



2006

# Partnerships and Collaborations: Opportunities in Academia

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# Table of Contents

## Cases

BRAND MEMBERTOU: WALKING IN TWO DIFFERENT WORLDS Keith Brown and Joanne Pyke	5
HEADLINES FROM THE HOLLINGER AFFAIR: MANAGEMENT AND LEADERSHIP PERSPECTIVES ON LORD CONRAD BLACK Christopher A. Fredette and Vincent E. Georgie	14
A TALE OF TWO GENERATIONS: MOTIVATIONAL ISSUES Christina Waddy, Elizabeth Kelley, Tim Schmitt, Ke Yang, and Shiv Sadhu	28
SEA SUN KAYAK SCHOOL AND ADVENTURES Robert MacDonald and Heather Steeves	32

## Finance

LONG-TERM PERFORMANCE OF CANADIAN ACQUIRING FIRMS Vijay Jog and Shantanu Dutta	53
GREENHOUSE GAS REDUCTION: THE CAPITAL INVESTMENT EVALUATION Shelley L. MacDougall	67
RECONSTRUCTING THE HISTORICAL PERFORMANCE OF MERGED ECOMMERCE MUTUAL FUNDS David Rankin	75
RISK AVERSION, DIVIDEND GROWTH AND THE FOREIGN EXCHANGE FORWARD PREMIUM Richard Watuwa	84

## Gender and Diversity

CRITICAL REALISM: THE GENDERING OF WHAT WE KNOW Terrance Weatherbee and Kelly Dye	90
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## Information Systems

INTEGRATING ICT INTO HIGHER EDUCATION: WHAT ONSITE AND ONLINE STUDENTS ARE THINKING ABOUT IT G�rard Fillion, Moez Limayem, Th�r�se Laferri�re, and Robert Mantha	99
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## **Management**

FLEETING THOUGHTS ON ENDURING NETWORKS: CONCEPTUALIZING  
THE ATLANTIC SCHOOLS OF BUSINESS CONFERENCE 112  
Gabrielle Durepos

EMERGENCY LEADERSHIP: APPLYING A TIME BASED TYPOLOGY TO  
UNPREDICTABLE AND UNPREDICTED SURPRISES 121  
Anthony R. Yue

## **Management Education**

GOAL SETTING TRAINING IN STUDENT TEAMS: AN EXPLORATORY STUDY 130  
Travor C. Brown and Gerard H. Seijts

EDUCATIONAL DRAMA IN INVESTMENTS MANAGEMENT 140  
Donald Ross and Glenn Pearce

STUDENT EVALUATION OF TEACHING: A DIFFERENT PERSPECTIVE 149  
James M. Tolliver

## **Marketing**

EARLY FINDINGS ON THE EFFECTS OF WATCHING WEB-BASED  
MOVIE TRAILERS FOR YOUNG PERSONS 158  
Vincent E. Georgie

ANALYSIS OF CATEGORICAL MULTIPLE RESPONSE VARIABLES IN  
MARKETING RESEARCH 168  
Shavin Malhotra and Allen Brown

DETERMINANTS AND CONSEQUENCES OF SATISFACTION WITH  
RESTAURANT SERVICES 177  
Riadh Ladhari, Isabelle Brun, and Miguel Morales

## **Operational Research/ACORS**

INTERMODAL TRANSPORTATION OF DANGEROUS GOODS: A SPECIAL CASE 187  
Manish Verma and Vedat Verter

## **Organizational Behaviour**

- THE EFFECTS OF ELECTRONIC PERFORMANCE MONITORING ON PERFORMANCE OUTCOMES: A REVIEW AND META-ANALYSIS 197  
Wendy R. Carroll
- NATURAL CHURCH DEVELOPMENT: BLENDING THE SPIRITUAL AND TRADITIONAL APPROACHES TO UNDERSTANDING ORGANIZATIONS 211  
Beth Gilbert, Doreen MacAulay, and Morris Mendelson
- LOOKING TO THE PAST TO UNDERSTAND ORGANIZATIONAL CHANGE IN THE PRESENT 222  
Daniel Parker and Gina Grandy

## **Strategy**

- PERFORMANCE AND VALUE CREATION IN INTERNATIONAL ACQUISITIONS : AN EMPIRICAL ANALYSIS OF FOREIGN ACQUISITIONS BY INDIAN FIRMS 234  
Shavin Malhotra and Peng Cheng Zhu

## **Tourism**

- CRISIS MANAGEMENT AND THE ROLE OF HUMAN RESOURCE MANAGEMENT IN THE HOTEL INDUSTRY 242  
Candace Blayney
- WHO ARE THESE VISITORS? PROFILING TOURISTS TO LUNENBURG, NOVA SCOTIA 251  
E. Wanda George
- LEADING THE WAY IN E-MARKETING: ATLANTIC CANADA'S B&BS 265  
Peter Mombourquette and Karen Blotnicky

## **Undergraduate Student Papers**

- THE USABILITY OF NET CHANGES IN WORKING CAPITAL FROM THE CASH FLOW STATEMENT 274  
Kate Bouret, Karrilyn Wilcox, and Karen Lightstone
- INVESTIGATION OF THE IMPACT OF INTEREST RATES ON CANADIAN FINANCIAL SERVICES STOCK PERFORMANCE 283  
Daniel Corriveau
- THE STATE OF QUALITATIVE RESEARCH IN THE FIELD OF PUBLIC RELATIONS 297  
Michael Kydd

# Cases

ASB 2006  
Sackville, NB

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## **BRAND MEMBERTOU: WALKING IN TWO DIFFERENT WORLDS<sup>1</sup>**

Bernd Christmas, CEO of Membertou First Nation near Sydney, NS, ponders some obstacles which he and his staff have encountered over the past number of years, in their quest to establish a strong brand and strong brand recognition for this First Nation community of 1100. They realize Membertou's journey from a community with a massive operating deficit and escalating welfare costs, to one with budget surpluses and economic renewal has been seen as a model for First Nations development in Canada. It took determination and a vision by these community leaders, in the face of seemingly insurmountable odds, to bring the vision to life. Christmas knows that his most difficult challenge is to balance the competing and at times differing world views. He and his staff walk a very fine line to project a professional image to corporations while supporting their cultural integrity to Membertou residents. Christmas knows this on-going concern needs to be addressed as Membertou forges ahead with other development plans, business partnerships and the reinvestment of profits to meet community objectives.

### **Background**

Membertou First Nation has a population of approximately 1100 residents (See Exhibit 1). This reserve was developed in 1915 and was originally located along a main artery, Kings Road in Sydney, Nova Scotia. Known then as the Kings Road Reserve, residents remained at this location until in 1916. Some citizens of Sydney did not want a Mi'kmaq community on the periphery of Sydney and by an order from the Exchequer Court of Canada the settlers were relocated to their current area.<sup>2</sup>

During the past decade or so Membertou has undergone a dramatic change from a state of economic despair to one of economic prosperity. The key players in the successful economic development and branding of Membertou are CEO, Bernd Christmas and Chief Terry Paul. They have taken Membertou from its former position of financial hardship to its current situation as one of the most economically sound First Nation communities in Canada.

Membertou has become the first aboriginal community in Canada to become ISO 9001:2000 compliant. This designation has opened many doors for this small community and allowed Membertou to

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<sup>1</sup> Acknowledgement, Nathan MacKinnon, Cape Breton University student researcher.

<sup>2</sup> Scott, Jacquelyn Thayer. 2004. *Doing Business With The Devil*. Halifax, NS: Atlantic Institute for Market Research.

explore business opportunities in various industries that otherwise would not have been possible. This ISO standardization is recognized worldwide as the benchmark of quality management systems.

The establishment of Membertou's Corporate Offices at Purdy's Wharf Tower on the Halifax waterfront, projects a strong brand image for Membertou. Located on the 17<sup>th</sup> floor in this prestigious office building, Membertou is ready to do business. The CEO's office in Membertou is located in an aging band administration office.

## **The Key Players**

### **Bernd Christmas – Chief Executive Officer**

Bernd Christmas has been CEO. Chief Terry Paul targeted Christmas as someone who could make a difference at Membertou and convinced him to take on this position in 1994-95. He was educated at York University's Osgoode Law School and previously worked on Bay Street, Toronto with Lang Michener where he implemented the firm's aboriginal law practice group and specialized in corporate/commercial and aboriginal law. He had a vision for Membertou, which could take the small Aboriginal community from economic despair to national leader in economic development and sustainability. From his past experiences, Christmas was accustomed to negotiating deals with government and business officials. He has been a key participant as one of the faces of Membertou for the media, always taking the "high road" to present a positive image of Membertou. Christmas says he has been conscious to present alternatives and potential collaborations rather than confrontation on issues of importance to Membertou. There has been a clear goal to brand Membertou as a First Nation Community ready to solidify partnerships with government and business.

### **Chief Terry Paul**

Chief Paul has been recently re-elected Membertou's Chief for the 21<sup>st</sup> year. The message that has been sent to Chief Paul from his community is clear- the redevelopment of Membertou is working and the community is supportive of his direction. Chief Paul is a corporate strategist dealing with government and business officials. He is the "face of the people" and key negotiator between Membertou, non-Aboriginal communities and federal, provincial and municipal governments. His vision for Membertou of self sufficiency has been at the core of the community's journey towards economic prosperity.

### **Dan Christmas – Senior Advisor**

Although Dan Christmas takes a less visible role in media relations, he is still a very skilled negotiator and bridges the gap between middle-management and the Aboriginal community. Christmas, originally from Membertou, is the Senior Advisor for non-Aboriginal partners in government and business. Christmas also represents the Band on the Mi'kmaq Treaty Rights Committee, and serves on the Union of Nova Scotia Indians' Technical Committee.<sup>3</sup>

### **Chief and Band Council**

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<sup>3</sup> Scott, Jacquelyn Thayer. 2004. *Doing Business With The Devil*. Halifax, NS: Atlantic Institute for Market Research.

Membertou's Band is comprised of competent managers and residents of Membertou. The Band's activities rest in the hands of the Chief and Council operate like a Board of Directors of a commercial organization (See Exhibit 2). There are divisional managers at Membertou who have assumed a problem-solving role. Band members are encouraged to consult these managers, using the Chief and Council as their last resort to resolve issues. The same Chief and Council have occupied most of these roles at Membertou for over twenty years.

## **Building the Brand**

### Divisions and Departments <sup>4</sup>

Over the past number of years, the Band administration has developed thirteen departments. Most of these divisions operate under direct governance by the Chief and Council.

#### The Membertou Human Resource Department (HR)

This department was established in 2002 due to the rapid growth and the number of people employed within Membertou. HR is responsible for hiring, job posting and applications, overseeing payroll and managing all employees' files. This department provides staff orientation and staff training (WHMIS, First Aid, Computer applications, etc.). HR has also conducted an employment/population survey and keeps records of employment statistics. This data will be used to assist Membertou in enhancing its services and employment opportunities.

#### Health Department

The Health Department (The Membertou Wellness Centre) was established to enhance the health services of Membertou. This centre is actively involved in addressing the health needs in the community. These concerns were discovered in the health needs assessment and include programs that address heart disease and hypertension, healthy weight programs, crisis prevention, wellness/mental health diabetes, reparatory, pre-natal and chronic disease.

The Membertou Wellness Centre also organizes regular healthy lifestyles sessions, including prenatal care information sessions, diabetes education, smoking cessation, healthy bites cooking classes and more.

#### Education Department

The Membertou Education Department plays a very significant role within the community. Through Membertou's own elementary school, valuable programs and services are offered that are not available elsewhere. The Membertou Education Department provides culture and conversational Mi'kmaw classes to the youth, offers state of the art technology such as laptops for all children, hosts after school homework clubs and other extra curricular activities.

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<sup>4</sup> Membertou, Welcoming the World. Retrieved on June 14, 2006 from: <http://www.membertou.ca>

Membertou's Cap Site Program offers online computer skills enhancement programs, cyber camps for children, aboriginal small business information kiosk, and is available to anyone to simply browse the net, check emails and to assist with homework and school projects.

In the fall of 2005 Membertou opened a \$275,000 youth centre. This facility is dedicated to the encouragement of cultural, academic, social and recreational programs to youth. The Membertou Youth Centre will support Membertou's long term goals of promoting active, educational and cultural activities to the future of Membertou.

#### Finance Department

Over the past eleven years, Membertou's budget has grown exponentially from \$4 million to \$65 million today. The Finance Department manages Membertou's entire \$65 million dollar budget and oversees all expenditures which include administration and government programs, capital projects and economic development.

#### Social Services Department

The Membertou Social Services Department has been working hard to change the norms of social spending in Membertou. The number of community members requiring social services funds has dramatically decreased. A program entitled, Social Training Assistance Initiative Reinvestment Strategy (STAIRS) has enabled social clients to access education and training programs by private and public. This program has been recognized as one of the "best practices" model by other First Nation communities for social reform and reinvestment. Since 2002, 75% of STAIRS clients have successfully completed training and have entered into the workforce.

#### Public Works Department

The Public Works Department's daily responsibilities include snow removal, grounds work, spring cleaning, and community safety. They also are responsible for the upkeep and repairs to most homes in the community, upgrades to Membertou owned buildings. This department's duties also include the construction of new development, such as the Membertou Trade and Convention Centre, gaming pavilions, new homes, roadway enhancement and parking lot upgrades.

#### Membertou Corporate Division (Halifax)

Membertou Corporate Division (See Exhibit 3) opened in 2000 and is located in a very prestigious office building at Purdy's Wharf in Halifax, NS. The location of this office was an aggressive move by Membertou to pursue partnerships, joint ventures and new opportunities with government and the private sector. Such relationships formed to date are with Lockheed Martin Canada, Sodexo Canada, Clearwater Fine Foods, SNC Lavalin, Grant Thornton, Nova Scotia Community College, Jacques Whitford, Techlink Entertainment, Laurentian Group.

Two departments located at Membertou's Corporate Office in Halifax are:

- 1) Membertou Quality Management Services (MQMS) which is uniquely qualified to help business to improve their management systems. Membertou was the first aboriginal government in the country to achieve ISO 9001:2000 standardization, and to benefit from its reputation (See Exhibit 4). The MQMS Division has been operational since 2003, and has been very successful in securing contracts with other aboriginal communities and organizations both locally and nationally.



2) Membertou Geomatics Consultants (MGC) provides GIS services, with access to several other corporate partners of the Membertou Corporate Division in technology and engineering fields. MGC has been involved with international land management projects such as the Jamaica Cadastral Conversion project, and local projects such as the Wentworth Ski Hill and the community of Membertou. The MGC offers a range of services such as data capture, analysis & manipulation, community planning, photogrammetry and 3D visualization. MGC has now undertaken the development of a First Nation Community GIS. The system can incorporate information on community infrastructure, community planning, resource management, forestry and environmental issues, as well as cultural and legacy issues. It is designed as a decision making tool and an information platform for First Nation communities.

## **Revenue Generating Initiatives**

### **Membertou Fisheries**

This leading aboriginal seafood company has partnered with Clearwater Seafood's, a global leader in the seafood business, to expand and develop its seafood interest in Atlantic Canada and beyond. This 50-50 profit split includes contract harvesting (ground fish, shell fish, tuna and swordfish) and branding of high quality Membertou-fished seafood products for the global market place. They have also partnered with Acadia First Nation in western Nova Scotia to harvest and brand scallops. Membertou Fisheries presently has a fleet of six vessels.

### **The Membertou Market**

The Mi'kmaq Gas Bar and Convenience market is a food retailing and gas bar employing 50 people. It opened its doors in 2001 and has been serving 2000 customers per day. The market provides a 24 hour retail service and also houses a fast food outlet.

### **Membertou Gaming Commission**

The Gaming Commission opened in 2002, with 5 gaming pavilions and operates 24 hours a day, 7 days a week. It employs approximately 50 people. Profits gained are used to assist the creation of new business at Membertou, for capital investments and dividends are distributed to all community members on a yearly basis.

### **Membertou Trade and Convention Centre (MTCC)**

This, \$7.2 million dollar, 47 thousand square foot meeting and convention facility was officially opened in October 2004. It houses state of the art technology, with video conferencing services, state of the art sound and lighting system, smart board technology, wireless internet, full catering availability, 24 hour on site security, and presents Mi'kmaw cultural features throughout the building.

### **Mescalero's Open Grill Steak House**

This 140 seat restaurant has been operational since November, 2004. Located in the Membertou Trade and Convention Centre, this restaurant served over 80,000 plates in the first six months of operation. Mescalero's serves traditional Mi'kmaw foods, fresh Atlantic Seafood and other quality items

unique to this restaurant which has quickly developed the reputation as one of Sydney's finest dining establishments.

### **The Issue - Walking in Two Different Worlds**

As the ideas for transformation of the Membertou First Nation began to take hold and be promulgated, the face of Membertou began to change. A series of new construction projects which are grouped together in the community presents a hugely different face to the outside and internal community than seen before the rapid development. There are some in Membertou who see the focus on business as not fitting with their Aboriginal culture while others see it as the biggest opportunity to celebrate and support culture and heritage. These two worlds come together increasingly as the development continues and even accelerates.

Membertou First Nation is one of the few First Nation Communities within an urban setting. Historically, the City of Sydney and Membertou have had a usually benign relationship. Residents of Membertou lived in their community, went to high school in Sydney and few worked in their home community. How times have changed. One of the largest sustained commercial building booms in Sydney has been in Membertou, which is removed from the downtown of Sydney and more than 500 of Membertou's 1100 residents now work for Membertou's businesses and operations. There are the beginning signs of affluence taking root in Membertou which has some residents of Sydney looking with jealousy towards the development while others celebrate the success. The rules of engagement of these two worlds have changed and continue to be rewritten.

When Mr. Christmas first began his discussions and negotiations with corporate Canada and the multinationals, many found the notion of aboriginal business development unexpected and even alien. The decision to pursue and obtain the ISO 9001 rating was a clear attempt to speak the language of business. Membertou was clear with its messaging; we are open for business, we are professional, we are accountable and our two worlds are compatible.

The attitudinal change among local Aboriginal and non-Aboriginal residents presents mixed feelings. Some embrace the economic changes happening in the community, while others are more skeptical. To date, the branding image has developed to deliver the same message to these three publics. Do you agree?

### **A Turn of Events**

On July 18, 2006, the front page headline of the Cape Breton Post, in bold type, announced, "Membertou, CEO part company" Bernd Christmas stated there were philosophical differences on plans for further growth and development and that his resignation is effective September 1, 2006. Chief Paul was emotional in his public thank you to Mr. Christmas and thanked him effusively for his contribution to the community growth. What is the effect on Brand Membertou by Bernd Christmas's departure?

**Exhibit 1**  
**Membertou**  
**Age Distribution Chart**

Membertou      Nova Scotia

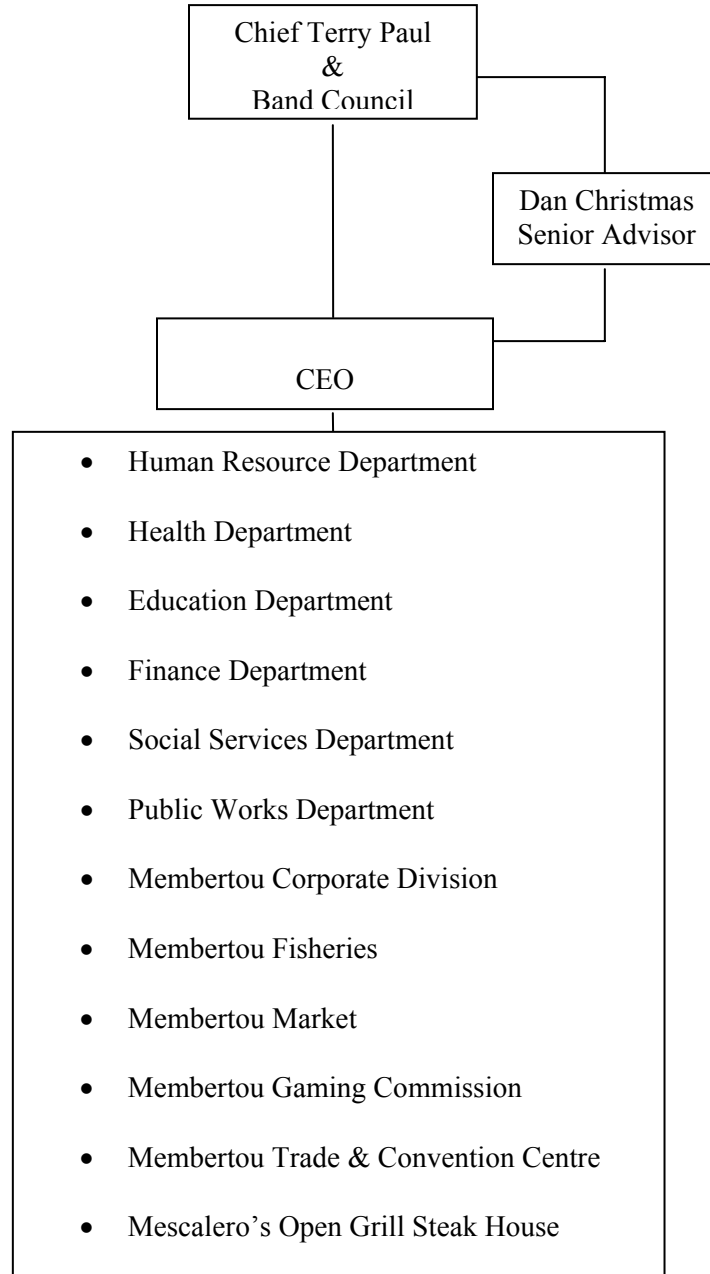
Age Characteristics of the Aboriginal Identity Population	Total	Male	Female	Total	Male	Female
Total - All persons <sup>(5)</sup>	595	295	300	17,015	8,320	8,695
Age 0-4	75	45	30	1,800	890	910
Age 5-14	160	90	65	3,610	1,775	1,835
Age 15-19	45	20	25	1,575	840	735
Age 20-24	40	15	20	1,425	660	770
Age 25-44	170	70	100	5,185	2,495	2,685
Age 45-54	60	30	30	1,910	880	1,035
Age 55-64	30	15	15	835	425	410
Age 65-74	10	0	10	445	235	205
Age 75-84	10	0	0	190	110	85
Age 85 and over	0	0	0	35	15	25
Median age of the Aboriginal identity population	23.3	18.5	26.1	25.3	25.0	25.6
% of the Aboriginal identity population ages 15 and over	61.3	54.2	68.3	68.2	68.0	68.4

Source: Statistics Canada, 2001 Aboriginal Population Profile

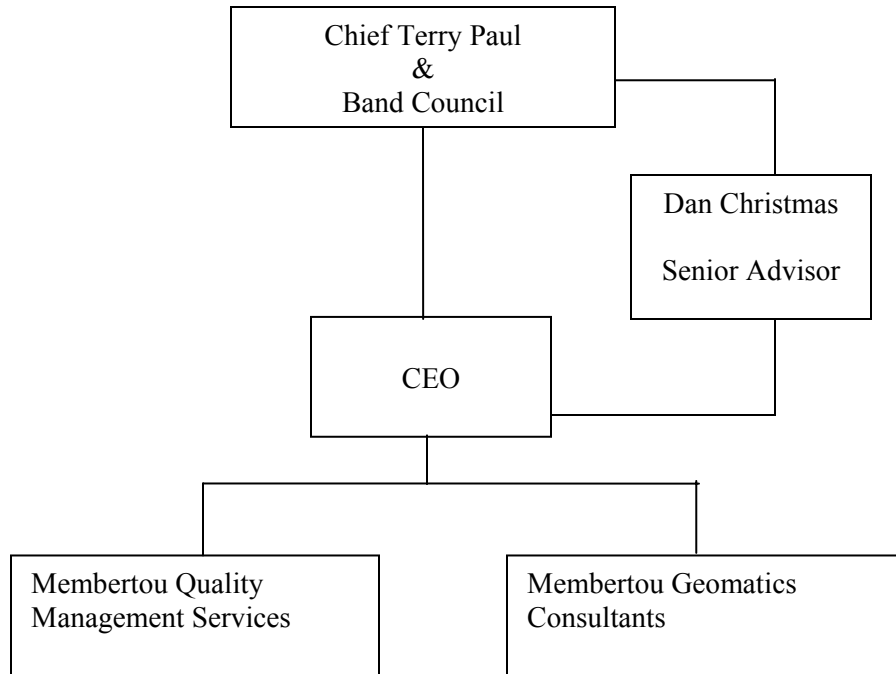
<http://www12.statcan.ca/english/profil01ab/Details/details1pop.cfm?SEARCH=BEGINS&PSGC=12&SGC=1217008&A=&LANG=E&Province=12&PlaceName=Membertou%2028B&CSDNAME=Membertou%2028B&CMA=&SEARCH=BEGINS&DataType=1&TypeNameE=Indian%20Reserve%20%2D%20R%20indienne&ID=2699> , Retrieved June 12, 2006.

**Exhibit 2**

**Membertou Band Office Organizational Chart**



**Exhibit 3**  
**Membertou Corporate Division**  
**Organizational Chart**



**Exhibit 4**  
**Membertou Quality Policy**

The Quality Policy will organize the departments of Membertou to deliver their services to the community members through the Director's meetings. Membertou is committed to comply with the requirements and continually improve the effectiveness of the quality management system. At the regular meetings the effectiveness and suitability of the quality objectives and the quality management system will be reviewed.

The Quality Management System will be communicated and understood within the organization.

Source: Quality Management Services Division, October 25, 2004  
ISO – 9001:2000

ASB 2006  
Sackville, New Brunswick

Christopher A. Fredette (student)  
Schulich School of Business  
York University

Vincent E. Georgie (student)  
HEC Montréal

HEADLINES FROM THE HOLLINGER AFFAIR:  
MANAGEMENT AND LEADERSHIP PERSPECTIVES ON LORD CONRAD BLACK

In January 2006, Conrad Black, former CEO of Hollinger International, looks to this new year with desperation and uncertainty. He spent Christmas facing not lavish holiday galas but 95 counts of mail fraud, wire fraud, and racketeering amongst others. He is consistently criticized through the mainstream media for gross mismanagement of Hollinger. Abuse of power, questionable ethics and poor governance within Hollinger are the perceptions that continue to stir debate of how Conrad Black will be judged within the public eye. Is Conrad Black a leader who fell from grace or a manager who was more adept at mismanagement? On the other hand, is Conrad Black a role model of superior management style and leadership skill and only a victim of the current societal norms that call for public outcry when it is perceived that a leader has abused his/her position of authority?

**Locating the Scandal**

Circa 2004, the publishing industry is trying to keep pace with the arrival of the digital age and real-time communication. The newspaper publishing industry, in which Hollinger International Inc. (HLR) operates, now grapples with the challenges introduced by electronic book imprints, digital article archives, and online versions of publications. The general publishing industry environment is composed of publishers and printers of newspapers, books, magazines, and other materials; however, the central domain of Hollinger International and its industry competitors lies in the publication of daily newspapers. While tradition had pitted newspaper against newspaper in localized or domestic competition, modern times had brought with them an air of conglomerate-generating consolidation. In fact, in the global environment it was not uncommon to find the development of international newspaper publishing consortiums created through merger and acquisition, in pursuit of ever increasing shares of a maturing marketplace.

## Exhibit #1

### Outlines the Relative Market Value of Hollinger among its Competitors <sup>1</sup>

Company Name	Symbol	Mkt Cap (000's)
<input type="checkbox"/> GANNETT CO INC	GCI	\$23,975,461
<input type="checkbox"/> TRIBUNE CO	TRB	\$16,296,339
<input type="checkbox"/> PEARSON PLC ADS	PSO	\$9,318,099
<input type="checkbox"/> WASHINGTON POST CO CL B	WPO	\$8,674,501
<input type="checkbox"/> E.W. SCRIPPS CO CL A	SSP	\$8,038,218
<input type="checkbox"/> NEW YORK TIMES CO CL A	NYT	\$7,152,639
<input type="checkbox"/> KNIGHT-RIDDER INC	KRI	\$6,207,955
<input type="checkbox"/> DOW JONES & CO INC CL CM	DJ	\$4,067,805
<input type="checkbox"/> MCCLATCHY COMPANY CL A	MNI	\$3,274,225
<input type="checkbox"/> BELO CORPORATION CL A	BLC	\$3,182,215
<input type="checkbox"/> UNITED BUSINESS MEDIA	UNEWY	\$1,817,357
<input type="checkbox"/> LEE ENTERPRISES INC CL B	LEE	\$1,641,936
<b>HOLLINGER INTERNAT CL A</b>	<b>HLR</b>	<b>\$1,554,360</b>
<input type="checkbox"/> JOURNAL COMMUNICAT CL A	JRN	\$1,530,362
<input type="checkbox"/> MEDIA GENERAL CL A	MEG	\$1,519,837
<input type="checkbox"/> PULITZER INC	PTZ	\$1,125,971
<input type="checkbox"/> JOURNAL REGISTER CO	JRC	\$866,267
<input type="checkbox"/> DAILY JOURNAL CORP	DJCO	\$52,798

As outlined in Exhibit #1, Hollinger International is among the twenty largest firms in the industry in terms of market capitalization.

### Regulation and Deregulation

**In many instances, governments had historically played the role of a protector or subsidizer of domestic media and news distribution agencies – often providing services in the form of public <sup>2</sup>radio and television broadcasting companies. Recent changes in the landscape of global trade and investment, as well as the introduction of new technology, had altered their collective interests toward ensuring market efficiency in many regards.**

First among the paradigm shifts toward open and free markets was a renewed emphasis on market transparency. As such, the industry felt an increase in deregulation-based activities, which significantly widened the foreign-ownership margins, thus resulting in an increased ability for foreign investment through acquisition, merger and foreign-direct investment. Previous government mandated ownership restrictions had posed a serious obstacle for growth-oriented media companies such as Hollinger, as outlined in the following example.<sup>3</sup>

<sup>1</sup> Information obtained from <http://www.yahoo.com> as retrieved on February 11<sup>th</sup>, 2004

<sup>2</sup>

<sup>3</sup> As published in The Economist, “Buying Newspapers: Time to Raid the Piggy Bank?” March 28, 1992. Page 77.

### **Conrad Black's Hollinger Attempts to Purchase Australian John Fairfax**

*Through an intermediary of Hollinger, Tourang – a firm among Black's consortium, made an offer to purchase Australian newspaper group John Fairfax from receivership with partner Consolidated Press Holdings. While regulators rebuffed the initial offer, threatening to veto the proposal citing a fear of "undue concentration of media ownership", the ultimate decision may rest with the Australian government. It must consider whether to ease restrictions on foreign ownership of domestic media, thereby granting Black the approval necessary to continue operations.*

*"The Economist", March 28, 1992.*

In addition to governmental changes stemming from deregulation, a renewed legislative and judicial emphasis was emerging in the area of intellectual property. With the introduction of the digital age, a renewed focus on the importance of intellectual property with regard to information collection and redistribution emerged. Publishers who had entered the digital realm were placed on the front lines of a number of copyright battles. In 2001, the United States Supreme Court stated freelance writers possessed ownership of the electronic rights to their work, and that publishers must obtain permission in order to publish their work online. This decision had a focused impact on newspaper publishers and information gathering institutions that had already begun to digitally archive the work of freelance journalists without having received prior consent.

### **Industry Consolidations – The Local, Domestic and International**

Consolidation, driven by competitive pressures for economies of scale in production, creation and distribution of newspapers, as well as an underlying drive for profitability where experienced across all firm sizes and geographic locations. In this regard, few small or independent companies were spared from the threat of acquisition and consolidation.

In many local Canadian markets, small independent newspaper publishers have been acquired, consolidated or eliminated as a result of increased competition. Among the leaders in the effort to consolidate Canadian independent publishers have been Southam and Thompson, who have both created domestic market consortiums.

Consolidation has also changed the face of the publishing and printing industry on the domestic front, as firms struggled to increase market share, acquisitions and mergers have reached new peaks. In 2000, Quebecor temporarily became the world's largest printer with the \$2.7 billion acquisition of rival World Color Press. That year the Tribune Company purchased the Times-Mirror for \$8 billion to become the second largest American newspaper publisher. This trend continued in 2000 as Gannett (publisher of USA TODAY) bought Arizona Republic publisher Central Newspapers, McGraw-Hill purchased Tribune Education, and Thomson acquired several companies including rival Primark.

From an international perspective, a review of Hollinger International's holdings reveals substantial investment in Canada, the United States of America, England and Israel. In combination with an



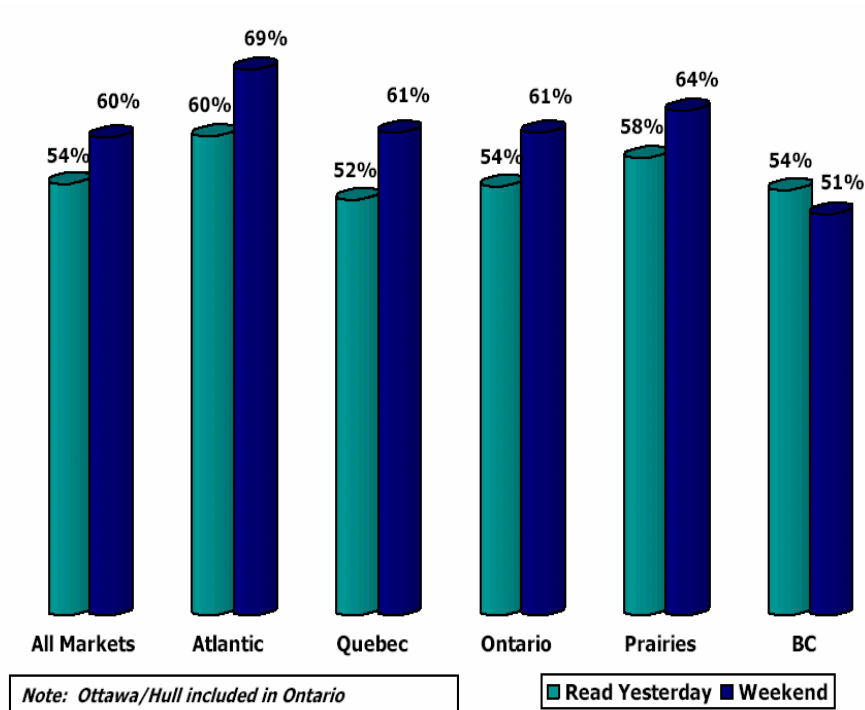
increasing state of global deregulation, large firms with the financial wherewithal could easily consolidate their holdings and position on a local, national or global level.

### Industry Competition – The Driving Factors

Primary among the factors driving competition is the concept of readership. Functionally defined as the number of customers purchasing a given newspaper on a set basis – generally on a daily, five or seven day cycle – readership acts as a primary driver in the creation of advertising based revenues. The following tables of information demonstrate a number of the ongoing trends affecting newspaper readership rates domestically.

#### Exhibit #2

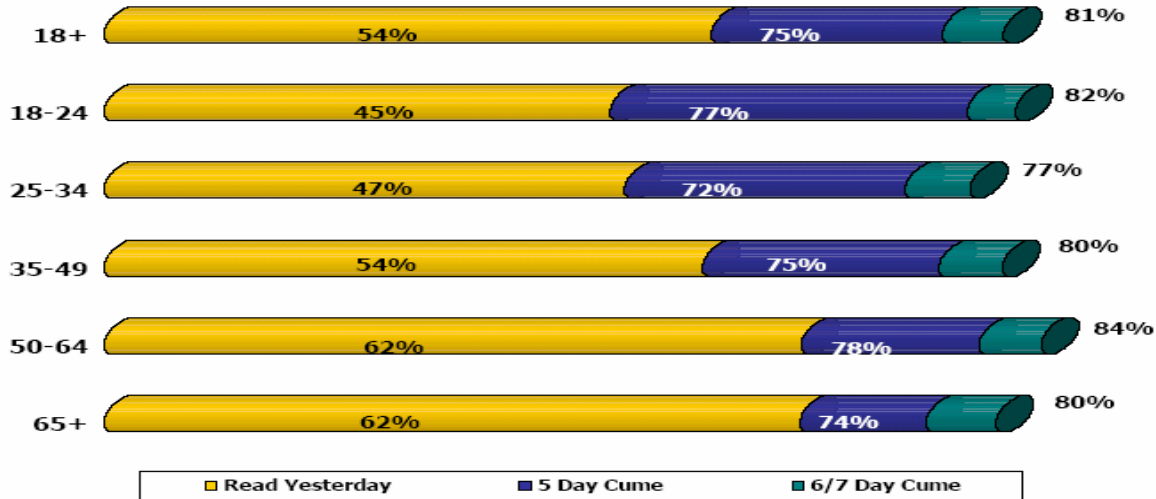
A Readership by Region Breakdown for Canada



In contrast to the continuity displayed in Exhibit #2 – Readership by Region, when readership is assessed by age category it is clear that penetration rates by age group vary considerably.

