priorities specified by your company's paper procurement policy (if no PPP then asked to rank in accordance with their personal purchasing priorities) (Use arrows to move options up/down the list).

|  | Rank  |
|--|-------|
| i. Lowest cost   | _____ |
| ii. Highest percentage of post-consumer recycled content | _____ |
| iii. Certified wood fibre supply                         | _____ |
| iv. Ease, flexibility and/or consistency of delivery     | _____ |
| v. Quality and utility in office machines                | _____ |
| vi. Marketing effort by producer                         | _____ |

- 6.b. Are there any other paper characteristics that are considered important? If yes, please specify.
7. Would you consider yourself the person responsible for the majority of the paper purchasing decisions made by your organization? (YES, NO)
8. How much flexibility do you perceive in your organization's paper purchasing activities (1=Very Flexible, 2= Somewhat Flexible, 3=Not Very Flexible, 4=Very Inflexible)?
9. What type of paper supplier is your largest office paper provider?
- Big box store (e.g. Staples, Office Depot)
  - Small office supply retailer
  - Wholesaler (Direct from processor)
  - Office supply warehouse (not a retail outlet)
  - Other, please specify
10. Have you changed paper suppliers in the last 3 years? If yes, why?
11. Do you perceive your organization's paper purchasing decisions as being sensitive to new information about social impact and/or environmental footprint of the product? (YES, NO)
12. Please rate the following paper information sources in terms of reliability (3=Very Reliable, 2=Somewhat Reliable, 1=Not Very Reliable, 0=Not At All Reliable)?
- Government
  - Environmental non-governmental organizations
  - Paper brand marketers
  - Market campaigners (e.g. Markets Initiative)
  - Certification organizations (e.g. FSC)
  - Independent research reports
  - Media reports
13. Please approximate the quantities and expenditures of each of the following paper types purchased by your organization in the last year. **Please specify units.** For example:
- Bulk copy paper in reams. One ream is a package of 500 sheets.
  - If no paper was purchased for a particular category, enter 0 in both quantity and expenditure fields.
  - If you do not know quantity and/or expenditure for a category, enter "?" (question mark) in the respective field.

| PAPER TYPE   | MONTHLY QUANTITY<br>PURCHASED: PLEASE<br>SPECIFY UNITS | MONTHLY<br>EXPENDITURE<br>(DOLLARS) |
|--|--|-------------------------------------|
| Bulk copy/printing paper                               |  |                                     |
| Paper used for your<br>company's marketing<br>purposes |  |                                     |
| Large and small envelopes                              |  |                                     |
| Business cards/ letterhead                             |  |                                     |
| Other, please specify<br>below:<br><br>_____           |  |                                     |

14.1 Is any portion of the paper your organization purchases categorized as certified or certified-recycled? (NO, YES, I DON'T KNOW)

If yes, roughly, what proportion of the total paper purchased has a certification symbol (any forest certification symbol)? To answer, enter an integer percentage from 1 to 100 or the question mark (?), in case you do not know the number.

Can you further break down this percentage by paper type? (YES, NO)

If yes, enter integer % from 1 to 100 or the question mark (?), in case you do not know the number (given for):

- a. Bulk copy/ printing paper
- b. Paper used for marketing purposes
- c. Large and small envelopes
- d. Business cards/ letterhead

14.2 Is any portion of the paper your organization purchases categorized as recycled—bearing the mobius loop (see below) without any certification label? (NO, YES, I DON'T KNOW)



If yes, roughly, what proportion of the total paper purchased is recycled paper? To answer, enter an integer percentage from 1 to 100 or the question mark (?), in case you do not know the number.

Can you further break down this percentage by paper type? (YES, NO)

If yes, enter integer % from 1 to 100 or the question mark (?), in case you do not know the number (given for):

- a. Bulk copy/ printing paper
- b. Paper used for marketing purposes
- c. Large and small envelopes
- d. Business cards/ letterhead

14.3 Is any portion of the paper your organization purchases categorized as NO TREE FIBER (e.g. agricultural wastes)? (NO, YES, I DON'T KNOW)




If yes, roughly, what percentage of the total paper purchased would this portion be? Enter integer % from 1 to 100 or the question mark (?), in case you do not know the number.

Can you further break down this percentage by paper type? (YES, NO)

If yes, enter integer % from 1 to 100 or the question mark (?), in case you do not know the number (given for):

- a. Bulk copy/ printing paper
- b. Paper used for marketing purposes
- c. Large and small envelopes
- d. Business cards/ letterhead

15. Of the recycled and/or eco-labeled and/or tree-free paper you reported in Question 14 (if any), how much is:

|  | CERTIFICATION LABEL (Taken from organization's websites)                             | PROPORTION OF TOTAL ECO-LABELED PAPER PURCHASES (%) |
|--|--|---|
| FSC-Certified  |    |   |
| Certified by the Canadian Standards Association (CSA)  |   |   |
| Certified by the Sustainable Forestry Initiative (SFI) |  |   |
| Don't know/Other                                       | -  |   |

16. Does your company consistently use environmentally friendly paper options for specific purposes (e.g. shareholder reports) or are environmental friendly papers used throughout the company? Please chose either (a) or (b) below.

- (a) Environmentally friendly papers are consistently used for a variety of corporate activities.
- (b) Environmentally friendly papers are consistently only used for certain applications.
- (c) Not applicable / do not use.




