

**Identifying Constraints in the Value Chain of Knowledge Based Services in Canada:
Case Study of Canadian Accounting Firms**

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Acknowledgement

The credit for my having been able to accomplish my task and complete this project, should go, without reservation to my supervisor,

Dr. Ajit Dayanandan,

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ABSTRACT

With the digital revolution and dramatic fall in the international telecommunication costs, the world has become 'flat' – the levelling of playing field between developed and developing countries. This study was cast in the in the background of increasing trend globally among firms in manufacturing and service sector areas to fragment their production across firms and geographical locations. In Canada too, substantial work in the manufacturing sector as well as service sector especially in knowledge based areas like customer support, information systems, software programming, accounting, medical technicians etc., is outsourced to other firms/countries.

The present study examines the prospects of value addition of a knowledge based industry - accounting industry in Canada. The study uses accounting firms in Prince George, BC as a case study. Accounting firms in Prince George represent small, medium and large firms and as such represents a cross-section of accounting firms in Canada. Our investigation found that there is considerable constraints in the form of skill shortages, timeliness in delivery of accounts, employee retention and other cost overrun issues among accounting firms in Prince George, British Columbia.

Our empirical analysis of the back and front-office tasks of accounting industry found that there exists considerable leeway for value creation especially in the back-office tasks (like transactions processing, generation of financial accounts etc). The empirical analysis of back-office tasks of accounting firms, based on the costs structure of Canada and India shows that there is approximately 83 per cent cost saving if one undertakes outsourcing of accounting tasks (excluding transmission cost of inputs globally). These cost saving could add considerable value to the accounting firms in Canada. Besides consumers of accounting tasks in Canada could also benefit in the lower price for their accounting tasks.

The risks associated with fragmentation of production are: (a) risk of dependence on the service provider, (b) risk linked to the service provider's deficient capabilities, (c) the suppliers directly attacking the firms market. One of the major risks faced by accounting firms in Canada in adopting the outsourcing model is the concern that client information (in Canada) could be potentially shared by the service provider (outside Canada) to their potential rivals. This is a major concern that faces the credibility of the firms in the supply chain. To protect sensitive customer information, proper procedures and secured infrastructure need to be put into place. Customers need to be educated about which country and how the information is processed. Once again, the credibility, professionalism and ethical conduct of the firms in the value chain are crucial to this business model.

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Chapter I

Introduction

The nature of international business is changing – for centuries cross-border business consisted of exchange of goods and services. Now cross-border business increasingly involves substantial value addition in many different firms and locations. This is called fragmentation of production or trading in tasks. The fragmentation of the production process has led to more specialized phases performed by independent contractors. This has substantially increased the cross-border flow of goods and services world-wide (Economist, 2004). Fragmentation of production or contracting out tasks has been prevalent in manufacturing sector for many decades. But with the scaling up of the internet and information and technology (IT) infrastructure globally in the last decade, service sector tasks especially that of knowledge-based or intellectual tasks such as customer support, software development, accounting and a host of other associated tasks have been increasingly outsourced. As compared to ‘go-it-alone’ strategies, alliances with partners within the country and across borders have created more value for firms and have been the focus of corporate strategy in recent years (Murray, Korable and Zhou, 2005). The outsourcing of the production process has become a distinctive feature of organization production of goods and services and this process is understood in the literature as the breakdown of vertically-integrated model of production – the so-called “Fordist” production, exemplified by the automobile industry. Bhagwati and Dehejia (1994) call this “kaleidoscope comparative advantage” as firms shift location quickly;

Krugman (1996) uses the phrase “slicing the value chain”; Leamer (1996) prefers “delocalization” while Antweiler and Trefer (1997) introduce “intra-mediate trade”. In popular language, this distinctive feature of the economic globalization is commonly referred to as ‘flat world’ in the sense in a globally integrated economy, every commercial transaction between a buyer and seller is contested globally (Friedman, T, 2005).

The term fragmentation of production process and outsourcing are used interchangeably which creates some confusion. The term fragmentation of production refers to splitting of the production process either within the firm (through fully owned subsidiaries), while outsourcing refers to undertaking of bits of production process outside (or external) to the firm (either in the form of local partners or independent firms).

Recent cover stories in Business Week (Business Week, 2003, 2005) present a long-list of upscale jobs and qualified activities like chip design, engineering, medical transcription, medical diagnostics, accounting, financial analysis, customer support etc. which are outsourced on a large scale to low-wage countries like India and China. Apple Inc., which manufactures the popular iPods carries a text in its products titled “Designed in California, Made in China”. A recent study of iPod’s components shows that the final product contains major intermediate inputs that are sourced from five countries and the share of China is a small part of the total (Linden, G, Kramer, K and Dedrick, J (2008). More recently, businesses of all kinds have also exported back-office functions like data entry, payroll processing, customer support (call centers), financial accounting to developing countries like India. In Canada too, substantial work in the service sector

especially in knowledge based areas like customer support, information systems, accounting, medical transcription etc is outsourced to other countries. The natural question which arises out of this trend is: What are the areas which firms naturally outsource? The literature refers to firms contracting non-core tasks as compared with core tasks (Sousa and Voss, 2007).

Most observers and recent research reports state value addition (cost saving on account of lower labor cost) as the reason for outsourcing (Amiti and Wei, 2004). Outsourcing is also a tool for top managers of corporations to spread risk in a more optimal manner, and to avoid large often irreversible investments (Quelin and Duhamel, 2003). On the negative side, the most important risks that emerge from the literature are: (a) risk of dependence on the service provider, (b) risk linked to the service provider's deficient capabilities, (c) the suppliers directly attacking the firms market (Quinn, 1999). The present study contributes to the literature by looking at the prospects of Canadian companies gaining value addition and competitive advantage through outsourcing in knowledge-based industries like accounting. In this endeavor, the study examines accounting industry in Prince George, BC as part of the investigation. The study proposes to examine the structure of production process of accounting firms in Prince George. **The main objective of the study is as follows:**

- 1. To examine the structure and determinants of the production process of accounting industry and identify the feasibility of increasing value through fragmented production process.**

2. **Identify costs and benefits of fragmented production process in the accounting industry as compared with the in-house production process.**
3. **To identify the public policy issues associated with fragmented production process (like security, confidentiality of information) etc.**

The study is organized as follows: Chapter II reviews the literature on the subject. Chapter III discusses the data base and methodology used in the study. Chapter IV is devoted to empirical analysis and Chapter V summarizes the conclusions.