**Exhibit #3**

**Readership Analysis by Age Group <sup>4</sup>**



*\* 45 markets measured in 2000, 2001 & 2002*

In addressing the revenue creation scheme associated with advertising sales, it must be stated that each newspaper retains the right to determine an independent pricing strategy. It is critical to recognize the dynamic nature of advertising revenue, thus one must consider the cross-industry analysis of advertising spending and rates of change in spending allocation provided in Exhibit #4. From this exhibit, direct mail is projected to encompass the largest gains in the advertising revenue over the next five years. In contrast, traditional print media such as newspapers, magazines, brochures and catalogues – in addition to television and cable providers - are likely to suffer substantial decreases in the market share for advertising spending, thus resulting in decreasing revenues and shrinking profits margins.

**Exhibit #4**

**Projected Changes in Advertising Market Share (United Kingdom) <sup>5</sup>**



In addition to competition driven by growth through consolidation and increased revenue through readership, cost and efficiency motivations are also present. In recent years, price competition among

<sup>4</sup> Information obtained from the Newspaper Audience Databank at <http://www.nadbank.com> on February 17<sup>th</sup>, 2004.

<sup>5</sup> Information provided by <http://www.dti.gov.uk/cii/services/contentindustry> "Publishing in the Knowledge Economy" retrieved on February 14<sup>th</sup>, 2004.

newspaper offerings positioned in a market had become more common, as publishers attempted to spur increased readership at the expense of newspaper sales revenue margins. One market in which this clearly occurred is in England, where discounting between Rupert Murdoch’s “*The Times*” and Hollinger’s “*Daily Telegraph*” created a price competition spiral that altered the landscape of the powerful British market.<sup>6</sup> Accordingly, as with many similar industries, the newspaper publishing industry continues to search for greater cost efficiency in terms of production, logistics and media content creation. Given the industry’s constraints and driving forces, reviewing **Appendix A**<sup>7</sup> offers a unique opportunity to view the industry through the perceptual lens of a publishing industry insider.

### Company Overview – Ravelston & Hollinger

Hollinger International Inc. is a global newspaper-publishing conglomerate with influence spanning a number of continents. With current operations in the United States, United Kingdom, Israel, and Canada, Hollinger has made considerable inroads in many of the major markets in each country. There are currently (2004) 23 paid daily newspapers with a circulation of approximately two million, and HLR has and/or owns interests in approximately 250 other publications (i.e. non-daily newspapers and magazines). In addition, among the Company’s 144 paid newspapers (daily and non-daily), the most prestigious titles include Hollinger’s Chicago Group control of the Chicago Sun-Times, the U.K. Newspaper Group’s offering, the Daily Telegraph and the Community Group’s Jerusalem Post. In previous years, Hollinger International had generated more than half of its sales from its well-established Canadian newspaper group, however it has since sold off most of its Canadian holdings (including the National Post) to CanWest Global Communications.

As outlined in Exhibit #5, the stock price and trading volume of Hollinger International Inc. have both experienced volatility over the past twelve months, however the upward movement suggests a positive market outlook for the future.

#### Exhibit #5

#### Stock Activity for the Twelve-Month Rolling Period before February 2004<sup>8</sup>



<sup>6</sup> Information obtained from: Bose, Mihir “Institute of Directors”, Volume 48, (2). September 1994. Page 30.

<sup>7</sup> Information provided by <http://www.dti.gov.uk/cii/services/contentindustry> “Publishing in the Knowledge Economy” retrieved on February 14<sup>th</sup>, 2004.

<sup>8</sup> Information obtained from <http://www.yahoo.com> as retrieved on February 11<sup>th</sup>, 2004

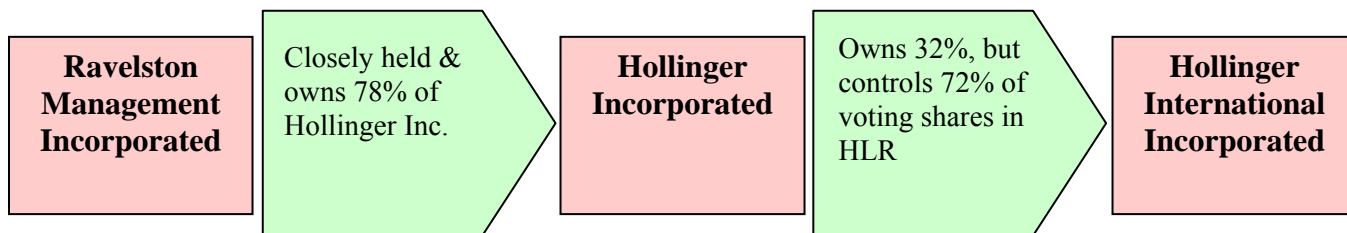
Considering Hollinger’s financial position, much more than the firm’s share price and market capitalization must be evaluated. In this regard, recent financial statements have been included in **Appendices C – E**<sup>9</sup>, to allow independent evaluation.

Beyond the assets and operational capacity of the firm, perhaps the most interesting ingredient to Hollinger International is its corporate management and ownership structure. In this regard, Conrad Black plays an integral and influential role in the control and management of Hollinger International’s operations.

As outlined in Exhibit #6, Hollinger International and parent company Hollinger incorporated are both publicly traded and openly held entities, however, Black’s influence in both is clearly evident by his controlling interest in the voting shares of both. Via this control mechanism, Black has effectively held power over any other shareholder group by his ability to nominate boards of directors and corporate officers. In this regard, the corporate governance structure at Hollinger is not transparent. In addition to this structure (encapsulated in Appendix G), Ravelston – a corporation privately held by Black and a number of constituents – operates as a holding company and owns a large proportion of the controlling and voting shares of Hollinger Incorporated, solidifying Black’s position as an owner and controlling party in Hollinger. This intrigue could provide a source of concern for some, however, criticism generated by this arrangement is nothing new to Black as analysts, “widely criticize this shuffling of private and public holding firms” from periods as early as 1986.<sup>10</sup>

**Exhibit #6**

**Corporate Relationship and Inter-organizational Linkages among Firms**



Through Ravelston Management’s position with respect to Hollinger Inc., Black controls slightly more than 72% of the voting power influencing Hollinger International. This comes as a result of the group holding all of the HLR’s nearly 15 million Class-B shares, which garner a total of 10 votes each. In this regard, Black’s minority investment interest in the equity capital of Hollinger International offers the potential for him to vote and thus control the company’ without concern/interests for the greater majority of equity holders.

**The Man behind the Company**

Considering his demeanor, Black appears to be a man who possessed great ambition, drive and determination in life and in business. Like many entrepreneurs with global ambition, Black faced the

<sup>9</sup> Source for all financial information contained in Appendices C-E found at <http://www.hoover.com> financial information as retrieved on April 2<sup>nd</sup>, 2004. Information for Appendix F retrieved from <http://www.dbrs.com/> on April 2<sup>nd</sup>, 2004.

<sup>10</sup> Information obtained from: Best, Patricia “Institute of Directors”, Volume 39, (8). March 1986. Page 40.

challenge of expansion through acquisition and investment without loss of control. He responded in three ways: reduction of costs, debt-funded acquisition and use of a pyramid structure that featured differential voting stock.

Conrad Moffat Black, born into a wealthy Canadian family lived well in the Montreal region of Quebec as a child. As a young man he had a history mixed with high performance (academic study which resulted in Bachelors and Masters Degrees in history, as well as a law degree) as well as bending of school rules, having been expelled as a result of distributing examination answers for profit. His penchant for business and success led to his work as a newspaper proprietor leveraging stakes in some of Canada's largest retailing, manufacturing and resources companies. His early career as a proprietor was marked by strong antipathy to journalists and an aptitude for stripping out costs, as most newspaper operations were ailing at the time of acquisition, yet enjoyed monopoly or duopoly positions in their respective local markets.<sup>11</sup>

During the early 1990's, the Hollinger group controlled over four hundred newspapers, however Black's North American empire slipped toward the end of the decade. Hollinger International reported a net loss of US\$335 million in 2001 and US\$238 million in 2002. In November 2003, following several months of speculation that HLR faced a financial crisis, Black resigned as chief executive of the group amid suggestions that some fees had been unorthodox and not properly disclosed. Resignation coincided with announcement that the group was seeking advice about sale of assets. In January 2004 Black lost support of the Hollinger International board and resigned from his position as chairman. Currently, Black is facing a maximum of 95 years in jail and is charged with mail fraud, wire fraud and racketeering, amongst others. The implications and impact of the Hollinger scandal are striking both in their scope and their range, in addition to the incisive judgment it makes on business leadership, ethics and public and private behaviour. What exactly did happen to Lord Conrad Black? The world looked on.

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<sup>11</sup> Information outlined by McClearn, M. (February 15<sup>th</sup>, 2004). "On the Hook". Canadian Business, 77, (3). P. 25.

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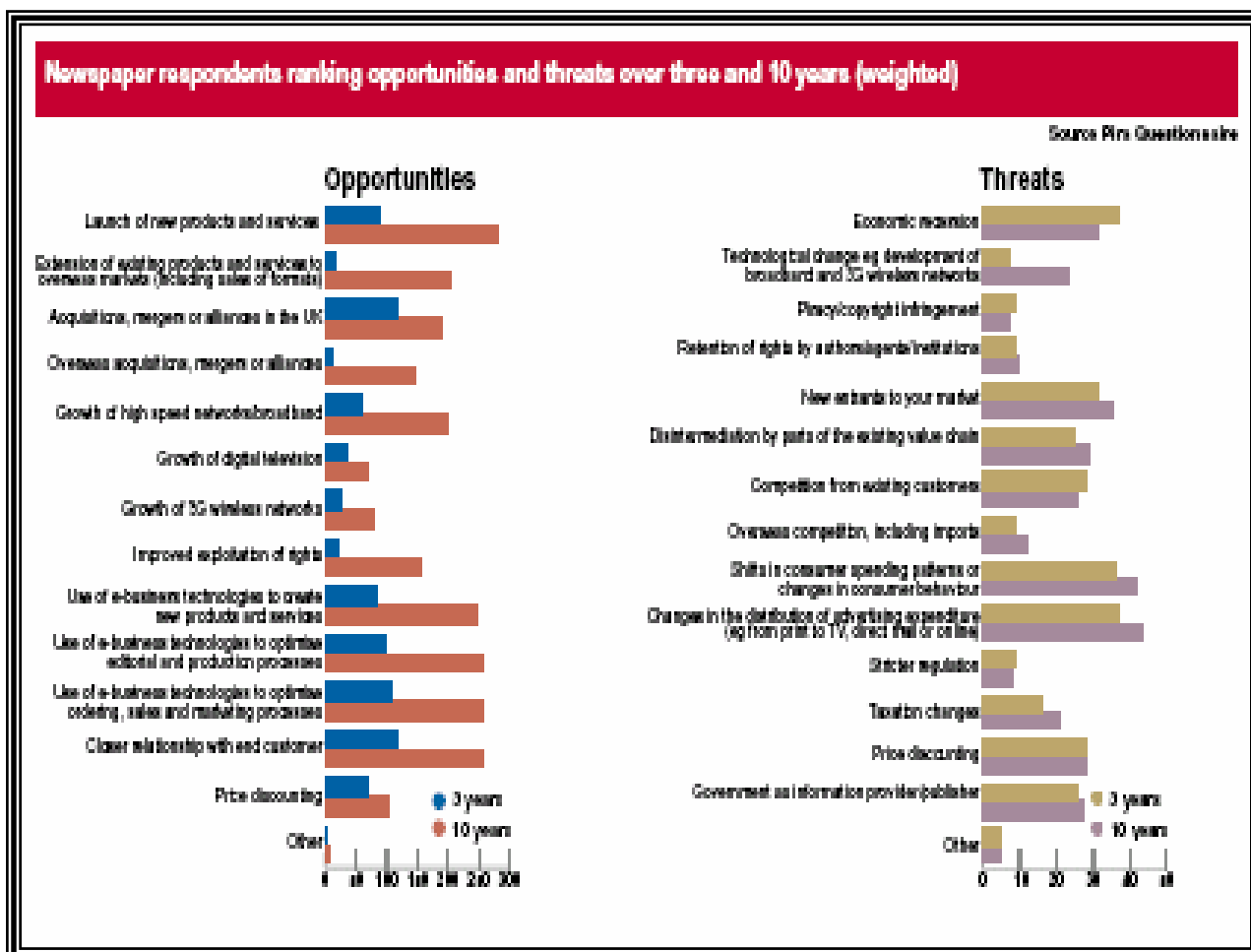
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## Appendix A

### Reviewing the Opportunities and Threats over a Three and Ten-Year Horizon



## Appendix B

### A Direct Financial Comparison of Hollinger International and Its Industry

DIRECT COMPETITOR COMPARISON					
	HLR	Pvt1	GCI	TRB	Industry
Market Cap:	1.54B		23.87B	16.16B	866.27M
Employees:	5,610	18,565 <sup>1</sup>	51,000	23,900	2,00K
Rev. Growth (ttm):	-12.20%		1.20%	2.50%	0.60%
Revenue (ttm):	1.04B	3.22B <sup>1</sup>	6.71B	5.59B	442.69M
Gross Margin (ttm):	39.77%		48.88%	52.18%	54.34%
EBITDA (ttm):	102.47M		2.20B	1.54B	102.47M
Oper. Margins (ttm):	4.59%		29.79%	23.62%	12.21%
Net Income (ttm):	-59.52M	100.60M <sup>1</sup>	1.21B	872.93M	20.15M
EPS (ttm):	-0.601		4.456	2.609	0.40
PE (ttm):			19.76	19.84	25.08
PEG (ttm):	8.54		1.78	1.82	1.85
PS (ttm):	1.49		3.57	2.91	2.16

Pvt1 = Daily Mail and General Trust PLC

GCI = Gannett Co Inc

TRB = Tribune Co

Industry = Publishing & Printing

<sup>1</sup> = As of 2003



## Appendix C

### Hollinger Incorporated Consolidates Income Statement

<b>Income Statement</b>	<b>Dec 02</b>	<b>Dec 01</b>	<b>Dec 00</b>
Revenue	1,051.5	1,206.3	2,126.0
Cost of Goods Sold	922.1	1,087.4	1,725.5
Gross Profit	129.4	118.9	400.5
Gross Profit Margin	12.3%	9.9%	18.8%
SG&A Expense	55.9	--	--
Depreciation & Amortization	55.9	--	--
Operating Income	73.5	(11.7)	(9.4)
Operating Margin	7.0%	--	--
Nonoperating Income	--	--	--
Nonoperating Expenses	130.2	--	--
Income Before Taxes	(56.8)	--	--
Income Taxes	78.7	--	--
Net Income After Taxes	(135.4)	--	--
Continuing Operations	(135.4)	--	--
Discontinued Operations	0.0	--	--
Total Operations	(135.4)	--	--
Total Net Income	(56.2)	(82.9)	126.3
Net Profit Margin	--	--	5.9%
Diluted EPS from Continuing Operations (\$)	--	--	--
Diluted EPS from Discontinued Operations (\$)	--	--	--
Diluted EPS from Total Operations (\$)	--	--	--
Diluted EPS from Total Net Income (\$)	--	--	--
Dividends per Share	--	--	--

All amounts in millions of US Dollars except per share amounts.

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**Appendix D****Hollinger Incorporated Consolidated Balance Sheet**

<b>Balance Sheet</b>	<b>Dec 02</b>	<b>Dec 01</b>	<b>Dec 00</b>
Assets			
Current Assets			
Cash	119.8	506.8	156.1
Net Receivables	225.2	226.6	304.4
Inventories	14.0	22.9	25.7
Other Current Assets	562.9	0.0	--
Total Current Assets	921.9	756.4	486.2
Net Fixed Assets	418.9	1,208.3	2,629.8
Other Noncurrent Assets	952.7	--	--
Total Assets	2,293.4	2,318.9	3,115.9
<b>Liabilities and Shareholders' Equity</b>			
Current Liabilities			
Accounts Payable	213.8	295.4	355.9
Short-Term Debt	118.8	87.7	217.0
Other Current Liabilities	944.3	--	--
Total Current Liabilities	1,276.9	674.6	920.9
Long-Term Debt	618.2	851.4	843.2
Other Noncurrent Liabilities	621.1	--	--
Total Liabilities	2,516.2	2,484.5	3,161.6
Shareholders' Equity			
Preferred Stock Equity	0.0	--	--
Common Stock Equity	(222.8)	--	--
Total Equity	(222.8)	(165.6)	(45.7)
Shares Outstanding (mil.)	--	--	--

Appendix E

**Hollinger Incorporated Statement of Cash Flows**

<b>Cash Flow Statement</b>	<b>Dec 02</b>	<b>Dec 01</b>	<b>Dec 00</b>
Net Operating Cash Flow	94.8	(210.5)	19.3
Net Investing Cash Flow	(11.9)	711.8	1,137.9
Net Financing Cash Flow	(476.5)	(150.5)	(1,046.3)
Net Change in Cash	(391.6)	359.8	106.4
Depreciation & Amortization	55.9	--	--
Capital Expenditures	(40.3)	(57.4)	(75.2)
Cash Dividends Paid	(41.1)	(92.2)	99.8

*Historical Auditors*

<b>Auditor Name</b>	<b>Year</b>
KPMG LLP	2002

ASB 2006  
Sackville, New Brunswick

Christina Waddy (student)  
Elizabeth Kelley, Assistant Professor  
Tim Schmitt (student)  
Ke Yang (student)  
Shiv Sadhu (student)  
School of Business Administration  
Dalhousie University

## **A TALE OF TWO GENERATIONS: MOTIVATIONAL ISSUES**

Motivation of employees in the Public Service can be challenging; when combined with the effects of generational differences, the level of challenge increases. This case explores how managers in this situation might deal with these issues.

### **Leigh's Problem**

Leigh is faced with a difficult employee management issue as the spring of 2006 approaches. She has been a research scientist for over thirty years at the Department of Fisheries and Oceans (DFO), a division of the Government of Canada that is focused on scientific research involving Canada's oceans and inland waters. The DFO has thirteen research facilities in Canada and over 2000 employees, in positions such as scientists, engineers and technicians (Fast Facts, 2005). Employees at the DFO are members of either the Public Service Alliance of Canada union or the Professional Institute of the Public Service of Canada union.

Last October, a technician working for Leigh took maternity leave and a summer student, Kate, was moved into the position after competing successfully for the 1-year term job. Kate, aged 22, was enrolled in a local undergraduate program, and had worked for the DFO for the past three summers. Her duties included feeding fish, cleaning the tanks and wet labs, and other physical labour related to the care and maintenance of fish and the fish holding facility. During her summer employment, Kate was closely supervised and given assigned tasks each day. She enjoyed her job, and was extremely good at it.

In this location of the DFO, there are five senior scientists, each involved in a variety of projects that require different levels of work at different times. Instead of one technician being assigned to each scientist, a technical pool was created. The scientists can draw from this pool when their research requires an increased amount of labour. On paper, the seven people in this pool report directly to a senior technician, but in reality they generally spend 75% of their time with a particular scientist, and the other 25% is divided up when other scientists need them. This system works extremely well because each of the five scientists have live fish that need to be fed and checked during weekends and holidays, and this way only one technician needs to come in to handle all the projects, rather than seven different researchers having to come in for a half hour each weekend.

The position to replace the maternity leave researcher is at a higher classification than the summer job, and involves greater responsibility, such as in-depth analysis and report writing that will eventually be used as a first draft of papers published by the scientists. This position is highly independent, the technician being left on his/her own most of the time, and given the flexibility to think

creatively about his/her research and explore different options that are then presented to the scientist and often incorporated into research plans. In the past this has led to new and innovative thinking surrounding the projects, and the technician has been given the opportunity to have his/her name published on the reports.

Kate is still working on her undergraduate degree, and she has been using one of the research studies she was involved in as credit for a course on research methods. To complete the course she is required to present a seminar on the research and write a comprehensive report. Kate's plan was to write one report to cover the requirements of her DFO supervisor and her course. When Kate moved into this new position, Leigh started to notice changes in her performance. Kate continued to be very good at caring for the fish and doing work that involved physical labour. The other portion of the work involved recording and analyzing data, and writing a report every three months summarizing the progress of the research project, including a literature review and discussion of the results. Kate did not enjoy sitting at a computer and refused to work on the report. When this first started to occur, Leigh assumed that Kate was simply a slower worker than the technicians in the past, and gave her less work to do so she could catch up. This complicated the problem because Kate became more and more bored as she put off the writing and had less physical work to perform.

If Kate did not like a certain aspect of the job, she simply did not do it. For example, Leigh informed Kate that instead of going out on the boat for the day to collect fish for feeding, she would be required to stay and work on the report that was due at the end of March. Kate responded by saying that she liked going out on the boat, and that was what she was going to do. This was further complicated by personal issues that Kate experienced shortly after starting her new position. Her father passed away under tragic circumstances, and it appeared as though Kate had not taken any time to properly grieve. When this happened Leigh went easier on her, let some deadlines pass, and tried to help her by informing her of the Employee Assistance Program or other people she could contact to help.

Leigh admits that there have been mistakes made in dealing with Kate's employment. It is likely that it was not made completely clear to Kate that the maternity position would not be identical to her summer jobs. Leigh is very passionate about her job, and has trouble understanding that someone would not enjoy taking on greater responsibility and have the opportunity of potentially being published. It has gotten back to Leigh that Kate has been telling other employees how unhappy and bored she is with her job. This is embarrassing to Leigh as she thinks that this technical position is an interesting one. She prides herself on being a manager who makes the job challenging, so that employees can take a real interest in the research and make valuable contributions. She gives her staff the opportunity to attend conferences, present seminars and be acknowledged as important members of the research team.

In order to combat this problem, Leigh has tried several things. She spoke with Kate about the importance of writing, and explained that at the beginning of her own career, she did not enjoy writing but learned to overcome it and enjoys it now. Kate's response was that she was not worried about having to write. Leigh eventually approached her own boss, and spoke to him about the problems with Kate. The three had a meeting, and afterward, Leigh's boss said he could not believe Kate could be so flippant about her responsibilities. When Leigh asked Kate about comments made about how she feels about her job, Kate admitted that she said she is unhappy with what she has been doing.

It is now spring, and soon the type of physical work that Kate enjoys will increase in volume. She will still need to write the reports that she has, to this point, refused to do. To take away the report writing is not a feasible option as Kate is the main technician directly working on these projects, and is the one with the most direct understanding of the research. It is difficult for a new person to look at all the data that may or may not have been collected and analyze it properly. At this point, Leigh wants Kate to do the work that is asked of her and have respect for her superiors. Leigh finds it frustrating to be treated by her

employee with such disrespect and feels as though she is in a constant battle. Kate needs to learn that not all jobs are going to be perfect, and sometimes she will need to do work that she does not enjoy.

Leigh wants Kate to recognize that this type of attitude will not serve her well in future jobs and that she will need to be more flexible. It is particularly frustrating as Kate can be a very nice person. She volunteers to look after Leigh's cat, for example, whenever she hears that Leigh will be going away. She just does not seem to understand that when you are paid to do a job, it is not acceptable to tell your boss that you do not analyze data and you do not write reports.

The Government has an annual review system, but this is not tied into performance in any way. Salary increases are automatic every year, according to specific pay bands. Leigh has no flexibility with regards to the reward system. The HR department for this division of the DFO is centralized in another province. Generally the termination of an employee in the Government is very complicated, but since this is a maternity position Kate could be terminated with only two weeks notice. Hiring new employees is a long process. It can take anywhere from three to four months to hire a new person, and then the training involved is very time consuming. The maternity leave is completed in eight months time, and therefore hiring a different person for this position is not a viable option.

### **Kate's Point of View**

An interview with Kate revealed a different point of view. Kate feels that she has far too much time to do her job - in the summer she is kept busy because there is more labour required, but in the winter there was not enough to do. Kate mentioned that she would complete all of her required work, as well as other tasks such as extra cleaning, and then struggle to fill her day.

She also feels like her boss, Leigh, micromanages her. For example, Leigh has emailed Kate asking for the temperature in one of the greenhouses, and when Kate did not reply within fifteen or twenty minutes, Leigh called and asked the same question. Kate does not feel that there is any confusion about who her boss is, and that the technical pool operates correctly. She estimates that 50% of her time is spent with her direct supervisor, and the other 50% working in the technical pool. On the other hand, Kate wishes that Leigh would go directly to her sometime, rather than consult the technical pool advisor, who would then approach her.

Kate believes the problem is a result of how she moved into this position. Initially she was a summer student working under the person whose job she is now replacing. As a result, Leigh often has not given her the independence in her position. An example of this was given in regards to the research project. Kate felt that she should have been left on her own to write the report, only approaching Leigh if she had a question or concern. Instead Kate feels that Leigh has been too controlling. For example, when Kate pointed out a certain way of approaching the project, she was told that it was wrong and that it would have to be done another way.

There are no long term prospects in this position, and Kate is not interested in the possibility of having a career in this field. After working full time, she realizes that it is not what she wants to do. When asked what motivated her to do her job, she said pay, and also the animals' need for care. She feels that the rewards she is receiving, in terms of salary, are enough. Kate has found that the biggest challenge in her job is sitting there until 4:30 every day, because she is bored and does not have enough to do. She does not feel that there is a sense of accomplishment in this position. Often her time is spent wondering why she is there, if there is not enough work for her to do. When asked what could be done to improve her job, Kate stated that she would enjoy working with people in other sections, or performing tasks that were more challenging.

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### **Sea Sun Kayak School and Adventures<sup>i</sup>**

Alan Mackenzie slowly let out his breath as he glanced over the papers scattered across his desk.<sup>ii</sup> He'd been shuffling them around for the better part of an hour, and wasn't sure if he was any further ahead than when he had started. "I've worked these kinds of problems out in finance class," he thought. "But this is the real deal... I can't afford to screw this up."

He picked up a page covered with hastily scribbled notes he had taken during a meeting with Jordan Ingersoll and Geoff Conway. "I'm not even sure these guys know what they're getting into... I mean, what do they know about kayaks? For that matter, what do I know about kayaks?"

Alan leaned back in his chair and stared at the street outside his window as he mulled the problem over in his mind.

#### **Alan Mackenzie**

Alan Mackenzie was born and raised in Grantville, Cape Breton, but had moved to Halifax to attend Dalhousie University. Although he had started out as a history major, a part time job as a customer service representative at the Royal Bank had piqued his interest in business. He graduated with a Bachelor of Commerce degree in 1994 and went to work for the Bank full-time, landing an entry-level position in small business account management the next year.

The completion of an MBA from Saint Mary's University in 1998 helped Alan to discover an entrepreneurial bent that had until then been unknown. At the urging of one of his closest friends, he impulsively quit his job at the Bank and registered Mackenzie Business Consultants (MBC) – a sole-proprietorship offering a variety of services to small and medium sized enterprises. Persistence paid off, and Alan soon found himself with a small book of clients for whom he had done everything from preparing business plans to filing tax returns.

One frosty morning in March 2001 Alan received a phone call from one of his friends, who explained that two of her acquaintances were interested in buying an "ecotourism business." They had received a package of information from the owner, but were unsure of whether or not the company was "a good deal."

#### ***An Option to Buy***

Alan had met with Jordan Ingersoll and Geoff Conway at a Tim Horton's coffee shop in Timberlea, a community just outside of Halifax. As he greeted them, Alan was immediately struck by how different each appeared. Both were in their early twenties, but that's where the similarities seemed to end. Jordan was tall and heavy-set with curly red hair and beard, and plenty of piercings. Amid sentences punctuated with "dude," "sweet," and "righteous" he explained that he was an avid



skateboarder and extreme mountain biker. Geoff on the other hand seemed quieter and more reserved. The computer programmer explained that he and Jordan had grown up together and had both recently married their high school sweethearts.

As they sipped their coffee, the two explained that they had been looking for a business opportunity to provide (a) Jordan with employment and (b) Geoff with a supplement to his income. Jordan indicated that he would be content with an income around \$10,000 annually for the first few years of business given that his wife had full time employment. Geoff explained that he'd like to see "a decent return" on his investment, although he was aware that "long term gain may require some short term pain." In terms of capital to invest in a business, Geoff told Alan that he had approximately \$5,000 in savings and that his mother and father were willing to put up \$15,000 as an interest free loan repayable when possible. Geoff explained that any additional funds would be borrowed from a bank, as Jordan's investment would be "sweat equity."

Jordan and Geoff had come across a number of businesses for sale in the Halifax area, but one in particular had stood out – Sea Sun Kayak School and Adventures. The owner, Rob Girard, had quoted a price of \$93,000 for the business, but Jordan and Geoff were unsure as to whether this was too much to pay for the operation. "It's an awesome business dude," Jordan had said. "But man - that's a flippin' lot of mazuma!"

Geoff explained that they had met with Rob earlier that week, and that he had given them an overview of the business along with financial reports outlining how the business had been doing.

### **Sea Sun Kayak School and Adventures**

Rob Girard grew up in Lake Echo, Nova Scotia, a small community about 20 km east of Halifax. Lake Echo was home to the Orenda Canoe Club, where Rob discovered a love of paddling at an early age. While in high school, he developed a love for the stories of the Voyageurs, who had paddled their way west as they opened up the Canadian frontier, and would spend hours planning his own paddling trips down to the minutest detail.<sup>iii</sup> He dreamed of one day being in business for himself, sharing his love of paddling and the tremendous natural beauty of Nova Scotia with others.

Upon graduation Rob set about making his dream a reality. In 1995, with a bit of seed money derived from coaching activities, he purchased two kayaks and founded Sea Sun Kayak School and Adventures. Using his connections in the Halifax athletic community, Rob secured space at the Saint Mary's Boat Club on the city's scenic Northwest Arm of the harbour. With a website<sup>iv</sup>, contacts at local retailers that catered to the outdoor lifestyle, and word of mouth, Rob found the business growing quickly and – while essentially seasonal in nature – generating a level of profitability that he considered to be quite acceptable.

Rob considered the key to success in a sea kayaking operation to be the ability to offer a broad range of services to an adventuresome clientele that was looking for something a little bit different at a fair price. Accordingly he had broken the company's offerings up into four categories.

<b>1. Instruction</b>	<b>Price K1</b>	<b>Price K2<sup>v</sup></b>
(a) Sea Life (full day all-inclusive introduction to sea kayaking)	\$269	\$220
(b) Stars ‘n Phosphorescence (24 hour overnight intro to sea kayaking)	\$199	\$179
(c) Advanced Strokes	\$65	-
(d) CRCA Level 1 and Flatwater Skills	\$199	-
(e) Guide Training (Fall or Winter class)	\$995	-
(f) Introduction to Sea Kayaking (half day)	\$57	\$57
(g) Kayak Rolling	\$75	-
(h) PEP – Powerful, Efficient Paddling	\$65	-
(i) Private Lessons	\$50	-
(j) Rescue Training	\$65	-
(k) Wilderwomen Kayak Training Part I (2 days)	\$275	\$235
(l) Wilderwomen Kayak Training Part II (2 days)	\$275	\$235
(m) Youth Kayak School	\$188	-

Rob felt that kayak instruction was an important way to give back to the pastime that had given so much to him. By training others to become proficient paddlers, the perception of sea kayaking as a safe and fun pursuit would be enhanced and more people would be drawn to participate. Courses had historically been a financial mainstay for Sea Sun, largely due to the fact that they could be offered year round by taking advantage of local swimming pool facilities.

While Rob provided many of the courses himself, he also employed a number of seasoned paddlers on a contingency basis, who also assisted in the provision of tours. He took pride in the fact that the members of his “Sea Team” were accomplished and certified sea kayakers, trained in Wilderness First Aid, CPR, and had completed CRCA<sup>vi</sup> Instructor and Guide training. Rob felt that safety and professional competency were two key factors that differentiated Sea Sun from other competitors.

## 2. Tours

	Price K1	Price K2
(a) Harbour Hopping Tour (2 days)	\$269	\$220
(b) Seafari (full day)	\$99	\$79
(c) Sea Quest (half day)	\$65	\$65
(d) Serenity (2 days)	\$199	\$179
(e) Sea Quest Group Tour (4 hours)	\$40	\$40
(f) Sea Life Group tour (6 hours)	\$69	\$69
(g) Sea Traveler (6 hours)	\$99	\$89
(h) Island Cruisin' (3 days)	\$399	\$399
(i) The Honeymoon Suite (6 hours)	\$200	\$200
(j) Kayak Fishing Trips (6 hours)	\$99	\$99

Rob enjoyed the tour aspect of the business the most as it provided him with the opportunity to relive the Voyageur dreams of his youth. Scenic paddling opportunities in and around Halifax Harbour abounded, and he felt that a combination of diverse tour offerings, location, and competitive price positioned Sea Sun very well with respect to its competitors. While seasonal in nature, tours had historically provided a dependable revenue stream for the business.

## 3. Rentals

### Single Sea Kayak

Hourly	½ Day	Full Day	2 Days	3 Days	4 Days
\$12.50	\$40.00	\$58.00	\$100.00	\$125.00	\$150.00*

### Double Sea Kayak

Hourly	½ Day	Full Day	2 Days	3 Days	4 Days
\$12.50	\$40.00	\$58.00	\$100.00	\$125.00	\$150.00

### Single White Water Kayak

Hourly	½ Day	Full Day	2 Days	3 Days	4 Days
\$12.50	\$40.00	\$58.00	\$100.00	\$125.00	\$150.00

*All rentals include the necessary daylight Coast Guard approved equipment requirements.*

\* Rentals over 4 days charged at \$30 per day.

Rentals typically provided Sea Sun with its third largest source of revenue. From Rob's perspective, Nova Scotia was a province blessed with an abundance of paddling clubs and paddlers, and he sought to exploit that fact by providing quality boats to qualified adventurers. During the peak summer months of July and August Sea Sun could count on steady rental business throughout the week, with good rental traffic on weekends during the "shoulder" months of May, June, September, and October.

#### **4. Programs**

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- (a) 50% Fridays
  - (b) Group Paddling Socials (8 persons or more)
  - (c) Birthday Parties (8 persons or more)
  - (d) Corporate Tours
  - (e) Monday / Wednesday Night Social Club
  - (f) Self-Guided Kayak Adventures
  - (g) Sunset Paddle
  - (h) Volunteer "Sea Patrol"
- 

Rob considered Sea Sun's diverse program offerings an incremental source of revenue and in some cases didn't particularly care if they made money as long as they were fun to do and helped generate goodwill toward the business.

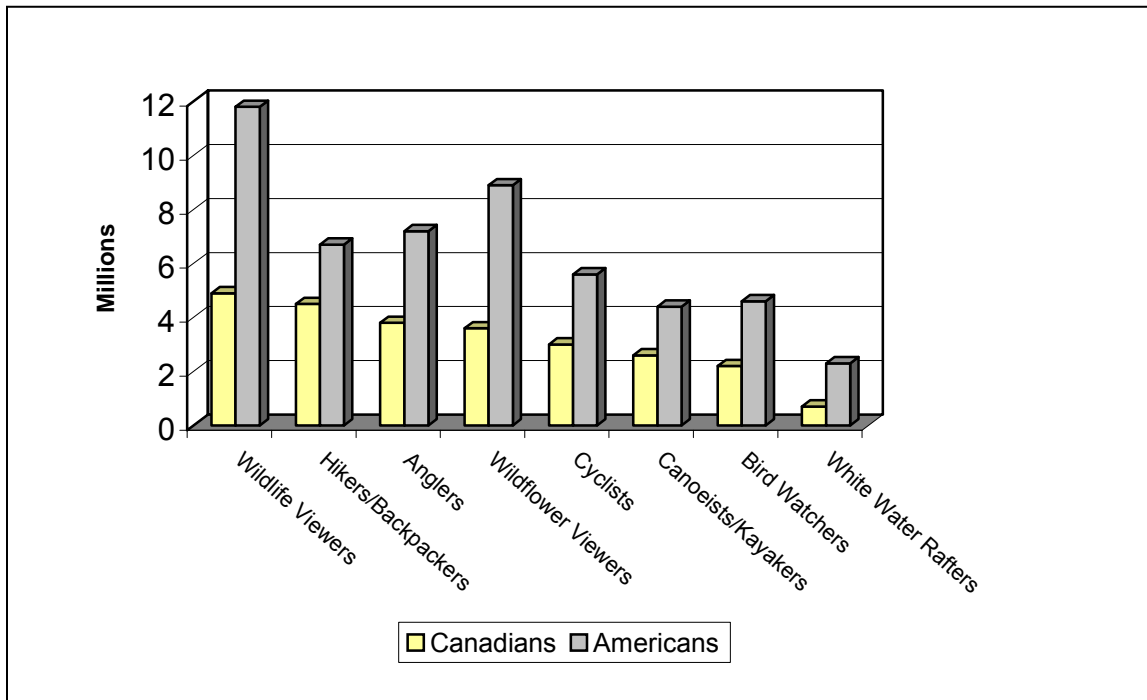
#### **The Sea Kayaking Industry**

Alan Mackenzie had come away from his meeting with Jordan and Geoff intrigued by the notion of purchasing Sea Sun, but quickly realized that neither he nor they had any real understanding of the market. Alan immediately went to work trying to track down information on what the marketplace looked like for businesses like Sea Sun. One of his first discoveries was that according to the Canadian Tourism Commission, Sea Sun was not an ecotourism operation, but an adventure tourism business.