16.a. If "b" is selected, please select what types of applications 'environmentally friendly' papers are used in, for example, bulk printing and copying, annual reports, paper for company marketing purposes, or office supplies like envelopes and forms. Does management always make this distinction? (Open-ended)

**SECTION 2: PLEASE TELL US WHAT YOU THINK ABOUT CURRENT TRENDS IN FOREST CERTIFICATION.**

17. When told a paper product is “certified”, what do you assume about the source of the wood fibre? Please check **all** that apply.

- a. There is no difference from conventional paper
- b. Comes from non-plantation forests
- c. Produced by companies with environmental management plans using best available technologies
- d. Forest managers prioritized environmental and social sustainability
- e. It would depend on the “type” of certification
- f. I am unsure
- g. Other, please specify:

18. Please indicate which of the following characteristics are applicable to the each of the following paper certification schemes. If you are not familiar with a particular certification scheme, please check the “Not Familiar” box.

|  | CSA<br> | SFI<br> | FSC<br> |
|--|--|--|--|
| Requires a third party audit of company compliance with certification standards                            |  |  |  |
| Promotes the interests of citizens over those of forest product companies                                  |  |  |  |
| Requires companies to have formal environmental management plans and utilize the best available technology |  |  |  |
| Supported by the World Wildlife Fund   |  |  |  |
| Emphasizes the welfare of aboriginal peoples in addition to ecological sustainability                      |  |  |  |
| Emphasizes the welfare of rural communities in addition to ecological sustainability                       |  |  |  |
| I am not familiar with this certification scheme   |  |  |  |

19. Please rate the following factors in terms of their potential to discourage your company from buying FSC-certified paper. (1=Very important, 2=Somewhat Important, 3= Not Really Important, 4=Not at all important)

- a. Higher price
- b. Limited availability (either in terms of quantity or distribution among suppliers)
- c. Prefer other “environmentally friendly” paper options (e.g. recycled paper, paper certified under other schemes)
- d. Do not believe FSC-certified paper is significantly better for the environment

20. If prices were identical, would you choose FSC-paper over conventional paper? (YES, NO, UNSURE)
21. If prices were identical, would you choose FSC-paper over recycled paper? (YES, NO, UNSURE)
22. If you do purchase or would consider purchasing FSC-certified paper, indicate the importance of each of the following factors in your choice to do so (1=Very important, 2=Somewhat Important, 3= Not Really Important, 4=Not at all important).
- Personal commitment to FSC certification
  - Personal concern about environment
  - Organization commitment to FSC certification
  - Organization concern about the environment
  - Written corporate procurement policy
  - Maintenance of reputation
  - Pressure from in-house staff
  - Price vs. non-certified options
  - Product quality vs. non-certified options
23. Assuming all other factors, like price and paper quality, were equal, please rank the following environmentally friendly paper attributes according to your personal preferences. (Use arrows to move options up/down the list).
- |  | Rank  |
|--|-------|
| a. Ancient-forest free (No old-growth fibre)               | _____ |
| b. Chlorine-free   | _____ |
| c. FSC-Certification                                       | _____ |
| d. Tree free (e.g. agricultural waste, hemp, other source) | _____ |
| e. High recycled content                                   | _____ |
24. Have you personally been contacted by a representative from the Forest Stewardship Council Canada (FSC) in the last two years regarding your paper purchasing decisions? (YES, NO)
25. Has your institution been contacted by a representative from FSC in the last two years regarding your paper purchasing decisions? (YES, NO)
26. Have you come into contact indirectly with an FSC representative at a conference/workshop/trade show etc. in the last two years? (YES, NO)
27. Do you recall if we contacted you and/or you found the time to fill out the original survey last year? (Yes, No)

**Do you have any comments or concerns regarding the above questions or the research project in general?**

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Thanks very much. Remember, if you wish to have a copy of the preliminary results or make any further comments; please send me an email anytime at [gados@ualberta.ca](mailto:gados@ualberta.ca).

*Thank you so much for your contribution to this research project!*

## 9.2 Appendix 2: Cost Savings from paper reducing experiment at the U of A

Clark and Davidson (2009) introduced a variety of prompts to encourage reducing paper use in the department. The SPH uses 2421 reams of paper annually, spends around \$11,281<sup>71</sup> (estimate) on non-recycled copy/printing paper annually. The cost savings are exemplified below.

**Table 18 Financial Incentives for a sustainable paper policy for the School of Public Health**

| SPH  | Number of Reams | Cost     | Cost Savings \$ | Cost Savings <sup>72</sup> % |
|--|-----------------|----------|-----------------|------------------------------|
| Current Annual Paper Consumption   | 2,421           | \$11,281 |                 |                              |
| Behavioral change Only   | 1,300           | \$8,667  | \$2,614         | 23%                          |
| Behavioral Change and Sustainable paper policy (FSC Certified, 30-100% Recycled) | 1,300           | \$9,425  | \$1,856         | 16%                          |

Clark and Davidson (2009) found financial incentive for the University to switching to more sustainable behaviors. The message gained is that purchasing higher priced EPP's can be made financially feasible if combined with using less paper.

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<sup>71</sup> Prices at Grand and Toy, the University's supplier: conventional paper: \$4.77/ream & 100% recycled & FSC certified: \$7.25/ream. However, the prices for 100% recycled are drastically lower as of fall 2009 due to a new procurement initiative negotiated by Supply Management Services with the vendor.

<sup>72</sup>Note: the university's preferred pricing on FSC certified papers is about 62% lower than what is available publically.