Due to increasing globalization and competition, there has been a recent upsurge in interest in supply chain management. Performance measurement plays a key role in creating an effective feedback loop to improve management performance. This paper examines current approaches to performance measurement in supply chain management and contributes to the field by suggesting a new approach to studying performance in supply chain management based on the unit of analysis.
Today’s 3D body scanning technologies achieve a level of precision that was unimaginable only 10 years ago. Not only are measurements taken without human contact but the 3D body scanner can extract thousands of data bits in just few seconds. Once extracted, the data can be treated with sophisticated analysis software. When required, the 3D body scanner can also be programmed to capture specific body measurements to address a specific research need or industrial application.

In contrast with manual body measurements, such as the 1941 WMGPC later used by the apparel industry, which quickly become uneconomical as the number of individual measurements needed or subjects to be surveyed increases, 3D body scanning technologies allow for cost effective and efficient measurement of the entire body on a large number of subjects.

The arrival of 3D body scanners on the market has convinced governments and private organizations to carry national anthropometric surveys to either acquire or update their anthropometric database. Americans and Europeans initiated this 3D anthropometric age with the CAESAR project (Civilian American and European Surface Anthropometry Resource). They built on this initial partial success to complete Size UK, Eurotaille, and, across the ocean: Size USA. Similar projects were successfully conducted in other countries such as Japan or realized on lesser population samples in Brazil, Mexico and Thailand. China, for its part, conducted or more targeted survey on youngsters and head scanning.

For researchers such as Pine (1995); Gray (1999); Istook & Hwang (2001); Istook (2002), Xu, Yu and Chen (2002), and Piller (2005) 3D body scanning is not only a means to acquire a national anthropometric database, but a enabling tool to mass customization; i.e. one-of-a-kind garments with individualized sizing, tailor-made yet competitive in price and in response time.

For others such as Burns & Bryant (2002), McKinnon & Istook (2002), Koontz & Gibson (2000) 3D body scanning can also be a tool allowing virtual garment try-on, eventually leading to the creation of virtual communities (Kim & Jin, 2006); although (Ashdown & Loker) the virtual environment is currently still under development. Once scanned, an individual could visualize himself or herself on a computer while clothing of various sizes, colours, styles or textures are superimposed on a rotatable image; thereby immediately visualizing fit, to select the most appropriate garment, and in some instances to eliminate the need for a live mannequin (Yu, 2004).
Our research provides an update of the 3D body scanning applications and more specifically when linked to RFID. It discusses the benefits and difficulties that manufacturers and retailers encounter when implementing such technologies. It also presents the latest research on the consumers’ perception and acceptance.

Implementation of smart card technology, based on scanned body measurements, will change the apparel shopping process (reduced time spent in fitting room, increased product and service satisfaction, reduced merchandise returns and exchanges).
GLOBAL SUPPLY NETWORK CHALLENGES: 
A CLIENT CENTRIC PERSPECTIVE

The paper discusses various expectations of the clients in today’s economy and maps them with different types of suppliers giving various illustrations. The illustrations also take into consideration the supplier’s product or commodity and the frequency with which it is being exchanged in the business relation. This gives us a very clear picture of the degree of importance of diverse client expectations from different suppliers in the business process.
OPERATIONAL PRACTICES FOR GREATER SILVICULTURAL PRODUCTIVITY – A STUDY OF FOREST OPERATIONS IN BRITISH COLUMBIA

Traditionally broadleaf tree species and other competing vegetation have been removed from conifer stands in the central BC interior to promote the growth of conifer crop trees. Vegetation management is an investment in the future stand: the stand will be more valuable as a result of the treatment. Value has both a total yield and a wood quality component. The study sites are located in the SBS wk1 about 50 km east of Prince George, BC. They were logged in 1969, burned in 1970 and planted with 2+1 bareroot interior spruce in 1971. In 1985, 3 brushing treatments each of 0.575 ha were established on 3 white pine weevil (WPW) prone sites. The brushing treatments were complete removal of competing vegetation (Brushed), removal of 7 m strips of vegetation (Alternate), and no treatment (Control). Five years after establishment WPW attack rates were 21.3, 14.8 and 15.1 percent respectively in the Brushed, Alternate and Control treatments. In 2006, 22 years after treatment establishment, height was greatest in the Alternate treatment while dbh and stem volume were least in the Control treatment. WPW attack in 2006 was not different among treatments or sites and averaged about 3 percent. In 2006, the NPV, based on a 3 percent real interest rate, of the Control stand was at least $120 per ha greater than the other treatments’ NPV. At 5 and 7 percent real interest rates respectively, the Control NPV was greater than the NPV of the other treatments by $470 and $1,000 per ha. At a projected rotation of 85 years and a 3 percent real interest rate, the Control NPV was about $625 more per ha than the Brushed treatment NPV and the difference increases the longer the stand is left before harvest. At 85 years and at 5 and 7 percent real interest rates respectively, the NPV of the Control over the other treatments’ NPV was at least $9,600 and $41,000 per ha. Clearly leaving the aspen and birch, not brushing, has positively impacted the value of these stands. In fact it also i) reduced WPW attack which has enhanced wood quality, ii) accelerated crown lift which also enhanced wood quality, and iii) increased structural and species diversity which enhanced forest resilience. To ensure the above is not a local phenomenon, we need to look at more mixed species stands in the central BC interior to assess the impact of silviculture treatments on future forest health, diversity and value.
Implementing sustainability initiatives at a large institution faces many administrative challenges. Even with widespread support from institution members, barriers can be created at many levels and in many different ways. This paper examines some of the institutional and administrative barriers faced when the University of Northern British Columbia began efforts to implement a sustainability initiative and offers suggestions on improving opportunities and overcoming barriers from this effort.