*Ecotourism is travel that creates a high level of understanding and interpretation of cultural and natural history, while safeguarding the integrity of ecosystems. It produces economic benefits to local communities that encourage resource preservation and sustainable tourism development practices.*

*Adventure Tourism is an outdoor leisure activity that generally takes place in an unusual, exotic, remote, or wilderness setting, usually involving some form of unconventional means of transportation, and tending to be associated with low or high levels of physical activity. The activity may also entail some element of risk.*<sup>vii</sup>

Armed with that information, Alan had contacted the Halifax Canada Business Service Centre which was able to provide him with limited information regarding adventure tourism - specifically sea kayaking – most of which appeared to have originated from government research on the market in North America. One study suggested that there were approximately 7 million potential customers in North America who desired to engage in canoeing or kayaking experiences taking place in Canada<sup>viii</sup>. Of this number, 63% were American and 37% Canadian. The document went on to state that it considered the canoe / kayak segment of the tourism industry to be a niche market.



**Exhibit 1. Travel Activities and Motivation Study (TAMS) Activity Participants (1998-1999)**<sup>ix</sup>

	<b>Canadians</b>	<b>Americans</b>
<b>Gender</b>		
Males	54%	55%
Females	46%	45%
<b>Age (18+)</b>		
18-34	46%	29%
35-54	46%	48%
55+	8%	18%
Average Age	36 years	43 years
<b>Education</b>		
University Graduate	29%	42%
<b>Household Income</b>		
	CDN\$	USD\$
Under \$60,000	59%	43%
\$60,000-\$99,999	27%	33%
\$100,000	14%	23%
Average Income	\$59,000	\$71,600
<b>Household Composition</b>		
Adult Only	61%	61%
Teens/Children	38%	30%

**Exhibit 2. Demographic Profiles of Canoeists/Kayakers<sup>x</sup>**

Alan's research also showed that while significant numbers of tourists made Quebec, Ontario, and British Columbia a vacation destination, many canoeists and kayakers experienced a strong draw to eastern and western Canada. Among traveling Canadian canoeists / kayakers, 24% were drawn to Atlantic Canada. Among Americans, 11% were drawn to the region.<sup>xi</sup> Alan had little doubt that Nova Scotia's rugged coastline and picturesque seaside villages played no small role in attracting paddlers to the area.

In addition to the North American market, Alan learned that significant opportunity existed in two segments: (1) the European market, which demonstrated strong demand for adventure tourism (and specifically kayaking) in the Netherlands, France, and Switzerland, and (2) the female demographic, as research showed that women were playing a more important role in travel decisions than ever before.<sup>xii</sup> Other positives he felt made the industry attractive were its forecast growth. By 2025 the American

canoeist / kayaker market segment was predicted to grow by 24% to 5.5 million, while the Canadian market segment was expected to follow suit at a rate of 8% to 2.6 million.<sup>xiii</sup>

## **Market Competition**

Alan determined that the marketplace for adventure related operations such as Sea Sun was not particularly well developed in Nova Scotia, and that direct competitors were peppered geographically around the province. Rob Girard estimated that there existed seven operations<sup>xiv</sup> that competed more or less directly with Sea Sun, some of which were new entrants to the marketplace within the past two years.

### **1. Adventures East (Halifax, NS)<sup>xv</sup>**

<b>Services Offered</b>	<b>Price</b>
(a) Full Day Sea Kayaking (Prospect, NS)	\$89
(b) Sunset Kayak Tour (Prospect, NS)	\$49
(c) Day Adventures – Coastal Hiking (Duncan’s Cove, NS)	\$49
(d) Halifax Kayaking Adventure (3 days/2 nights)	\$219
(e) Prospect Kayaking Adventure (3 days/2 nights)	\$219
(f) Peggy’s Cove Kayaking Adventure (3 days/2 nights)	\$219
(g) West Dover Kayaking Adventure (3 days/2 nights)	\$198
<hr/>	
Other: ⇒ Established 1999	
⇒ CRCA certification	

## 2. Coastal Adventures (Tangier, NS)<sup>xvi</sup>

Services Offered	Price
(a) 7 Different Coastal Tours of NS (3 days – 7 days)	\$525 - \$1,450
(b) PEI North Shore Tour (5 days)	\$1,050
(c) Newfoundland Southwest Coast or Baie Verte Peninsula Tour (8 days)	\$1,750
(d) Quebec Lower North Shore Tour (8 days)	\$1,850
(e) All Women Tour (Tangier, NS)	\$525
(f) Day Trips (Tangier, NS) (half day / full day)	\$75 - \$100
(g) Instruction – Safety and Handling Clinics	\$80 - \$1,250
(h) Customized Tours	Various
(i) Kayak and Canoe Sales and Rentals	Various
(j) “Paddler’s Retreat” Bed and Breakfast (nightly)	\$45 - \$75

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Other: ⇒ Established 1982  
⇒ CRCA certification  
⇒ BCU certification<sup>xvii</sup>  
⇒ AECSKO certification<sup>xviii</sup>

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### 3. Coastal Spirit Expeditions (River John, NS) <sup>xix</sup>

Services Offered	Price
(a) The Adventurer (Pictou, NS or Rover John/Cape John, NS – 3 hours)	\$50
(b) The Explorer (Pictou, NS or Rover John/Cape John, NS – 5 hours)	\$95
(c) The Navigator (Pictou, NS or Rover John/Cape John, NS – 2 days)	\$285
(d) Bay of Fundy Tour (6 days)	\$1,045
(e) Cape Breton Highlands Tour (6 days)	\$1,045
(f) Cycling Tours of Cape Breton, NS	Various

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Other:   ⇒ Established 1999  
          ⇒ ACSKG certification<sup>xx</sup>  
          ⇒ SKGABC certification<sup>xxi</sup>  
          ⇒ AECSKO certification

### 4. East Coast Outfitters (Lower Prospect, NS; Mahone Bay, NS) <sup>xxii</sup>

Services Offered	Price
(a) Half Day Escape Tour (4 hours)	\$65
(b) Full Day Escape Tour (6 hours)	\$115
(c) Sunset Escape Tour (2.5 hours)	\$40
(d) Evening Specials (different activities each night – 2 hours)	\$25
(e) Paddling / Cycling Combos (half day / full day)	\$88 - \$138
(f) Half Day and Full Day Group Tours	Various

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Other:   ⇒ Established 2000

## 5. Freewheeling Adventures (Hubbards, NS) <sup>xxiii</sup>

Services Offered	Price
(a) NS Kayak, Bike, Hike Tour (Self-Guided / Guided – 6 days)	\$1,495 - \$1,795
(b) NS Inn-to-Inn Paddling Tour (Guided – 5 days / 7 days)	\$1,195 - \$2,295
(c) NS Kayak Camping Tour (Guided – 5 days)	\$1,195
(d) NS Bike and Kayak Tour (Guided – 2 days)	\$595
(e) Paddling Day Trips (Hubbards / Mahone Bay)	\$160 - \$225
(f) Kayak, Canoe, Wetsuit Rentals	Various

Other: ⇒ Established 1988

## 6. North River Kayak Tours (Baddeck, NS) <sup>xxiv</sup>

Services Offered	Price
(a) Half Day Tour	\$55
(b) Full Day Tour	\$99
(c) “Roughing It and Romance” Tour (overnight)	\$249
(d) Highland Getaway Tour (3 days)	\$649
(e) Kayak and Canoe Rentals (full day / half day)	Various

Other: ⇒ Established 1995  
⇒ CRCA certification  
⇒ BCU certification

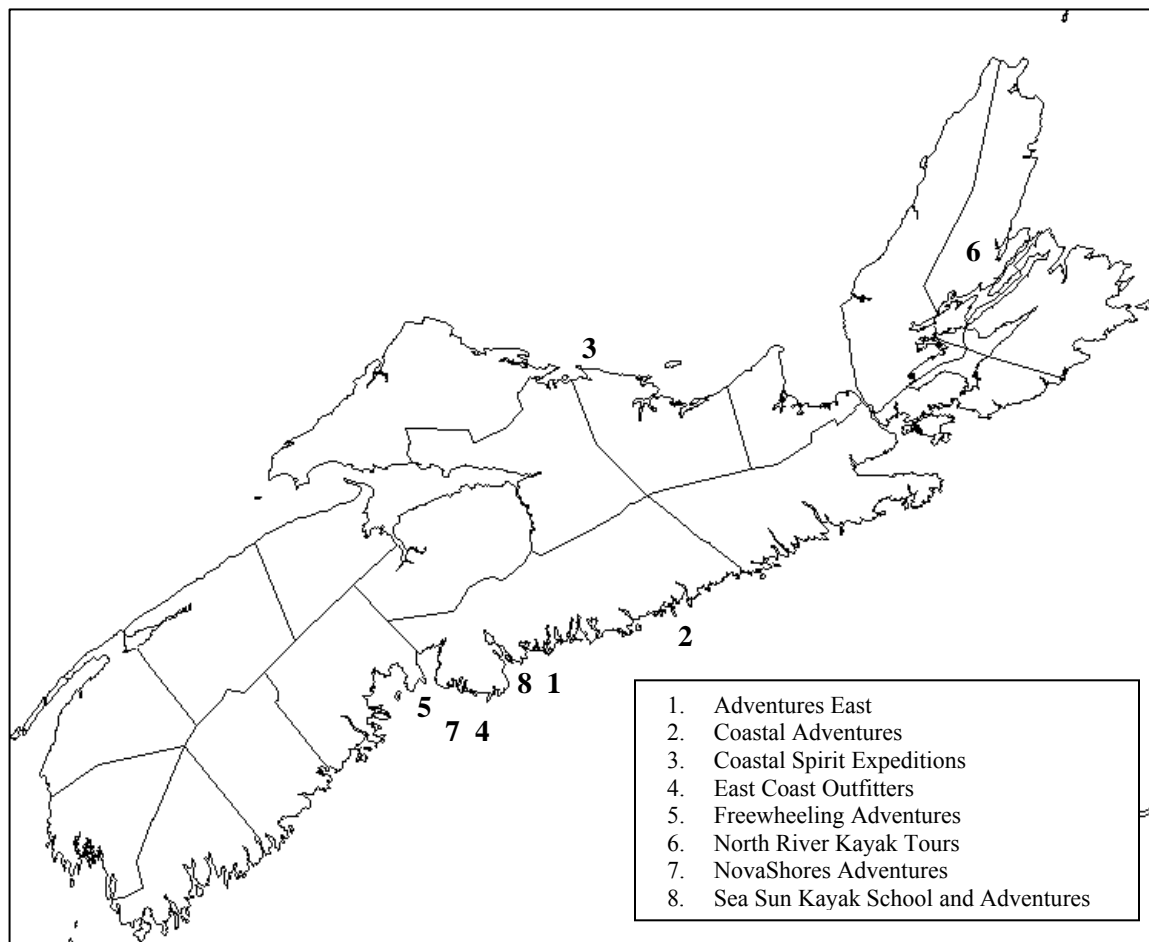
## 7. NovaShores Adventures (East Dover, NS) <sup>xxv</sup>

<b>Services Offered</b>	<b>Price</b>
(a) Bay of Fundy Day Tour	\$69
(b) Dover on the Rocks Tour (half day)	\$55
(c) Ocean View Island Exploring Tour (full day)	\$95
(d) Peggy's Cove Lighthouse Tour (full day)	\$95
(e) Sunset Dreamer Tour (2 hours)	\$45
(f) Custom Tours	Various
(g) Kayaks for Sale	Various

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Other:   ⇒ Established 2000  
          ⇒ CRCA certification

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**Exhibit 3. Geographic Location of Sea Sun and Competitors in Nova Scotia**

**The Sea Sun Prospectus**

Jordan and Geoff had provided Alan with a copy of the paperwork Rob had given them regarding the business – a “prospectus” as he called it. He had explained to the entrepreneurs that while he had enjoyed the business immensely, he was considering pursuing other interests in the Halifax area. Also, despite the fact that he was selling the business, he stated that he was “more than willing” to remain connected with Sea Sun in a training and advisory capacity.

The Sea Sun prospectus (Exhibits 4-7) consisted of four pages of notes Rob had compiled regarding the business and its growth, and pertinent financial data he considered important. Appended to the document was a copy of Rob’s T2124A Summary (Exhibit 8) from his 1999 personal income tax return. Rob had explained that while the prospectus had been prepared in October 2000, he had not done any business from that point on, choosing to take the fall months to relax and “shop the business around.” He had explained that the only material change to the information as presented was that two red Amaruk kayaks had been sold for \$1,650 each (Exhibit 6 items 20 and 21). He had also filed his tax return for the

2000 year in the interim, and included a copy of the T2124A Summary to provide, as he put it, “the most up to date picture as possible of how Sea Sun is doing.”

**Sea Sun Kayak School & Adventures, Halifax, Nova Scotia, Canada**

Sea Sun has completed its 5<sup>th</sup> year in business. Due to the growth of sea kayaking, we are moving forward into the year with great anticipation.

Please note that in the past Sea Sun had selected to try and expand its locations throughout the city, yet to ensure the quality organization of its programs and reduce overhead, these locations were closed and funneled into the successful Halifax location. This is reflected in the differences between the 1999 and year 2000 figures.

The next year will be run from the Halifax location at the SMBC<sup>xxvi</sup> where overhead is minimized, programs run efficiently and effectively, and population is maximized and familiar with our site. For further information, other than that provided below, please see our website.

	<u>Sales</u>				
	<u>2000*</u>	<u>1999</u>	<u>1998</u>	<u>1997</u>	<u>1996</u>
	(1 location)	(3 locations)	(2 locations)		
	\$55,226.00	\$81,892.00	\$31,466.00	\$20,214.00	\$12,089.00
	<u>Major Expenses</u>				
	<u>2000</u>	<u>1999</u>	<u>1998</u>	<u>1997</u>	<u>1996</u>
RENT	2000+15% of onsite activity	/	/	/	/
INSURANCE	\$1,700.00	\$2,500.00	\$1,800.00	\$900.00	/
Guides** & Supplies***	\$31,758.00	\$32,621.00	\$18,814.00	\$6,615.00	\$4,728.00
*For improved quality of services, it was decided to have just one location. Year 2000 was a very smooth, efficient year. **This includes amounts paid to guides/instructors, not including my draws.					
***23 kayaks were purchased during the 1999 and 2000 seasons.					
	<u>Net Profit</u>				
	<b>\$23,468.00</b>	<b>\$37,270.00</b>	<b>\$14,698.00</b>	<b>\$13,599.00</b>	<b>\$7,361.00</b>

**Exhibit 4. Page 1 of Sea Sun’s “Prospectus”**

**Breakdown of Profit Areas (last year)**

RENTALS:	\$13,008.00
COURSES (Day Trips):	\$26,270.00
EXPEDITIONS:	\$15,948.00

**Expeditions / Trips**

Sea Sun Kayak School & Adventures provides expeditions / trips from 2 hours to 4 days. Our guides / instructors (GI's) are very familiar with these areas and are all thoroughly trained and certified (CRCA) leaders.

**Courses / Clinics**

Courses: Our courses range from the very popular 3-hour introduction to sea kayaking, full day intro courses, rolls, rescues, Canadian certified courses from Level 1-3 (advanced), and run all season long. Winter pool courses take place / are promoted at the Dalplex<sup>xxvii</sup>, at Northcliff Pool (promoted by Sea Sun), and are described on our website. New courses are being added every year.

**Rentals**

Sea Sun provides club discounts to Sea Sun Members (course / trip graduates) of 10%. Sea Sun has a flexible rental program ranging from 1 hour to extended off-location rentals. Many of our customers are return renters and this is enhanced by pre-purchased *season passes* and the *Monday/Wednesday Night Social Club* where renters are anxious to get out on the water more frequently.

**Advertising**

A new brochure for the next season is underway which will promote the information outlined above, as well as the website which has succeeded in drawing in a large percentage of expedition profits through an on-line contact / registration process.

**Exhibit 5. Page 2 of Sea Sun's "Prospectus"**

**SEA\*SUN INVENTORY – FALL THIS YEAR**

<b><u>Boats</u></b>		<b><u>Replacement Value</u></b>
1. Sealution XS	(Yellow)	1,418.00
2. Sealution XS	(Blue)	1,418.00
3. Sealution II	(Red)	1,418.00
4. Dagger Seeker	(Red)	1,249.00
5. Dagger Seeker	(Purple)	1,249.00
6. Dagger Baja	(Red)	1,350.00
7. Dagger Baja	(Yellow)	1,350.00
8. Dagger Atlantis	(Turquoise)	1,500.00
9. Perception Carolina	(Grey)	1,115.00
10. Perception Carolina	(Green)	1,115.00
11. Perception Captiva	(Blue)	1,350.00
12. Perception Captiva	(Blue)	1,350.00
13. Perception Eclipse	(Red)	1,520.00
14. Lookshaw IV	(Turquoise)	1,450.00
15. Narpa	(Turquoise)	1,450.00
16. Kyook	(Orange)	1,300.00
17. Kyook	(Turquoise)	1,300.00
18. Zoar	(Red)	1,400.00
19. Zoar	(Yellow)	1,400.00
20. Amaruk	(Red)	1,650.00
21. Amaruk	(Red)	1,650.00
22. Amaruk	(Yellow)	1,650.00
23. Amaruk	(Orange)	1,650.00
<b>TOTAL (Boats Only):</b>		<b>\$32,302.00</b>

*Note: On October 1<sup>st</sup>, 2 kayaks will be sold (should an offer not be made by then for the company).*

**Exhibit 6. Page 3 of Sea Sun's "Prospectus"**

**OTHER EQUIPMENT**

	<u>#</u>	<u>Price</u>
Paddles:	28	2,240.00
Life Jackets:	30	1,350.00
Stoves:	5	240.00
Tents:	3	400.00
Survival Bags:	1	75.00
Dry Bags:	3	150.00
Computer:	1	200.00
Printer:	1	100.00
Cooler Bags:	10	150.00
Signs:	150	200.00
Fishing Rods/Gear:	2	60.00
Water Blasters:	2	40.00
Trailers:	2	1,500.00
Suburban:	1	2,500.00
Cutlery/Cooking Utensils/Pots:		300.00
Displays:	4	300.00
Sprayskirts:	28	2,240.00
Laminator:	1	70.00
Tarps:	1	10.00
Walkie Talkies:	2	100.00
Fridges:	2	300.00
Radio/Tapes/CD's:	1 dozen	100.00
Cordless Headset Phone:	1	50.00
Website and URL:		500.00

**Total present value of equipment (not including kayaks): \$13,175.00**

**Established Relationships:**

Trail Shop

Valhalla Pure

Lobster Tails

Ryan Island

Building/Location/ Return Customers

Dalplex

Dragon Boat Association

**TOTAL ASSETS: \$45,477.00**

**Sale Price: \$93,000.00**

**Exhibit 7. Page 4 of Sea Sun's "Prospectus"**



**STATEMENT OF BUSINESS ACTIVITIES**

**T2124A: COMPARATIVE SUMMARY**

<b>Income</b>	<b>1998</b>		<b>%Gross Income</b>	<b>1999</b>		<b>%Gross Income</b>	<b>%Change from 1998</b>
Sales, commis., fees	31,466	66	100.00	81,892	86	100.00	160.25
T4A Slips							
Sales taxes included							
Returns, allowances							
Last year's reserves							
Other income							
Gross income	31,466	66	100.00	81,892	86	100.00	160.25
<b>Cost of Sales</b>							
Opening inventory							
Purchases				18,123	73	22.13	
Sub-contracts	16,767	55	53.29	19,892	00	24.29	18.63
Direct wages							
Other costs				6,605	36	8.07	
Closing inventory							
Cost of sales	16,767	55	53.29	44,621	09	54.49	166.12
Gross Profit	14,699	11	46.71	37,271	77	45.51	153.56
<b>Expenses</b>							
Advertising	2,250	00	7.15	8,193	90	10.01	264.17
Bad debts							
Tax, fees, licenses	129	00	0.41	750	06	0.92	481.44
Delivery, freight							
Fuel							
Insurance	1,800	00	5.72	2,500	00	3.05	38.89
Interest				1,387	67	1.69	
Maint & repair	284	93	0.91	1,318	49	1.61	362.74
Mgmt & admin fees							
Allowable meals & Ent.	602	25	1.91	310	10	0.38	-48.51
Motor vehicle	2,046	07	6.50	9,557	78	11.67	367.13
Office expense	592	42	1.88	2,206	35	2.69	272.43
Supplies							
Professional fees							
Property tax							
Rent	2,900	00	9.22	11,203	21	13.68	286.32
Salaries/wages							
Travel				3,993	10	4.88	
Phone & Util.	2,148	39	6.83	4,537	22	5.54	111.19
Other expenses				165	00	0.20	
Allowance on ECP							
CCA Claimed	2,360	56	7.50	10,408	28	12.71	340.92

**Exhibit 8. Rob's T2124A Summary (1999)**

<b>STATEMENT OF BUSINESS ACTIVITIES</b>							
<b>T2124A: COMPARATIVE SUMMARY</b>							
<b>Income</b>	<b>1999</b>		<b>%Gross Income</b>	<b>2000</b>		<b>%Gross Income</b>	<b>%Change from 1999</b>
Sales, commis., fees	81,892	86	100.00	55,226	00	100.00	-32.56
T4A Slips							
Sales taxes included							
Returns, allowances							
Last year's reserves							
Other income							
Gross income	81,892	86	100.00	55,226	00	100.00	-32.56
<b>Cost of Sales</b>							
Opening inventory							
Purchases	18,123	73	22.13	14,178	00	25.67	-21.77
Sub-contracts	19,892	00	24.29	17,580	38	31.83	-11.63
Direct wages							
Other costs	6,605	36	8.07				
Closing inventory							
Cost of sales	44,621	09	54.49	31,758	38	57.51	-28.83
Gross Profit	37,271	77	45.51	23,467	62	42.49	-37.03
<b>Expenses</b>							
Advertising	8,193	90	10.01	3,748	18	6.79	-54.23
Bad debts							
Tax, fees, licenses	750	06	0.92	430	94	0.78	-42.67
Delivery, freight							
Fuel							
Insurance	2,500	00	3.05	1,700	00	3.08	-32.00
Interest	1,387	67	1.69	212	16	0.38	-84.73
Maint & repair	1,318	49	1.61	165	58	0.30	-87.48
Mgmt & admin fees							
Allowable meals & Ent.	310	10	0.38	557	26	1.01	80.00
Motor vehicle	9,557	78	11.67	4,180	03	7.57	-56.27
Office expense	2,206	35	2.69	318	81	0.58	-85.58
Supplies							
Professional fees							
Property tax							
Rent	11,203	21	13.68	3,951	51	7.16	-64.73
Salaries/wages							
Travel	3,993	10	4.88				
Phone & Util.	4,537	22	5.54	3,674	19	6.65	-19.00
Other expenses	165	00	0.20	86	14	0.16	-47.88
Allowance on ECP							
CCA Claimed	10,408	28	12.71				

**Exhibit 9. Rob's T2124A Summary (2000)**

## The Sea Sun Decision

Alan laid the eraser he had been tossing into the air back onto his desk and looked forlornly at the papers that lay before him. "I guess there are a number of issues to consider here," he thought. "At first blush the question is 'should they buy Sea Sun?', but I'm thinking there are more fundamental questions to be answered first."

He took off his glasses and rubbed the bridge of his nose. "This might take awhile," he thought.

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## ENDNOTES

<sup>i</sup> The authors gratefully acknowledge the cooperation of company ownership in the preparation of this case. Some data has been changed or distorted for confidentiality purposes.

<sup>ii</sup> Information for this case derived from personal interviews with parties involved and information provided by the company.

<sup>iii</sup> From Sea to Sun and Beyond

<sup>iv</sup> <http://www.paddlenovascotia.com>

<sup>v</sup> K1 and K2 denote one and two person kayaks (and thus one client or two clients)

<sup>vi</sup> Canadian Recreational Canoe/kayak Association

<sup>vii</sup> A Breath of Fresh Air: A Business Strategy for Outdoor Tourism Product Development in Canada

<sup>viii</sup> A Snapshot of the Canoeing and Kayaking Travel Market in North America

<sup>ix</sup> Ibid

<sup>x</sup> Ibid

<sup>xi</sup> Ibid

<sup>xii</sup> Outdoor Tourism: An Industry Profile and Resource Guide

<sup>xiii</sup> A Snapshot of the Canoeing and Kayaking Travel Market in North America

<sup>xiv</sup> [http://www.kayakonline.com/nova\\_scotia.html](http://www.kayakonline.com/nova_scotia.html)

<sup>xv</sup> <http://www.aek.ca>

<sup>xvi</sup> <http://www.coastaladventures.com>

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- xvii British Canoe Association  
xviii Association of Eastern Canadian Sea Kayaking Outfitters  
xix <http://www.coastalspiritexp.com>  
xx Association of Canadian Sea Kayak Guides  
xxi Sea Kayak Guides Alliance of British Columbia  
xxii <http://www.eastcoastoutfitters.net>  
xxiii <http://www.freewheeling.ca>  
xxiv <http://www.northriverkayak.com>  
xxv <http://www.novashores.com>  
xxvi Saint Mary's Boat Club  
xxvii Dalhousie University's athletic facility

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## LONG-TERM PERFORMANCE OF CANADIAN ACQUIRING FIRMS

This study investigates the long-term stock return and operating performances of Canadian acquiring firms in the post event period by using 1300 M&A events between 1993-2002 period. We use both event-time and calendar-time approach to detect long-term abnormal stock return. Consistent with market efficiency hypothesis, we do not find any strong support for long-term abnormal return following an acquisition event<sup>1</sup>. We also do not find any improvement in long-term operating performance once we use matching firm approach.

### 1. Introduction

Over the last two decades Mergers and Acquisitions (M&A) related issues have drawn considerable interest from practitioners and academicians. As a result, scores of empirical studies have documented various aspects of M&A activity including trends in M&A activity, characteristics of the transactions and corresponding gains or losses to shareholders. The reasons for this continuing interest in this field are twofold. **First**, there is still a lack of consensus on a number of issues such as long-term performance, short-term gain to acquiring<sup>2</sup> firms, impact of governance issues, relation between performance and characteristics of targets and bidders etc. **Second**, there have been significant changes in Mergers and Acquisitions market over last two decades, which includes: shifted focus from unrelated to related targets, gradual changes in modes of payment, increasing evidence of friendly mergers as opposed to takeover bids, deregulation in certain industries, increased level of foreign competition and renewed focus on corporate governance issues; this has resulted in analysis with a much broader focus.

In addition, it must be noted that many of these studies have been in the U.S. context; and Canadian studies are very limited. The previous studies using Canadian data include studies by [Eckbo \(1986\)](#), [Eckbo \*et al.\* \(1990\)](#) and [Eckbo & Thorburn \(2000\)](#), who investigated M&A issues during 1964-1983 period; mostly focussing on the gain/ loss to the bidders and target companies subsequent to M&A, medium of exchange in takeovers and related consequences, and gain/ loss to the foreign bidder vis-à-vis a domestic bidder. [Smith and Amoako-Adu \(1993\)](#) look into the impact of exempt takeover offers on shareholders' wealth with a sample of 56 deals during a period between 1980 and 1989. [St-Pierre \(1994\)](#) investigated the takeover bid resistance and the managerial welfare hypothesis by considering 101 cash tender offers during the period 1978-1987. Recently, [Andre \*et al.\* \(2004\)](#) investigate the long-term performance of Canadian acquirers and report significant underperformance. However, the sample size is quite limited (143 events for non-overlapping stocks) in this study. Further, [Yuce and Ng \(2005\)](#)

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<sup>1</sup> We only find long-term positive abnormal return for relatively larger acquisition deals.

<sup>2</sup> In this study we use 'bidder' and 'acquirer' interchangeably, as we consider only the completed deals in the analysis.

investigate the short-term stock return performance of targets and acquiring firms around the announcement date and report significant positive abnormal returns for both groups.

Given the controversies surrounding the long-term performance results reported in the extant literature and limited empirical evidence with Canadian data, this study investigates the long-term stock return and operating performance of Canadian acquiring firms in the post event period using a much larger sample and over a significantly longer time period. Consistent with the viewpoint of [Fama \(1998\)](#) and [Mitchell and Stafford \(2000\)](#), we do not find any significant long-term abnormal return for Canadian acquirers, once we account for methodological discrepancies.

Remainder of the paper is organized as follows: section 2 presents the literature review, section 3 presents data and methodology, section 4 includes results and discussions, and finally, section 5 presents summary and conclusions.

## 2. Literature Review

While majority of the existing empirical evidence focuses on the stock returns surrounding announcement dates, a smaller body of research has examined long-run post acquisition returns<sup>3</sup>. It can be seen that most of the long-term studies conclude that acquiring firms experience significant negative abnormal returns over one to three years after the merger ([Agrawal et al. 1992](#); [Asquith 1983](#); [Andrade et al. 2001](#); [Gregory 1997](#)). However as early as in 1991, [Franks et al.](#) point out that such negative abnormal return could have resulted from benchmark errors rather than systematic mispricing by investors. [Loughrun and Vijh \(1997\)](#) have given impetus to this debate again by using BHAR (Buy and Hold Abnormal Return) technique for the first time in this area and report a significant negative long-run abnormal return following M&A. In a recent study, [Mitchell and Stafford \(2000\)](#) show that after correcting for methodological errors and considering cross-sectional dependence, no significant abnormal returns are observed using BHAR (Buy and Hold Abnormal Return) methodology. Negative abnormal returns for the acquiring firms are also viewed quite critically by the practitioners and academicians for the following compelling reasons:

*First*, neo-classical economic theory assumes that corporate management acts to maximize the shareholders wealth ([Limmack, 1991](#)). It follows, therefore, that shareholders should not suffer wealth decreases as a result of their company acquiring other companies ([Limmack, 1991](#)).

*Second*, most research on mergers examines returns around announcement dates and over a very short period of time assuming that the announcement-period stock price reaction fully impounds the information effects of merger. This approach implicitly assumes that markets are efficient in immediately digesting the full impact of the acquisition in a very short time period ([Agrawal et al. 1992](#); [Andrade et al. 2001](#)).

Both the reasons stated above reinforce the argument that acquiring firms should not at least show any systematic underperformance in the long run. Therefore, long run underperformance by acquiring firms as reported in most of the relevant studies leaves us in a puzzling situation. It should be also noted that researchers have argued that negative long run performance could be observed due to following reasons as well: (i) motives of merger could be flawed or misrepresented ([Andrade et al. 2001](#)); (ii) operating performance following acquisitions could have been deteriorated and hence acquiring firms show negative performance in the long run ([Ravenscraft and Scherer, 1987](#)). However, the evidence of

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<sup>3</sup> A detail review of long-term performance studies involving acquiring firms is presented by [Agrawal and Jaffe \(2000\)](#).

underperformance in terms of operating activities is not one-sided (Healy *et. al.* 1992); (iii) methodologies used in detecting long run abnormal return could be flawed and are sensitive to using different types of approaches (Fama, 1998; Barber and Lyon, 1997; Kothari and Warner, 2005; Ikenberry *et al.* 1995; Lyon *et. al.* 1999; Mitchell and Stafford, 2000).

### 3. Data and Methodology

#### Data

This study considers all Canadian M&A deals that occurred between 1993 and 2002 and involve a TSX listed bidding company. We obtain our dataset from SDC Thomson Financial Database. Our data meet the following criteria: (i) deals are completed, (ii) acquiring firm is not from financial industry, (iii) acquiring firms with multiple acquisitions during 1993-02 period are considered, (iv) deals with all sizes of transaction value are considered<sup>4</sup>. Stock return data are collected from CFMRC database. Accounting information is collected from StockGuide database. Descriptive statistics of the sample are presented in table 1. Some of the important observations are as follows: (i) in line with the overall Canadian merger and acquisitions (M&A) activities<sup>5</sup>, we see in our sample that there is an increase in M&A deals between 1996 and 2000. Thereafter we observe a declining trend. (ii) Most of the deals are in minerals, manufacturing and service industry (table is not reported here).

#### Table 1. Yearly and sectoral distribution of Canadian Acquirers Listed on Toronto Stock Exchange

The sample size is 1300 acquisition events over 1993-2002 period by Canadian acquirers listed on TSX. The sample includes multiple acquirers. ‘Multiple acquirers’ refer to the acquiring firms that acquire more than one target in a calendar year. ‘Single acquirers’ acquire only one target in any calendar year.

#### Panel A. Number of acquisitions over 1993-2002 and corresponding transaction value

	# of Transactions	# of Acquirer	# of Single Acquirer	# of Multiple Acquirer	Total Transaction Value (in mil. Can\$)	Avg. Transaction Value (in mil. Can\$)
1993	93	70	57	13	4919.0	52.9
1994	105	82	67	15	9021.2	85.9
1995	107	78	63	15	7757.6	72.5
1996	139	100	73	27	7366.3	53.0
1997	159	127	101	26	11293.7	71.0
1998	160	109	81	28	40006.9	250.0
1999	135	105	84	21	30467.8	225.7
2000	150	107	85	22	54739.8	364.9
2001	134	100	75	25	18440.2	137.6
2002	118	90	71	19	18922.5	160.4
Total	1300	968	757	211	202934.9	156.1

<sup>4</sup> Out of 1300 events considered in the study only 88 cases have transaction value less than 1 million Canadian dollars.

<sup>5</sup> See Crosbie’s Annual Report 1993-2003

## Methodology

**Long-term stock return performance:** For long-term stock return performance analysis, we investigate 3-year stock return performance in the post event period starting from the effective date of a completed deal (Mitchell and Stafford, 2000; Andre *et al.* 2004). We use both event-time approach (buy and hold abnormal return) and calendar-time approach (F-F three factor regression) to mitigate methodological problems in reporting our results. Of these two methods, most criticisms are directed at event-time approach (Mitchell and Stafford, 2000). We take following steps to account for serious criticisms with respect to buy and hold abnormal return (BHAR) approach: (i) we use matching firm return as a benchmark (Barber and Lyon, 1997) along with other benchmarks, (ii) we use skewness adjusted ‘t’ statistics (Lyon, Barber and Tsai, 1999); and (iii) we make adjustment for cross-sectional dependence in the test statistics (Mitchell and Stafford, 2000)<sup>6</sup>. In the case of F-F three factor regression approach (calendar-time) we take following steps: first, we use three different samples with (i) all cases, (ii) non-overlapping cases<sup>7</sup>, and (iii) overlapping cases<sup>8</sup>, to isolate the effect of cross-sectional dependence (Mitchell and Stafford, 2000, Lyon *et al.*, 1999). Second, we use weighted least square (WLS) procedure to account for acquisition activity weights in different months and to mitigate the potential heteroskedasticity problem (Franks *et al.*, 1991, Andre *et al.*, 2004)<sup>9</sup>.

**Long-term operating performance:** Healy *et al.* (1992) use industry mean adjusted cash flow to total assets in the pre- and post-event period to investigate the improvement on operating performance of an acquiring firm. They compare the mean and median of industry mean adjusted operating performance for the pre- and post-event period in their study. Subsequently, Ghosh (2001) shows that it is inappropriate<sup>10</sup> to use industry mean adjusted operating performance to detect long-term abnormal operating performance and recommends a matching firm adjusted approach, instead. In this study we use both industry adjusted operating performance and matching firm adjusted operating performance methodology. In order to select a matching firm we follow a two-stage procedure. First, we find all TSX firms that have not made any acquisition during 1992 to 2003 period. Second, we perform an OLS regression considering all acquiring firms and matching firms. We regress firm’s return on equity on firm size and market to book value variables (Loughran and Vijh, 1997). Subsequently, matching firms are selected based on the nearest propensity score obtained by using the coefficients of firm size and price to book value factors. Further, as suggested by Healy *et al.* (1992) we use both ‘intercept’ approach and ‘mean comparison’ approach to detect the difference in pre- and post-acquisition operating performance.

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<sup>6</sup> Expression for skewness and cross-dependence t-statistics to be used in BHAR methodology is presented in [Appendix A](#).

<sup>7</sup> If a firm makes acquisitions within three years of a previous acquisition, the cases are considered ‘overlapping’ and deleted from this sample.

<sup>8</sup> Considered the cases when a firm makes one or more acquisitions within three years of a previous acquisition.

<sup>9</sup> However, there is no significant difference in result whether or not we consider WLS methodology while using value weight returns.

<sup>10</sup> Ghosh (2001) argued that methodology employed by Healy *et al.* (1992) is flawed at least for two reasons from an economic standpoint. First, he argues that generally larger firms make acquisitions within an industry segment and they are likely to be more profitable compared to the industry average benchmark just because of size effect (Fama and French, 1995). Second, acquiring firms generally make acquisitions following a period of above industry average performance.