Chapter II

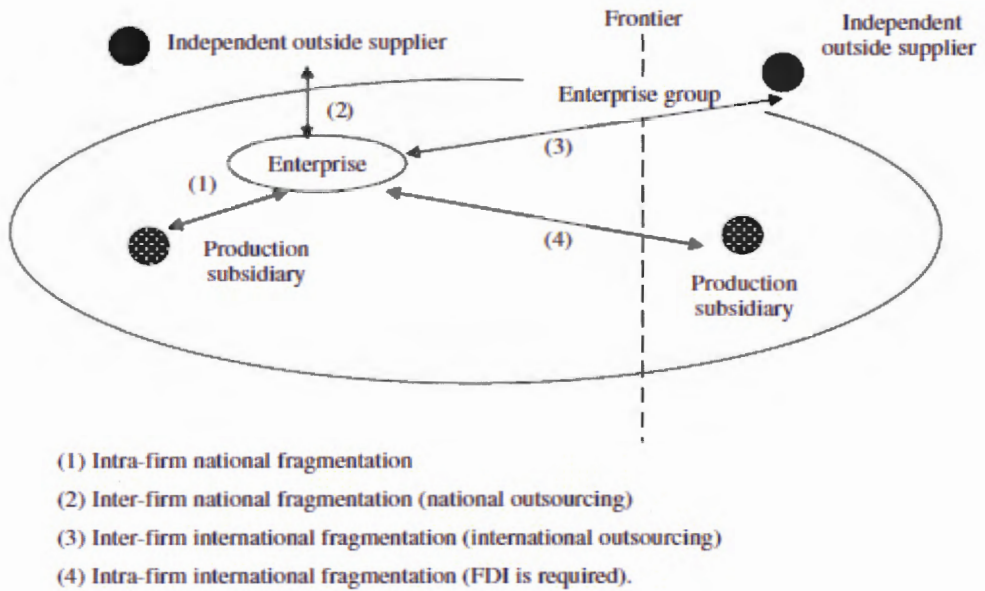
The Fragmentation of Production: A Brief Review of Literature

This chapter briefly reviews both the theoretical and empirical literature on the fragmentation of production. Section 2.1 reviews the theoretical literature and section 2.2 summarizes the major findings of empirical literature and Section 2.3 summarizes the conclusions.

2.1: Theoretical literature

There is considerable literature on the global fragmentation of production process (Campa and Goldberg, 1997; Hummels, Rapoport and Yi, 1998; Yeats, 2001; Hummels, Ishii and Yi, 2001; Hanson, Mataloni and Slaughter, 2001, 2005; Grossman and Rossi-Hansberg, 2008). Outsourcing implies a business relationship between two parties: the outsourcing subject (also called principal or the client) who makes the decision whether to outsource or not, and an external outsourcing firm (also called the supplier or subcontractor). The objects of outsourcing are manufactured products or services (business processes). This can include core functions such as design and R&D, as well as non-core functions such as maintenance, accounting, logistics etc.

Chart 2.1: Dimensions of Fragmentation of Production



Source: Diaz-Mora (2008), p.2510.

The literature distinguishes four dimensions of fragmentation of production (Chart 2.1). The first dimension is the intra-firm national fragmentation (e.g., Boeing manufactures two components for its aircraft from its two locations within the country). The second dimension is the inter-firm national fragmentation referred to as national outsourcing (e.g., General Motors sourcing the engine for its cars/trucks from an independent outside supplier). The third dimension refers to a national enterprise sourcing some parts from an independent outside supplier (e.g., Apple outsourcing its chip production to an independent supplier located in Taiwan). The fourth dimension is the intra-firm international fragmentation (e.g., Caterpillar sourcing some components of its heavy industry from its subsidiary in China). This normally takes place through foreign direct investment in an international location but operates as its subsidiary).

Outsourcing comprises dimensions 2 and 3 of fragmentation of production in Chart 2.1. Apart from these four dimensions one can also examine fragmentation of production process from an ownership and a geographic perspective (Kimura and Ando, 2005; Curzon Price, 2001). The ownership dimension refers to the controllability of the firm over fragmented production and the geographic dimension refers to geographical location of the segmented production/process. Outsourcing lies in between total ownership and arm's length transactions. A segment of the production can be outsourced

Vertical disintegration of production in the form of outsourcing of production to contractors in proximate locations have been going on for decades, outsourcing across borders has been facilitated by information technology developments and trade liberalisation in recent years (Tomura, 2007, 2009). The initial debate was with regards to the motivations for shifting production locations. The product life cycle theory, originated in Vernon (1966) suggests that the production location shifts from developed countries to developing countries because of low wages in developing countries. Antras (2005) adds organizational dimension to this hypothesis by stating that outsourcing occurs first in manufacturing and that too within the firm (through subsidiaries) and later to independent (foreign) firms.

The standard international business frameworks such as Porter's diamond model do not adequately explain the motivation for firms to outsource production. Porter's well-known study on the competitive advantage of nations describes factors that have promoted higher rates of innovation in certain industries in certain countries (Porter, 1990). Porter's diamond framework shows how factor conditions, related and supporting industries, demand conditions and strategy, structure and rivalry of other local firms can

force continual improvements in productivity and new production developments¹. The fragmentation of production and its outsourcing to countries like India does not fit the Porter's diamond framework: there were no local demand; related and supporting industries such as telecoms and computing were relatively underdeveloped; the national communications infrastructure was among the worst in the world. The main factor of production, the skills and knowledge of software programmers and related skills were not homegrown. The industry began with Indians returning from higher education, IT training and often work experience in the US and Europe. The revolution in digital technology, the dramatic fall in international communication costs, and the decline in transportation costs contributed to the increasing fragmentation of production in the 1990s (Baily and Farell, 2004). These developments have generally weakened the link between labor specialization and geographic concentration.