In 2007 UNBC branded itself “Canada’s Green University” and appeared to embark on an effort to improve its sustainability profile. Many North American universities have also embarked on extensive sustainability initiatives, the key difference at UNBC being that the initiative was launched by higher administration. Despite this promising beginning, the initiative has lost considerable ground due to a number of administrative barriers.

The prevalent barriers are common ones in any initiative:

- poor communication between different operational levels of the institution;
- failure to ensure adequate buy-in from key sectors of the institution;
- a lack of clear goals
- a failure to develop strategies for achieving identified goals;
- failure to recruit and support already existing groups with shared interests, or interested individuals;
- failure to address concerns regarding potential reallocation of scarce resources, or reallocation of institutional approbation.

This paper will examine the nature of these failures, and suggest causes which are rooted in administrative structures. This paper will then raise ideas for addressing these causes and alternative actions which might have resulted in more constructive outcomes.

While the research is drawn from one institution, both the problems and possible solutions have potential application for other large, hierarchical institutions.
DO ORGANIZATIONAL AND ENVIRONMENTAL FACTORS MODERATE THE EFFECTS OF INTERNET-BASED SUPPLY CHAIN MANAGEMENT APPLICATIONS ON FIRM PERFORMANCE?

One of the objectives of this study is to test a model of the relationships between factors that determine Internet-based Interorganizational Systems (IBIS) adoption, IBIS, business process performance, operational performance, and financial performance. The model is developed through extensive literature review and uses the resource-based view as the underlying theory. The study also tests model relationships across companies using environmental and organizational factors as moderators.
REENGINEERING WEBCT COURSE CREATION PROCESS: A SIMULATION-BASED STUDY

In this study, we report our findings of simulated reengineering of WebCT course creation process in a middle-sized Canadian university. WebCT (Web Course Tools) is a web-based course management system that allows instructors to deliver materials pertaining to their courses online. Using the Holosofx BPR software package, we constructed detailed process schematics for the baseline and alternate process. After simulating these processes with various parameters, we observed almost 50% savings in resource usage in the alternate process. The findings of our study indicate the potential benefit of reengineering the university WebCT course creation processes.
LIGNIN RECOVERY FOR FUEL VALUE AND FOR INCREMENTAL PULP CAPACITY: A FEASIBILITY ANALYSIS

Many Kraft mills in Canada, including some in Northern British Columbia (BC), are operating at or above their design capacities. Pulp production is sometimes limited by the amount of black liquor that can be burned in the recovery boiler. Removing some of the lignin in the black liquor from Kraft pulp mills with recovery boiler limitations offers several economic and technical opportunities. While there are still some technical areas where improvements can be made, there is strong indication that the technology even at the current state could de-bottleneck overloaded recovery boilers and allow mills to reduce the fossil fuel usage in their kilns, reduce their chemical demand in bleaching while increasing their pulp production capacity. This technology would reduce the mill dependency on fossil energy and it would also help to mitigate CO₂ emissions from the lime kiln by directly recapturing the CO₂ and re-using it to precipitate the lignin. The technology would permit the mill to take advantage of the availability in Northern BC of large supplies of beetle infested pinewood to produce market pulp. In addition, the market for Kraft mill lignin chemicals is wide open and it is already known to be very lucrative.

In this study, we evaluated the technical and economic feasibility of implementing in Northern BC a technology to recovery lignin for Kraft mill spent liquors. To conduct this study, we used two sets of data:

1. Updated information on the lignin recovery technologies
2. Specific information concerning a case study Kraft mill which may be a potential candidate for implementation of this technology. The mill specific information included:
   - Cost data for pulp, fibre, chemicals and energy, and
   - Technical information such as operating conditions and design characteristics of their recovery boiler, lime kiln and evaporators.

The mill data are used for the design and sizing of the equipment needed for lignin recovery and for conducting the costs estimate of the implementation.
For the case study mill, we found that implementation of this technology could generate a net annual profit of $9.2 million and a relatively short pay back period of 2.1 years for a capital cost investment of $19 million.
APPLICATION OF FUNCTION BASED COSTING

Function Based Costing (FBC) is another costing tool that improves the accuracy of Activity Based Costing (ABC) by adding a standard functional structure, standard cost information and standard cost flow to ABC. In this paper FBC is used to calculate cost in a functional area in a systematic way.
CRITICAL ISSUES IN DESIGNING INCENTIVE SCHEMES IN SUPPLY CHAIN CONTRACTS

Incentive schemes that determine how decision makers are to be rewarded or punished for the decisions are widely recognized as the fundamental instrument used in supply chain (SC) contracts to improve the overall SC performance. Given the increase in the complexity of SC and the variety of contract types, various issues in designing proper incentive schemes in a SC contract have been raised by researchers and practitioners. Some of these issues are common among different types of SC contracts, while others are specific for certain type of SC contracts. We examine several critical issues in both the categories and discuss possible ways to deal with these issues.