## 4. Results and Discussions

### Long-term stock return performance

In the section, we present the long-term stock return performance for all acquiring firms covering 36-month post event period. Table 2 presents the results for BHAR analysis for all acquiring firms between 1993 and 2002. Six different benchmarks are used to calculate BHAR and illustrate the differences in results with respect to benchmark choice. We also calculate equal and value weight BHAR to show the impact of acquiring firms' size effect. As pointed out by Fama (1998), we see that (from table 2) long-term abnormal return results differ significantly with respect to our methodological choice. For brevity, we confine our discussion to BHAR6 (matching firm benchmark) with adjusted 't' statistics. This scenario (i) considers the appropriate benchmark with size and price to book value adjusted matching firm return (Loughran and Vjih, 1997), and (ii) accounts for skewness and cross-sectional dependence<sup>11</sup>. Both for equal weight BHAR (adj. t-stat is -0.88) and value-weight BHAR (adj. t-stat is 0.01) we do not find any significant long-term abnormal return.

**Table 2. Buy and hold abnormal return (BHAR) considering all acquisition cases**

'BHAR' is the buy and hold abnormal return based on the average difference in the compounded return performance between the included stock and the benchmark over a 36-month period starting after the effective month of acquisition. Value weight BHAR is calculated based on the market value weight of the acquiring firm at the effective date of acquisition. Depending on the benchmark, six different BHARs are calculated. BHAR1 uses equal weight matching firms' portfolio return as the benchmark. BHAR2 uses value weight matching firms' portfolio return as the benchmark. Matching firms are the TSX firms that did not make any acquisition over 1992-2003 period. BHAR3 uses TSX 300 index as the benchmark. BHAR4 and BHAR5 use equal weight and value weight CFMRC index returns respectively as the benchmark. BHAR6 uses individual matching firm return as the benchmark<sup>12</sup>. t-statistics and adjusted t-statistics are reported. Adjusted t-statistics accounts for skewness and cross-sectional dependence in stock returns.

#### EQUAL WEIGHT BHAR

	<u>BHAR1</u>	<u>BHAR2</u>	<u>BHAR3</u>	<u>BHAR4</u>	<u>BHAR5</u>	<u>BHAR6</u>
t-stat	-1.20	-0.76	-0.29	-0.71	-0.33	-0.26
Adj. t-stat	-30.44	-29.08	-11.12	-28.16	-12.35	-5.71
	-4.65	-4.44	-1.70	-4.30	-1.89	-0.88

#### VALUE WEIGHT BHAR

t-stat	-2.17	-1.23	-0.54	-1.07	-0.54	0.00
Adj. t-stat	-65.11	-70.17	-39.76	-68.52	-39.93	0.07
	-9.94	-10.71	-6.07	-10.46	-6.10	0.01

<sup>11</sup> Average cross-correlation coefficient value to be used in cross-sectional dependence correction and corresponding procedure are presented in appendix B.

<sup>12</sup> In order to select a matching firm we follow a two-stage procedure. First, we find out the TSX firms that have not made any acquisition during 1992 to 2003 period. Second, we perform OLS regression considering all acquiring firms and matching firms. We regress firm's return on equity on firm size and market to book value variables (Loughran and Vjih, 1997). Matching firms are selected based on the nearest propensity score obtained by using the coefficients of firm size and price to book value factors.

Table 3 presents the results for F-F three factor regression analyses with respect to equal-weight and value-weight monthly return (with weighted least square technique). For ‘all case’ scenario, the equal-weight (EW) 3-year acquirer portfolio exhibits significantly negative average abnormal returns: alpha = -0.004 per month, with a t-statistics of -2.25 (Panel A), while the intercept (alpha) in value-weight (VW) regression is not significant: alpha = -0.007 per month, with a t-statistics of -0.563 (Panel B). It appears that small acquirers are more likely to under-perform in the post-event period. These findings are consistent with earlier results reported by Mitchell and Stafford (2000), Brav and Gompers (1997), and Andre *et al.* (2004). In order to check the robustness of the results, further analysis is conducted based on deal size, as a number of studies have considered only specific deal sizes<sup>13</sup>. Results are organized under three categories based on the deal size: (i) less than 10 million Can\$, (ii) 10 to 100 million Can\$, and (iii) more than 100 million Can\$. Except for ‘EW less than 10 million Can\$ category’ (Panel A), we do not find any support for underperformance.

**Table 3. FF 3-factor regression with all cases**

We use Fama French (F-F) three factor regression to detect abnormal return. RMRF is the difference between monthly stock return portfolio and 91-day T-bill rate. SMB is the difference between the returns of small size firm portfolio and large size firm portfolio. HML is the difference between the returns of value firm portfolio and growth firm portfolio. Number of cases (with long-run return data) used in the analysis to calculate equal-weight and value-weight returns are 1077, 434, 408, and 235 for ‘all firm’, ‘less than 10m’, ‘10 to 100m’, and ‘more than 100m’ respectively. We use weighted least square (WLS) technique in the case of value-weight portfolio analysis, in which square root of the number of firms in each month is used as the weight in regression model. ‘Alpha’ value reported in the regression model indicates the monthly average abnormal return of the sample. Panel A presents the equal weight analysis results and panel B presents the value weight (with WLS) analysis results. t-statistics and significance levels are reported for each factor. Results are further organized into three categories based on deal size: (i) less than 10 million Can\$, (ii) 10 to 100 million Can\$, and (iii) more than 100 million Can\$.

**Panel A: Equal Weight Calendar-Time Portfolio**

	<i>Factors</i>				<i>Model Characteristics</i>		
	Alpha	RMRF	SMB	HML	Adj. R Square	F-stat	Sig.
<b>All Firm</b>							
Beta	-0.004	1.058	0.829	-0.074	0.822	220.124	0.000
t-stat	-2.250	21.236	11.895	-1.550			
Sig.	0.026	0.000	0.000	0.123			
<b>Less than 10m</b>							
Beta	-0.002	1.100	1.249	-0.098	0.767	156.482	0.000
t-stat	-0.832	16.651	13.506	-1.538			
Sig.	0.407	0.000	0.000	0.126			
<b>10 to 100 m</b>							
Beta	-0.006	1.049	0.741	-0.118	0.739	134.338	0.000
t-stat	-2.322	16.370	8.270	-1.925			
Sig.	0.022	0.000	0.000	0.056			
<b>More than 100m</b>							
Beta	-0.002	1.012	0.264	0.077	0.600	71.141	0.000
t-stat	-0.809	13.207	2.469	1.053			
Sig.	0.420	0.000	0.015	0.294			

<sup>13</sup> For example, Andre *et al.* (2004) have included only the deal sizes with more than 10 million Can\$.

## Panel B: Value Weight Calendar-Time Portfolio

	Alpha	<u>Factors</u> RMRF	SMB	HML	<u>Model Characteristics</u> Adj. R Square	F-stat	Sig.
<b>All Firm</b>							
Beta	-0.007	1.567	-0.652	-0.332	0.279	19.274	0.000
t-stat	-0.563	5.212	-1.547	-1.177			
Sig.	0.574	0.000	0.124	0.241			
<b>Less than 10m</b>							
Beta	-0.021	1.562	0.003	-0.167	0.284	19.787	0.000
t-stat	-2.078	6.164	0.008	-0.688			
Sig.	0.040	0.000	0.993	0.492			
<b><u>10 to 100 m</u></b>							
Beta	-0.010	1.614	-0.639	-0.315	0.268	18.182	0.000
t-stat	-0.777	5.068	-1.435	-1.068			
Sig.	0.438	0.000	0.153	0.287			
<b>More than 100m</b>							
Beta	-0.004	1.641	-0.789	-0.270	0.278	18.947	0.000
t-stat	-0.297	5.102	-1.790	-0.924			
Sig.	0.767	0.000	0.076	0.357			

Subsequently, in order to eliminate the cross-sectional dependence problem arising from the overlapping acquisition events by the same firm, we perform the F-F three factor regression results for non-overlapping cases; and the results are not significantly different and, therefore, are not reported here. In sum, by using event-time approach and calendar-time approach we do not find any strong support for long-term underperformance for acquiring firms in the post-event period<sup>14</sup>. The results are similar to that previously documented by [Mitchell and Stafford \(2004\)](#) and congruent with market efficiency perspective ([Fama, 1998](#); [Kothari and Brown, 2005](#)).

## Long-term Operating Performance

In this section we present the results for pre- and post-acquisition operating performance. [Table 4](#) presents the univariate results for both (i) industry adjusted, and (ii) matching firm adjusted operating performance. We use cash flow to total asset as a proxy for operating performance ([Healy et al. 1992](#), [Ghosh, 2001](#)). We find significant improvement in acquiring firms' operating performance while considering industry adjusted pre- and post-acquisition operating performance (mean difference is 0.013 and significance level is 0.001). However, we do not see any significant difference between pre- and post-

<sup>14</sup> By using Canadian sample [Andre et al. \(2004\)](#) reports long-term underperformance for acquiring firms for non-overlapping cases. However, their samples size is smaller (143) and they include financial firms in the analysis.

acquisition performance once we consider matching firm adjusted operating performance (mean difference is -0.006 and the significance level is 0.40). These results are similar to that of Ghosh (2001) and Healy *et al.* (1992).

**Table 4. Operating performance (cash flow to total assets) for pre- and post-merger period**

‘Industry adjusted cash flow to total asset’ is the average difference in the operating performance (cash flow to total asset) between the acquiring firm and industry average for a given year relative to the acquisition year. ‘Industry adjusted post average cash flow to total asset’ is the average of ‘Industry adjusted cash flow to total asset’ for post acquisition period (year +1, +2 and +3). ‘Industry adjusted pre average cash flow to total asset’ is the average of ‘Industry adjusted cash flow to total asset’ for pre acquisition period (year -1, -2 and -3). ‘Industry adjusted post and pre difference’ is the average of the difference between ‘Industry adjusted post average cash flow to total asset’ and ‘Industry adjusted pre average cash flow to total asset’. ‘Matching firm adjusted cash flow to total asset’ is the average difference in the operating performance (cash flow to total asset) between the acquiring firm and matching firm for a given year relative to the acquisition year. Individual matching firm is selected based on the nearest propensity score with respect to firm size and price to book value. ‘Matching adjusted post average cash flow to total asset’ is the average of ‘matching firm adjusted cash flow to total asset’ for post acquisition period (year +1, +2 and +3). ‘Matching adjusted pre average cash flow to total asset’ is the average of ‘Matching firm adjusted cash flow to total asset’ for pre acquisition period (year -1, -2 and -3). ‘Matching firm adjusted post and pre difference’ is the average of the difference between ‘Matching adjusted post average cash flow to total asset’ and ‘Matching adjusted pre average cash flow to total asset’. t-statistics and significance level are reported for each mean difference.

Year Relative to M&A	Industry adjusted cash flow to total asset (Acquiring firm – Industry Avg.)			Matching firm adjusted cash flow to total asset (Acquiring firm – Matching firm)		
	Mean	t-stat	Sig.	Mean	t-stat	Sig.
-3	0.046	7.113	0.000	0.030	3.109	0.002
-2	0.046	9.528	0.000	0.048	5.465	0.000
-1	0.047	9.758	0.000	0.051	5.506	0.000
1	0.046	8.880	0.000	0.049	5.964	0.000
2	0.040	8.988	0.000	0.053	7.750	0.000
3	0.031	6.448	0.000	0.048	5.863	0.000
Post Average: mean of years 3, 2, and 1	0.047	11.033	0.000	0.045	5.801	0.000
Pre Average: mean of years -3, -2, and -1	0.034	8.684	0.000	0.051	7.911	0.000
(Post - Pre) Difference	0.013	3.379	0.001	-0.006	-0.834	0.404

*Note: we obtain similar results for median values.*

Subsequently we evaluate the results from ‘intercept’ approach proposed by Healy *et al.* (1992) to investigate the change in operating performance around event years. In this approach we use the following cross-sectional regression and obtain the intercept from the model. This intercept is the measure of abnormal benchmark adjusted operating performance.

$$\begin{aligned} & \text{Benchmark adjusted post average cash flow to total asset} \\ & = \text{Intercept} + \text{beta} * \text{Benchmark adjusted pre average cash flow to total asset} \end{aligned}$$

A positive and significant value of intercept would mean an improvement in operating performance in post event period over pre event period. We use industry average operating performance and matching firm operating performance as the benchmarks. Results are presented in table 5.

**Table 5. Regression on pre-merger performance**

**Panel A: Industry adjusted cash flow to total asset**

Dependent variable is the ‘Industry adjusted post average cash flow to total asset’ (IPOSTAVG). ‘Industry adjusted post average cash flow to total asset’ is the average of ‘Industry adjusted cash flow to total asset’ for post acquisition period (year +1, +2 and +3). Independent variable is the ‘Industry adjusted pre average cash flow to total asset’ (IPREAVG). ‘Industry adjusted pre average cash flow to total asset’ is the average of ‘Industry adjusted cash flow to total asset’ for pre acquisition period (year -1, -2 and -3). ‘Industry adjusted cash flow to total asset’ is the average difference in the operating performance (cash flow to total asset) between the acquiring firm and industry average for a given year relative to the acquisition year.

N = 671

	(Constant)	IPREAVG	R Square	Adj. R Square	F-stat	Sig.
Beta	0.027	0.582	0.280	0.279	260.320	0.000
t-stat	7.187	16.134				
Sig.	0.000	0.000				

*Note: we obtain similar results for median values.*

**Panel B: Matching firm adjusted cash flow to total asset**

Dependent variable is the ‘Matching adjusted post average cash flow to total asset’ (MPOSTAVG). ‘Matching adjusted post average cash flow to total asset’ is the average of ‘matching firm adjusted cash flow to total asset’ for post acquisition period (year +1, +2 and +3). Independent variable is the ‘Matching adjusted pre average cash flow to total asset’ (MPREAVG). ‘Matching adjusted pre average cash flow to total asset’ is the average of ‘Matching firm adjusted cash flow to total asset’ for pre acquisition period (year -1, -2 and -3). ‘Matching firm adjusted cash flow to total asset’ is the average difference in the operating performance (cash flow to total asset) between the acquiring firm and matching firm for a given year relative to the acquisition year.

N = 623

	(Constant)	MPREAVG	R Square	Adj. R Square	F-stat	Sig.
Beta	0.012	0.659	0.297	0.295	261.877	0.000
t-stat	1.694	16.183				
Sig.	0.091	0.000				

*Note: we obtain similar results for median values.*

From [table 5](#) we find that results are similar in univariate analysis and ‘intercept’ approach. We find significant abnormal return in the case of industry adjusted operating performance (Panel A: intercept = 0.027, significance level = 0.000). However, in the case of matching firm adjusted operating performance the intercept is significant only at 9.1% level (Panel B: intercept = 0.012, significance level = 0.091). In sum, we find positive but statistically insignificant evidence of operating performance improvement in the post event period for the acquiring firms once we use appropriate methodology.

## 5. Summary and Conclusions

This study investigates the long-term stock return and operating performances of Canadian acquiring firms in the post event period by using 1300 M&A events between 1993-2002 period. Considering the controversy level surrounding the methodologies to detect long-term stock return performance we use both event-time approach (Buy and Hold Abnormal Return) and calendar-time approach (Fama French three factor regression) in our study. Further, we correct for skewness and cross-dependence in the 't-statistics' to detect abnormal return in BHAR methodology. Results from our analyses are quite interesting but not surprising. Once we combine the findings of event-time approach and calendar-time approach we do not find any strong support for long-term abnormal return following an acquisition event<sup>15</sup>. This finding reinforces the views of Fama (1998), and Mitchell and Stafford (2000). They argued that long-term negative abnormal returns reported in the literature are 'chance' results and are highly dependent on methodological choices. We find positive but statistically insignificant improvement in long-term operating performance once we adopt the matching firm approach.

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<sup>15</sup> We only find long-term positive abnormal return for relatively larger acquisition deals.

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## Appendix A

### Skewness and Cross-dependence adjusted t-statistics for BHAR analysis

The buy-and-hold abnormal return (BHAR) has been defined as the return on buy-and-hold investment in the sample firm less the return on a buy-and-hold investment in an asset/portfolio with an appropriate expected return:

$$BHAR_{i\tau} = \prod_{t=1}^{\tau} [1 + R_{it}] - \prod_{t=1}^{\tau} [1 + E(R_{it})] \dots\dots\dots (A.1)$$

To test the null hypothesis that the mean cumulative abnormal returns are equal to zero for a sample of ‘N’, the common parametric test statistics used is:

$$t_{BHAR} = \overline{BHAR_{i\tau}} / (\sigma(BHAR_{i\tau}) / \sqrt{N}) \dots\dots\dots (A.2)$$

Where  $\overline{BHAR_{i\tau}}$  is the sample average and  $\sigma(BHAR_{i\tau})$  is the cross-sectional sample standard deviations of abnormal returns for the sample of ‘N’ firms<sup>16</sup>

As reported by Barber and Lyon (1997), BHAR with reference portfolio is subject to a new listing bias, a skewness bias, and a rebalancing bias. Subsequently, Lyon, Barber and Tsai (1999) have presented the following skewness adjusted ‘t’ statistics to test the null hypothesis of abnormal return.

$$t_{sa} = \sqrt{N} \left( S + \frac{1}{3} \hat{\gamma} S^2 + \frac{1}{6N} \hat{\gamma} \right) \dots\dots\dots (A.3)$$

Where,

$$S = \frac{\overline{BHAR_{i\tau}}}{\sigma(BHAR_{i\tau})}, \quad \text{and} \quad \hat{\gamma} = \frac{\sum_{i=1}^N (BHAR_{i\tau} - \overline{BHAR_{i\tau}})^3}{N \sigma(BHAR_{i\tau})^3}$$

Additionally, Mitchell and Stafford (2000) have presented the methodology for the adjustment of cross-sectional dependence of BHARs, as follows:

$$\frac{\sigma_{BHAR}(independence)}{\sigma_{BHAR}(dependence)} \approx \frac{1}{\sqrt{1 + (N - 1)\rho_{i,j}}} \dots\dots\dots (A.4)$$

Where, N = number of sample events, and  $\overline{\rho_{i,j}}$  = average correlation of individual BHARs<sup>17</sup>.

<sup>16</sup> In the case of value-weight BHAR, we use market value weighted average BHAR and corresponding standard deviation in the t-statistics.



## Appendix B

### Cross-Correlation Calculation

We follow [Mitchell and Stafford \(2000\)](#) methodology to calculate average cross-correlation which in turn is used to calculate corrected 't' statistics in buy-and-hold abnormal return (BHAR) analysis. The steps are as follows:

First, we assume a simple correlation structure to calculate the average correlation of 3-year BHARs across all of our 1300 observations. We assume that correlation is decreasing linearly as the number of overlapping months is decreasing from 36 (see [table B1](#)). Second, we find out all acquisition events that have 36-month overlap from the effective date (i.e. complete overlap). We calculate the average correlation for such cases. The average correlation for 36-month overlapping cases is 0.130344 ([table B1](#)). Third, we estimate correlation of other overlapping months by using 36-month average correlation. For example, with 35 month of overlap, the average correlation is  $(35/36)*0.130344 = 0.126723$  ([table B1](#)). Third, we calculate the weighted average correlation, which is 0.040405. Finally we use the following equation to calculate the ratio of standard deviation by assuming independence and standard deviation considering dependence.

$$\frac{\sigma_{BHAR}(independence)}{\sigma_{BHAR}(dependence)} \approx \frac{1}{\sqrt{1 + (N - 1)\overline{\rho_{i,j}}}}$$

Where, N = number of sample events, and  $\overline{\rho_{i,j}}$  = average correlation of individual BHARs (0.040405).

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<sup>17</sup> For detailed procedure, please refer to [Mitchell and Stafford \(2000\)](#).

**Table B1 Correlation Structure for all acquiring firms**

Number of months of overlap	Number of unique correlation	Assumed Correlation Structure	Estimated Correlation
36	6121	$\rho$	0.130344
35	8427	35/36 . $\rho$	0.126723
34	8471	34/36 . $\rho$	0.123102
33	8467	33/36 . $\rho$	0.119482
32	8573	32/36 . $\rho$	0.115861
31	8536	31/36 . $\rho$	0.11224
30	8848	30/36 . $\rho$	0.10862
29	8348	29/36 . $\rho$	0.104999
28	8240	28/36 . $\rho$	0.101378
27	7870	27/36 . $\rho$	0.097758
26	7856	26/36 . $\rho$	0.094137
25	7553	25/36 . $\rho$	0.090516
24	10471	24/36 . $\rho$	0.086896
23	7538	23/36 . $\rho$	0.083275
22	7572	22/36 . $\rho$	0.079654
21	7561	21/36 . $\rho$	0.076034
20	7864	20/36 . $\rho$	0.072413
19	7678	19/36 . $\rho$	0.068792
18	7936	18/36 . $\rho$	0.065172
17	7720	17/36 . $\rho$	0.061551
16	7495	16/36 . $\rho$	0.057931
15	6863	15/36 . $\rho$	0.05431
14	6802	14/36 . $\rho$	0.050689
13	6719	13/36 . $\rho$	0.047069
12	9103	12/36 . $\rho$	0.043448
11	6498	11/36 . $\rho$	0.039827
10	6556	10/36 . $\rho$	0.036207
9	6706	9/36 . $\rho$	0.032586
8	6675	8/36 . $\rho$	0.028965
7	6485	7/36 . $\rho$	0.025345
6	6819	6/36 . $\rho$	0.021724
5	6552	5/36 . $\rho$	0.018103
4	6362	4/36 . $\rho$	0.014483
3	5940	3/36 . $\rho$	0.010862
2	5953	2/36 . $\rho$	0.007241
1	5836	1/36 . $\rho$	0.003621
0	200389	0	0
Total	469403	Average correlation	0.040405

Note: 2002 data are excluded for this analysis, as we use only 24-month post acquisition data for 2002 event.

## **GREENHOUSE GAS REDUCTION: THE CAPITAL INVESTMENT EVALUATION**

The Kyoto Protocol has set limits to greenhouse gas emissions for its signatory countries. The carbon emission limits and credits create new opportunities and challenges for companies evaluating pollution abatement investments. This paper brings together the disparate literature detailing the benefits, costs, risks and real options. It identifies areas of research within finance and business and other disciplines with which meaningful collaborative research opportunities exist.

### **Introduction**

Global warming and its effects are being noted around the world. Scientists warn that global warming is potentially devastating and a large cause is the release of carbon dioxide and other greenhouse gasses into the atmosphere. Efforts have been made to encourage or mandate industrial investment in pollution abatement processes and technologies. Unfortunately, the costs of environmental investments often exceed the financial benefits. The technologies require large investment, and may increase the cost of operations or reduce maximum output capacity (Cortazar, Schwartz & Salenas, 1998). For businesses decision makers, accountable to shareholders for bottom-line profitability, this presents a dilemma. While there may be some “green goodwill” to be generated from such investments, the willingness of consumers to switch to the products of environmentally responsible companies or to pay more for those products is uncertain. As well, green goodwill can be temporary, especially if governments later mandate or create incentives for competitors to make a similar investment (Lundgren, 2003).

Under the Kyoto Protocol, a system for trading carbon credits has been developed. The European Union (EU) has been the most progressive in developing a market for carbon credit trading (Victor & House, 2004). Under this system, companies have greenhouse gas (GHG) emission limits or caps. Countries and their companies thereby have limited emission permits. If they emit less GHG than their quota, they can sell their surplus permits to companies that emit more than their quota. Such a market mechanism allows adherence flexibility and the development of strategies to manage emissions in the new system (Annala & Howe, 2004). In countries that have ratified the Kyoto Protocol, companies that invest in pollution abatement can include the market value of the surplus carbon credits in their cost-benefit analysis.

The Montreal Exchange (ME) has recently announced it will develop a trading system for emission reduction credits in Canada, in partnership with the Chicago Climate Exchange. However, the ME must await the thoughts of Canada’s new government, which has promised to unveil a “made in Canada” plan for meeting its Kyoto Protocol commitment to reduce GHG emissions to 6% below its 1990 levels in the years 2008-2012 (Marotte, 2006).

Numerous Canadian companies are already investing in pollution abatement but others are waiting for the legislation or government incentives. Understanding why some are investing while others

are not is important. Are there sufficient benefits to be garnered from the investment without government incentives? Are companies hedging against volatile fossil fuel prices? Are companies acquiring emission reduction credits, speculating on their future value? Is it simply good corporate citizenship?

Understanding the rationale behind investment in pollution abatement is important for corporate decision makers and government policy setters. This paper will bring together the disparate literature detailing the benefits, costs, risks and real options of investing in pollution abatement and identify a few areas for research and collaboration.

### **GHG Reduction and Categories of GHG Investments**

The Kyoto accord identifies six greenhouse gasses: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Emissions of these gasses are measured in equivalent metric tonnes of carbon dioxide (tCO<sub>2</sub>). Emissions permits for tCO<sub>2</sub> can be traded by countries (and companies thereof) that have ratified the Kyoto Protocol. In the European Union Emission Trading System (EU ETS), credits trade on a commodity-like market for €10-20 per tonne.

There are four basic approaches to greenhouse gas emission reduction for industry. These are listed, with examples, below:

1. Energy conservation. Reducing the energy used in the production process by improving energy efficiency through upgrades to the product or production process, co-generation and waste heat recovery;
2. Emissions reductions. Substituting with cleaner, lower-carbon fuels such as natural gas instead of oil or coal;
3. Alternative energy. Replacing fossil fuel inputs with alternative, renewable power such as wind power, biofuel, water power;
4. Carbon sequestration and storage. Reforestation and channeling carbon dioxide emissions underground.

In many industries, it may be easiest to increase efficiency to use less energy. Research and development of innovative pollution abatement technologies takes longer to develop and replacing plant and equipment takes time due to the economic life of “lumpy” assets now in use (Arora and Gangopadhyay, 1995). Switching to cleaner fuels may be an intermediate step (i.e. burning of biofuel in place of oil) although capital investment would likely still be required.<sup>1</sup>

Under legislation, heavy CO<sub>2</sub> emitters will likely carry much of the burden of reducing greenhouse gases and it is a concern that these costs will ultimately be borne by the consumer. Demand-side management is another strategy for reducing greenhouse gasses, however this is more difficult and expensive to legislate and monitor.

### **Costs, Benefits and Risks**

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<sup>1</sup> Since greenhouse gases are a global problem, Kyoto Protocol (Annex 1) countries and companies can alternatively invest in emission reduction of developing countries such as in Asia, Africa and South America. The investors can then acquire the emission credits at less cost that can be used against excess emissions at home. These are often less expensive investments for generating emission credits but will not be addressed directly in this paper.

Clarkson, Li and Richardson (2004) summarize the debate on how environmental expenditures should be accounted for: investment in equipment that yields no future financial benefit should be expensed, not capitalized. They liken pollution abatement outlay to the cost of removing asbestos from a building: The expenditure is only an additional cost of previously anticipated benefits and yields no additional future economic benefit (p. 330).

Clarkson et al go on to explain there is an exception in the case of the first mover. The benefits arising from a pollution abatement investment comes to the early investor in the form of green goodwill, incentives to innovate and the raising of competitors' costs (2004: 330). For example, in the pulp and paper industry in Sweden, companies have tended to over-comply with emission regulations. This may have been either to ensure they are 'on the safe side' of regulations both current and pending, the regulated emissions are suboptimal, or that there is value in green goodwill (Arora and Gangogadhyay, 1995; Lundgren, 2003).

Nehrt (1996) takes the perspective that pollution is simply wasted inputs. The waste results from poor product design, choice of inputs or inefficient manufacturing processes (p. 535). Looking at pollution abatement investment from this perspective, one looks for potential savings or increased revenues. For countries and companies involved in the cap and trade system of the Kyoto Protocol, or involved in voluntary carbon credit exchange systems, salable carbon credits provide an added benefit. Some of the benefits and costs specific to pollution abatement are described below.

### **Savings**

Savings can be derived from reduced fuel consumption or the use of less expensive fuel, i.e. natural gas versus oil. Improvements in the manufacturing process that result in less raw material waste results in direct savings.

If there are wasted resources, these may be collected and redeployed. For example, Minas Basin Pulp and Power Company recently installed a heat recovery system. Warm, moist vapor from its paper making process, previously vented, is now recovered to heat the mill's water pipes, transferring heat to new cooler incoming water via heat exchangers. This multi-million dollar investment in thermal recovery equipment is expected to reduce the company's energy costs, previously spent on Bunker C oil, by 20-25 percent (Galante, 2005).

In paper making, energy accounts for ¼ of the production costs. Many pulp and paper companies are investing heavily in co-generation. They are also turning to biofuels – the burning of bark and wood chips to generate electricity – reducing operating costs and reliance on carbon-rich fossil fuels (Greenbaum, 2005). In an industry suffering from high fuel costs and tremendous price competition, such investments are important for competitiveness.

### **New Revenues**

Companies willing to 'think outside the box' can see new revenues from its waste. As noted by Dino Mili of CHI Canada Inc., "The company ought to look at areas that are outside its core businesses as ripe for outsourcing. It's not an either-or proposition for a company but a continuum of business possibilities" (Greenbaum, 2001: 13).

As an example, the pulp and paper industry is researching black liquor gasification: recovering the energy and chemicals from spent pulping liquor to make synthetic diesel fuel and hydrocarbon products. Profits from future sales of these new products could exceed profits from the sale of traditional, pulp and paper products (Agenda 2020 report, cited by Greenbaum, 2005: 22).

In the case of co-generation or private power generation, excess electricity can be sold to the electrical grid. Cominco, a nickel producer, produces its own electricity and excess electricity is sold back to the power distribution company.

A maritime public transit company<sup>2</sup> is considering investing in a blending and storage facility to supply biofuel to its vehicles. The firm predicts its use of biofuels will stimulate new advertising dollars, consumer awareness and ridership. The company can also sell excess fuel to other transportation companies. Biofuel is expected to be less expensive and cleaner than diesel, thereby saving fuel and maintenance costs for the transit company.

### **Costs and Disincentives**

Modifying processes and equipment to reduce GHG emissions can result in reduced production capacity and higher operating costs (Cortazar et al, 1998). There may also be expenditures in technology to monitor emissions and for dedicated back-office staff in larger firms to deal with credit settlement and emission compliance issues (“Getting the Most,” 2005: 11). Care must be taken in complex processes, as described by Tomas Browne of Paprican, “It is difficult to ensure that energy savings in one part of the operation do not lead to losses elsewhere” (Greenbaum, 2005: 21).

### **Competitive Advantages**

There are various competitive advantages to investing in pollution abatement, which are difficult to quantify but are present nevertheless. They include first mover advantages, experienced based advantages and green goodwill. These are discussed below.

**First mover advantage, learning and green goodwill.** As a result of his study of 50 pulp and paper companies around the world, Nehrt (1996) noted that government regulations neither advantaged nor disadvantaged companies in the global marketplace. However, his study did indicate timing, specifically early investment, had an impact on profitability. Researchers believe unique benefits are derived from a pollution abatement investment by the first mover (Clarkson et al, 2004; Lundgren, 2003; Nehrt, 1996).

Green goodwill comes in the form of consumers’ preference for products of environmentally responsible companies, and their willingness to pay a premium for them. Lundgren (2003) suggests the over-compliance of pulp and paper companies to environmental regulations in Sweden may be due to the benefits of green goodwill. As well, Arora and Gangopadhyay (1995) noted the more public companies’ environmental performance, the more likely they were to over comply with environmental regulations. External recognition of environmental performance such as environmental awards or “green” certification of products or processes can permit premium pricing while encouraging greater demand.

Klassen and McLaughlin (1996) performed an event study to identify changes in stock returns after announcements of environmental awards or environmental crises. They noted significant positive and negative returns (respectively) for the announcements, although the changes were less for “dirty” industries than “clean” ones.

These are early days in the effort to reduce greenhouse gas emissions. There may be advantages to the first movers in many industries. Innovators and early investors can establish the standards for pollution investment technology, processes and management practices. They can be the first to gain

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<sup>2</sup> The identity of this company is not revealed for reasons of confidentiality.

experience-based scale economies and sustain intellectual capital advantages resulting from being further along the learning curve than competitors (Klassen and McLaughlin, 1996). Their activities may raise the costs of their competitors, fortify the barriers to entry and perhaps signal government to increase regulations in their industry (Arora and Gangopadhyay, 1995). These can have the effect of weakening existing competition and deterring new entrants. Also, early movers may be more ready in the event of legislated pollution abatement. By preempting regulation, they may reduce future investment and be better able to meet tighter standards (Klassen & McLaughlin, 1996). On another front, those acquiring and trading carbon credits gain an early understanding of the market for carbon credits.

## **Hedging**

The value of carbon credits can offset costs sufficiently to make an alternative energy feasible as a hedge against volatile and upward trending prices for oil and natural gas. Berry (2005) looks at wind energy as a hedge against natural gas prices. The cost of wind energy is largely capital cost. In the US, wind energy is eligible for SO<sub>2</sub> and NO<sub>x</sub> credits and carbon emission. Berry compared the cost of natural gas over time with the net cost of wind energy. Although he used a number of considerable assumptions, he found the steady cost of wind, while not always cheaper, was a cost-effective hedge. Biofuel has similar advantages. Fred Hussey, Vice President of Operations at Stora Enso's Port Tupper pulp and paper mill describes biofuel as a hedge, "Biofuel can be a fairly expensive fuel to use, depending on trucking distances ... it would, however, provide stability over the costs (King, 2006).

## **Carbon Credits**

For Kyoto Protocol (Annex 1) countries and companies involved in the emissions cap and trade system of the Kyoto Protocol, or involved in voluntary carbon credit exchange systems, carbon credits introduce a new variable into the cost-benefit analysis. SO<sub>2</sub> and NO<sub>x</sub> credits have been available since 1990 in the US, as a result of the Clean Air Act.

Carbon credits have the potential to tip the balance between costs and benefits in favour pollution abatement investment. In a carbon constrained world, wind power is a potentially feasible means of reducing CO<sub>2</sub> emissions, given the decreasing costs of turbine technology and intermittency and spacial distribution solutions (DeCarolis and Keith, 2006).

Carbon credit trading systems and market value vary by jurisdiction. In the EU, emission credits trade on the new but relatively efficient EU ETS market, trading 799 MtCO<sub>2</sub> in 2005 for a market value of €9.4 billion (Point Carbon, 2006). On the Chicago Carbon Exchange, which consists of approximately 170 members, credits trade for approximately US\$4.50 ([www.chigagoclimatexchange.com](http://www.chigagoclimatexchange.com)). In Massachusetts, credits trade for approximately of US\$50. In Canada, emission reduction credits trade directly between companies.

## **Uncertainties and Real Options**

Lundgren (2003) cites environmental finance literature that suggests improved environmental performance lowers the risk of incurring environmental liabilities, such as spills and chemical leaks. As well, these firms are in a better position to meet tighter environmental and pollution standards should they be legislated. These factors may lower systematic (beta) risk and a result in a lower stock price (Feldman, Soyka and Ameer, 1997). Despite this, there are downside risks.

**Irreversible investment.** The equipment needed for GHG reduction is often very specialized (Lundgren, 2003) and the investment irreversible. Lundgren maintains the investment decision is influenced by irreversibility, uncertainty and optimal investment timing and that non-mandated

investment in abatement will vary with regulatory regimes, regulation intensity, and competitors' investments.

Other risks also affect the decision. The value of "green goodwill" is uncertain. Its development and persistence is not well understood nor is the consumer's willingness to pay a premium for environmentally friendly products (Lundgren, 2003).

As well, abatement methods and technology may be improved or replaced, competitors may follow suit or the government may subsequently legislate the investment. This is particularly a risk to the early mover, who may lose its green goodwill advantage (Lundgren, 2005) in these scenarios.

**Option to delay.** In light of these risks, especially in cases of high output price uncertainty (increasing the value of waiting) companies may be more willing to hold off investing and reduce production output (thereby reducing emissions) or pay penalties (Cortazar et al, 1998) instead. This would also depend on whether the company would still be required to buy carbon credits and the cost of those credits.

Interestingly, based on the tenets of the real option theory, emission credits may present a disincentive to invest (Sarkis and Tamarken, 2005). With decreasing emission limits year over year, the value of the carbon credits may be greater in the future due to the laws of supply and demand. Researchers of the real option valuation model hypothesize this provides companies with an incentive to delay investing in pollution abatement equipment and processes (Cortazar et al, 1998; Lundgren, 2003; Zhao, 2003; Sarkis and Tamarken, 2005). All else being equal, the financial benefits will be greater at a later date. Rather than invest right away, companies may therefore choose to simply reduce production, in order to meet emissions caps, or pay penalties for over-polluting (Cortazar et al, 1998). This behaviour has implications for the setting of government policies to stimulate investment for the benefit of reduced GHG emissions. This being so, research along these lines would be valuable to policy setters and corporate managers.

Using real options, the value of the project is the sum of the net present value (NPV) and the value of the option to delay. The time to invest is when the NPV is greater than the value of the option to delay, which Sarkis and Tamarken (2005) propose would occur if the value of the emission credits were to rise sufficiently. The exercise price is the installation cost of the equipment and other initial costs. The cash flows from the installations include the savings of emissions credits that are not needed or the revenues from the sale of excess credits (Sarkis and Tamarken, 2005).

**Option to switch outputs.** In a deregulated electricity market, there may be an opportunity to sell excess energy (Greenbaum, 2001). Companies generating their own electricity could feed it into the electrical grid. This is good use of surplus energy but more so, it provides an option to switch outputs, as demonstrated by Cominco in 2001. When the price of nickel was particularly low and demand for electricity exceeded supply in California, the nickel producer cut production at its Trail, B.C. refinery and closed its Trail metallurgical operation for two months, selling the saved electricity to California ("Cominco shares," 2001).