The motivation for fragmentation of production is not simply cost saving – otherwise a simple internal reorganization of firm can achieve this type of objective. One of the conditions for outsourcing to be successful is that the external provider must have access to economies of scale which outsourcer does not have. Moreover, if firms of the same industry choose the same type of solution (outsourcing), all firms will converge to the same business model. The motivation for fragmentation of production is not only savings in labor costs; but also, the prospects of generating new revenues, increase in capital productivity, managing risks in ways that would be unaffordable in home markets and accelerating their entry into adjacent product markets (Daga and Kaka, 2006; Agarwal, Farell and Remes, 2003). Apart from these, it was found that offshore workers are often more highly motivated than US workers and perform better, particularly in low-

¹ For a survey on literature on the subject, see Rugman and Collinson (2006), pp.443-47.

skilled jobs that lack prestige and suffer from higher turnover in U.S. All the more, the consumers benefit as companies pass on the savings in the form of lower prices. Thus offshoring to be successful and meaningful it has to create value for the firm and value appropriation for the consumers.

The literature on 'strategic outsourcing' is also rich on the motivations of contract production (Quinn and Hilmer, 1994). It has been argued that firms in North (Triad regions) use strategic alliance with suppliers in south (like China and India) because of resource complementarity (Harrison et al, 1991) and resource dependency (Pfeffer and Salancik, 1978). The logic of resource complementarity perspective explains the importance of sourcing from alliance partners as an opportunity to capitalize on the strengths of firm's suppliers, while resource dependency theory stresses the importance of alleviating threats in a transitional economy by managing uncertainties.

2.2: Empirical Literature

There is substantial literature on the economic and commercial gains of outsourcing. According to estimates by McKinsey an airline with \$10 billion in annual revenues could save about \$100 million by offshoring labour-intensive tasks (such as reservations, the administration of loyalty programs and customer care)². Similarly, software developers, who cost \$60 an hour in United States, cost only \$6 an hour in India³.

The benefits of offshoring jobs outside the country include large savings on account of labor costs. According to estimates by Baily and Farrell (2004) for every one

² See Agrawal and Farrell (2004), p.1.

³ See Agrawal, Farrell and Remes (2003), pp.24-35.

dollar of US corporate spending abroad on account of offshoring, the gains to US economy is 67 per cent and the remaining 33 per cent is captured by the country where the activity has been moved.

The estimates of potential number of jobs outsourced vary: one of the earlier estimates was 14 million by Bardhan and Kroll. Jensen and Keltzer (2005) estimated that theoretically 70 per cent of the professional and business service employment could be offshored. According to McKinsey, as of July 2003, around 400,000 US jobs have been outsourced and is expected to grow at an annual rate of 30 to 40 per cent reaching 3.3 million jobs by 2015 (Agrawal and Farell, 2004). Critics warn that free trade and globalization has made countries like US jobless. The response from the US Congress has been to include in a fiscal 2004 spending bill a provision prohibiting federal agencies from outsourcing some kinds of work to private companies that use workers in foreign countries.

2.3. Summary

The above survey clearly points to the benefits of fragmented production which include not only cost savings but also generating new revenues, increase in capital productivity, managing risks in ways that would be unaffordable in home markets and accelerate their entry into adjacent product markets. For outsourcing to be successful, it should create value for the firm and consumer. The major risks associated with outsourcing include risk of dependence on the service provider, risk linked to the service provider's deficient capabilities and the prospects of the suppliers directly attacking the firms' market (Quinn, 1999). Chapter 3 discusses the data base used in the study.

Chapter III

Data base and Methodology

This chapter discusses the data base and methodology used in this study. The chapter is divided into two sections. Section 3.1 is devoted to a close analysis of the data base and the methodology on accounting firms in Prince George. Section 3.2 discusses the methodology used in this study.

3.1 Database

The focus of this study is on accounting firms in Prince George, BC (including two large firms). These accounting firms in Prince George have employees ranging between 10 - 30 employees and have 200 - 1500 clients (refer to chapter IV for details). All the accounting firms in the Prince George area were approached for this study. The population of the accounting firms in Prince George is relatively modest (around 10) and hence no random sampling procedure was adopted. Out of 10 accounting firms, 8 of them responded to request for this study.

In order to standardize the workload in accounting profession in Canada, a pilot survey of the workload of accounting firms in Prince George was conducted before the interview process. This pilot survey revealed that on average 50 transactions could be performed in an 8 hour work schedule.

Interviews were conducted through a structured questionnaire and primary information was obtained from the firm's principles (owner/partners). For the purpose of the interview a systematic workflow diagram of an accounting firm was used (based on

the data flow diagram). The attempt of this study was to examine the work flow at each stage of the accounting firm so that a market assessment could be undertaken. This market assessment (market value) can be used to facilitate comparative analysis of other geographical models of delivery.

The main endeavor of the interviews was to understand the input-output process in the accounting firms. An operations flow chart was used to identify the accounting firms' processes because a typical flow chart is a graphical or symbolic representation of a process. Each step in the process is represented by a different symbol and contains a short description of the process step. The flow chart symbols are linked together with arrows showing the process flow direction. Symbols are used to represent such things as operations, data, flow direction, and equipment.

In the undertaking of this investigation, only the firm principals (owners/partners) were relied on for the information. Firm principals have a much better understanding of not only the internal processes of their firms; but also, the market conditions, business environment, and financial capabilities of the firm. These individuals were also the key decision makers of the firm and they had the budgetary authority. The employees and external stakeholders such as customers or consultants only a partial view of the process; therefore, they were not approached to partake in the study. Employees and external stakeholders could have deviated the outcomes of this study from the actual reality that the firm principals face on a day to day basis.

3.2 *Methodology*

Standard descriptive statistics were used in this study such as measures of central tendency, measures of variation etc. Information collected from the accounting firms was aggregated and measures of averages etc were derived. In the choice of averages, median values were relied on as they are less influenced by extreme values.

The market value of accounting firms in Canada and outside Canada is based on work load (per hour basis) times the current market price (obtained through survey).

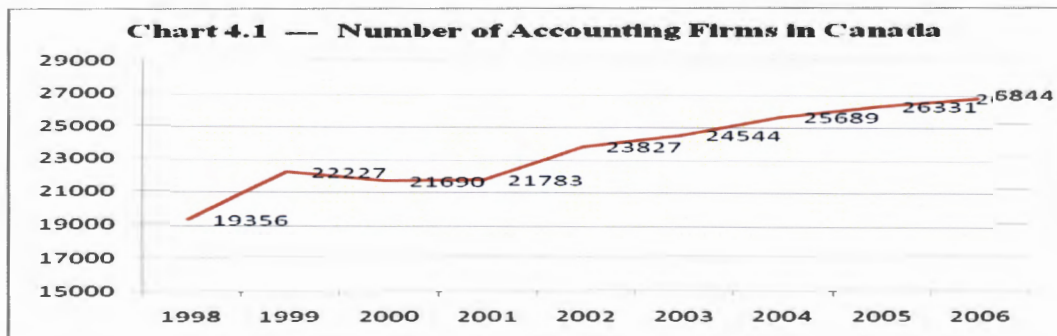
Chapter IV

Empirical Analysis

This chapter is devoted to the empirical analysis of the data collected. It has been divided into six sections. Section 4.1 is devoted to the analysis of the accounting profession in Canada and British Columbia. Section 4.2 is devoted to a general overview of accounting firms in Prince George, BC, Canada. Section 4.3 examines the basic characteristics of the data such as employees, customers, hourly wages, workload, etc. Section 4.4 examines the workflow (accounting tasks) of the accounting firms. Sections 4.5 and 4.6 represent the market valuation of the workflow of accounting tasks.

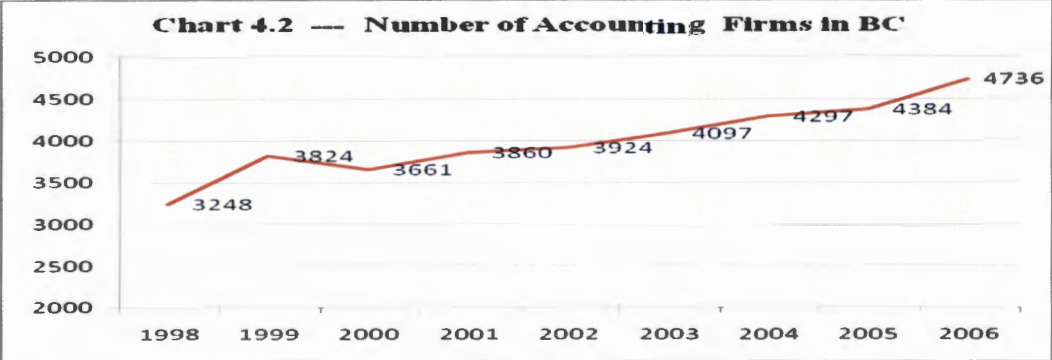
4.1 *Accounting Profession in Canada*

The accounting profession in Canada provides Canadian companies with a unique blend of expertise in accounting, management and strategy. According to Statistics Canada the number of accounting firms has been growing steadily (Chart 4.1). There are 26,844 firms registered in Canada in 2006, and this is a 38% increase from 19,356 firms that were registered in 1998. This indicates that the accounting profession in Canada is growing with the growth in the economy.



Source: Statistics Canada

Accounting is a study of how businesses track their income and assets over time. Accountants engage in a wide variety of tasks besides preparing financial statements. These range from computing costs and efficiency gains from new technologies, participating in strategies for mergers and acquisitions, developing and using information systems to track financial performance, tax strategy and quality management. The numbers of accounting firms in British Columbia are also on the rise. According to the Statistics Canada there are 4,736 firms registered in British Columbia in 2006, and this is a 46% increase from 3,248 firms that were reported in 1998 (Chart 4.2).



Source: Statistics Canada

Accounting Professional Bodies

In Canada, there are three main governing bodies that oversee and maintain the regulations in the accounting profession. These are (a) The Certified General Accountant Association of Canada (CGA), (b) The Canadian Institute of Chartered Accountants (CICA), and (c) The Society of Management Accountants of Canada (CMA). These governing bodies have thousands of accounting firms as clients all across Canada. For purpose of this study, it was not realistic to cover all accounting firms across Canada or

British Columbia. As a representation of Canadian accounting firms, this study was conducted on accounting firms in the Prince George region of British Columbia.

4.2 Overview of accounting information in Prince George, BC, Canada

The city of Prince George is located in the north central part of British Columbia. The economic and commercial activities in this area are predominantly commodity based activities such as forestry, mining, reforestation and some gas exploration. Reflecting the close adoration between commodity cycles there has been a large variation in the total number of companies located in Prince George area over the last five years, with an upward trend between 2002 and 2007 (Initiatives Prince George, 2008a). The number of companies in Prince George in December 2007 was 5,314 which is a 1.8 per cent more than in December 2002. Services-producing industries provide the majority of employment in Prince George. (74.5 per cent, compared with 25.5 per cent in goods-producing industries). As of December 2007, there were 488 companies recorded in the professional, scientific and technical services category in Prince George. The types of companies in this category include Legal, Accounting, Architectural, Information Technology, Consulting and Research services. Only 4.3 percent of the companies in this sector have more than 20 employees (Initiatives Prince George, 2008a). While there was little change between 2002 and 2007 in the number of companies in this sector, it is worth noting that 2 out of 3 new firms over that period were companies with more than 20 employees (Initiatives Prince George, 2008a).