### **Base Case Scenario**

Given possible first mover advantages and the anticipated changes in legislation, the base case scenario is not likely to be the status quo. GHG reduction legislation is likely and many companies are making investments already. If other firms face the same investment choices, a firm that chooses to wait may lose its opportunity. Companies that do not invest in pollution abatement may lose ground vis á vis their competition.



## **Speculative Value of Carbon Credits**

The Kyoto Protocol extends to 2012. There is considerable uncertainty regarding what will happen beyond 2012 and the value of carbon credits. Economic growth will cause greater emissions. If the market is efficient, there should be upward pressure on the prices. As a counter effect, as companies reduce emissions, demand for credits may decrease while supply increases, the value of permits may decrease (Zhao, 2003). If the Kyoto Protocol is not replaced with a similar agreement beyond 2012, today's credits may expire worthless as of December 31, 2012. Many speculate market incentives for greenhouse gas reductions will continue and the credits will increase in value (Sarkis and Tamarken, 2005; Annala & Howe, 2004). In light of this, some companies may be acquiring credits as a speculative investment.

In the meantime, trading of carbon credits, at least in the EU, appears to be relatively effective (Point Carbon, 2006). However, the market efficiency and the determinants of credit prices are still uncertain. Further research is needed in this area.

## **Summary**

Despite the logic of real option pricing models that suggest the advantage of waiting, many companies are investing in pollution abatement now. Clearly, they perceive the benefits of investing to be greater than the costs. Canada's participation in the Kyoto Protocol is uncertain with its new government. Regardless, Canada's GHG emissions are problematic. The new minority Conservative government has suggested participation in the less stringent Asia-Pacific Partnership on Clean Development and Climate and has made an appeal to the United Nations Framework Convention on Climate Change (UNFCCC) to loosen the Kyoto Protocols' emission restrictions for resource-based economies. The "made in Canada" solution has yet to be revealed. Regardless of the arrangement Canada undertakes, presumably, some mechanism will be needed to convince more companies to undertake pollution abatement.

The challenge of GHG reduction requires the attention of researchers in many disciplines. Governments need to understand the corporate investment decision to develop the appropriate incentives to achieve CO<sub>2</sub> emission reductions. The financial market for the trading of carbon credits is in its infancy and varies by jurisdiction. Corporate capital investment evaluation of alternative technologies and investment timing needs refinement.

The issues surrounding greenhouse gas emission reduction are multi-faceted. Beyond finance research suggested in this paper, there are many business disciplines that have a role to play: Accounting for carbon credits, marketing for green goodwill, production and operations management for more energy-efficient and cleaner manufacturing processes, and management information systems for emissions monitoring. Collaborative work with researchers in environmental science, engineering, environmental economics, political science and law also is needed to make meaningful reductions in business' environmental footprint and contribution to global warming.

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## **RECONSTRUCTING THE HISTORICAL PERFORMANCE OF MERGED ECOMMERCE MUTUAL FUNDS<sup>1</sup>**

In the current regulatory environment, a mutual fund company is able to delete the history of an underperforming fund from public record by merging it with another portfolio. This paper addresses the effects of this rule on the super-concentrated group of Canadian mutual fund mergers that involved eCommerce portfolios between 2001 and 2004.

### **Section 1: Introduction**

#### **1.1 Background**

Between November 1998 and December 2000, a total of 17 ‘specialty’ Internet sector mutual funds appeared on the Canadian market. Sponsored and managed by high profile investment houses, banks, and management companies, these funds (of which only 1 still exists) held at least 75% of their net assets in undiversified portfolios of eCommerce, e-Business, and Internet Technology stocks in domestic and foreign markets. As noted by Cooper, Gulen, and Rau (2004), the mutual fund industry is not immune to business fads, and the Internet boom of the late 1990s was no exception. Like individual investors, venture capitalists, and the rest of the investment fund industry, Canadian mutual fund companies funnelled billions of dollars into the Internet sector before the bubble burst in late 2000. Before the lion’s share of these funds were dissolved, terminated, merged, or repositioned, their unit-holders lost hundreds of millions of dollars of investors’ capital.<sup>2</sup>

It is in times of economy-wide financial trouble that the regulations surrounding the investment industry become particularly important. Specifically with regard to mutual funds, these managed portfolios are highly competitive, and it is essential that a comprehensive set of regulations exists to ensure that competing investment houses are kept on a level playing field – particularly with regard to how they deal with rapidly declining ‘fad’ investment instruments. While these rules are decentralized and differ from jurisdiction to jurisdiction, the most critical set of regulations with regard to this issue are under the mandate of the Ontario Securities Commission (OSC), which oversees the bulk of investment fund activity in Canada. Having adopted the Canadian Securities Administrators’ framework for regulating mutual funds (outlined in National Instrument 81-102), the OSC allows mutual fund managers a considerable amount of flexibility with regard to how they deal with underperforming funds. Subject to unit-holder approval, NI 81-102 permits mutual funds to be terminated, renamed, or merged into other funds at the discretion of management. While these provisions are necessary given that some mutual funds eventually out-live their intended life-spans and have to be written off, it is the argument of this paper that the current regulatory environment opens the door to some considerably less than bona fide behaviour on the part of mutual fund managers when they buy into an unsustainable investment fad.

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<sup>1</sup> I would like to thank my supervisor Dr. Jun Yang for his useful input on this project.

<sup>2</sup> With regard to terminology, the abovementioned failed funds are referred to as ‘non-survivors’ and the funds into which they are merged are identified as ‘survivors.’ Not only is this in accordance with previous studies that address deceased mutual funds, but it also captures the essence of the fate imposed on the Internet sector portfolios studied here. While all of the funds’ assets were transferred into other portfolios and retained in their respective investment houses, the mutual funds themselves (which are fundamentally shell corporations) were terminated.

## **1.2 Problem statement**

Entirely in accordance with NI 81-102, after two funds merge, the past performance of the underperformer is virtually eliminated from the public record. Not only do mergers increase the asset base of the surviving fund and prevent current unit-holders from liquidating, but they also allow the sponsor to hide its funds' poor historical performance (as it no longer has to report the unfavourable annual compound rates that slighted its past annual prospectuses). Post-merger prospectuses and sales communications are not required to include non-survivor performance, and, 12 months after the date of the merger, the survivor is permitted to report performance as if it were an entirely new fund.

This does, of course, create a discrepancy. In the prospectus of the surviving fund, the listed date of inception and the first indication of performance may be several years off. By engaging in the largely paper transaction of merging one fund into another, NI 81-102 allows companies to 'start fresh' and disregard the cumulative performance their fund managers – while retaining all of their original investors' capital.

To illustrate the effect on this practice on investor perceptions of a fund, take the Royal eCommerce Fund (REF) and its partner fund, the Royal Global Technology Sector Fund (RGTSF) – which together managed \$30.30 million at the time of their merger in July 2002 (Black, 2002). At the end of 2000, the REF and the RGTSF posted cumulative losses of -53.60% and -41.8% respectively (Black, 2002). In 2002 the RGTSF was merged into REF and the REF was renamed the Royal Global Technology Sector Fund (note the similarity). Four years of extremely mediocre performance later, the merged fund claimed to have a positive compound return since inception of -0.84% on July 12th, 2005 – which is mathematically impossible given the fund's complete history (GlobeFund, 2005). While this performance communication is entirely legal given the current wording of NI 81-102 §15.9, it comes dangerously close to the notion of deceptive marketing described in the Competition Act §70.01(1)(a). Prima facie, the nature of the National Instrument regulating mutual funds allows their creators to effectively 'sweep them under the rug' when they are performing below company standards.

## **1.3 Purpose and motivation**

Given the potential for mutual fund companies to mislead investors by using the provisions of National Instrument 81-102 to cover up past poor performance, it is particularly interesting to question the adequacy of the Canadian legal system. The purpose of this paper is to address the regulatory environment and its effects on the communication of mutual fund performance and risk metrics. The eCommerce funds mentioned above that were merged out of existence between 2001 and 2004 are used as a sample in an empirical analysis to determine whether or not a case can be made for an amendment to NI 81-102. While such an amendment could take a variety of forms, its purpose would essentially be to prevent mutual fund companies from discarding past performance when they engage in merger activities. Such a rule can only be responsibly proposed, however, if it is found that its provisions would have a positive impact on investors. While this can be a subjective notion, if it is determined that the sample funds look much less attractive after their pre-merger performance records are taken into account, it will be determined that this is beneficial for investors – as it levels the playing field between companies that actively merge poorly performing funds and those that do not. If NI 81-102 allows mutual fund companies to make their portfolios look more appealing to average investors regardless of their past performance, proponents of the amended rule could argue that companies are encouraged to engage in costly and wasteful merger proceedings in the current regulatory environment in order to maintain favourable prospectuses. Merger proceedings are costly and do not add real value to unit-holders, and consequently any rule that unnecessarily encourages mergers should be reversed.

The importance of this research is self-evident. Not only has the burst of the Internet bubble never been studied with regard to the Canadian mutual fund industry, but the focus of this study on post-merger performance communication will lead to more widely applicable conclusions regarding biasing effects of NI 81-102 with regard to the statement of fund performance. Furthermore, this study will hopefully shed some light on the underside of the Canadian mutual fund industry – i.e. the practice of covering up underperforming funds to maintain ‘solid’ records for high profile management teams.

## **Section 2: Methodology for empirical analysis**

### **2.1 Collection and reconstruction of pre-merger performance**

Fund specific raw-return data was acquired from different sources depending on availability. For non-survivor funds that were not listed in any database, monthly percentage returns were found by using archived issues of the Globe and Mail to acquire the net asset value per unit (hereafter referred to as NAV) of the fund on the first day and the last day of each month between the fund’s inception and the date of its merger. For surviving funds, monthly returns were taken from the Gold Investor archives of GlobeFund.com.

With regard to pre-merger reconstruction, the logical technique would be to calculate the monthly percentage returns of a combination portfolio that consists of all of the funds that were eventually merged into a survivor. As it is rarely ever the case that all of a product fund’s components had equal asset bases prior to a merger, a weighted average must be taken to adjust for relative fund size. Because of the nature of mutual fund unit prices, component funds should be weighted by the relative number of their outstanding units. Weighting the NAVs collected from archived periodicals by units outstanding is mathematically equivalent to summing the asset bases of both funds and dividing by the sum of the outstanding units.<sup>3</sup> This weighted average NAV (WANAV), while not useful in any absolute sense, can be used to determine the monthly returns of a combination fund.<sup>4</sup>

Note that WANAV on any particular date is not equivalent to what NAV would be if the two funds merged. This is because of the nature of a merger. To maintain the per unit price of the continuing fund, units of the non-survivor are not exchanged with units of the survivor on a 1:1 basis. They are rather converted at an appropriate ratio as to maintain the per-unit price of the continuing fund. WANAV is only calculated to capture the aggregate monthly percentage change in the value of a number of mutual funds’ holdings. A researcher using this methodology must therefore be careful when calculating the percentage return for the month of a merger. At the moment of a merger, the total number of units outstanding immediately changes to make the NAV of the combination fund equal to the price of the survivor on the date of the merger. For this reason, in the month of a merger, the survivor’s NAV on the first day of the month should be subtracted from the merged fund’s NAV on the last day of the month in the numerator of the percentage change formula (not the difference between WANAVs).

By weighting the monthly per-unit prices of each component fund as described above, the return that would have been had on a merged fund can be estimated prior to the merger date. This is, of course, assuming that the sample funds do not substantially alter their investment structures after a merger and that the ratio of the units that each fund has outstanding relative to each other remains somewhat constant. It is not necessary that every fund has the same number of units outstanding throughout the entire period, but it is necessary that increases and decreases happen proportionally. In addition to this, the technique outlined above does not account for transaction costs.

## 2.2 Analysis

Once the pre-merger performance records of the sample funds are all reconstructed, the empirical part of this paper will use the data to identify any discrepancies that may exist between how the sample mutual funds currently convey their past performance and how they would report their historical performance if the weighting technique outlined above was employed. Because mutual fund companies are only legally required to report their raw returns (usually in terms of annual compound rates), this paper will put a heavy influence on both yield since inception (YSI) and compound annual rate since inception. As noted by Carhart, Kaniel, Musto, and Reed (2002),

<sup>3</sup> The proof for why this works is extremely straightforward as it involves nothing more complicated than simple fractions. Remembering that the net asset base of a fund = number of units outstanding \* NAV, the total net asset value per unit of a combination of two funds would be:

$$\frac{(NAV_1)u_1+(NAV_2)u_2}{u_1+u_2} = NAV_1 \frac{u_1}{u_1+u_2} + NAV_2 \frac{u_2}{u_1+u_2}$$

Where  $u$  is the number o

<sup>4</sup> It can be easily shown that the percentage change in WANAV is equal to the percentage change in the value of the holdings of the funds that it combines. Making the assumptions delineated in the body of the text and defining  $\gamma$  as the asset base of a fund and  $u$  as the number of units outstanding, one can show that for two funds (A and B)  $\% \Delta \gamma_{AB|u'=u} = \% \Delta WANAV$ :

$$\begin{aligned} \% \Delta \gamma_{AB|u'=u} &= \frac{\gamma'_{AB} - \gamma_{AB}}{\gamma_{AB}} \\ &= \frac{\gamma'_A + \gamma'_B - (\gamma_A + \gamma_B)}{(\gamma_A + \gamma_B)} \\ &= \frac{NAV'_{A u'_A} + NAV'_{B u'_B} - (NAV_{A u_A} + NAV_{B u_B})}{(NAV_{A u_A} + NAV_{B u_B})} \\ &= \frac{NAV'_{A u_A} + NAV'_{B u_B} - (NAV_{A u_A} + NAV_{B u_B})}{(NAV_{A u_A} + NAV_{B u_B})} \\ \% \Delta WANAV &= \frac{WANAV' - WANAV}{WANAV} \\ &= \frac{(NAV'_A \frac{u'_A}{u'_A + u'_B} + NAV'_B \frac{u'_B}{u'_A + u'_B}) - (NAV_A \frac{u_A}{u_A + u_B} + NAV_B \frac{u_B}{u_A + u_B})}{(NAV_A \frac{u_A}{u_A + u_B} + NAV_B \frac{u_B}{u_A + u_B})} \\ &= \frac{\frac{1}{u_A + u_B} [(NAV'_{A u_A} + NAV'_{B u_B}) - (NAV_{A u_A} + NAV_{B u_B})]}{\frac{1}{u_A + u_B} (NAV_{A u_A} + NAV_{B u_B})}^{**} \\ &= \frac{NAV'_{A u_A} + NAV'_{B u_B} - (NAV_{A u_A} + NAV_{B u_B})}{(NAV_{A u_A} + NAV_{B u_B})} \end{aligned}$$

Therefore  $\% \Delta WANAV = \% \Delta \gamma_{AB|u'=u}$ .

\* $u' = u$  because we are only interested in the percentage change resultant from changes in the net *holdings* of the mutual funds, not changes in the asset base resulting from investors either buying or liquidating units.

\*\*Because of the simplifying assumption made above that the ratio between units outstanding between the funds does not change.

mutual fund companies will often go to extreme lengths to upwardly bias the returns reported in their prospectuses (and communicated through their sales representatives). Prospectus statistics are therefore critical to the analysis. By merging during a recovery in securities prices, it is hypothesised that a fund can capture the most favourable YSI and compound annual rates. It furthermore allows it to conceptually truncate below industry average compound rates. Both of these behaviours are tested for in the empirical analysis of this paper.

In addition, because mutual funds are often rated by institutions (such as Morningstar and GlobeInvestor) on measures other than raw returns, this paper will describe the pre-merger, post-merger, and full-history fund in terms of a number of performance and risk statistics (in addition to raw performance) to determine whether or not there is a notable difference in the way post-merger mutual fund information is communicated in today's regulatory environment versus how it would be reported if pre-merger performance was taken into account. To fully describe the sample of funds, absolute performance as measured by Jensen's  $\alpha$ , risk adjusted performance as measured by the models of Sharpe and Treynor, and two measures of risk (both volatility and variability) will be calculated.

### Section 3: Empirical analysis

#### 3.1 Overview of merger families, pre- and post- merger

Before addressing the effects of weighted averaging on pre-merger performance, it is interesting to note the differences between pre- and post- merger performance and risk. Generally speaking, after a merger mutual funds report higher performance and lower risk than their original component funds, including the survivor. Without exception, reported post-merger raw performance for each product fund is higher than the pre-merger performance of any of its components. The differences can be staggering, particularly with regard to yield since inception (YSI). Because this is an ex post metric that is based on historical performance dating back to inception, it appears as if the post-merger YSI may be misleading, knowing what is known about their pre-merger components. Even more importantly, there was a major discrepancy between the pre- and post- merger average annual compound rate of return [which must be reported in the prospectuses of mutual funds, see Table 1, i(inception)]. As mentioned above, Carhart, Kaniel, Musto, and Reed (2002) indicate that mutual fund companies go to great lengths to report favourable returns, and it appears as if merging mutual funds may be one technique to omit unfavourable annual compound returns from future publications.

The average for every other performance metric, furthermore, is higher for the post-merger funds when their histories are truncated than for any of their components (except for excess performance as measured by Fama & French's model<sup>3</sup>). In addition, the average risk related metrics are lower for each post-merger fund than their pre-merger components. Below is a summary of the average pre- and post-merger financial measures calculated from the sample:

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<sup>3</sup> It should be noted that while ideally  $\alpha$  based on Jensen or Fama and French's models would be best for this study, because they are statistical measures based on regression techniques, they are subject to error. There were a number of outliers with extremely high p-values (as high as in the .70's). Consequently, the summary statistics outlined above are virtually useless with regard to the measures of excess performance. As you can see visually in the following sections, most of the pre-merger funds were primarily beaten by the market. On a side note, the excess performance measure based on the original Jensen test had in general *more* statistically significant results. While it should be taken with a grain of salt, the negative average of  $\alpha(J)$  is a better statistic for excess fund performance over the pre-merger time period.

Table 1

## Pre- and post-merger metrics

	<i>Pre-Merger</i>	<i>Post-Merger</i>
<i>YSI(raw)</i>	-66.99%	11.98%
<i>i(inception)</i>	-34.78%	6.09%
$\alpha(FF)$	0.3112	-0.3262
$\alpha(J)$	-0.9762	-0.8193
<i>Sh</i>	-0.4339	0.0790
<i>Tr</i>	-1.3030	0.4298
$\beta(J)$	2.0462	1.4649
$\sigma$	11.6122	6.3644

Where  $YSI(raw)$ =yield since inception,  $i(inception)$ =annual compound return since inception,  $\alpha(FF)$  = excess return based on Fama & French's Model,  $\alpha(J)$ =excess return based on Jensen's model,  $Sh$ =Sharpe Ratio,  $Tr$ =Treynor's Measure,  $\sigma$ =standard deviation (variability), and  $\beta(J)$ =beta (volatility) based on the Jensen regression.

### 3.2 Reconstructed histories

After averaging the full and truncated metrics of the eCommerce merger families (using the reconstruction technique outlined in the second section), it was found that, in general, performance per unit of variability, performance per unit of volatility, yield-since-inception, and compound annual return since inception appear higher for the post-merger funds. In addition, volatility and variability are both reported at reduced levels when pre-merger performance was abridged. With regard to excess performance as measured by the Fama & French model, it appears that the sample funds underperformed the market at an accelerated rate when their full histories were truncated. As measured by the Jensen model, conversely, it appears as if the relationship goes the other way around. As noted, however, neither of these statistics were significant. The table below supplies the average metrics of the eCommerce funds in the sample.

Table 2

## Full and truncated history metrics

	<i>Full-History</i>	<i>Post-Merger</i>
<i>YSI(raw)</i>	-58.16%	11.98%
<i>i(inception)</i>	-16.90%	6.09%
$\alpha(FF)$	0.0135	-0.3262
$\alpha(J)$	-1.2406	-0.8193
<i>Sh</i>	-0.0918	0.0790
<i>Tr</i>	-0.5405	0.4298
$\beta(J)$	1.9909	1.4649
$\sigma$	11.8088	6.3644



As noted above, mutual fund companies will often go to great lengths to make the historical performance of their portfolios seem favourable (ostensibly to make ill-informed investors think that their funds are ‘hot’). It is paramount that they are able to report performance that is at least comparable to group averages. When the pre-merger performance of the sample funds was reconstructed, it was found that in 2006 the 5-year annual compound return on RGSTF, MUETCC, and IGGSTC were all considerably below the group average (as determined by GlobeInvestor). This represents a discernable blemish for these funds when their pre-merger histories are reconstructed. Below is a complete table comparing the funds’ period compound returns with group averages. The only eCommerce fund that did not undergo a merger is included in this table as well, as its compound annual returns are readily accessible.

Table 3

Period annual compound rates

	RGSTF	MUETCC	IGGSTC	SSFTF	Alt. eBusi**	Group Avg.
1 -year	4.64%	-2.91%	-7.50%	*	-7.73%	-2.15%
3-year	3.30%	6.44%	2.01%	*	-3.30%	5.87%
5-year	-19.53%	-18.53%	-16.55%	*	-14.58%	-8.46%
since inception	-24.50%	-23.46%	-2.49%	-17.15%	-6.55%	n/a

\* Not calculated as the 1-year, 3-year, and 5-year annual compound rates refer to different time periods as the other funds and group averages (as the product fund was terminated in May, 2004).

\*\*The Altamira eBusiness fund is included here to show the importance of levelling the playing field. This is the only eCommerce fund that did not merge. Consequently it is the only one reporting a 5-year compound return, along with a since-inception compound return that does not truncate any of its history. Note, however, that these numbers cannot be directly compared, as the Altamira eBusiness returns (along with the group returns) are calculated for the years ending June 30<sup>th</sup>, 2006, *not* December 31<sup>st</sup>, 2005.

In addition to having notably poor performance past the three year mark, each of the above funds reports a negative annual compound return since inception. On average, the eCommerce funds in the sample returned -16.9% per year since they were formed, compounded annually. When the pre-merger performance of these funds was truncated, however, they report an average annual return of 6.09%, compounded annually. Both from this and from the full data, it is apparent that the fund mergers in the sample took place around the time of a rebound in securities prices, as was hypothesised.

All of this being said, however, it is possible to argue that the post-merger funds are *more* than simply combinations of their components, and consequently it does not make sense to pool pre-merger data with post-merger data. To address this concern, a standard Chow test was performed for each merger family. The results, however, were not entirely conclusive. The supposition that there was no structural shift in fund parameters on the merger date can be made for every merger family other than the first (the RBC merger), which exhibited a substantial difference in residuals before and after its components merged. For three of the merger families encompassing 12 of the 14 funds addressed in this paper, there was no evidence of a parametric shift - meaning that the pre- and post- merger data sets were substantially similar. For the RBC merger, however, there seems to be a notable difference in how the fund performed after the merger date, as determined by the residual sum of squares (RSS) from the pooled data versus the sum of the RSS of the pre- and post- merger periods taken separately. Factored into the Chow test-statistic, this resulted in the rejection of the possibility that the data could be pooled. It can be argued that

this finding throws into question the validity of the reconstructed pre-merger performance of the RGSTF (as it effectively became a new fund on the merger date).

#### Section 4: Conclusion

In the May 2002 merger documents of the continuing fund MUETCC, the preparing lawyer explicitly stated that “in accordance with regulatory requirements, no performance information is shown for the Fund, as any past performance information prior to the date of the acquisition of these assets would be misleading” (Behrman, 2001). But how is it not misleading *not* to include any past performance records? While the lawyer was correct that including the past performance of *just* the continuing fund (the survivor) would be confusing, the omission of any sort of indication of pre-merger performance is equally detrimental to investors. As shown in the second section, monthly (or daily or even yearly) returns of a combination of component funds before a merger can be calculated using a weighted average based on the number of units outstanding. Using this technique, the eCommerce mutual funds in the sample appear considerably different when their pre-merger histories are taken into account, both in terms of prospectus reporting and in the financial metrics compiled by more advanced investment institutions. It appears as if the lions’ share of eCommerce funds that disappeared between 2001 and 2004 were merged just as their security holdings were beginning to rebound. While virtually none of the high-tech stocks recovered nearly to the level that they were purchased for during the tech-boom, the truncation of pre-merger performance allowed mutual fund companies to make this information disappear. To under-informed investors, it appears as if the mutual fund company purchased its base security holdings at prices indicative of its immediate post-merger NAV. Given that it was shown above that a technique can be derived to capture the weighted return of a product fund’s pre-merger components, it is less than obvious how one could argue that this information is useless or irrelevant to investors (unless there is evidence of a structural shift, which is addressed below).

Even if mutual fund companies are not engaging in merger activities for the purpose of covering up unfavourable statistics, it has been shown in this paper that it is possible to use a merger as a vehicle to achieve more favourable prospectuses. Without exception, the eCommerce mergers sampled in this paper reported higher compound returns after their histories were truncated. Because of this objective fact, intention is irrelevant. As long as the law allows this sort of behaviour it will always be impossible to determine whether or not a merger is done for the benefit of shareholders, particularly when it happens when securities prices seem to be rebounding. For this reason, it is asserted here that mutual fund companies should be legally required to maintain and report their merged funds’ pre-merger histories using the reconstruction technique outlined in the second section, or, at the very least, separately for each component (if there is a structural shift). The marginal cost of such a provision would be relatively small, and it could conceptually prevent a significant number of non-value adding mergers. Even more importantly, however, it would unquestionably add informational value to investors in the form of fuller disclosure.

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## RISK AVERSION, DIVIDEND GROWTH AND THE FOREIGN EXCHANGE FORWARD PREMIUM

This paper investigates the empirical performance of dividend growth as a stochastic discount factor in an international consumption based capital asset pricing model. Given that dividend growth exhibits greater variability than consumption growth, it has potential to provide a better discount factor. We find that even although our proposed model yields lower estimates of the risk aversion parameter than the consumption growth model, the estimates are greater 10. Neither model is rejected by the data.

### **Background**

Two main theoretical approaches have been used to study the relationship between expected future spot foreign exchange rates and forward rates. There is the macroeconomic approach of portfolio balance models of for example Dornbusch (1982), Frankel (1979) and Henderson (1984). There is on the other hand the representative agent approach based on an individual investor's optimizing behavior, usually in an infinite horizon setting. Some models in this class are Lucas (1982) Stulz (1981) and Svenson (1985). The basic prediction that emerges from both approaches is that there are significant deviations between the expected spot rate and the forward rate.

The second approach of the representative agent with time additive preferences has also been used to investigate the variability of forward premia with predominantly disappointing results. The theory is unable to account for observed variability. Variations and extensions of the same theory to account for the equity premium are good candidates in trying to account for the variability of forward premia. In this regard, several studies have for instance incorporated representative agent preferences exhibiting habit persistence.

Backus, Gregory and Telmer (1993) estimate and simulate a model along these lines in which they consider exchange rates of the US dollar against the five major currencies of Canada, France, Germany, Japan and Britain. They find that habit persistence raises the standard deviation of their equilibrium price measure relative to its estimated lower bound while it raises that of expected returns from currency speculation to approximately half its estimate from the sample. Without habit persistence they report that the theory is able to account for less than one percent of each of these standard deviations. However having provided these results the theory was found to remain at variance with the data in two main respects.

The derived standard deviation of the short rate turned out to be at least two orders of magnitude larger than that in the data. In addition the autocorrelation of the forward premium was slightly negative in the theoretical economies is strongly positive in the data.

### **Research Issue**

In this study we investigate the potential of using dividend growth instead of the consumption growth as a discount factor in the asset pricing model with a view to accounting for the forward premium in the forward foreign exchange market. We use the two country formulation as in Backus et al (1993) for instance, following a small open economy formulation in the spirit of Mark (1985). Whereas the dividend

discount factor has been shown to improve on the model's performance in the case of stock prices (Hagiwara and Herce 1997), this has not been investigated for the foreign exchange determination model.

Risk aversion implies that agents may not require equivalent rates of return on foreign and domestic assets. This is a possible basis for the existence of a foreign exchange risk premium. It has been emphasized in the literature however that the mere fact that an asset is denominated in a foreign currency is not sufficient for investors to receive a reward in form of a premium (Frenkel 1979a). This type of risk encountered by just holding foreign exchange can be diversified.

Indeed in most contemporary models of asset returns, investors receive a risk premium whenever there is co variation between returns and a particular benchmark that renders the risk undiversifiable. Popular benchmarks are the return on the market portfolio (beta) and the aggregate consumption marginal rate of substitution. The risk premium on foreign exchange thus is partly determined by the comparative riskiness of domestic and foreign nominal assets. The strand of the literature followed here models the foreign exchange premium on the basis of optimizing behavior.

In the case of a model with uncertainty and intertemporal maximization of utility, such a pricing kernel is the intertemporal marginal rate of substitution.

Of interest in this study are tests of the asset pricing model euler equations and the light the corresponding results may shed on the best determinants of the intertemporal marginal rate of substitution of the investors. The tests will bring out the difference between consumption based and dividend based stochastic discount factors. Dividend growth shows greater variability than consumption growth which has been found to be too smooth to explain asset returns.

Regarding previous studies, the first direct test was that of Mark (1985). He assumed a constant relative risk aversion type of utility function and estimated the Euler equation using the GMM to test for overidentifying restrictions. His model estimates provide two interesting results. The first is that the coefficient of relative risk aversion is substantially larger than what is generally considered plausible in the literature. The second result is the rejection of the model.

His model is extended in Hodrick (1989b) to include additional currencies, namely the Belgian franc, French franc and Swiss franc. For U.S. data, Hodrick's estimate of the risk aversion parameter is 60.9, higher compared to most of Mark's estimates which were above had 50.9 as the largest value. In this extended model however, the overidentifying restrictions are not rejected.

In a related study, Modjtahedi (1991) extends the model of rates with maturities of one-, three- and six months for the Japanese yen, the Canadian dollar and pound sterling. The sample period is July 1973 to July 1988. He also uses the U.S. consumption expenditures on non-durables and non-durables plus services to measure consumption. The model is rejected even more strongly than that of Mark (1985). In contrast to the above mentioned models, Kaminsky and Peruga (1990) use a GARCH type model and register equally disappointing results.

In this study, we use the GMM methodology to we carry out tests of the euler equations from the exchange rate determination model of Lucas (1982). In particular, we first revisit the paper of Mark (1985) applying the GMM on our sample of quarterly data from 1973Q1 to 1997Q1 for the consumption based model using a consumption growth based stochastic discount factor. We then conduct the euler equation tests using a dividend growth based stochastic discount factor. The objective is to compare the performance of dividend growth with that of consumption growth as stochastic discount factors.

The risk premium is a proportion of the conditional covariance of currency speculation profits and the intertemporal marginal rate of substitution of money, given that the latter is expected to be positive. The theory underlying the derivation of the risk premium can be evaluated among other ways by considering tests of the overidentifying restrictions involved. To this end, a popular and largely successful methodology in empirical finance, the GMM, is used to assess the empirical performance of the theory.

## Data and Methodology

The parameterization of the utility function adopted is the constant relative risk aversion type

$$U(C) = \delta C^{1-\gamma} / (1-\gamma) \quad , \gamma \geq 0. \quad (1)$$

$\delta$  is some arbitrary constant while  $\gamma$  is a parameter for relative risk aversion. Performing the necessary optimization exercise leads

to the following theoretical restrictions

$$E\left(c_{t+1}^\gamma p_{t+1} \Pi_{j,t+1} | I_t\right) = 0, \quad j = 1, 2, \dots, M. \quad (2)$$

$c_{t+1} = C_t / C_{t+1}$  and is thus the consumption ratio.

$p_{t+1} = P_t / P_{t+1}$  and is thus the price ratio while

$\Pi_{j,t+1} = (S_{j,t+1} - F_{j,t}) / S_{j,t}$  is the speculative return on currency  $j$  traded one period forward at time  $t$ .

According to equation (2), although economic agents have at their disposal an information set that they are motivated to acquire and which is publicly available, they cannot forecast the product of the speculative return on currency  $j$  and the intertemporal marginal rate of substitution of money between  $t$  and  $t+1$  on the basis of such an information set. The supposition that this product is uncorrelated with each and every element in the information set constitutes the candidate hypothesis for empirical tests.

This model was tested by Mark (1985, 2000) using monthly data on the Canadian dollar, the Dutch guilder, the German mark and the UK pound exchange rates versus the US dollar. The model was estimated jointly across currencies with seasonally adjusted US aggregate consumption data on non-durables and services as well as with services only. The sample interval was March 1973 to July 1983. The selection of instruments used was broadly based on the relevance of each variable in the agents' solution of their forecasting problem. That is a variable has to have a rationale for being ranked in the quest to predict profits from currency speculation. In view of this, the instruments were the current consumption ratio along with each of speculative returns to each currency and then with respective forward premiums per currency.

The justification for including the consumption ratio among instruments is given as the fact that agents are engaged after all in predicting returns from investing in foreign currency denominated assets in terms of the consumption good. In light of this, the current consumption ratio itself may constitute useful information and is therefore a plausible instrument. On the other hand, the idea that past profits can also contribute to the prediction of speculative profits explains their inclusion as instruments. Lastly, forward premiums are used as instruments because the forward premium can be decomposed into two parts. The risk premium and the expected rate of change of the exchange rate itself implying that the forward premium can provide indicative information regarding speculative returns.

There are  $k$  lags used, where  $k = 0, 1, 2, \dots$ , for each set. Corresponding to each of the lag lengths are 20, 36 and 52 orthogonality conditions respectively, used to estimate  $\gamma$ , the coefficient of relative risk aversion and then the  $J_T$  statistic is used to test the model's overidentifying restrictions. The point estimates of  $\gamma$  are relatively large with also somewhat big standard errors and are therefore generally imprecise. Nonetheless, in terms of tests of overidentifying restrictions, the model is not rejected strongly because, judging by the goodness of fit test, only in the particular case of zero lags whilst forward premiums

serve as instruments is there evidence against the model. That is using the J statistic, there are no significant between the theory and the data. We carry out tests using quarterly data from 1971 to 1997 for the same lag structure using three currencies at a time. The currencies we use, each against the US dollar are the Deutschemark, Pound Starling ,Japanese Yen Italian Lira, Australian Dollar, French Franc, Belgian Franc, Swiss Franc, Swedish Krona, Canadian Dollar, Danish Krone, Austrian Schilling, Norwegian Kroner and Spanish Pesetta. The exchange rates are the amount of US dollars per unit of respective foreign currencies.

### Results

The Tables 1 to 4 below show a sample of results for the Italian Lira, Australian Dollar and French Franc US dollar exchange rates. The findings from the remaining currencies are not substantively different from those shown here.

**Table 1: Consumption Growth Model: Forward Premia as Instruments.**

Lags	$\gamma$	Standard Error	J-Statistic	Marginal Significance
0	17.4930	58.723	8.95005	0.11107
1	67.3043	33.448	6.67051	0.24632
2	64.3788	25.472	5.92176	0.31391
3	67.7814	17.539	4.71570	0.45155

**Table 2: Consumption Growth Model: Speculative Profits as Instruments.**

Lags	$\gamma$	Standard Error	J-Statistic	Marginal Significance
0	49.5696	61.086	11.20798	0.04741
1	48.5013	43.827	10.64357	0.05892
2	36.8111	-	-	-
3	28.1579	44.625	11.92467	0.03583

**Table 3: Dividend Growth Model: Forward Premia as Instruments.**

Lags	$\gamma$	Standard Error	J-Statistic	Marginal Significance
0	26.4293	38.505	7.45288	0.18908
1	23.6611	15.526	8.03971	0.15406
2	30.7880	23.024	7.70135	0.17348
3	24.5212	11.032	7.95934	0.15849

**Table 4: Dividend Growth Model: Speculative Profits as Instruments.**

Lags	$\gamma$	Standard Error	J-Statistic	Marginal Significance
0	32.8253	33.055	9.07464	0.10612
1	28.8310	19.217	9.52918	0.08973
2	33.2745	37.504	9.27384	0.09863
3	28.3574	13.650	9.93629	0.07706

### Conclusion

In terms of the size of the relative risk aversion parameter dividend growth model is somewhat better than the consumption based model. The estimates are still much higher than what is believed by most economists to be a plausible range between 0 and 10. As far as the J- tests are concerned, the dividend growth model is also not rejected at conventional levels of significance. The study can certainly be improved first and foremost by updating the sample, which is dated due to problems encountered in obtaining forward rates. Secondly one could consider richer specifications of the preference technology.

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# Gender and Diversity Division

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## **CRITICAL REALISM: THE GENDERING OF WHAT WE KNOW**

This paper will attempt to explicate the contributory processes of gendering that are operant at a macro level of analysis. Specifically, we will focus on the academy in general, the managerial academy or business school in particular, and their roles in the production and diffusion of gendered knowledge in organizations. We will use the modal lenses of Critical Realism to show how much of the academy is unaware of their contribution to these gendering processes.