There are about ten accounting firms operating in Prince George area of which two are large multinational firms with global network of offices. Based on the contact

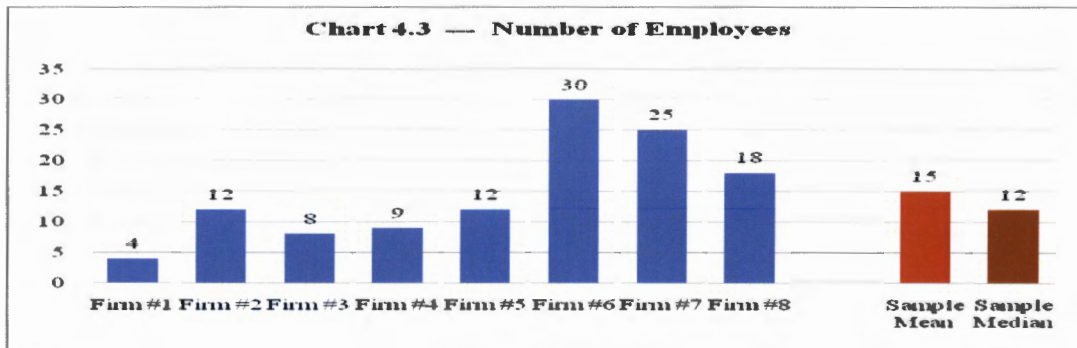
information obtained through Prince George Chamber of Commerce, all the accounting firms were approached for this study: out of the 10 firms that were originally contacted 8 responded for meeting and interviews and data/information collected from the interviews will be discussed in this chapter. These firms have the following characteristics:

- Firms were located within city of Prince George.
- Firms had been operating for a minimum of three years.

The following paragraphs are devoted to discussing the main characteristics of the data that was collected through the structured interviews from these firms.

(a) Employees

The range of full-time employees among accounting firms in Prince George varied between 4 and 30 and the median was 12 employees (Chart 4.3). Tasks of these employees typically range from administration, book-keeping, accounts reconciliation, preparations of financial accounts and related tax and financial tasks.



The corporate ladder of an accounting firm starts with students being recruited from the university and colleges with accounting and finance majors. Students start their

accounting careers by taking on internship roles with the accounting firms (which could last from 8 months to two year assignments). If these students show genuine passion and commitment for accounting profession, the firms encourage these students to pursue the accounting designations like CGA (Certified General Accountant), CMA (Certified Management Accountant), and CA (Chartered Accountant). The following is a brief description of the tasks performed by an individual with each of these designations.

Table 4.1: Brief Description of Accounting Designations in Canada

Chartered Accountant (CA)	Certified General Accountant (CGA)	Chartered Management Accountant (CMA)
<ul style="list-style-type: none"> • Start-up consulting • Purchase and sale of businesses • Business valuations • Business plans and financial projections • Developing strategies for securing financing • Corporate and personal income tax planning • Information technology needs analysis • Assurance (audits and reviews) • Preparation & analysis of financial info • Acting as trustee in the event of receivership, insolvency or bankruptcy • Developing management controls • Management consulting • Forensic accounting and litigation support 	<ul style="list-style-type: none"> • Corporate accounting and planning • Tax planning, preparing income tax returns • Management controls • Auditing • Management consulting services • Financial planning • Start-up consulting services • Consulting and systems implementation • Retirement planning • Succession planning • Estate planning 	<ul style="list-style-type: none"> • Financial planning • Finance • Operations • Sales and marketing • Information technology • Human resources

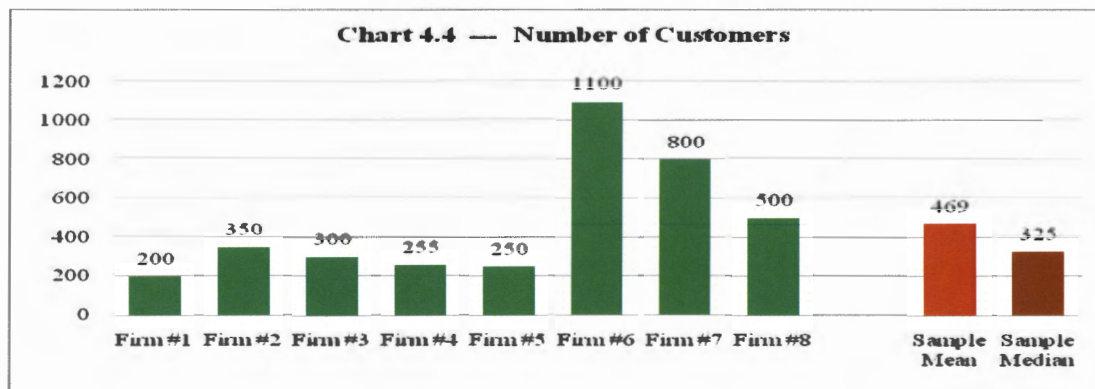
Source: <http://www.jobwings.com/finance-job/canadian-accounting-financial-designations-accreditations-a86.html> (Accessed on April 08, 2009)

The firms normally provide the necessary work experience/training/mentoring and will normally absorb the costs associated with accounting professional designations. Students who complete professional designations either work as employees or are offered partnerships in the accounting firms. Employee retention is major area of concern for all the firms in this study. There is considerable turnover of accounting professionals in Prince George. These firms believe that they invest time and money into the candidates

but few years into the process or upon completion they leave for larger cities for better lifestyle choices. In other cases these prime candidates are solicited and recruited by other accounting firms. The bookkeeper and administration staff is usually hired locally and had generally very low turnover.

(b) Customers

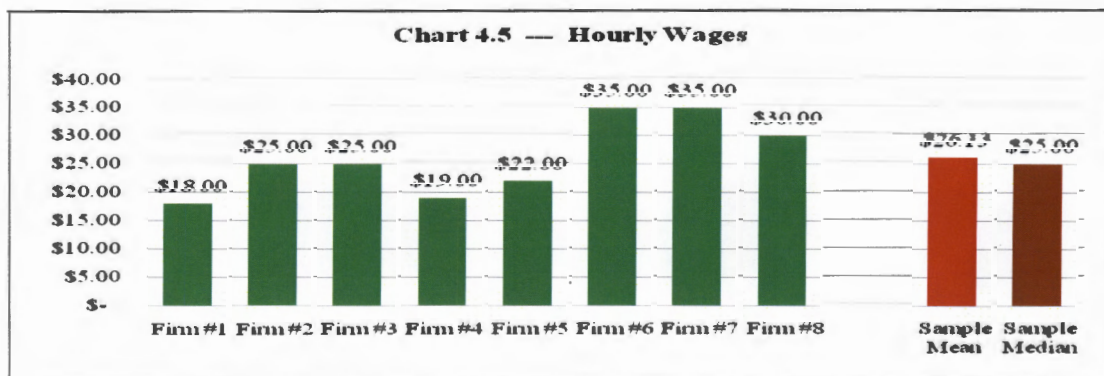
The range of customers among the accounting firms in Prince George ranged from 200 to 1,100 customers, with a median of 325 customers (Chart 4.4). These customers consist of companies ranging from household (home based business) to large corporations. The clientele base is not limited to Prince George area and is spread over geographically over northern British Columbia. Customers require services such as bookkeeping, preparation of financial statements, tax planning, and revenue forecasting. Accounting firms also provide the personal tax services through their bookkeeping staff. However, the personal services such as individual tax fillings/planning are not included in the scope of this study.



4.3 Wage Structure

From the firms interviewed in this study, the hourly wages ranges from \$18 dollars to \$35 (Chart 4.5). From chart 4.5 it is evident that, the smaller firms generally paid their employees relatively lower wages than the larger firms. The factors that determine the hourly wage include size of the firm, number of employees in the firm and most importantly employee's skills set, experience, etc. These factors were common in all firms that participated in this study. The entry-level employees were generally students, and these students along with administration staff were at the lower end of the pay scale.

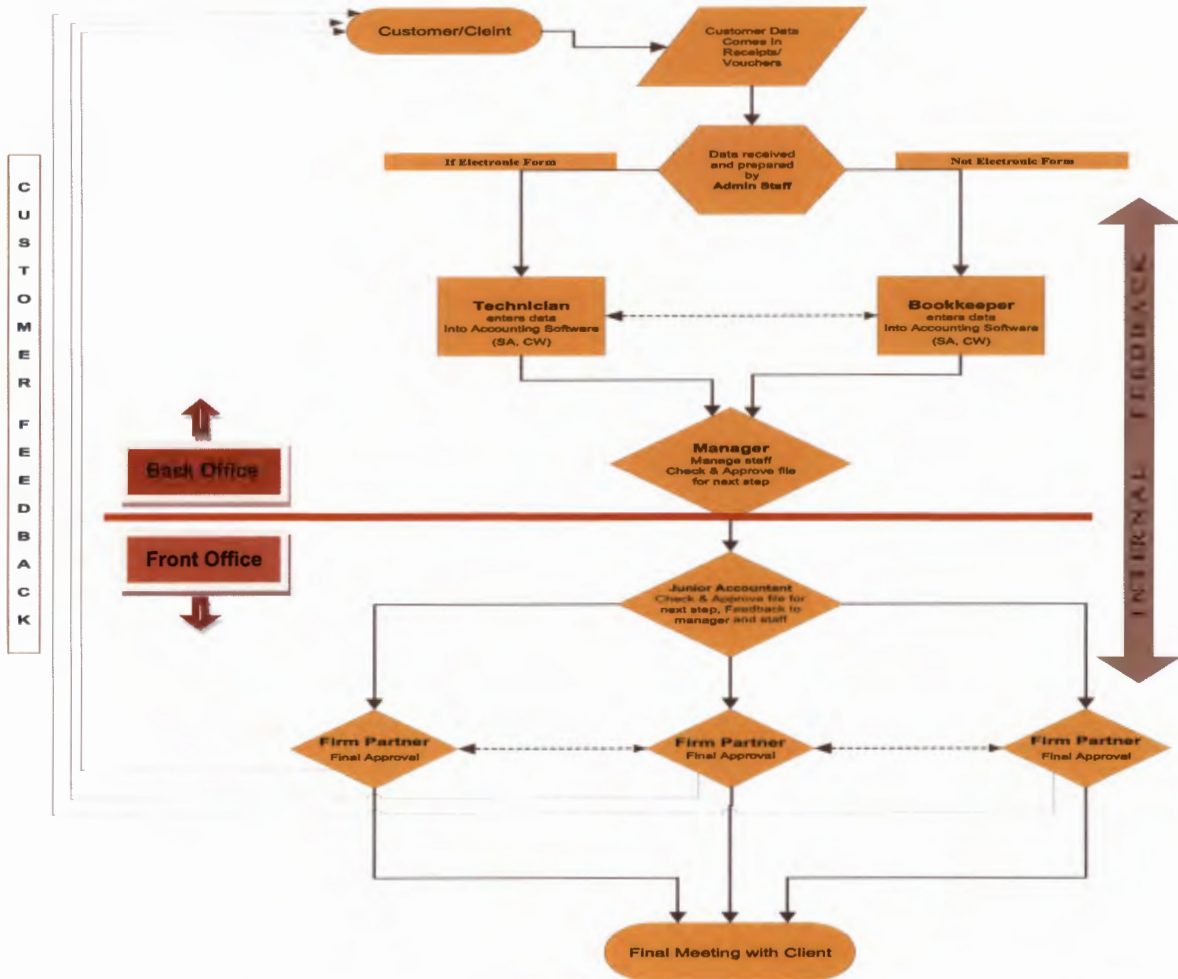
Students with the accounting background started at lower pay but their tuition fees and book costs were usually covered by the firm. As students learn the skills and gain experiences more incentives were offered by firm to retain these students. These incentives may include full fee coverage of the accounting designations, paid study-time, paid travel and accommodations during exam time and guarantee of employment upon completion. Generally, the hourly pay varies with the accounting tasks: back-office data entry types of functions generally yield lower wages (\$12 -\$18) and front-office consultative customer interaction types of tasks commanded higher hourly wages (\$60 +).



4.4 Accounting Process Flow

Chart 4.6 outlines the work flow of the accounting firms in Prince George. The workflow has been charted based on inputs and outputs generated in a typical accounting firm in Prince George area.