### **Introduction**

Gendering, the various processes of differentiating between male and female or masculine and feminine, has been firmly established as a phenomenon embedded within our modern organizations (Acker, 1990, 1992; Britton, 2000; Dye & Mills, 2005). Much research has been undertaken on the *genderedness* of organizations, focusing variously on the presence of gendered structures, policies, and procedures, as well as their gendered outcomes. For example, the gendered nature of organizations often results in “qualitatively different career experiences and outcomes for women and men” (Rindfleish & Sheridan, 2003, p.299) as is demonstrated by the fact that women are still underrepresented in senior executive positions (Olsson & Walker, 2003). Similarly, studies have demonstrated that the genderedness of organizations contributes to lack of career progress and glass ceiling effects for marginalized groups (Fletcher, 1998). As a result, we know what gendered organizations look like and we know the impact they have on disadvantaged groups (i.e. job segregation, under representation of disadvantaged groups in management, glass ceilings, mommy tracks, etc.). While we are collectively cognizant of many of these negative impacts, we are much less aware of the deeper why’s and how’s. Another line of inquiry investigates why and how organizations become gendered, (Dye and Helms Mills, 2005) and therein it is cogently argued that without knowing the sites and processes of gendering it becomes difficult to effect any change at all.

While research into the gendering processes within organizations is growing, one site that remains understudied is the contributory effects of the academy itself on the perpetuation and reproduction of gendering in organizational sites. Within the academy, many of us have fallen prey to processes of gendering by unknowingly reproducing an inherent gender bias concealed within the *objective* and *neutral* nature of mainstream ontology and epistemology.

Drawing upon the conceptual work of the authors we have mentioned previously, we will expand their definitions in order to move away from the organizational locale and to explicate the contributory processes of gendering that are operant at a more macro level of analysis. For the purposes of this paper,

we will focus on the place and role of the managerial academy and the business school and their unknowing role in the production and diffusion of gendered knowledge.

### Critical Realism as a Lens

The ontological and epistemological assumptions underlying the functionalist paradigm (Burrell & Morgan, 1979), upon which most mainstream managerialist thought is based, has and still largely focuses upon sex difference models (Dye & Helms Mills, 2005), wherein biological sex is conflated with social conceptualizations of gender, i.e. masculinity and femininity. Consequently, there has been a lack of attention to issues of *gender* versus those of sex within this paradigm, ever since the inception of organizational analysis (Hearn & Parkin, 1992). As a first step we must, therefore, move away from a purely functionalist ontology (Acker, 1992) in order to separate this conflation of gender and sex, and to make issues of gender and gendering processes more explicit (Calas & Smircich, 1992).

Critical Realism (CR), as an approach to the study of gendering within organizations and the contributory processes found within the larger social context, holds much promise. This is especially true as CR, while founded upon different ontological and epistemological assumptions, is paradigmatically *closer* to functionalism (Burrell & Morgan, 1979) than most of the *post* alternatives that strive to seek attention from mainstream theorists. Unlike positivistic approaches to knowing, however, CR privileges ontology over epistemology (Steinmetz, 1998). Such privileging positions CR as separate from functionalism, postmodernism or interpretivist-based world views (Fairclough, 2005). Within CR, neither empirical fact, social construction, internal subjectified meanings or local truths are in themselves *sufficient* and *necessary* preconditions to knowing the world. As knowing is always mediated (Bhaskar, 1978, 1979), CR is premised on the assumption that there is a difference between that which is known (a reality) and our epistemology of it (our knowing of that reality). In this way, CR both denies the existence of purely objective knowledge and avoids any descent into relativism or solipsism. CR balances subjective and objective epistemological elements, acknowledging that there is a reality *out there* which is measurable, but simultaneously acknowledging that reality is mediated by how we see, investigate, and question it. Consequently CR as a explanatory framework has greater potential to account for the structure(s), agency(ies), and the process(es) relating the two, thereby situating the gender privileges that we observe within our world (Ackroyd & Fleetwood, 2000). It permits us to parse out biological *sex* from the social *gender* to identify conceptual, theoretical and social factors involved in gendering.

Critical Realists acknowledge four ontological/epistemological modes wherein entities may be said to exist. These modalities include; the materially real, the ideally real, the artefactually real, and the socially real (Fleetwood, 2005). Each of the modes represents one part, or one view, of the world. While these modalities are separated analytically, there is overlap amongst them in the actionable world. For the humanities and the social sciences, the ideally and the socially real modes are, arguably, of greater importance than those of the artefactually and material real. The ideally real is the epistemic world where conceptualization and theorization takes place, the socially real is the where conceptualizations and theories are enacted. While the artefactually and materially real are less prominent within organizational studies in the humanities and social sciences, these modes may still reveal processes of gendering, particularly where these latter modalities overlap with the former.

We will show how parsing gender through the lens of CR permits ontology to be *balanced* against epistemology, and hence, how analytically the processes of gendering, masked by either an ontological or epistemological privileging (as in the objectivism of functionalism), becomes more visible. Unmasking in this way allows us to then reflexively look at otherwise hidden structural and constructural

elements of gendering – such as the often unrecognized masculine orientation of functionalist approaches and managerialism.

As a starting point for this unmasking we define gendering *as a temporally sustained and reproduced process; wherein western conceptualizations of masculinity and femininity, the social embodiment of persons as male or female, and the socially derived normative roles, identities, and structures associated with these distinctions as produced and communicated by the academy, serve, through differentials of power, to either facilitate or impede, provide advantage or disadvantage, enable or constrain, individuals as agents in society.* Implicit within this conceptualization is the recognition that gendering itself is both a process and an outcome. More specifically, gendering within the academy is articulated in the way in which knowledge is produced (i.e. through the research process), how it is transmitted (i.e. through our pedagogy), and finally how it is first crystallized and subsequently reproduced within the world (i.e. through artefacts such as the textbook). In the following sections we will look at gendering processes within each mode.

### **Ideally Real**

The ideally real is the domain of thought and the mind. It is comprised, in part, of conceptual entities including language, discourse, theory, meanings and beliefs (Fleetwood, 2005). In this modality we will primarily focus on concepts and theory, as these are the primary tools of the academy, though we acknowledge that a close look at discourse within the academy would also prove insightful. Given that theory itself can become a powerful social force (Frazer, 1996), theory may also function as a mechanism or site where the ideally and socially real worlds co-exist.

When studying the social world, theory has a number of functions (Frazer, 1996). Most often Social Theory is the articulation of objects and their relationships to other objects based upon various ontological and epistemological assumptions. From these assumptions normative methodological prescriptions are usually derived (Burrell & Morgan, 1979). The results of research provide us a normative prescription, e.g. how the world ought to be, while usually offering a prescriptive model for action within the social world.

As the academy is part of a gendered world, we tend to articulate concepts in gendered terms, deal with gendered theory, while practicing with gendered methods. And this has been the case historically. Much of the gendering within the academy is the privilege that has been granted in the favoring of the masculine over the feminine. Historically, the separation of masculinity and femininity within rationalist thought may be traced from the classic Greek philosophers forward through Descartes and Baconian empiricism into the Enlightenment. Masculine notions were further strengthened in Weberian rationality, Scientific Management and even the Human Relations movement (Ross, Smith & Kornberger, 2004). However, the *pinnacle* in the gendered nature of organizational study culminates in the masculine structuralist/functionalist views of organization, privileging the masculine over the feminine. It was not until the advent of the *posts* within managerial and organizational study that the dominance of the rational-masculine orientation of the science of organizations was questioned (Mills & Tancred, 1992).

The fundamental basis of the modernist project is based on the conceptualization of science as the pursuit and discovery of the objective and universalistic which is a masculine orientation (Ross-Smith & Kornberger, 2004). This has resulted in the omnipresent use of male or masculine norms in mainstream theory, constructs, and their measures. Paradoxically, while this western conceptualization of *science* and *progress* is a masculine one, much of the success of the *great men* of science is consistently attributed to the possession of the feminine characteristics of sensitivity, intuition, and creativity, and women

themselves have been historically excluded (Battersby, 1989). The inclusion of the feminine but exclusion of the female occurred at two levels. In the first instance, based upon the received views of gender roles arising out of the enlightenment, studies into scientists, their creativity and their genius were almost exclusively focused upon men and their intellect. From these initial studies, measures of intelligence were developed. These measures were further used and developed using exclusively male populations. The initial assumptions of masculinity and the male roles underlying the evolution of these measures has meant that women themselves were often excluded from measurement and figuratively and literally from science itself. This form of the exclusion of the feminine in research continues even today. Two illustrative examples of the process of introducing gender bias in this manner exist within the research in Organizational Citizenship Behaviour (OCB) and Entrepreneurship (Ent).

The initial conceptualization, theorization, and operationalization of OCB are grounded in male-centered assumptions (Kark & Waismel-Manor, 2005). OCB is normally measured through scales that are frequency counts of behaviours such as helping behaviours. However, there are significant differences in the types and forms of these behaviours found amongst men and women (or between the masculine and feminine). OCB as a construct assumes a universalistic model of organizational personnel and is essentialist in this regard. OCB measures do not account for the potential individual level differences across gender as their measures are normatively male/masculine. That is, in areas where we do see gender division, such as the tensions concerning work-family time allocation and effort, organizational personnel (primarily women) may be prevented from engaging in more and frequent OCBs. Consequently, due to the male normative bias in the construct and the associated measures, we may not be capturing the full domain of potential OCBs, or we may be skewing the results of OCB measurement towards men.

Similarly, in the study of entrepreneurship we see a conceptual grounding that is gendered with a construct that is measured using male norms of masculinity (Ahl, 2004). This means that the conceptual domain of entrepreneurship (the total universe of all aspects entrepreneurial) is limited, and any potential feminine elements non-existent. While the entrepreneurial construct is designed to best fit a male, we apply it to male and female entrepreneurs equally. The implication is that pertinent variables may go unasked and unanswered within our models of Ent, and the various factors which may contribute to success or failure of entrepreneurship.

Beyond concepts and theory, it is not methods themselves that necessarily contribute to gendering, but rather the dominant values granted to masculine over feminine (Nelson, 2001) as used to measure and operationalize constructs or model theory. The use of male or masculine norms is omnipresent within the academy and hence gender inequality is reproduced through this privileging (Benschop & Doorewaard, 1998). Mainstream academic practices not only generally conflate gender and embodiment (i.e. masculine/feminine and biological male/female) but also seem incapable of moving beyond a dichotomous view of gender. Despite cultural evidence to the contrary (see for example, William, 1987, and the study of the berdache and amazona of the indigenous North American cultures).

## **Socially Real**

The term *socially real*, “refers to practices, states of affairs or entities for short, such as caring for children, becoming unemployed, the market mechanism, or social structures in general, especially the social structures that constitute organizations” (Fleetwood, 2005, p. 201). Within the realm of Critical Realism, the study of organizations focuses on rules, relations, powers, positions, and practices (Fleetwood, 2005). For gendering, the socially real is a two-sided problematic. First, the temporal reproduction of gendered organizations within the academy and second, how the socially real is informed through the academy on issues of gender itself (e.g. the problematic of gendered knowing) which largely reaffirms gendering.

There is evidence to suggest that the academy itself is a gendered institution (Fox, 2001; Ginther & Hayes, 1999; Kahn, 1993; Kulis, 1997; Thorne, 1993). Its' hierarchical structures, the sex segregated nature of positions within it, and the imbalanced representation of the sexes at higher level positions alone are convincing. There is also evidence to suggest that the processes used to determine which *truths* to widely distribute through the publication process in academe, are, in fact, gendered (Davis & Astin, 1987; Mahlck, 2001; Ward, Gast, & Grant, 1992). If we are operating within, and not being either reflexive or critical of organizations that are gendered in their culture, customs, processes, and structures, is it not possible that we, as members of the academy, are merely perpetuating gendering? Could it not be argued that how we come to know plays a large part in what we know?

In 1992, Calas and Smircich posed an important question: "Who is watching the watchers?" (P. 222). It was asked in response to the chosen theme of the 1989 Academy of Management conference "The Social Consequences of Management". They noted that while it was important to observe and critique the societal impacts of management practices, so also was there a need to observe and critique the societal impacts of our own practices within the academy. This brings us to the second half of the problematic. Calas and Smircich (1992) contended that, "Organizational theories reflect the practical concerns of their creators, both the scholar(s) and the organizational participants whose actions are described by the theories" (P. 223), thus causing a phenomenon whereby the researcher has the potential to *create* the organizations of study. They then called for researchers to "rewrite organization and management theorizing so that social and ethical consequences are explicitly addressed" (P. 223). This plea has been heard and attempts have been made to address the social consequences of the academy. However, most of the work in this area is in the form of critique with little in the way of reforms. Perhaps a look at the *artefacts* of the academy in more depth could enlighten and be more convincing of the need to *ungender* the academy.

### **Artefactually Real**

The artefactually real are those created objects that exist in the world. Essentially, they represent a synthesis of the physically, ideally, and socially real worlds (Fleetwood, 2005). As such, they are conceptually mediated objects that hold different meanings for different persons (Fleetwood, 2005). Objects such as computers may mean liberation and freedom to some (e.g. the use of a PC with access to the knowledge of the Internet), while simultaneously oppression for others (e.g. the de-skilling of professionals in the workplace or the disenfranchisement of labor to automation). Pedagogical and research knowledge artefacts, such as journals or textbooks, produced by the academy provide us with direct examples of gendering.

Business texts have been found to be gendered in several ways, perhaps the most troublesome being the absence of feminist scholarship itself. Feminist scholarship is either absent or suffers from a significant time lag between the time the research is conducted (i.e. a landmark scholarly work as published in a journal) and it is published within a textbook (Mills, 2004). A cursory review of more recent texts indicates that *gender* is just now on the radar of many business text publishers. The arena of Organizational Studies is not alone in this regard. In an analysis of over 700 sociological textbooks, gender was found to be either absent, conflated with biological sex, or located on the periphery in all subject areas. Consequently, the vast majority of these texts presented, without notice, sociology as a masculine or male discipline (Lempiainen, 2003a, 2003b). Additionally, and similar to business studies texts (Mills, 2004), the introduction of feminist scholarship was absent or marginalized. The textbook, as a tool that is often central to the learning process, is still a gendered instrument and it continues to suffer from the conflation of sex and gender. For example, within many of these artefacts are essentialist

arguments whereby differences in behaviour are attributed to issues of gender when, in fact, the authors should be talking about differences in biological sex.

### **Materially Real**

The materially real refers to entities found within the natural world (Fleetwood, 2005), and includes such entities as mountains, weather, or the biological sex of its inhabitants (including human beings). In this modality, two further examples demonstrate the problematics of gendering in mainstream management thought. First, as we have mentioned previously we note the conflation of biological sex and gender. This issue lies beneath much organizational research as many of the most used theories and related measures currently valued or used in organizational study and education (for a detailed explication see Miner, 1984; 1990; 2003) are decades old. These were developed at a time when the measurement and testing of theory was almost exclusively based upon males; a population circumstance which must now be considered a restricted non-representative sample in comparison to today's workforce. Consequently, the results of research and the conclusions drawn may suffer either from domain-restriction where all potential behavioural sets are not measured, or the data results are skewed by masculine bias. The second problematic is the tendency to measure gender equality through simplistic quantification-based methods. Numerous examples include; the measurement of the number of males and females within an organization and how this changes over time; ratio measures and the percentage representation of women at different levels within an organization (e.g. senior management); or the presence and numbers of women within a specific occupation or role (e.g. engineering, or CEO). Despite the observed gains in *head count* (which is a measure of biological sex and not a measure of gender!), which in the literature are often argued as the embodied representation of the feminine within the workforce, gender inequality remains an organizational fact of life (Wilson, 1999). We argue that this is in large part due to the underlying masculine bias held by much of the academy and masked by an unreflexive nature concerning ontology and epistemology.

### **Conclusion**

The gendering of the processes and outputs of the academy exists, despite the many changes in the social world; particularly in regards to that of men and women in the workplace, their employment and their roles in organizations. Social theory within the academy has simply not kept pace. While the world we live in has changed the basis of our conceptualization and theorizing, our choice of method has not. Social theory remains essentially trapped in stasis, reproducing the historical conflation or confusion of gender and sex. Much of the academy fails to attend to the substantive gender differences in favour of a normative male bias, and has not captured the dynamics of gender changes in the world (Thistle, 2000).

We have shown that the often hidden and unreflexive emphasis placed on the masculine norm is problematic because it functions to essentialize men and women and it conflates sex and gender across theory, method and practice. Consequently, our concepts, theories and measures are not as efficacious as they could be if they were not domain restricted to things male and masculine. Furthermore these concepts, theories and methods serve to maintain the gender inequalities and divisions by reproducing a multiplicity of gendering processes.

The very act of writing within the academy is therefore infused with the assumptions, values, and bias of androcentrism (Spector, 1992), a dominant force which inhibits our understanding of the world(s) around us. We need to ask ourselves what more OCB or ENT, or other time-worn constructs (e.g. job satisfaction, leadership styles, etc.), might potentially offer if they were not so restricted. Recognizing

that "the theories we create and the ways we talk about them are not separate" (Gherardi, 2000, p. 221) affords us greater opportunities to know in new and arguably better ways.

We have shown that CR provides a lens for looking at the functionalist sites of gender and the processes of gendering within the academy, within managerialism, and western epistemology. We have shown how the lenses of the various modes of reality provides a new and different space for gender, gender stereotypes, gendered concepts, and gendered processes to be analyzed. In this way, CR may fulfill the need for a more pluralistic approach to understanding gender. By inspecting our theory and method (Martin & Collinson, 2002) using the modal lenses, we may be able to avoid falling prey to the danger of partial knowledge (Townsend, 2003), which is the child of a functionalist nature.

By using CR, and by placing gender at the center of our modal view(s) in the historic production of knowledge (or at the least of our interpretations of the production of knowledge), we may be able to inquire into the gendered culture of knowledge production (our research) and reproduction (our articles and textbooks), which is a gendering process. As the reproduction of gender is typically done unreflexively (Martin, 2006), what we as researchers do, how we engage the world, the theory and methods we choose, and how we communicate these results, must incorporate reflexivity (Alvesson & Skeoldberg, 2000). We must understand ourselves and what we do and we argue that CR offers us the ontological and epistemological grounds to do so. By being reflexive in this regard, we open up the academy to a greater awareness of our place and role in gender and gendering processes.

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# Information Systems

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## INTEGRATING ICT INTO HIGHER EDUCATION: WHAT ONSITE AND ONLINE STUDENTS ARE THINKING ABOUT IT<sup>1</sup>

*For the past two decades, information and communication technologies (ICT) have transformed the ways professors teach and students learn. The purpose of this study is to investigate the perceptions of onsite students (hybrid or blended mode) and of those taking the same courses on the Internet (online mode). To guide the study, a moderator-type theoretical research model was developed, out of which nine hypotheses were formulated. The model was tested in a field experiment. To collect data, we used a multimethod approach, that is, a Web survey involving open- and close-ended questions. The sample was formed of 313 onsite and online students from eight undergraduate and graduate courses offered at the Faculty of Administration of a large Canadian university. The quantitative data analysis was performed using a structural equation modeling software, that is, Partial Least Squares (PLS); the qualitative data were analyzed following a thematic structure using QSR NVivo. In this paper we present a summary of the quantitative results (close-ended questions) supported and enriched by the qualitative results of the students (open-ended questions).*

### Introduction

For the past two decades information and communication technologies (ICT) have transformed the ways professors teach and students learn. Some professors have actively shifted the information flow from a face-to-face mode (student listening, onsite presence) to an entirely online mode (student reading, onsite non presence); that is, they have designed courses and curricula offered completely online using the Internet and the Web. Others have developed the hybrid or blended mode (a combination of face-to-face and online activities; less student onsite presence, ongoing use of ICT both inside and outside the

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classroom). Hence, knowledge acquisition and dissemination have been reconceptualized, and new methods developed in order to satisfy the rapidly evolving needs of a population of individuals in search of more knowledge, more and more heterogeneous, in a geographically distributed environment.

In today's global economy, organizations (including universities) who want to survive and strive to stay highly competitive must continually innovate at the human, material, and technological levels. Alavi and Leidner (2001) pointed out that, during the past decade, universities and corporate training facilities have at an increasing rate invested into ICT to improve education and training. Marshall (2002) added that actual classrooms are more and more enriched by technology. Further, Giddens (1999) argued that one of the more important functions of the university is to allow people to play a significant role in today's new economy. Thus, universities, faculties, and professors are currently looking for ways to improve teaching and curricula, as well as develop new modes capable of satisfying the actual and future needs of organizations and societies. Out of their recursive attempts, the four fundamental questions often revisited are the following: (1) What are we teaching? (2) What should we be teaching? (3) What is the best way to teach it (pedagogy)? and (4) What are the impacts on students?

The study described in this paper aims at helping universities to stay highly competitive in the current global shift in higher education, an approach that is innovative in its exploration of new directions as regards the last two above-mentioned questions. We examine the relation between students' learning outcomes (undergraduate and graduate students) and learning environments integrating ICT. Specific relations between student onsite presence and student online presence are examined as to identify their effect on the basic relation between learning environments and students' learning outcomes. In particular, this study compares onsite technology-rich hybrid or blended learning environments and online learning environments. Moreover, this study brings to the foreground several moderator variables related to students' characteristics (psychology) and professors' pedagogy in order to better understand the relation between learning environments and students' learning outcomes.

Building on the two previously raised questions, this innovative study focuses on the following three research questions: (1) Are there differences between learning outcomes of onsite students and of those taking the same courses online? If so, which ones? (2) Do students' characteristics influence the relation between learning environments and students' learning outcomes, and are there differences in this influence between onsite and online students? If so, which ones? and (3) Does professors' pedagogy influence the relation between learning environments and students' learning outcomes, and are there differences in this influence between onsite and online students? If so, which ones?

This paper is structured as follows. First, the theoretical background supporting the study is examined; second, the methodology followed to conduct the study is presented; and finally, the results of the study are reported and interpreted.

### **Theoretical Background**

This study is theoretically-based on Leidner and Jarvenpaa's, and Phipps and Merisotis' key research works. On the basis of three case studies, Leidner and Jarvenpaa (1993) developed a theoretical research model for other researchers to test in future studies. And, in a literature review, Leidner and Jarvenpaa (1995) inventoried numerous educational variables to be examined in future studies according to different scenarios using ICT. Several of the variables suggested by these authors are used in this study.

In their literature review on distance learning effectiveness in the 1990's, Phipps and Merisotis (1999) pointed out that the studies that compared the distance ICT-based learning environments with conventional learning environments (face-to-face without ICT use) fall into three categories: (1) students'

results (performance); (2) students' attitude toward learning in these two types of environments; and (3) students' general satisfaction. We use these three categories as dependent variables in this study.

Of the 8,110 papers over a period of 15 years that were published in the journals and reviews examined, Chin et al. (2003) found only 74 that contained moderator variables. Moreover, several IS dominant theories (e.g., Davis' 1989 Technology Acceptance Model (TAM) and Doll and Torkzadeh's 1991 user participation/involvement model; quoted in Chin et al. 2003 p. 192) as well as the streams of research that have extended these models (e.g., Carswell and Venkatesh 2002; Davis and Venkatesh 2004; Hartwick and Barki 1994; Venkatesh and Davis 2000; Venkatesh and Speier 1999; Venkatesh and Speier 2000; Venkatesh and Johnson 2002; and Venkatesh et al. 2003) suggest that moderator variables are an important avenue of future development. Furthermore, numerous researchers within the IS field have suggested that models using moderator variables be tested (Anderson 1985; Doll and Torkzadeh 1989; Ives and Olson 1984; McKeen et al. 1994; Sambamurthy and Zmud 1999; Tait and Vessey 1988; quoted in Chin et al. 2003 p. 192) as have researchers in other fields (Chin et al. 2003). Hence, most of the variables identified by Leidner and Jarvenpaa (1993, 1995) are used as moderator variables in this study. The resulting theoretical research model is shown in Figure 1.

**Figure 1. Theoretical Research Model**

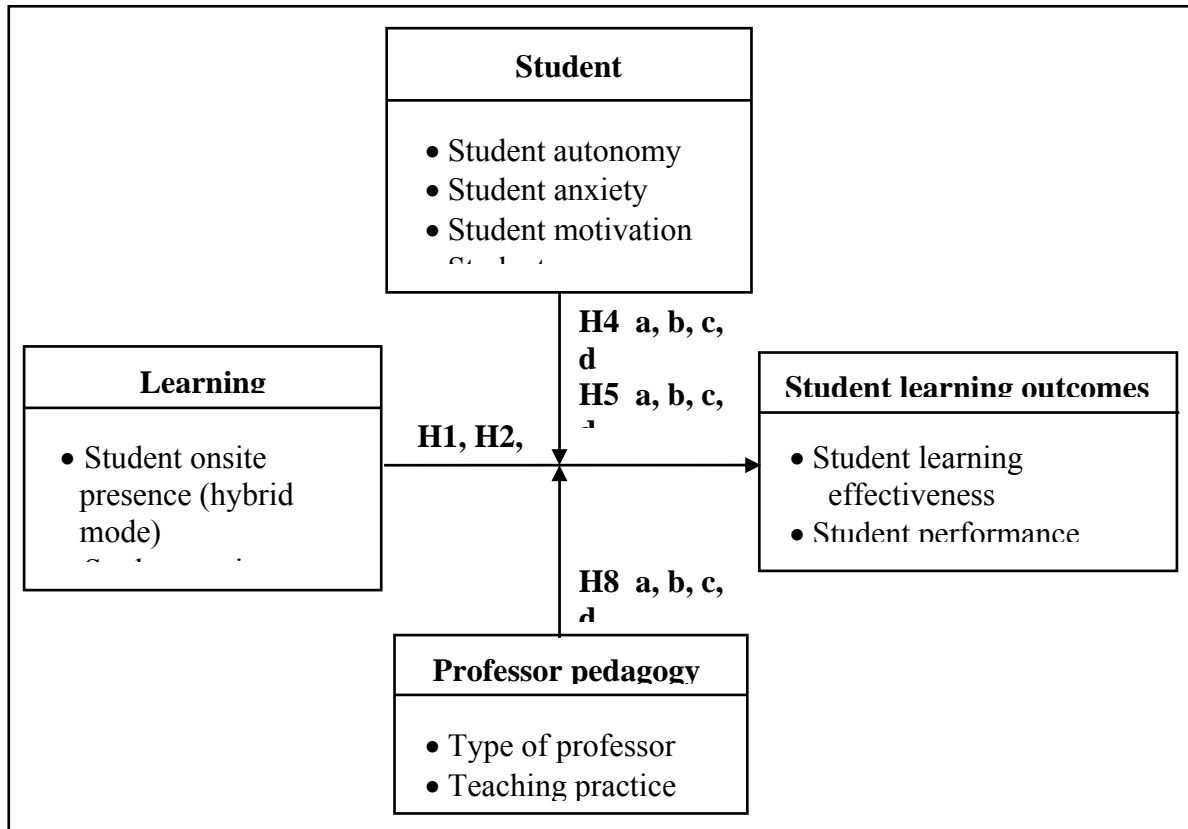


Figure 1 shows that the theoretical research model that guide the study is articulated around an independent construct, learning environments, a dependent construct, student learning outcomes, as well as two moderator constructs, student characteristics and professor pedagogy. On the basis of this theoretical research model, nine research hypotheses are formulated.

*H1: Students whose onsite presence is required to take courses (hybrid mode) find learning more effective than those whose onsite presence is not required (online mode).*

*H2: Students whose onsite presence is required to take courses (hybrid mode) perform better than those whose onsite presence is not required (online mode).*

*H3: Students whose onsite presence is required to take courses (hybrid mode) are more satisfied than those whose onsite presence is not required (online mode).*

*H4: Students' autonomy has an influence on the relation between learning environments (students' onsite presence and non presence) and their learning outcomes (a) learning effectiveness; (b) performance; and (c) satisfaction, and (d) this influence is more pronounced for students whose onsite presence is not required.*

*H5: Students' anxiety has an influence on the relation between learning environments (students' onsite presence and non presence) and their learning outcomes (a) learning effectiveness; (b) performance; and (c) satisfaction, and (d) this influence is more pronounced for students whose onsite presence is not required.*

*H6: Students' motivation has an influence on the relation between learning environments (students' onsite presence and non presence) and their learning outcomes (a) learning effectiveness; (b) performance; and (c) satisfaction, and (d) this influence is more pronounced for students whose onsite presence is not required.*

*H7: Students' participation has an influence on the relation between learning environments (students' onsite presence and non presence) and their learning outcomes (a) learning effectiveness; (b) performance; and (c) satisfaction, and (d) this influence is more pronounced for students whose onsite presence is not required.*

*H8: Type of professor has an influence on the relation between learning environments (students' onsite presence and non presence) and their learning outcomes (a) learning effectiveness; (b) performance; and (c) satisfaction, and (d) this influence is more pronounced for students whose onsite presence is required.*

*H9: Teaching practice has an influence on the relation between learning environments (students' onsite presence and non presence) and their learning outcomes (a) learning effectiveness; (b) performance; and (c) satisfaction, and (d) this influence is more pronounced for students whose onsite presence is required.*

In the next section of the paper, we describe the methodology followed to conduct the study.

## **Methodology**

### **Sample and Data Collection**

The theoretical research model depicted in Figure 1 was tested in a field experiment at a large Canadian university. The sample was composed of students of five undergraduate and three graduate courses, which were offered at the same university in the two modes taken into account in this study: hybrid mode and online mode. Students were not randomly assigned, that is, for each course selected, the students were asked to participate in the study. The study was spread over two semesters, fall and winter, and in each semester, four courses were studied. Each course had to meet the four following criteria: (1) to use a similar set of ICT in the two modes (computer, e-mail, chat, discussion forum, Web browser, Internet-based software, videoconferencing system, etc.); (2) to be taught by a different professor in the two modes; (3) to have the same course content in the two modes; and (4) to have, as much as possible, a similar group size in the two modes. In addition, each course was selected so that groups of students in

the two modes were the most homogeneous possible in terms of age and ICT experience. Finally, the course selection was made in order to cover a large area of disciplines offered at the Faculty of Administration of the university chosen for the study. Thus, the sample of the study consisted of 841 students, 438 (242 in fall and 196 in winter) in hybrid mode courses and 403 (198 in fall and 205 in winter) in online mode courses.

Three weeks before the end of each semester of the data collection, students were asked to fill out an electronic survey on a Web site. To that end, an e-mail, including a URL and a password allowing access to the electronic survey, was sent to students. As follow up, ten days after the students had been asked to fill out the survey on the Web site, an e-mail was sent to students relating the importance of filling out the electronic survey for the advancement of scientific knowledge on integration of ICT into higher education. Finally, a few days later, all professors were asked to relay the importance of the study to students during class or in the discussion forums of the online courses.

In the fall semester, 174 students (113, hybrid mode; 61, online mode) out of 440 completed the electronic survey for a response rate of 40%; in the winter semester, 139 students (70, hybrid mode; 69, online mode) out of 401 completed the electronic survey for a response rate of 35%. Overall, 313 students (183, hybrid mode; 130, online mode) out of 841 completed the electronic survey on the Web site for a global response rate of 37%. And, of these 313 students, 262 (156, hybrid mode; 106, online mode) completed the qualitative section (open-ended questions) of the Web survey for a response rate of 84%.

### **Data Analysis**

The quantitative data analysis was performed using a structural equation modeling software, that is, Partial Least Squares (PLS-Graph 3.0). And the PLS bootstrap resampling procedure was used with an iteration of 100 sub-sample extracted from the initial sample (313 students) to ensure the stability of each model developed in order to test the research hypotheses. Some analyses were also performed using the Statistical Package for the Social Sciences software (SPSS 11.5). As for the qualitative data analysis, it was made using the Qualitative Solutions & Research NVivo software (QSR NVivo 2.0). We performed thematic analyses on the qualitative data of students; the results are presented on the form of within-case/cross-case matrix as suggested by Miles and Huberman (1994). They follow.

## **Results**

### **Test of Hypotheses**

To test hypotheses involving independent and dependent variables (H1-H3), we developed a PLS model similar to those of Limayem and DeSanctis (2000), Limayem et al. (2002), and Yoo and Alavi (2001). And to test hypotheses involving moderator variables (H4-H9), we developed several PLS models according to the Chin et al.'s (2003) and Carte and Russell's (2003) procedures. Table 1 presents a summary of the test of hypotheses.

**Table 1. Summary of the Test of Hypotheses**

<i>Hypotheses</i>	<i>Results</i>	<i>Software (Sig.)</i>
H1	Not supported	SPSS (0.692) PLS (0.022)
H2	Supported	SPSS (0.000****) PLS (0.228****)
H3	Not supported <sup>a</sup>	SPSS (0.006**) PLS (0.059**)
H4	(a) Supported (b) Not supported (c) Not supported (d) Supported	PLS (-0.113*) PLS (0.056) PLS (-0.030) SPSS (0.000****)
H5	(a) Not supported (b) Supported (c) Not supported (d) Not supported <sup>a</sup>	PLS (0.049) PLS (0.121**) PLS (0.000) SPSS (0.000****)
H6	(a) Not supported (b) Supported (c) Not supported <sup>b</sup> (d) Not supported <sup>a</sup>	PLS (-0.038) PLS (0.085*) PLS (-0.049=) SPSS (0.000****)
H7	(a) Supported (b) Supported (c) Supported (d) Not supported <sup>a</sup>	PLS (-0.155****) PLS (0.092**) PLS (-0.116**) SPSS (0.000****)
H8	(a) Not supported (b) Not supported (c) Not supported <sup>b</sup> (d) Not supported <sup>a</sup>	PLS (-0.045) PLS (0.054) PLS (-0.037=) SPSS (0.000****)
H9	(a) Not supported (b) Not supported (c) Not supported <sup>b</sup> (d) Not supported <sup>a</sup>	PLS (0.034) PLS (0.037) PLS (-0.034=) SPSS (0.000****)

<sup>a</sup>The test is significant, but the result is in opposition with which is formulated in the hypothesis.

<sup>b</sup>The hypothesis is not supported given the level of significance of the test is too low ( $p < 0.10$ ).

= $p < 0.10$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\*\* $p < 0.001$ .

As shown in Table 1, onsite students performed better than those online ( $p < 0.001$ ). On the other hand, online students were more satisfied than those onsite ( $p < 0.01$ ). As for the moderator variables, autonomy had an influence on the relation between learning environments and student learning effectiveness ( $p < 0.05$ ), and this influence was more pronounced for online students than for those onsite ( $p < 0.001$ ). Anxiety and motivation had an influence on the relation between learning environments and student performance ( $p < 0.01$  and  $p < 0.05$ , respectively). And participation had an influence on the relation



between learning environments and student learning effectiveness ( $p < 0.001$ ), performance ( $p < 0.01$ ), and satisfaction ( $p < 0.01$ ).

### Open-Ended Questions

**Students' preferences in the course when using ICT.** In the first open-ended question of the Web survey students were asked to indicate what they appreciated the most in the course. Table 2 shows the themes extracted from the thematic analysis of the onsite and online students' responses. Boldfaced themes represent the interrelation between onsite and online students' responses.

**Table 2. The Elements Most Appreciated by Students in the Course When Using ICT**

<i>Onsite Students (n = 156)</i>		<i>Online students (n = 106)</i>	
<i>Themes</i>	<i>n</i>	<i>Themes</i>	<i>n</i>
<b>Professor</b>	<b>62</b>	<b>Professor</b>	<b>27</b>
<b>Course usefulness</b>	<b>59</b>	Course flexibility and schedule	24
<b>Access to the course material on the Web site</b>	<b>19</b>	<b>Course material</b>	<b>20</b>
<b>Course material</b>	<b>16</b>	<b>Prompt feedback</b>	<b>19</b>
<b>ICT use</b>	<b>16</b>	<b>Assignments</b>	<b>17</b>
<b>Assignments</b>	<b>11</b>	<b>Discussion forums</b>	<b>16</b>
<b>Student/student and student/professor interaction</b>	<b>9</b>	<b>Course usefulness</b>	<b>15</b>
<b>Discussion forums</b>	<b>8</b>	Distance course via the Internet	14
<b>Nothing</b>	<b>4</b>	<b>ICT use</b>	<b>13</b>
<b>Course structure</b>	<b>4</b>	<b>Access to the course material on the Web site</b>	<b>8</b>
<b>Evaluations</b>	<b>4</b>	<b>Course structure</b>	<b>6</b>
<b>Participation</b>	<b>3</b>	<b>Student/student and student/professor interaction</b>	<b>4</b>
Help	3	<b>Evaluations</b>	<b>3</b>
Onsite sporadic presence	2	<b>Collaboration</b>	<b>1</b>
<b>Prompt feedback</b>	<b>2</b>	<b>Participation</b>	<b>1</b>
Learning	2	Fulfillment	1
<b>Collaboration</b>	<b>1</b>	Buying some things on the Internet	1
Freedom of expression	1	<b>Nothing</b>	<b>1</b>

We can see in Table 2 that the elements most appreciated by both onsite and online students (in order of priority) are professor, course usefulness, course material, ICT use, assignments, access to the course material on the Web site, discussion forums, prompt feedback, student/student and student/professor interaction, course structure, evaluations, nothing, participation, and collaboration. Thus, we can conclude that whether or not students come to class to take courses, when the same set of ICT is used, they appreciate the same elements related to these courses. And, among the elements they appreciate the most, professor and course usefulness in every day life and for their career are by far in the lead. Clearly, professors again take a predominant place in the formation of students at the beginning of the 21st century.