Chart 4.6 Process Flow of an Canadian Accounting Firm



As evident from chart 4.6, the flow starts with customer providing general transaction and information to the accounting firms. The administration staff translates this information into the appropriate files and dispatches for electronic processing. If this data is already in electronic form then it is directly forwarded to the data/accounting

technicians. If the data is not in electronic form, then this information is forwarded to the internal bookkeeper who does the customization for electronic processing. The data in electronic form is converted into accounting software such as 'Simply Accounting' or 'CaseWare' by the data technicians. These data technicians are typically accounting students who have some background in the accounting field. The non-electronic manual data is reconciled by the bookkeeper and converted into similar accounting software.

Once the customer information is converted into the accounting software and is reconciled by the bookkeeper and the data technicians, then these files are forwarded to the office manager/supervisor. At this stage the manager's role is to check the quality of the work and provide feedback to subordinate staff before further processing. The manager is also responsible for administering and managing the staff, firm supplies, technology, employee issues, payroll and succession planning roles among the staff. The manager is usually a candidate who has spent considerable amount of time at the firm either as an administrative staff or as a bookkeeper and has good understanding of the firm's processes and procedures.

The next step in the accounting process involves the junior accountant who oversees and ensures all work done by junior staff complies with accounting rules and regulations. In some smaller firms both manager and junior accountant roles are performed by the same individual. Larger firms may have several individuals engaged in this task. The individuals performing these tasks generally have considerable accounting experience. They have either just completed their accounting designations or closer to attaining it. The process of electronic processing, validation and quality checks is an iterative process and is generally time consuming.



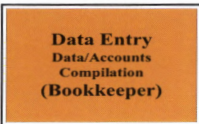
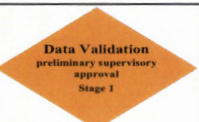
Once the intermediate member (junior accountant) is satisfied with the accounts, then data/information is forward to firm partner(s) for final approval. Generally, the firms could have multiple partners as principals of the firm. These partners usually each have their own exclusive client base and they share all the support staff and overhead expenses of the firm. In the firms that participated in this study only the partners of the firm keep in close contact with the clients for feedback. Once each partner reviews the file and final approval is awarded, the customer is then contacted and a meeting is set to deliver or discuss the final product (accounts). Often firm partners will review each other's files before the client meetings are set to ensure accuracy and quality.


The entire business process of accounting firm (inputs and outputs) is broadly divided into two functions which are complementary; (a) back office and (b) front office (refer to Chart 4.6). The front office is the area of customer interaction and is very value addition oriented, it has a relatively higher value added component then the back office functions. The back office is where most of the repetitive work is performed and where customer interaction is very minimal. Any issues that arise in the back office regarding a particular customer are normally communicated through front office.

4.5 Workload and Market Value

This section is devoted to the financial (market) valuation of accounting work flow of the accounting firms participated in this study.

Table 4.2: Workload Assessment of Back-office Accounting Tasks (Based on 50 Transactions)

	Process Step	Number of Employees	Hours spent on this task	Wage per hour (x 1.5)		Total Cost
	A	1	8	\$15	\$22.50	\$ 180.00
	B	4	8	\$18	\$27.00	\$864.00
	C	6	8	\$22	\$33.00	\$1,584.00
	D	2	8	\$30	\$45.00	\$ 720.00
TOTAL COST						\$3,348.00



As evident in table 4.2, workflow is broadly divided into: (a) front office and (b) back office. It was determined that high value and relatively higher customer interaction tasks are part of the front office functions, and relatively labour intensive and non-intellectual functions are part of the back office (data capture and data validation). The back office is considered to be the intermediate production section where low value added tasks are performed. The front-office tasks are in the nature of consultative

services and are considered to be high value creation. The front office is the area where firm principals (owners/partners) and customers interact on regular basis for analysis and planning. Therefore, these front office tasks are not candidates for outsourcing due to consultative nature and regulatory restrictions (e.g. non-recognition of outside credentials). The analysis in the following section will examine the feasibility of adding value in the back office tasks. On the basis of the flow diagrams in the accounting firms it was revealed that this is the task which acts as a constraint in the entire accounting value chain.

In order to evaluate the analysis, the workload needs to be divided into each step in the process flow chart and as well as true cost per hour by each employee needs to be identified. From eight accounting firms that participated in this study it was acknowledged that cost per hour sample median was at \$25. However, entry level task starting pay per hour was at \$18 and the more high value task pay per hour was at \$30 (Table 4.2). This was the base pay and it did not include the benefit premiums that occur to the employers for full time employees. The industry average for benefit premium can be calculated by hourly wage times one and half times. In this case the true cost per hourly wage for each employee is at \$37.50. ($\25×1.5). Furthermore for comparison purposes, the workflow process needs to be standardized on a per transactions basis and the number of employees it takes to complete transactions.

Table 4.2 illustrates the number of employees and the number of hours it takes to complete 50 transactions at each step. It also indicates that back office production section costs to the firm are about \$3,348 per normal eight hour day. The number of employees needed to complete a particular task is an approximation that was collected from the

interview process. The four steps at the back office confines the majority of the back office tasks and it is these tasks which are labour intensive and often acts as a constraint in the accounting value chain. One can add value and remove these constraints through strategic outsourcing without increasing the tasks.

As discussed in chapter II, increasingly firms are adopting outsourcing as a strategy to add value in the supply chain. Outsourcing allows principal firms to focus on value added tasks while non-core tasks could be performed at lower costs at other firms or geographical locations, which gives the firm a competitive advantage in the market. The time consuming tasks, especially the back office tasks are ideal candidates for outsourcing.

There are many leading outsourcing countries in the world providing services to global clientele, and one of these leading countries is India. For comparison purposes India was chosen and the data was obtained from two firms located in Chennai, India. Table 4.3 presents the cost per hour for a highly valued chartered accountant in India. Chartered accountants in India are trained and adhere by the IFRS international standards. However, over last decade through working with American firms the Indian accountants have become very familiar with the US GAAP standards as well.