**Table 3. The Elements that Students Suggest to Improve in the Course When Using ICT**

<i>Onsite students (n = 156)</i>		<i>Online students (n = 106)</i>	
<i>Themes</i>	<i>n</i>	<i>Themes</i>	<i>n</i>
<b>Professor</b>	<b>41</b>	<b>Course material</b>	<b>21</b>
<b>Presentation of the material</b>	<b>38</b>	<b>Professor</b>	<b>18</b>
<b>Course content</b>	<b>22</b>	<b>Nothing</b>	<b>15</b>
ICT use	21	<b>Presentation of the material</b>	<b>12</b>
<b>Amount of work</b>	<b>16</b>	<b>Assignments</b>	<b>11</b>
<b>Assignments</b>	<b>13</b>	Course structure	10
<b>Student/student and student/professor interaction</b>	<b>8</b>	<b>Evaluations</b>	<b>8</b>
<b>Evaluations</b>	<b>7</b>	Web site	8
<b>Course material</b>	<b>7</b>	<b>Amount of work</b>	<b>7</b>
Course organization	7	<b>Discussion forums</b>	<b>7</b>
Classroom	5	Feedback	5
<b>Discussion forums</b>	<b>4</b>	<b>Student/student and student/professor interaction</b>	<b>4</b>
<b>Nothing</b>	<b>4</b>	Technical aspects	1
Group size	2	<b>Course content</b>	<b>1</b>
Attribution of the courses to professors	1	Correction of assignments and exams (corrector)	1
Discipline	1	<b>WebCT use</b>	<b>1</b>
<b>WebCT use</b>	<b>1</b>		

**Students' suggestions for improving the course when using ICT.** In the second question, it was asked of students to suggest ways of improving the course. The themes derived from the thematic analysis of the onsite and online students' responses are presented in Table 3. Boldfaced themes represent the interrelation between onsite and online students' responses. The results show that the elements the students want improved in the course (in order of priority) are professor, presentation of the material, course material, assignments, amount of work, course content, nothing, evaluations, student/student and student/professor interaction, discussion forums, and WebCT use. Thus, we can conclude that whether or not the students come to class to take courses, when the same set of ICT is used, generally both sets of students suggest improving the same elements related to these courses. And, of the elements proposed, professor and presentation of the material are by far in the lead. As a result, whether the students take courses onsite or online, they place crucial importance on the professor and his/her teaching practice, as much to appreciate them when they are satisfied (as we have seen in the analysis of the first question previously in Table 2) as to criticize them when they are dissatisfied (as see in Table 3).

**Benefits of students' onsite presence when using ICT.** The third open-ended question of the Web survey asked students if the onsite presence provided benefits to them with the integration of ICT into higher education, and why? The themes extracted from the thematic analysis of the onsite and online students' responses are regrouped in Table 4. Boldfaced themes represent the interrelation between onsite and online students' responses. As shown in Table 4, students' responses to this question are regrouped in three categories: advantageous, non advantageous, and more or less advantageous. In the first category,

the two themes that are by far in the lead is that onsite presence allows a better understanding of the material and promotes student/student and student/professor interaction. As for the second category, the two themes that are most evident are that the students can learn as well at home with a book and that ICT allow students to take courses at a distance without onsite presence. For the third category, there is no interrelation between onsite and online students' responses.

**Table 4. To What Extent Students' Onsite Presence Is Advantageous When Using ICT**

<i>Onsite students (n = 156)</i>		<i>Online students (n = 106)</i>	
<i>Themes</i>	<i>n</i>	<i>Themes</i>	<i>n</i>
<b><i>Advantageous</i></b>	<b>4</b>	<b><i>Advantageous</i></b>	<b>1</b>
<b>Allows a better understanding of the material</b>	<b>55</b>	<b>Allows a better understanding of the material</b>	<b>25</b>
ICT complement the conventional classroom	26	<b>It depends for which course and type of student</b>	<b>15</b>
<b>Promotes student/student and student/professor interaction</b>	<b>21</b>	<b>Promotes student/student and student/professor interaction</b>	<b>9</b>
<b>If professor is not just reading PowerPoint slides</b>	<b>11</b>	<b>If professor is not just reading PowerPoint slides</b>	<b>5</b>
<b>Allows social contact</b>	<b>9</b>	<b>Allows social contact</b>	<b>4</b>
<b>It depends for which course and type of student</b>	<b>8</b>	Allows having more informations	4
No interest without onsite presence	6	<b>Some students need onsite presence to succeed</b>	<b>2</b>
<b>Some students need onsite presence to succeed</b>	<b>1</b>	Promotes student motivation	2
If the network is well functioning	1	It depends on undergraduate/graduate course	1
Gives a personal satisfaction	1	Promotes collaboration between students	1
		Onsite and online formation are a complement	1
<b><i>Non advantageous</i></b>	<b>2</b>	<b><i>Non advantageous</i></b>	<b>11</b>
<b>We can learn as well at home with a book</b>	<b>14</b>	<b>ICT allow taking courses at a distance</b>	<b>12</b>
Many students are playing with their laptop without listening to the professor	5	<b>We can learn as well at home with a book</b>	<b>8</b>
<b>ICT allow taking courses at a distance</b>	<b>3</b>	<b>Much waste of time onsite</b>	<b>4</b>
Professors have some difficulties using ICT	1	Some professors do not have a good teaching practice	1
All the material is on the Web site	1		
<b>Much waste of time onsite</b>	<b>1</b>		
<b><i>Neutral (more or less advantageous)</i></b>	<b>1</b>	<b><i>Neutral (more or less advantageous)</i></b>	<b>1</b>
No time to go to class, too much work	1		

**Impacts of students' characteristics when using ICT.** In the fourth question, students were asked to indicate the impacts of students' characteristics (autonomy, anxiety, motivation, and participation) into higher education integrating ICT. Table 5 shows the themes extracted from the thematic analysis of the onsite and online students' responses. Boldfaced themes represent the interrelation between onsite and online students' responses.

**Table 5. The Impacts of Students' Characteristics When Using ICT**

<i>Onsite students (n = 156)</i>		<i>Online students (n = 106)</i>	
<i>Themes</i>	<i>n</i>	<i>Themes</i>	<i>n</i>
<b><i>Autonomy</i></b>			
<b>ICT increase autonomy</b>	<b>34</b>	<b>ICT increase autonomy</b>	<b>32</b>
Autonomous students appreciate more distance courses	1		
<b><i>Anxiety</i></b>			
<b>ICT increase anxiety</b>	<b>13</b>	<b>ICT increase anxiety</b>	<b>12</b>
<b>ICT decrease anxiety</b>	<b>6</b>	<b>ICT decrease anxiety</b>	<b>6</b>
		Students have no apprehension about ICT	1
<b><i>Motivation</i></b>			
<b>ICT increase motivation</b>	<b>22</b>	<b>ICT increase motivation</b>	<b>28</b>
<b>ICT decrease motivation</b>	<b>2</b>	<b>ICT decrease motivation</b>	<b>4</b>
Onsite presence can have an influence on student motivation	1		
<b><i>Participation</i></b>			
<b>ICT increase participation</b>	<b>15</b>	<b>ICT increase participation</b>	<b>9</b>
<b>ICT decrease participation</b>	<b>9</b>	<b>ICT decrease participation</b>	<b>2</b>
<b><i>Others</i></b>			
<b>These characteristics have an influence on student learning outcomes</b>	<b>34</b>	<b>These characteristics have an influence on student learning outcomes</b>	<b>25</b>
<b>ICT use at the university is excellent for the workplace</b>	<b>6</b>	<b>No impact</b>	<b>5</b>
<b>No impact</b>	<b>6</b>	It depends on students	2
<b>I don't know</b>	<b>3</b>	<b>ICT use at the university is excellent for the workplace</b>	<b>1</b>
ICT use brings a certain security	2	Major impacts	1
		<b>I don't know</b>	<b>1</b>

As shown in Table 5, the three impacts that have been by far the most important for students are that ICT use at the university increases the level of autonomy and motivation, and that the students' characteristics (autonomy, anxiety, motivation, and participation) taken into account in this study have an influence on their learning outcomes. And the two next most important impacts for students of the two modes are that ICT use at the university increases their level of anxiety and participation.

**Table 6. The Impacts of Professors' Pedagogy When Using ICT**

<i>Onsite students (n = 156)</i>		<i>Online students (n = 106)</i>	
<i>Themes</i>	<i>n</i>	<i>Themes</i>	<i>n</i>
<b><i>Type of professor (professor must:)</i></b>			
<b>Be dynamic to keep students' interest</b>	<b>32</b>	<b>Make good use of ICT to bring motivation to students</b>	<b>25</b>
<b>Make good use of ICT to bring motivation to students</b>	<b>29</b>	<b>Be dynamic to keep students' interest</b>	<b>24</b>
<b>Get more familiarized with ICT</b>	<b>15</b>	<b>Be there for students</b>	<b>22</b>
<b>Be there for students</b>	<b>9</b>	<b>Have a well organized course</b>	<b>16</b>
<b>Be very engaged</b>	<b>7</b>	<b>Get more familiarized with ICT</b>	<b>6</b>
<b>Have a well organized course</b>	<b>6</b>	<b>Be very engaged</b>	<b>1</b>
<b>Promote ICT use</b>	<b>4</b>	<b>Promote ICT use</b>	<b>1</b>
Be confident	2		
<b><i>Teaching practice (professor must:)</i></b>			
<b>Use active learning techniques</b>	<b>27</b>	<b>Use active learning techniques</b>	<b>22</b>
<b>Motivate students</b>	<b>9</b>	<b>Provide prompt feedback</b>	<b>10</b>
Establish links between theory and real life	2	<b>Motivate students</b>	<b>2</b>
<b>Provide prompt feedback</b>	<b>2</b>		
Promote student/student and student/professor interaction	1		
<b><i>Others</i></b>			
<b>Very important impacts</b>	<b>6</b>	Few impacts	7
ICT use provides students with a good experience	3	<b>Very important impacts</b>	<b>1</b>
Professors' pedagogy has an influence on student learning outcomes	2	<b>No impact</b>	<b>1</b>
Most of the professors do not have a good pedagogy	2		
Technology is too present in the courses	2		
<b>No impact</b>	<b>2</b>		

**Impacts of professors' pedagogy when using ICT.** Finally, in the fifth and last question of the Web survey, students were asked to indicate the impacts of professors' pedagogy (type of professor and teaching practice) into higher education integrating ICT. The themes derived from the thematic analysis of the onsite and online students' responses are regrouped in Table 6. Boldfaced themes represent the interrelation between onsite and online students' responses.

Table 6 shows that the four impacts that have been by far the most important for students are: when we use ICT at the university, professors must be dynamic to keep students' interest, they must make good use

of ICT to bring motivation to students, use active learning techniques, and be there for students. We can see here that these impacts related to professors and their teaching practices (the two variables taken into account in this study to assess the quality of professors' pedagogy) are of crucial importance to students. And the next most important impacts for students of the two modes are that, when professors are using ICT at the university, they must have a well organized course and be more familiar with ICT.

### Conclusion

To conclude, much more research will be needed as technology-rich environments unfold. Better understanding of their impacts on students, professors, and educational institutions will be required in order to improve them or design new ones still better adapted to higher education students. We will continue to inquire into this exciting innovative field.

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**FLEETING THOUGHTS ON ENDURING NETWORKS:  
CONCEPTUALIZING THE ATLANTIC SCHOOLS OF BUSINESS CONFERENCE<sup>1</sup>**

**This paper sets out to analyze the (enduring) character of the Atlantic Schools of Business through application of an Actor-Network Theory (ANT) approach. Drawing on selected developments that occurred since 2000, the paper attempts to disturb the “black-boxed” character of ASB and reveal it as a series of inscribed processes that constitute its continuance.**

**...Opening Thoughts**

It seems as though few have been able to resist the all encompassing and powerful nature of the modernist discourse in which social entities are assumed to operate independently of our mental cognition (Chia, 1996; Latour, 1997; Prasad, 2005: 215). And we as researchers, having been trained to ‘see’ or ‘look’ for the ‘truth’ have been able to discern it, and in mirror like ways, portray it accurately for engaged audiences (Chia, 1995; 1996; Latour, 1997). It has been said that this single great modern episteme “sets limits to the conditions of possibility” (Law, 2001: 6). Like water spiraling down a drain, it seems that many academics and non academics alike, through conventional speech, text and the shared common sense of the social, have been or are being sucked into adopting and enabling this powerful modernist gaze to guide their everyday social perceptions and conceptualizations. In an effort to resist what seems to be an ever-present inclination of falling into and being trapped by an ill equipped manner of explaining social phenomena, the modernist tendency of explaining the social without accounting for the a priori assumptions which make it up must be disturbed. This has proven to be quite a difficult task.

The omnipresent nature of the modernist discourse haunts us in all aspects of our lives. The concreteness and static-ness which we ascribe to what we refer to as entities, organizations, workplaces, conferences or even concerts is very much part of the way we order our social fabric. In our speech, discussions and conversations about our work, social activities and in many facets of our daily existence, we ascribe fixity to effects of social processes which enable us to draw on reductionist simplistic accounts of what otherwise would be chaos to order our existence (Chia, 1996; Law, 1994). What fuels this paper is the need to describe the process in which we have come to speak of, refer to and conceptualize of the Atlantic Schools of Business (henceforth ASB) conference held annually for the past 36 years as an ontologically ‘real’ entity (Burrell and Morgan, 1979) with assumed natural like properties. How is it that in the order of things, in the patterning of the social, this annual academic conference has assumed ontological status, entity like properties that enable us to speak of it as a unified monolith, to draw on the term ‘ASB’ when we wish to engage in discussion concerning its nature? How is it that when we speak of ASB, we do not describe the endless bits and pieces of the social, material and technical (Law, 1999) that make it up but instead use the words ‘Atlantic Schools of Business’ conference and are confident that these words have come to stand for, that is, represent endless relationships and networks of social engineering (Law, 1992)? Finally, as actors consciously aware of and speaking of ‘ASB’ we are involved in its dispersion but how can we be confident that through the use of these words we elicit a shared notion of ‘ASB’? Are we aware that as actors engaging in speech about ASB we assume responsibility for its dispersion?

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<sup>1</sup> I would like to thank Albert Mills for comments on draft versions of this paper.



Instead of starting by “assuming what we wish to explain” (Law, 1992:2), that is, instead of assuming ASB as an ontologically ‘real’ entity or organization which acts according to natural law-like tendencies, this paper begins with a “clean slate” (Law, 1992: 2). It is only in this manner which we can foster an understanding of orderings of the various bits and pieces of the social, the mechanics of power of organization which have in this case been so successful in becoming durable aligned actants, that they have subsequently erased themselves and their chaotic tendencies from view. Through the interaction of the various heterogeneous materials of the social and their subsequent alignment in forming what we call ‘ASB’, a complex mode of ordering (Law, 1994; 2001) has emerged which both enables and constrains the actions of the various actants involved. It is this social pattern of orderings which has produced the effect we have come to refer to as ASB. It is the dispersion of this patterned network that constrains us in perceiving of ASB in any other way; thus forming a “false necessity” (Unger, 2004) within our social orchestrations. This paper draws on Actor Network Theory (henceforth ANT) in putting forth an emergent and processual explanation of ASB as a patterned network of the social, made of heterogeneous bits and pieces which through their alignment have erased themselves from view, thus created a “fallacy of misplaced concreteness” (Whitehead, 1985 as quoted in Chia, 1996:33). It is this erroneous belief; that which assumes and perceives of ASB as a static entity which this paper wishes to deconstruct. Instead, ASB is described and conceptualized of as an effect of a pattern of social ordering (Law, 1994), as an emergent process which is in a state of constant flux that is, a state of becoming (Chia, 1996; 1995). It is proposed that ASB not be understood as a noun, not as an organization but instead as a verb that is as a mode of organizing (Law, 1994; 2001).

Simply put, this paper describes the process in which ASB as an academic conference has become “black boxed” (Latour, 1987; Akrich, 1992), that is, how it has come to act as a single point actor, thus “standing for” (Law, 1992) the endless complexity which it has come to represent. The paper begins with a brief overview of ANT while fully acknowledging that *attempts* at accurately “representing” or “mirroring” (Chia, 1996: 38) that which the theory entails is entirely futile (Law, 1999). Secondly, ASB is described in ANT parlance that is, as a mode of ordering in which the heterogeneous materials of the social are organized as to reproduce year after year, an effect which we name the ‘ASB’ conference. Of particular interest for this analysis, are the ways in which certain actors within the ASB network who span multiple networks can be understood as enrolling other actants into alignment thus rendering the ASB network more durable. Specifically, the ASB call for papers will be discussed as a “material delegation” (Law 2001) capable of “acting at a distance” (Latour 1988). And finally, because “Writing is work, ordering work. It is another part of the process of ordering. It grows out of a context. It is an *effect* of that context. But then it goes on to hide that context.” (Law, 1994: 31), the paper proposes some final reflexive thoughts on the process of writing and researching. It will be proposed that this text also is an effect of a process, and that it too has the potential for assuming a concrete status, thus becoming ‘black boxed’, that is concealing its politicized process of creation from view (Latour, 1987). Lastly, the paper will propose that this new “inscription device” (Latour and Woolgar, 1979) has potential for contributing to the durability of the ASB network. But ultimately, the final conclusions of this paper are yours to make, as only you, the reader can assess the potential of this new inscription device; will I be successful in aligning your interests with that of the papers?

### **Notes on Actor-Network Theory**

Crucial to any analysis using actor network theory is an understanding of the social as emergent and processual (Law, 1994; 2001), best conceptualized as a verb as opposed to a noun. As Chia (1995; 1996) notes, social ordering is best understood as in a constant state of becoming as opposed to one of being. As this paper takes an ANT approach to understanding the social constitution of ASB, this section of the paper briefly describes its relevant inherent methodological implications. Specifically, ANT is

described as an approach focusing on relations between materially heterogeneous actants. It is articulated as symmetrical in its analysis of the social while not only appreciating but celebrating the complexity and multiplicity of precarious modes of ordering.

The focus of ANT as an approach to the social is primarily on the diverse relations that constitute processes of ordering, in which various effects are produced (Law, 1997). ANT takes a symmetrical stance in that it is committed “to explaining competing view points in the same terms” (Callon, 1986: 196). As a result, modernist dualisms are collapsed and treated as effects given through the discursive nature of the social (Law and Mol 1995; Law, 1997). Actor-network theorists look relationally and transitionally, such that they are concerned with the strategic displacement, movement, translation, alignment and enrollment of the parts making up the social; that is how it is coordinated (Law, 1992; 1997; 2001; Callon, 1991; 1986). The emphasis is on understanding the constitution of *durable* and *non-durable* networks, their materials, the trials of the implicated actors, their negotiations, failures, political acts and persuasions. Actor-network theorists tell stories of entities, that is how entities take their form and attain specific traits as a result of “their relations with other entities” (Law, 1997: 2; Callon, 1997). Comparable to many mini discourses (Fox, 2000), the social is understood as shaping and shaped by the complex relations among the heterogeneous materials that make up networks (Collins and Yearley, 1992; Law, 1991; 1992; 1994; 1997; 2001). It looks at actors as products of diverse sets of forces, who engage in political acts to enlist other actors in furthering their cause (Callon, 1997). But networks or actors are never “tied up”, that is they never reach that comparable to an ‘end’ state, but are ever changing as they are effects of patterns which are translated in becoming part of other ongoing patterns (Law, 1991; 2001; Latour, 1992). In this sense, the most mundane and taken for granted aspects of the social are exposed as composed of complicated webs of relationships (Akrich, 1992). But I can not ‘represent’ ANT truthfully, or be faithful to its accurate translation as any sanitized, mirror like ‘representation’ which does not account for the effect of the writer on the written is bound for failure. Perhaps the only opportunity in which a researcher can represent ANT is by “**performing** it rather than **summarizing** it” (Law, 1999: 1; original emphasis). The next section of this paper will perform an exploration of the ASB conference as a precarious process while also as a durable network of the social.

### **Opening the Black Box of ASB**

The ASB conference is an annual Atlantic Canadian conference. Drawing primarily small attendances made of a mixture of junior and senior researchers, the conference has miraculously maintained its annual reproduction for the past thirty five years. The idea of the continuous survival of the conference is mostly taken for granted by those researchers who attend it. But once the black box (Latour, 1987) of ASB is opened, once we start exposing the complexity of the relationships making up the social ordering of ASB and following its network of associations, the mundane becomes exciting and our modernist tendencies of imposing order and simplicity on complexity are exposed (Chia, 1995; 1996; Law, 1994).

The first step in opening black boxes is a thorough disturbing of the comforting idea of ASB as a static entity. Instead, and as this section of the paper will show, it is proposed that ASB be thought of as a relational effect of the ordering of materially heterogeneous actors. Specifically, the section begins with a brief explanation of the effect of ‘naming’ and the process by which effects of the social become black boxed. Although the ASB network has proven itself durable for the past 35 years, this paper will focus on the years 2000 – 2006 in outlining an important series of strategic translations in which the trials and successes of actors performing interest work, enrolling and translating other actors have been instrumental in rendering durable the ASB network. In describing this complicated non-linear process of alignment, translation and enrollment, the relationships among technological as well as human actors will be mapped to determine how their precarious orderings have punctualised (Callon, 1991). Specifically, three

material delegations which have come into being and have grown as powerful actors within the ASB network will be discussed to outline the heterogeneity of the ASB network. These heuristics are the newly developed ASB web site (<http://asb.acadiiau.ca/index.html>), the call for papers published by the ASB 2006 hosting university: Mount Allison University (<http://www.cira-acri.ca/docs/ASBcallfor%20papers2006.doc>) and the ASB proceedings. Finally, the paper will focus specifically on the call for papers to discuss the potential for this actor in “shifting action around itself” (Akrich & Latour, 1992: 259).

As previously mentioned, ASB has been assumed as a concrete entity, and through this assumption has been given ontological status (Chia, 1995: 1996). When we speak of ASB, we do not describe the process of alignment of its various actors; we do not describe how they have come to act in a unified manner but rather assume that through the order of things, they have. Naming is both enabling and/or deceiving. It enables us to draw on (in this case) an acronym to refer to a set of relational practices, thus allowing for the easy transportability of the term. In another sense, it is deceiving as complexities “are lost in the process of labeling” (Law, 1997:6). We draw on the ‘tidy’ term ‘ASB’ assuming its coherence and neatness; a word which represents while simultaneously hiding its chaotic nature (Law, 1994; 2001). By disturbing this notion, we are able to recover the complexities that have until now been concealed from view.

The ASB network is an effect produced through the heterogeneous ordering of its aligned actors (Law, 1994). Ironically, what seems at first a simple network is a complicated precarious mode of ordering and organizing. It is composed of interacting actors and inscriptions who engage in political work to interest other actors in engaging in their cause (Law, 1992). Once a multitude of heterogeneous actors have come to act as one, that is to engage in same causes, act in unison towards the same goals, share a program of action, they become known as “punctualised actors” (Callon, 1991). Since a multitude of actors engaged in a cause, come to act in unison and represent that cause, the network they represent can actually be understood as an actor or a “punctualised actor”. The process of punctualisation converts an entire network into a single point or actor into another network (Callon, 1991:153). It is in this sense that we can understand actors as networks and networks as actors (Callon 1997; Latour, 1997). But to understand this process of punctualisation or alignment of interests which is crucial in network formation, we must go back and forth continuously between the heterogeneous materials making up a particular chain of association of ASB because it is through this “incessant variation that we obtain access to the crucial relationships” (Akrich, 1992: 209; Law, 1997). As such, we must follow the trail or the chain of inscription to illuminate or describe the process by which the actors of ASB have become ordered (Akrich and Latour, 1992; Latour, 1987).

ASB is made of actors but if we dig deeper, we see that ASB is actually made of a series of punctualised actors or as we will come to understand: ASB is itself a network made of a series of networks. ASB as a network has enrolled academics mostly from the Atlantic Provinces into attending and thus reproducing the conference for the past 35 years. Some of these enrolled actors more dedicated than others, have attended the conference almost yearly with their papers frequently appearing in the conference proceedings while other actors have not proven to be as successfully enrolled. It is these series of translations among actors, enrollments and counter-enrollments which make up and give ASB its distinctness as a network (Law and Mol, 1995). But these enrolled academics can also each be understood as networks for they stand for an endless series of ideas, thoughts, and research agendas as well as all the relationships in which they engage daily and are shaped through. The academic is a relational effect of the heterogeneous bits and pieces of the material and the social (Law and Mol, 1995). The academic can be understood as standing for a network but since all of the actors making up this network are aligned into acting as one, the academic is a punctualised actor. Since actors are networks and network actors, it is important to recognize that actors in various stages of their existence

simultaneously enact and contribute to differing memberships in multiple networks (Leigh Star, 1991:30; Callon 1997; Latour, 1997; Law and Mol, 1995; Akrich, 1992).

The network of ASB undertook a series of crucial translations beginning in the year 2000, influenced primarily by actors enacting differing memberships in various networks. The year 2000 marked the beginning of Saint Mary's University's (henceforth SMU) PhD program in management, the only of its nature in the Atlantic Provinces of Canada. Some SMU faculty members, who were simultaneously enrolled in the ASB network, played a role in constructing the PhD program at SMU. Because the SMU faculty members who were enrolled in the ASB network saw ASB as a valuable venue for junior researchers, three of the six individuals making up the first cohort of the SMU PhD became interested in the notion of the ASB conference and its non-threatening atmosphere to present a first paper (ASB Proceedings, 2000). Their interest in ASB as a conference to present research was very much a "consequence of the relations in which" (Law, 1997: 2-3) these students were located. Because the SMU students were themselves becoming indoctrinated into a "thought collective" (Fleck, 1935) whose principle actors were already enrolled into the ASB network, they too became successfully enrolled in attending the ASB conference. The various ASB enrolled faculty members at SMU continued to perform interest work on behalf of the ASB network, sharing their thoughts on the valuable nature of a small and local conference which could provide incoming PhD students a great venue to gain experience on presenting research.

As we have begun to see, understanding the network of ASB means to focus on actors, their relations and associations, which inscribe, impute and shape the make up of all other actors involved; the way they translate others interests to that of their own (Callon, 1991; Latour; 1986). The ASB network in 2000 had successfully enrolled three actors (ASB Proceedings, 2000) due to the strategic work of ASB enrolled SMU faculty members who through engaging in political work had been successful in showing the value of a local conference for incoming PhD students (Callon, 1991). Through their enrollment into the ASB network, the SMU PhD actor's interests had been altered in a manner consistent with that of the ASB network, potentially making future translations easier. Ultimately, through the affiliation of the enrolled SMU faculty as well as the three enrolled SMU PhD actors a powerful connection was established. In 2001, the ASB network was successful in aligning another SMU PhD actor (ASB Proceedings, 2001) while in 2002 four SMU PhD actors were enrolled into the ASB network (ASB Proceedings, 2002). Interestingly, three of the four SMU PhD actors enrolled in 2002 had begun their PhD earlier that year hinting to the previously mentioned notion of indoctrination into a "thought collective" (Fleck, 1935). As the PhD program continued to grow and enlist incoming students, these incoming students began simultaneously spanning the ASB network. In 2003, eight SMU PhD actors' interests were aligned and enrolled into the ASB network thus contributing to its annual reproduction (ASB Proceedings, 2003). In 2005, at least seven SMU PhD actors were successfully enrolled in rendering the durability of the ASB network (ASB Proceedings, 2005). This steady accumulation of translations of SMU PhD actors was extremely powerful in influencing future translations. Within the SMU PhD network, it became commonplace to speak of the ASB conference as a 'thing' or 'place where we catch up on what our colleagues are up to' thus reinforcing the notion of its unproblematic reproduction and entity-like status. The ASB network among SMU PhD actors as well as SMU faculty actors took on an air of permanence partially due to its perceived value which none wished to disturb. But while all of these actors contributed to the reproduction of the ASB network, some SMU PhD actors began to do so in a remarkably durable manner.

As has previously been mentioned, the ASB network is rendered durable when its various actors are able to punctualise that is act in alignment. But also contributing to the durability of a network is its ability in enlisting durable actors. Beginning in 2002, four SMU PhD actors took part in reviewing papers submitted for the conference (ASB Proceedings, 2002). Even more remarkable was the year 2005, where ASB's network enrolled four dedicated SMU PhD students as area chairs (ASB Proceedings,

2005). In the same year, two SMU PhD students enrolled in the ASB network took part in its executive council while at least another ASB enrolled actor who also part of the SMU PhD became active as a reviewer for the conference (ASB Proceedings, 2005). By contributing and participating in various processes that are crucial to the reproduction of the conference, these actors become vital to the reproduction of the ASB network.

Until this point, our analysis has focused on the enrollment of human actors into the ASB network and their contribution to its durability as well as yearly reproduction. But as has been previously articulated, ASB as a heterogeneous network of the social, made of actors of all kinds, social natural and technical who interact, ASB is an effect of this process (Law, 1999: 3; Latour, 1997; Law and Mol, 1995). What is fascinating about ASB and its durability is that it until 2005 the network had little or no ‘formal organization’, that is little physical trace of ASB was left from year to year. Little or no material actors were enrolled in the ASB network in a durable manner such that the network had little trace of inscriptions, no written instructions for organizing the conference, formal e-mails describing the ‘way the conference should occur’ or the ‘way resources should be allocated’. Rather ironically, as academics attending the conference, as actors’ part of the ASB network, we unproblematically assumed its annual reproduction.

Upon inspection, only three inscribed material effects of ASB in which ‘descriptions’ of certain processes have been ‘inscribed’ in a durable manner come to mind (Akrich, 1992; Akrich and Latour, 1992; 1991). First, the conference proceedings which are published yearly after each meeting, second, the call for papers, put out by the hosting university and third, a newly formulated ASB web site. These inscribed materials are effects produced through the network of ASB; they are actors which in part form the ASB network. But when we focus on these three material effects of ASB, we can also understand them as networks as they represent their specific lists of trials, competencies (Latour, 1991), efforts and political acts giving them their distinctness (Law and Mol, 1995). The ASB web site for example was formed by a group of enrolled ASB actors, of which at least two spanned the SMU PhD network. Through their commitment to the durability of the ASB network, these actors felt that such a site would “more formally bring together” its members (<http://asb.acadiau.ca/index.html>), that is allow for an easier process of “intéressement” and possibly enrollment into the ASB network (Callon and Law, 1982). Focusing specifically on the call for papers, the next paragraphs describes this inscription device as a “material delegation” (Law, 2001) capable of interest work and possible enrollment of academics.

The call for papers is an example of a particular mode of ordering which has been delegated to nonhuman materials, thus a “material delegation” (Law, 2001). Reflect on the role of the call for papers: it is a public notice distributed by the ASB hosting university facilitating the effective dispersion of crucial information in hopes of enrolling actors onto its network (<http://www.cira-cri.ca/docs/ASBcallfor%20papers2006.doc>). The call for papers is noteworthy in at least two respects. First, the call for papers has the capacity to act in a durable manner as it is inscribed. This inscription in turn renders durable the network of ASB, as effortlessly, it spans spatially reaching a wide readership (Latour, 1991; 1992). Second, it stands for, speaks on the behalf and thus replaces the actors who have created and are responsible for its initial dispersion. It has become a punctualised actor, representing the aims of its aligned actors. It begins a process of “intéressement” (Callon, 1997) followed by a very political process of enrollment where other actors interests (Callon and Law, 1982) will be bent and reshaped in alignment with that of the call for paper’s. In this sense, the call for papers does not “have power” but instead powerful relations are produced through its effective dispersion (Calas and Smircich, 1999: 663). It has the capacity to get other actors “whether they be human beings, institutions or natural entities – to comply with” it (Callon, 1986: 201). In this way, the call for papers can be understood as shifting “actions around itself” (Akrich & Latour, 1992: 259). This materially delegated inscription assumes power through its ability to “lock in” other actors in the conference’s program and plan of action (Callon, 1986). The various academics who received the call for papers now have a choice: they can

either be enrolled into the ASB network or refuse enrollment (Callon and Law, 1982; Callon, 1986). But it must be remembered that enrollment onto the ASB network is done within the ASB networks strict guidelines, always on their terms. Thus the power of the ASB network is maintained through its actor's relations and translations.

As has been illustrated, actors are made of a series of translations that "shape and determines subsequent translations" (Callon, 1991: 150). In this sense, actors can be understood as effects of those translations. But as networks are built and torn through a series of actors engaging in interest work, enrollment, alignment and translations (Law, 1992), two noteworthy points are in order: first, it is important to remember that the patchwork of the social is made both of cohesive and non cohesive networks (Law and Mol, 1995), and second these networks can never be understood as 'last instances' but rather understood as emergent "circuits that tend to reproduce themselves" in variations (Law, 1991: 18; Law and Mol, 1995; Callon, 1991). But this re-production is precarious, dependent on a multitude of relationships becoming stabilized (Law and Mol, 1995). The thirty five years of ASB's reproduction are achievements in which a network has been successful in interesting, enrolling, translating interests. Its reproduction enables us to tell tales of alignment of interests, enrollment and translations of many actors, SMU PhD students, SMU faculty and other durable material delegations. Its apparent capacity to translate all its actors to act in unison tempts us to assume its unproblematic reproduction. Finally, it provokes us to assume ASB as a unified monolith or concrete entity.

### **Closing Thoughts...**

As previously noted, this paper can not simply end with a conclusion of ASB as black boxed. This paper must instead close with some thoughts on the process in which an order was imposed on a multiplicity of events, data and information about ASB to produce what appears now as a linear and ordered account. Some reflexive thoughts are needed to comment on how this account, that is the explanations provided in this paper have or will contribute to the black boxing of ASB. How will this story of ASB contribute to the durability and dispersion of the network? By stopping my account after the explanation of ASB as a black box, and not reflecting on the way in which this text, this explanation was socially constructed, the bits and pieces of the social which have rendered it possible would be hidden from view. Without reflexivity, that is a text taking into account its own production and the "researcher/theoretician's complicity in the constitution of their objects of study" (Calas and Smircich, 1999: 651; Latour, 1988; Kuhn, 1969), this text too would appear fictitiously as a black box.

This text is a product of a particular mode of ordering. The idea of crafting a history for ASB was fueled by the interests brewed in a particular PhD cohort's qualitative methods course. As many PhD students are continually enrolled into the ASB network, the idea of this assumed entity as having no formal history appealed to the facilitator of the course. An undergraduate was enrolled onto the project and began a process of gathering ASB proceedings and transcribing information about the conference into a database. Because the SMU faculty member who facilitated the qualitative methods course is a strongly enrolled ASB actor, he saw much value in engaging each of his students in crafting a text; that is inscribing multiple version of an ASB history in an attempt to begin unearthing its particularities. As it has been agreed upon that these texts be presented at the annual ASB meeting in September of 2006, this SMU faculty member was successful in translating the interests of those in the course, and enrolling them once again into the ASB network. Finally, it should be noted that the actors which have been enrolled into the ASB network as part of researching its past are now engaged in contributing to its durability.

As such, this text is a network; it is a durable network which represents thoughts, ideas, inscriptions such as the call for papers, ordering, ASB proceedings, colleagues, advice and qualitative methods of the social with pre-fabricated social categories (Law 1994). The list goes on. The text is a

relational effect of the strategic and instrumental alignment of the listed actors (Callon, 1991; Law and Mol, 1995). But these actors had to be drawn together in what Law calls a “centre of calculation” (Law, 2001: 8). Information was collected, gathered, assembled and transcribed in one location where all that was relevant could be seen in order to calculate which bits would fit with other pieces. If we were to trace the network of this text, we would find a whole set of events and processes and other texts which were drawn together that is, were translated into this text. This text has become a material delegation for telling the ASB story.

But as you read this text, those bits and pieces which have contributed to the creation of a linear story have concealed themselves from view. The order which I ascribe to the fleeting ideas and thoughts which make it up appear static as they are “inscribed” (Latour and Woolgar, 1979) on the page. Their static appearance is fictitious as they have already changed since I have written them, having been read by you the reader, who with a head full of other competing thoughts will have interpreted them in a way not entirely consistent with mine. It is in this way that knowledge and words can only be understood as ‘emergent’ (Law, 1991). This imposed order has created a story which is one of many competing narratives about ASB. It is hoped that the reader will be ‘interested’ (Callon and Law, 1982) in this account of ASB, it is hoped that the reader will be enticed by my ‘explanations’ (Latour, 1988) and maybe ‘enrolled’ (Callon and Law, 1982) into the ASB network. This punctualised actor has potential for dispersion (Callon, 1997) though its reader, will you be responsible for its dispersion?