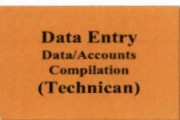
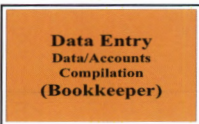
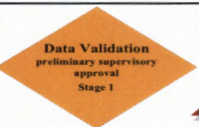
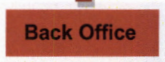
Table 4.3: Cost per hour in India

Average Salary of Chartered account per month	Rs. 50,000
Days per month (6days/wk x 4 wks)	24
Hours per day	8
Rate per hour in India in Rupees	Rs. 260.42
Rate per hour in India in CAD (1 CAD = 40 Rs)	\$ 6.51

Based on the cost information derived from table 4.3, the same model can be used to have the production outsourced to India. Table 4.4 represents the same number of

employees and hours used to accomplish the same tasks in India in comparison to Canada. The wages per hour is based on the average salary of the Indian chartered accountant (Table 4.3) and one standard rate (\$6.51 per hour) is used for comparison purposes. Table 4.4 illustrates the number of employees and the number of hours it will take to complete 50 transactions at each step in India. It also indicates that back office production section costs to the firm (based in India) will be approximately \$677.04 per normal eight hour day. For the entry level tasks, services of chartered account are not required and other junior staff can be used and therefore this \$677.04 per day cost will be reduced even further.

Table 4.4: Workload Assessment (Based on 50 Transactions)

	Process Step	Number of Employees	Hours spent on this task	Wage per hour	Total Cost
	A	1	8	\$ 6.51	\$ 52.08
	B	4	8	\$ 6.51	\$208.32
	C	6	8	\$ 6.51	\$312.48
	D	2	8	\$ 6.51	\$ 104.16
	TOTAL COST				677..04

Other costs associated with the transportation of data are not considered at this point. These costs will include the IT structure needed to be able to move the electronic information virtually via internet for each transaction. From industry resources it is determined that these costs are approximately 5 percent to 10 percent excess of the total cost per each transaction.

4.6 *Cost Savings (net)*

Table 4.5 –Estimates of Value Addition due to Trading of Tasks

Cost Valuation in Canada based on the 50 transaction model	\$ 3,348.00
Cost Valuation in India based on the 50 transaction model	\$ 677.04
Savings	\$ 2,670.96
Memo Item:	
Savings as a % of Cost of Production (in Canada)	79.8

It is evident from the calculation above (Table 4.5) that by outsourcing the back office activities to India a cost savings of \$2,670.96 daily or per 50 transactions can take place. These savings can be substantial over time and could really improve accounting firm's bottom line. Even considering the virtual transportation of data and IT infrastructure costs at 5 percent to 10 percent, this is still very cost effective and attractive solution.

Chapter V

Conclusions

This study was cast in the in the background of an increasing trend globally among firms to fragment their production across firms and geographical locations. The main motivation for this increasing trend of fragmentation of production of goods and services is (a) the potential value addition (cost saving on account of lower labor cost) (b) the prospects of generating new revenues, (c) increase in capital productivity, (d) managing risks in ways that would be unaffordable in home markets, (e) accelerate the entry into adjacent product/service markets, (f) a tool for top managers of corporations to spread risk in a more optimal manner and (g) to avoid large often irreversible investments. In Canada too, substantial work in the manufacturing sector as well as service sector especially in knowledge based areas like customer support, information systems, accounting, medical transcription etc., is outsourced to other firms/countries.

The present study examines the prospects of value addition of a knowledge based industry - accounting industry in Canada. The study uses accounting firms in Prince George, British Columbia as a case study. Accounting firms in Prince George area in the province of British Columbia represent small, medium and large firms and as such represents a cross-section of accounting firms in Canada. Out of the 10 accounting firms approached, eight of them responded to the questionnaire and the request for interviews. The investigation found that there is considerable constraints in the form of skill

shortages, timeliness in delivery of accounts, employee retention and other cost overrun issues among accounting firms in Prince George, British Columbia.

The empirical analysis of the back and front-office tasks of accounting industry found that there exists considerable leeway for value creation especially in the back-office tasks (like transactions processing, generation of financial accounts etc). The empirical analysis of back-office tasks of accounting firms, based on the costs structure of Canada and India shows that there is approximately 80 per cent cost saving if one undertakes outsourcing of accounting tasks (excluding transmission cost of inputs globally). These cost saving could add considerable value to the accounting firms in Canada. Besides, consumers of accounting tasks in Canada could also benefit in the lower price for their accounting tasks.

Outsourcing does not necessary means job elimination; rather, it allows the front and back offices free time to focus on more value creation services such as consulting services and providing more value-added service to the customer. This model enables firms to focus on high value and high margin activities and source out the low value and low margin activities; ultimately improving the firm's bottom line. Off-shore workers are generally more motivated than workers in Canada especially in undertaking low-skilled jobs that lack prestige and suffer from high turnover.

The risks associated with fragmentation of production are: (a) risk of dependence on the service provider, (b) risk linked to the service provider's deficient capabilities, (c) the suppliers directly attacking the firms market.

If there is considerable value in trading of accounting tasks, why are firms not adopting this model? This model is widely adopted by larger accounting firms through

their low cost subsidiaries. Small and medium accounting firms do not have client relationships and there exists considerable asymmetry of information about the quality of firms (service provider). Secondly, accounting firms in Canada are considerably concerned that client information (in Canada) could be potentially shared by the service provider (outside Canada) to their potential rivals. This is a major concern that faces the credibility of the firms in the supply chain. To protect sensitive customer information, proper procedures and secured infrastructure need to be put into place. Customers need to be educated about the country and how the information is processed. Once again, the credibility, professionalism and ethical conduct of the firms in the value chain are crucial to this business model.

A limitation of this study is that it was based on accounting firm only in the Prince George, British Columbia area and this is a very small cohort of accounting firms compared to the total population of accounting firms in Canada. The findings of this study could be treated as initial results and more comprehensive study is required to validate or invalidate the results of this study.

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