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## **EMERGENCY LEADERSHIP: APPLYING A TIME BASED TYPOLOGY TO UNPREDICTABLE AND UNPREDICTED SURPRISES**

In this paper, the largely forgotten realm of emergency leadership is considered using the Predictable Surprise categorization detailed by Bazerman and Watkins (2004). The author suggests that the unpredictable nature of emergencies offers a unique opportunity to utilize a heuristic coined a "Time/Emergency Phases Matrix" to represent the unfolding of the events and decisions related to the emergency against a time scale. The potential application of Mitroff's existing phases of crisis management is proposed as a sensible starting point in the conceptualization of common phases of emergency leadership.

There has likely always been an interest in the prevention and mitigation of emergency situations. The very act of management involves making predictions and then acting upon them, consequently dealing with both the anticipated and the unanticipated, should those predictions not be borne out. Likewise, the timing and the results of a crisis may not be predictable and so the event(s) (and thus the appropriate response) require decision-making in situ. This poses unique problems with regards to training and preparation which further exacerbates challenges in terms of recognition of an emergency and an appropriate response.

Typologies represent useful ways of organizing information in such a manner that patterns become evident and comparison/contrast analysis becomes possible. Past typologies of crises have ranged from the simplistic natural versus manmade categorizations, as in the distinction made between crises and emergencies (Mitroff & Anagnos, 2001), to the more sophisticated typologies of Mitroff, Shrivastava, and Udwadia (1987) which place the internal-external dyad on one axis and the people/social/organizational-technical/economic dyad on the other dimension of a 2X2 matrix. This renders a typology that is then used to examine types of corporate crises, causes and sources of corporate crises, and preventative actions for corporate crises. In a more recent work, Pearson and Mitroff (1993) continue to use the same heuristic as described in Mitroff's earlier work, further taking the opportunity to identify four major crisis management variables (type of crisis, phases of crisis, organizational systems involved in the crisis, and stakeholders who are involved).

While a notion of five common phases of crisis management is identified (Pearson & Mitroff, 1993), what seems to be missing from the literature is an equally nuanced notion of a typology of emergencies based upon their predictability as well as their timing characteristics being uppermost in importance.

The time element of a crisis or an emergency is important. It may variously represent the rapidity of onset of the event, the duration of the event, or even the frequency of changes during the event. Time has been used in a limited way for categorical distinctions of crises as "sudden versus smoldering" (Hayes-James & Perry-Wooten, 2005) and more elaborate survival analysis modeling of abrupt versus cumulative crises (Hwang & Lichtenthal, 2000), yet little work has been done specifically regarding emergencies. An advantage of a more sophisticated typology that is based upon timing (rather than definitional or modeling approaches) is the opportunity to make use of timelines which represent the

unfolding of the event. Through the mapping of other characteristics of the emergency with a common time scale we would be able to observe differences and similarities between different events, different perspectives or aspects of an event, or different levels of an organization during the event, *all predicated upon the nature of how the particular events, decisions, and responses unfold over time*. This approach represents an atypical, cross-sectional comparison which allows for comparison of patterns from different industries and situations, in part offering a potential tool that answers the calls to expand the time frame of crisis analysis (t Hart et al., 2001), although in this case specific to emergency events.

The use of time as a common platform for a typology also allows for a common reference point from which to encourage multidisciplinary approaches to the analysis of emergencies. This common reference point goes some way towards addressing calls for integration of different approaches towards the research of organizational crises, a lack of which has been identified as having kept this research on the “periphery of management theory” (Pearson & Clair, 1998)

This type of analysis is especially important when one considers the nature of crisis/emergency leadership and the preparation and training for the same. The ability to categorize “typical” emergency situations is useful in a training and education context. Through analysis of the similarities and differences of categories of emergencies using timeline based typologies, we as trainers and educators are able to present more realistic models of evolving events contrasted with the comparatively static notions associated with the nature of such situations. There are suggestions that in expert problem solvers, the effective organization of knowledge has beneficial ramifications for both efficacy and efficiency in a novel problem solving domain (Dorsey et al., 1999). Similarly, in discussions regarding the organization of knowledge, Kraiger et al identify two important characteristics of mental models; namely their complexity and the degree of interrelationship between their elements (Kraiger et al., 1993). This blending of problem definitions and solutions is said to enhance strategic knowledge access and therefore reduce the time to come to a solution, both of which are key factors in the successful management of an emergency. Thus, in this essay the groundwork for a chronologic typology of emergencies is developed. The implications for this perspective upon the relatively ignored realm of leadership specific to emergencies will be explored. Lastly, future directions are discussed.

### **Leadership versus Management Definition**

The distinction between leadership and management is somewhat unclear and potentially contentious. The notions of both leadership and management are likely to contain references to similar actions undertaken within and by both managers and leaders; however the differences are poignant in the case of an unforeseen and therefore rapidly evolving situation. In *Leadership: Theory and Practice* (Northouse, 1997)<sup>1</sup> makes the distinction between management as producing order and consistency, contrasted with leadership as that which produces change and movement. These distinctions may be best conceived as definitional end points on a continuum which may encompass a multitude of business concerns and processes. In such a conception, we begin to approach the notion of archetypes in the management/leadership dyad (see Lalonde, 2004). What is clear is that a nuanced concept of management and leadership requires an equally nuanced notion of crisis/emergency typology to be of practical use.

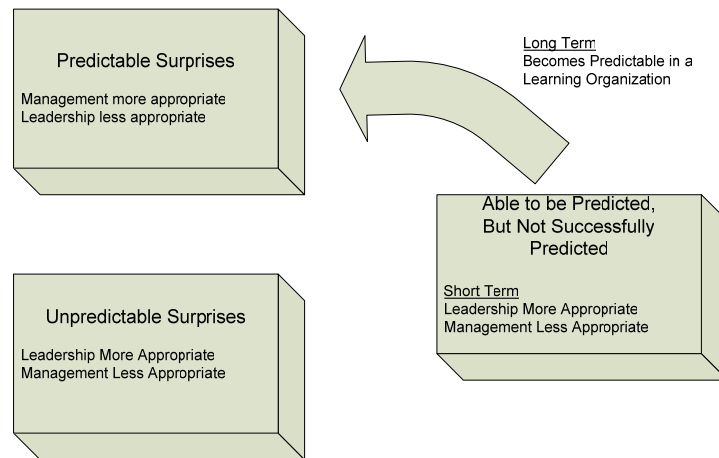
### **Implication of Differences between Management and Leadership**

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<sup>1</sup> Contained in Figure 1.2 on page 9 and adapted from Kotter’s (1990, p. 3-8) *A Force for Change: How Leadership Differs for Management*

If we superimpose our conception of the management/leadership continuum upon a categorization of crises/emergencies, we can make propositions regarding the most appropriate response, be it more management or more leadership based. Especially useful in exploring differences between management and leadership in an emergency context is the categorization of events as surprises both predictable and unpredictable (Bazerman & Watkins, 2004). Predictable surprises are events which are predicted successfully and can therefore be planned around and managed successfully. Unpredictable surprises are those which are not successfully predicted and are, by definition, unforeseen and of rapid onset from the viewpoint of the unprepared firm. It further follows that unpredictable surprises can either truly be unpredictable or are only unpredictable because an organization has poorly adapted environmental scanning practices. Figure 1 illustrates these categories:

**Figure 1 Surprise Events and Leadership/Management Appropriateness**



The above superimposition naturally elicits the following generalized propositions:

- P1. Surprise events which are predicted and prepared for are more effectively dealt with using a management approach.*
- P2. Surprise events which have not been predicted and prepared for are more effectively dealt with using a leadership based approach.*

### **Crises/Emergencies**

Typically, most definitions of crises characterize a crisis as focusing upon disasters of manmade origin, whereas emergencies are seen as being primarily disasters of natural origin (Mitroff & Anagnos, 2001). The distinction of the origin of the threat to the organization becomes less important when the event is viewed in light of the implications of the predictable versus unpredictable surprise model of Bazerman & Watkins (2004). Predictable events that have either been successfully prepared for or could have been predicted and thus prepared for are well captured by the framework of crisis management as developed by Mitroff and colleagues. Unpredictable surprises are not, by definition, able to be managed in the same way. Thus the individual's perception of the rapidity of onset of the event (which embodies the aspect of predictability to some extent) is a critical factor in explicating the requirement for a more leadership versus management based response. I suggest therefore that a crisis may be better characterized as being an event that has been predicted or ought to be reasonably predictable, whereas a more pertinent working definition of an emergency might be "... any sudden set of circumstances

demanding immediate action.” (Kelloway et al., 2006), which captures some of the rapidity of onset (and unpredictable) nature of the event.

### **Leadership and Emergency Events**

For the purposes of this work we will not specifically address the origin of the event, but rather look to its predicable or unpredictable nature as a proxy for the perceived rapidity of onset as experienced by the individuals involved. This perspective is critical, for it poses questions regarding the applicability of current models towards the leadership and /or management of unpredictable (or emergency) situations. The common emphasis put upon environmental scanning and signal detection of events fundamentally assume that the event is either predictable or ought to be predictable. The rapid onset (from the participant’s viewpoint) of unpredictable surprise events (or, for that matter, events that should have been predicted but were not) renders discussion about how signals should have been detected less applicable, at least until a post-emergency analysis is conducted. More crucial in the emergency context is how the organization is guided through the unfolding of the event to a post-event context. Being unpredictable or at least unpredicted, embodies a type of dynamism that the order and consistency of a managed approach may not be able to contend with. Leadership, however, may well be an appropriate focus, because it is intended to produce movement or change (presumably, change for the better, although it could conceivably worsen the consequences of the event as well). Leadership is thus our focus when examining the organization in the grips of an unpredictable surprise.

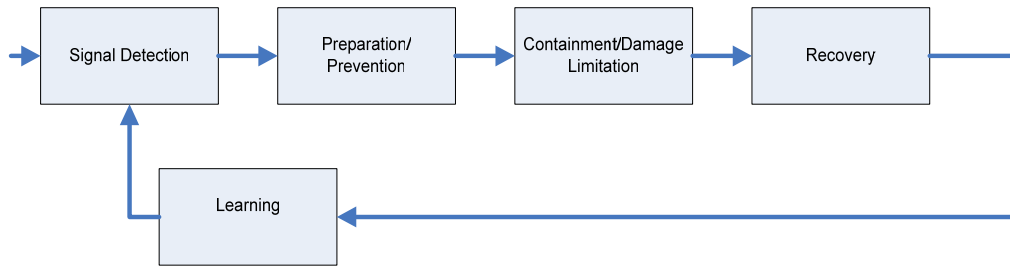
### **Typology as a Tool for Inquiry**

If we wish to be able to begin empirical inquiry into the nature of emergencies, types of leadership, and types of events, we require a method to differentiate between events that both captures sufficient nuance yet paradoxically allows for categorization. More specifically, our interest lies with those unpredictable surprise events, in which the onset is seen as instantaneous by the actors involved. If we can typify unpredictable surprises and then match these events with observed leadership styles (even from a variety of theoretical perspectives) and outcomes, then we have a framework for an empirical inquiry into efficacy of leadership in such rapid onset situations. In essence, this would allow an exploration of a sort of situational leadership theory based upon the nature of the event and not solely the attributes of followers who are involved. This kind of analysis would be useful to practitioners, researchers, and those who educate and train leaders and managers. Particularly useful would be a framework which would allow comparison between not only other emergency situations but also would also be compatible with earlier work done predominately in the predictable surprise (i.e. crisis) milieu.

### **Heuristic Characterization of Emergencies**

The crisis management literature (Mitroff, 1988; Pearson & Mitroff, 1993; Pearson & Clair, 1998) proposes that crisis management has five phases: signal detection, preparation/prevention, containment/damage limitation, recovery, and a learning phase that offers the opportunity for feedback post-crisis. These five phases are illustrated in Figure 2:

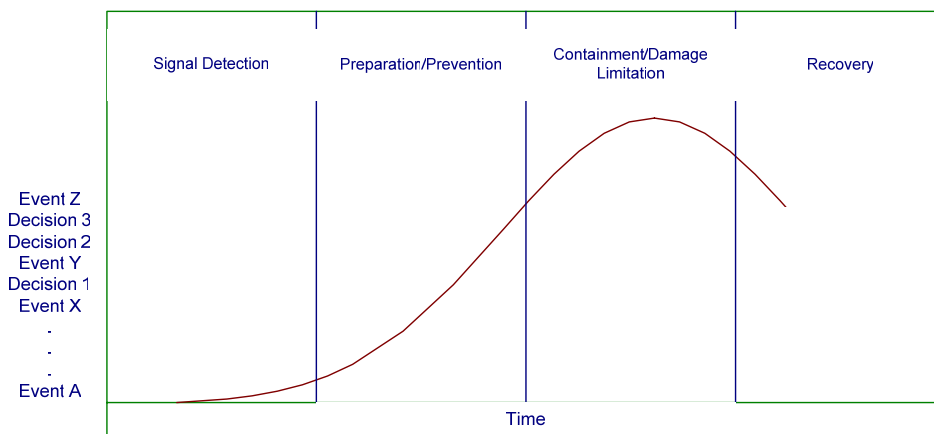
**Figure 2 The Five Phases of Crisis Management (Mitroff, 1988)**



Kelloway, Francis & Montgomery (2006) further expand the discussion of these five phases and note that “Although the benefits of a proactive response to emergencies are well known, many organizations resist this view and, in fact, do not implement any systematic preparation for emergencies.” (Kelloway et al., 2006). Some work has been done to explore how culture may influence the onset and response of an organization or individuals to crises (Balamir, 2002; Elsubbaugh et al., 2004; Hopkins, 1999) and a limited exploration of the role of power and politics in crisis management (’t Hart, 1993; ’t Hart et al., 2001; Drury & Olson, 1998). Many approaches to crisis management offer a variety of psycho/social/cognitive perspectives (Loosemore & Hughes, 2001; Paton, 2003a, 2003b), however the very nature of an unpredictable surprises embodies a schism between generalized awareness of the need for systematic preparation yet at the same time being unprepared. The literature regarding leadership in the rapid onset emergency situation is strangely silent.

The plotting of key events and decisions along a time scale using a matrix offers the possibility of utilizing these proposed phases to build a typology of rapid onset emergencies. The unpredictable surprise definition of an emergency renders a discrete “time zero” or starting point for the application of Mitroff’s Five Phases of Crisis Management, but specifically applied to the unpredictable surprise/emergency context. A diagrammatic representation of such a matrix is found below in Figure 3:

**Figure 3 Time/Emergency Phase Matrix**



By way of explanation, in Figure 3 a time scale resides on the horizontal axis and the various critical events and decisions have been placed on the vertical axis. These events and decisions are arranged in order of occurrence, starting at the axis intercept with the horizontal time dimension and progressing upwards. The researcher has further indicated where the changes between the various

phases<sup>2</sup> of Mitroff's framework occur and further has connected the data points, creating a curve. This provides a useful heuristic for the diagnosis and discussion of the time-related characteristics of any given emergency situation, consistent with the notion that "crises may be better understood through the way they develop." (Hwang & Lichtenhal, 2000). The curve is also instructive in that should the temporal order of events not properly coincide with Mitroff's proposed ordering of the phases (though in this case of emergency leadership, not of crises management), it will be noted by the researcher<sup>3</sup>. It further allows comparative analysis and to some extent also allows for the association of past leadership strategies of events of urgency that occupy specific locales within the diagram. In this regard, we can conceive of the opportunity to make propositions based upon the time related nature of the event. For example, we might suggest that the length of time spent in the Containment/Damage Limitation Phase varies inversely with the length of time spent in the Preparation/Prevention Phase for a given organization. When propositions of this sort are embedded within a theoretical perspective (for example, a particular theory of leadership) we can begin to build realistically testable hypotheses.

We now have some unique opportunities. The very nature of the rapidity of onset of an unpredicted surprise renders a discrete "time zero" for the typology. We may therefore use typologies of emergencies that represent patterns of change in the nature of a crisis over a certain time period. Through making explicit the nature of how a situation unfolds over time, we can build a typology based upon the similarities and differences of curves created using the time/emergency phase matrix. These benefits allow sufficient complexity, flexibility, and applicability to a variety of research interests and perspectives. These benefits also render a potentially worthy training and educational heuristic.

### **Implications: Towards A Situational Theory of Emergency Leadership**

Typically, situational leadership is used to reference the approach used by Hersey and Blanchard, which proposes different types of situations require different types of leadership (Northouse, 1997). Interestingly, their directive behavior/supportive behavior matrix has been used extensively to evaluate appropriate situational leadership for any given development level of followers. What is less clear is the relationship between appropriate style of leadership and the nature of the situation itself, to some extent regardless of the individuals involved. We are left to ask ourselves if it is always the case that the development level of followers should be privileged above all else? It seems intuitive that rapid onset, high stakes situations might require different situational leadership styles than a slower onset, low stakes situation. With the use of a Time/Emergency Phase Matrix approach we are able to make forays into the

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<sup>2</sup> The reader has likely noticed the absence of the learning phase of Mitroff's framework from the time/emergency phase matrix. This omission is due to the inability to represent the ongoing feedback nature of the learning cycle implicated in Mitroff's conception of the learning cycle when only one particular emergency is represented diagrammatically. This however does not render the use of a time based framework for analysis inappropriate in the case of the learning feedback cycle. A researcher could, for example, track longitudinally the length of time from the first identification of a "lesson learned" and the formal, documented occurrence of organizational behavior change related to such a lesson learned. The researcher could conceivably chain together time/emergency phase matrices of a number of emergencies that appear linked causally, thus offering the opportunity to discover the existence or duration of organization learning feedback loops.

<sup>3</sup> There are a number of reasons that the account of a crisis might not be in conformance with Mitroff's phases model. One interesting possibility relates to how individuals retrospectively make sense of such occurrences. Weick's sensemaking perspective (Weick, 1995) maintains that individuals invoke plausibility rather than accuracy when socially constructing their world. It seems that breaks in the linear temporality of accounts found via use of the time/emergency phase matrix might also represent possible instances of Weickian sensemaking failures (or, indeed, times of "extraordinary sensemaking", beyond the day-to-day variety).

realm of a situational leadership model that examines the appropriateness of leadership styles based upon the temporal characteristics of the particular crisis/emergency.

The use of the Time/Emergency Phase Matrix offers a method that answers, in part, the call to investigate the role of leadership styles in crises (Simola, 2005), albeit in a narrow emergency context. The approach also allows for empirical inquiry to be made in a field that has generally opted for a more qualitative approach to research questions. In this respect the contribution is unique, perhaps due to the fact that any effort to quantify the nature of the unfolding of an event would require a discrete temporal starting point for the analysis. It is the application of the Bazerman & Watkins (2004) Predictable Surprise categorization that renders it possible to identify the individual actors' "time zero" for the typology and subsequent analysis.

The Five Phases of Crisis Management as identified by Mitroff are both logical and trainable. The extent to which these phases are applicable to the emergency context should be subject to debate in the absence of supportive empirical evidence. Furthermore, the application of crisis management techniques and preventative schema to the forgotten realm of unpredictable surprises (emergencies) remains to be validated. These areas form the focus of our recommendations for future research.

### **Recommendations and Conclusion**

The intent of this paper has been to explore a method to examine the poorly researched topic of emergency leadership. This has been done through the guiding use of both the crisis management literature and the categorization of events as surprises that are either predictable or unpredictable. We propose that there is a difference between the applicability of management techniques and/or leadership behaviors that is dependant upon the nature of the surprise.

In order to conduct empirical research that examines and compares leadership approaches and the nature of emergencies requires a method that captures much of the nuanced nature of the unfolding of the event, yet also allows for a broader typology. The Time/Emergency Phase Matrix is proposed as a tool which reasonably accomplishes these mandates. This manner of typifying emergency events is also of use to the education and training communities, thereby to some extent bridging the gap between the theorizing and practitioner communities.

This proposed method is not without its limitations. The requirement for a common starting point (that is, an identification of the beginning of the event that is unambiguous) renders this approach less than appropriate for crisis research. The difficulty in identifying when a crisis starts likely contributes to the fact that descriptive and anecdotal work predominates the literature. Hence we can at this time only suggest the application of the matrix heuristic to those events which exhibit a discrete starting point for the timeline which represents the unfolding of the event. To this end we have only discussed the application of this matrix approach to emergency situations, a relatively unexplored realm in any case.

Future directions should include the use of the matrix approach to examine the applicability of Mitroff's five phases of crisis management to the narrow topic of emergency leadership. Further large-scale descriptive work involving a variety of leadership theory perspectives and the kinds of emergency situations that are associated with specific leadership behaviors needs to be conducted.

In the past, the focus in the crisis management literature has rightly been on the prevention, preparation and signal detection aspects of good management. What has been lacking is an approach to transcend the difficulties endemic to conducting empirical research into the nature of crises and the appropriateness of the individual and organizational responses to them. With the underlying

unpredictable surprise aspect of emergencies, we are given the opportunity to begin the process of examining how best to lead when confronted with such events. The resulting addition to our understanding of what is enacted during emergencies and how effective those approaches proved may well inform how managers and leaders train for the unpredictable surprises which surely await them.

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# Management Education Management

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## **GOAL SETTING TRAINING IN STUDENT TEAMS: AN EXPLORATORY STUDY<sup>1</sup>**

Teams (n=38) were randomly assigned to one of three training interventions: learning goals, outcome goals and do your best. Results revealed that training student teams to set learning goals resulted in the lowest level of team performance relative to outcome goals and being urged to do your best. The results suggest that management education interventions that provide teams with behavioral observation scales negate the necessity of learning goals on complex team tasks.

### **Introduction**

Over the past 25 years, we have seen a shift in management practice towards more democratic and participative workplaces involving teams in industrial, government, and military organizations (Salas & Cannon-Bowers, 2001; Guzzo & Shea, 1992). In many of these organizations, teams are created for problem-solving tasks as a way to ensure employee participation in key workplace issues and decisions (Katzenbach & Smith, 1994), or as a way to improve group problem solving in terms of efficiency, speed of service/production and/or customer service (Saks & Haccoun, 2004). Unfortunately, business schools are often criticized for producing graduates that lack such teamwork skills (Olian, Caldwell, Frank, Griffin, Liverpool, Thomas, Cornuel, Fernandes & LeClair., 2002). As such, the issue of team training has become important to organizations and many business schools regularly use team-based learning activities in their undergraduate and graduate programs.

Yet, to date, there have been limited systematic investigations regarding techniques designed to improve team performance (see recent reviews by Ilgen, Hollenbeck, Johnson, Jundt, & Dustin, 2005; Salas & Cannon-Bowers, 2001). As such, there is limited empirical guidance concerning ways to train teams to become more effective problem solvers at a time when teams are commonly used in both organizational and educational settings. This lack of systematic investigation poses a challenge for the field of management education, namely, how can we train teams to be more effective? Unfortunately, this unanswered question should not be surprising as the individual management training literature has often been criticized for its lack of systematic investigation, the absence of theory and its tendency to follow fads (see Latham, 1988; Tannenbaum & Yukl, 1992). As such, the purpose of this study was to develop and assess training interventions designed to improve team effectiveness. Moreover, given the importance of theory-based training, the training interventions used in this study were grounded in goal setting theory.

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Goal setting has been used in numerous motivational and training interventions (see reviews in Locke & Latham, 1990, 2002). Over 500 studies have found that people trained to set specific, challenging goals outperform those given vague goals (i.e., do your best; Locke & Latham, 2002). As goal setting is a theory of motivation, these studies have often examined straightforward tasks so that the effect of goals on effort and persistence could be investigated. Yet, there is growing evidence that when a task is complex for the individual, such as when a person is learning a new task, a specific and challenging goal can have a negative impact on performance (see review in Locke & Latham, 2002). There are two potential explanations for this negative effect. First, Kanfer and Ackerman (1989, p. 676) argued that the setting of a specific, challenging goal (e.g., increase sales by 10%) is only effective in later phases of skill acquisition as goals “shift critical resources away from the task” in early phases of skill acquisition. Thus, they argued, setting a challenging goal is only effective once people have the ability to effectively perform the task at hand.

The second explanation involves the type of goal set. Using a complex scheduling task, Winters and Latham (1996) replicated the negative goal setting effect as people urged to ‘do your best’ outperformed those assigned a specific, challenging outcome goal (e.g., complete 10 schedules). Yet, people assigned a specific, challenging learning goal (e.g., discover 6 strategies to complete schedules) outperformed those in both ‘do your best’ and outcome goal conditions. Hence, they argued that the previous negative findings were a result of the goal set, namely, an outcome goal instead of a learning goal. Thus, they concluded that learning goals are effective in improving performance on a complex task when people lack the requisite knowledge and skill to perform it effectively. Recent studies have replicated these findings (Seijts & Latham, 2001; Seijts, Tasa, Latham & Latham, 2004).

While Winters and Latham’s (1996) concept of learning goals was developed based on educational psychology studies concerning goal orientation (e.g., Dweck and Elliott, 1988), goal orientation and goal setting are not the same. Goal setting requires a student to deliberately set a specific, difficult goal; whereas, goal orientation is deemed to be a personality trait. More recently, VandeWalle and colleagues have also examined learning and performance goal orientations in adults in workplace settings (see review in VandeWalle, 2003). In these studies, goal orientation was seen as a stable trait. As research shows that the strong cues of setting a specific, difficult goal override a person’s goal orientation (Seijts, Latham, Tasa & Latham, 2004), we focus on learning goals versus learning goal orientation in the present study.

Interestingly, a study by Brown and Latham (2002) suggests that learning goals may not always be needed on complex tasks. Specifically, they found that a specific, challenging behavioral outcome goal (e.g., achieve a score of 30 points when your teammates evaluate your performance using behavioral observation scales (BOS; Latham & Wexley, 1977)), resulted in superior performance relative to a specific, challenging learning goal or being urged to ‘do your best’. They argued that as BOS are developed using a job analysis, and thus contain the requisite behaviors for effective task performance, they eliminate the need for people to generate a specific number of strategies or behaviors to perform a complex task. Hence, they concluded that learning goals caused people to remain in the declarative stage of learning, searching for task strategies they already possessed, rather than focusing on performing the task at hand. Thus, they asserted that the provision of such behavioral strategies via the BOS rendered the learning goal unnecessary. It is important to note that the previously cited studies showing the effectiveness of learning goals on complex tasks all involved tasks for which the requisite strategies were unknown to participants.

A common limitation of these previous studies is that they only examined individual student performance at a time when there is a need to examine systematic, theory-driven methods of improving team performance in management educational settings. Thus, we wished to examine the effects of outcome goals, learning goals, and being urged to ‘do your best’ on team performance on a problem-solving task. While we grounded our training interventions in goal setting theory, we also examined efficacy, or task confidence (Bandura, 1997), in our team training study. Efficacy is a key variable in

training and many studies have examined the relationship between trainee efficacy and post-training performance (see review in Saks & Haccoun, 2004). Moreover, many goal setting studies include a measure of efficacy as there is a linear relationship between it and goal commitment -- individuals with high efficacy are more likely to commit to difficult goals than those with low efficacy (Locke & Latham, 1990). As such, we too included a measure of collective efficacy, or the team's task confidence, in this study.

Based on our literature review we believed that: (1) group problem-solving is a complex task; and (2) providing students with BOS negates the need for a learning goal on a complex task as it encourages them to search for task and behavioral strategies which they already possess, hence, decreasing performance relative to being urged to 'do your best' or setting an outcome goal. Thus, we hypothesized that:

*Hypothesis 1:* Teams trained to set an outcome goal have superior performance than those urged to 'do your best'

*Hypothesis 2:* Teams trained to set an outcome goal have superior performance compared to teams trained to set a learning goal.

*Hypothesis 3:* Teams who are urged to 'do your best' have superior performance relative to those trained to set a learning goal.

## **Method**

### **Sample and Design**

A sample of 120 undergraduate students enrolled in an organizational behaviour course was randomly assigned to teams of 3-4 people (median=3). No incentives were offered to the students. Teams (N=38), in turn, were randomly assigned to the outcome goal, learning goal, or 'do your best' conditions prior to the task. On average, these participants were 23 years old, 51% were female. The mean age and percentage of male students per team did not differ by study condition ( $F=.55, p>.05$ ;  $F=.71, p>.05$ , respectively).

### **Task**

The training experiment took place prior to the discussion of team processes and was designed to be an experiential introduction to the topic of teams and group problem solving. The Subarctic Survival Situation was selected as the experiential exercise as it was designed to improve group problem solving and decision making skills (Lafferty, 1988). The use of a problem solving/decision making task was chosen as it represents a key activity of teams (Katzenbach & Smith, 1994) and also represents a key activity contributing to team effectiveness (Guzzo, 1995). As such, it is an organizationally relevant task. The simulation requires groups to imagine that their small plane has crashed. They have 15 minutes to individually rank 15 items that they had taken from the plane in terms of importance to their survival. Once this ranking is completed, they have 40 minutes to reach consensus concerning the rankings. At the end of the simulation, the results of the individual and team rankings are compared to those of the experts, namely the Rescue Squad of the Canadian Forces. After the scoring activity has taken place, participants debrief one another in terms of one another's individual behavior that helped, or hindered, the team process.

## Goal Setting Training Interventions

Immediately prior to the simulation, teams were informed that the average team score, defined as the difference between the teams' rankings and the experts' rankings, on this activity is 29.8 points (Lafferty, 1988). Participants were then trained to set a specific, difficult goal for their score in the simulation. A participative goal was used as participation can lead to the setting of a more difficult goal than one that is assigned (see Locke & Latham, 1990). They were also given BOS and informed that the BOS contains behaviors that previous Subarctic Survival participants identified as being critical to team effectiveness in the exercise. This BOS instrument was specifically developed for this activity in another study (Brown & Latham, 2002)<sup>2</sup>. Sample items included: "Solicits the opinion of all team members"; "Mediates any conflicts among team members"; and "Actively participates in group discussion." Given the importance of teamwork skills in both the business school and the work contexts, students were informed that at the end of the session they would provide each other with feedback on this BOS instrument and that a consolidated feedback report would be returned to each student the following week. Goal level, goal commitment and Time 1 collective efficacy measures were assessed at this time. Immediately following these surveys, the Subarctic Survival simulation was started.

The learning goal and 'do your best' conditions replicated the preceding procedures with the following exceptions. In the learning goal condition, participants were trained to set a specific, difficult goal concerning the number of ideas they could generate to enable them to effectively perform as a team in the simulation. These instructions were consistent with that of Winters and Latham (1996). They were also be informed that average goal for the number strategies to be identified in a previous study was 4.88 (Brown & Latham, 2002). In the 'do your best' condition, participants were urged to do their best to work as a team as teamwork is critical to doing well on the task. As was the case in the outcome goal condition, participants in both learning goal and 'do your best' conditions were given the BOS that contained the nine behaviors critical for effective teamwork and completed time 1 surveys. Note that students in the 'do your best' condition did not complete goal level and commitment questionnaires as they were not trained to set specific, difficult goals per se. This is decision was consistent with past studies (e.g., Winters & Latham, 1996; Brown & Latham, 2002; see also review in Locke & Latham, 1990).

## Post-Training

Immediately after the simulation, team members completed questionnaires assessing goal specificity, goal difficulty and time 2 collective efficacy. Again, students in the 'do your best' condition did not complete goal specificity and difficulty questionnaires as they were not trained to set specific, difficult goals.

**Key variables.** The dependent variable in this study was team performance. Team performance score was operationalized as the difference between the experts' rankings of the 15 items and the group's ranking of these same items. Thus, the *lower* the score, the *closer* the team was to the score of the experts and the *better* their level of performance.

In addition, we examined BOS score and collective efficacy. Both measures were assessed at the individual level and aggregated to the team level. Team BOS score was operationalized as the mean BOS score of all team members of a team, as measured by peer ratings. Anonymous peer ratings were used as we have known for almost 30 years that they are reliable and valid measures of performance (Kane & Lawler, 1978). To increase the objectivity of the ratings, participants were informed that peer ratings would be averaged and returned directly to each participant. As such, accurate feedback was key to helping fellow classmates improve their teamwork skills. They were also informed that research assistants would be in the room observing both group and individual behavior.

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<sup>2</sup> For a full discussion of BOS methodology please see Latham & Wexley (1977)

Collective-efficacy strength and magnitude was assessed consistently with the recommendations of Bandura (1997). Specifically, participants were asked if they believed that the team could achieve specific team performance scores when their team ratings are compared to that of the experts (yes or no) and their confidence in their ability to achieve these scores (on a 10-point scale).

## RESULTS

### Manipulation Checks

All manipulation checks were assessed at the individual level and then aggregated to the team level. The following presents the aggregate of task complexity and the goal setting manipulation checks (goal level, goal difficulty, goal specificity, and goal commitment). Unless otherwise noted, all scales were reliable with Cronbach's alphas of .70 or greater.

**Task Complexity.** Task complexity was assessed at the end of the study using a measure adapted from Brown and Latham (2002). Specifically, the scale included four, five-point Likert-type items. Sample items included: "To be a good team-player, I had to think about a number of things at once" and "Before deciding what action to take, I had to consider information from a number of sources." The initial reliability of the scale was low ( $\alpha=.60$ ). As removing the one reverse item increased the reliability ( $\alpha = .65$ ), the three item scale was used in all subsequent analyses. The mean of this three item scale was 11.68 ( $sd=1.28$ ), indicating that the students perceived this task as moderately complex. ANOVA failed to detect significant differences in perceived task complexity by study condition ( $F=2.36, p>.05$ ).

**Goal Level.** In terms of the actual goal set, the mean goal for teams in the learning goal condition was to develop 5.00 strategies ( $sd= 1.08$ ). For the outcome goal condition, it was to come within 22.75 points of the experts ( $sd=9.43$ ). Note that both appear to be moderately difficult. The mean outcome goal was more difficult (i.e., closer to the experts) than the mean score reported by Lafferty (1988,  $n=29.8$  points) and the number of strategies was higher than the mean learning goal reported in Brown and Latham (2002,  $n=4.88$  strategies).

**Goal Difficulty.** Perceived goal difficulty was measured using two questions adapted from Winters and Latham (1996). These questions assessed the extent to which participants perceived the goal as difficult or easy (reverse-scored). Both questions will be assessed using a 5-point Likert type scale. Overall, teams found their goals difficult ( $M=6.99, sd=1.11$ ). ANOVA revealed that teams in the outcome goal condition ( $M=7.42, sd=.96$ ) perceived their goal as more difficult than those in the learning goal condition ( $M=6.48, sd=1.08; F=5.07, p<.05$ ).

**Goal Specificity.** Goal specificity was assessed using three questions adapted from Winters and Latham (1996). Participants were asked the extent to which they believed that their goal was specific, vague (reverse scored), and uncertain (reverse scored). The grand mean was 10.66 ( $sd=1.56$ ) indicating that students believed that their goals were moderately specific. ANOVA failed to detect significant differences between the outcome and learning goal conditions ( $F=2.69, p>.05$ ).

**Goal Commitment.** Goal commitment was assessed immediately after goal setting using the seven-item goal commitment scale of Hollenbeck, Klein, O-Leary, & Wright (1989). The grand mean of 25.45 ( $sd=2.97$ ) indicated that teams were committed to their goals. ANOVA revealed that teams in the outcome goal condition ( $M=26.69, sd=2.41$ ) had higher levels of goal commitment relative to those in the learning goal condition ( $M=24.21; sd=3.05; F=5.29, p<.05$ ).

## Performance

As discussed earlier, we measured performance in terms of the difference between the experts' rankings of the 15 items and the group's ranking of these same items. As such, *lower* scores (i.e., scores closer to that of the experts) meant *superior* performance.

Prior to examining team performance score, we assessed whether the teams differed in terms of the average individual performance scores of their members, namely, the average of the difference between how each individual team member ranked the 15 items compared to the experts. As these individual rankings were conducted prior to the group problem-solving discussion, they allowed us to see whether there were significant differences in team ability prior to the group discussion. The grand mean was 52.18 points (sd=7.43) away from the experts. No significant differences were found by study condition ( $F=.85, p>.05$ ). The means and standard deviations by study condition can be found in Table 1.

The grand mean of the team performance score was 41.98 (sd=11.34) and was significantly correlated with the average individual performance score measure ( $r=.52, p<.01$ ). As such, we conducted an ANCOVA of the team performance score controlling for the average individual performance score. A main effect was found for goal condition at the .10 level ( $F=2.63, p<.09$ ). The means and standard deviations of this analysis are presented in Table 1. In support of hypothesis 2 and 3, pairwise comparisons revealed that teams in the learning goal condition had scores that were significantly further away from the experts (i.e., worst) than those in both the 'do your best' ( $t=2.19, p<.05$ ) and the outcome goal conditions ( $t=1.68, p<.10$ ). There was no significant difference between the performance scores of student teams in the 'do your best' and outcome goal conditions ( $t=.55, p>.05$ ). Thus, there was no support for hypothesis 1.

**Table 1:**  
**Means and Standard Deviations of Key Measures by Condition**

	Outcome Goal	Learning Goal	Do Your Best
Individual Performance	53.57 (6.72)	49.88 (6.82)	53.15 (8.71)
Team Performance Score	41.69 (7.78)	44.69 (10.66)	39.25 (15.05)
BOS Score	39.18 (6.04)	39.28 (2.95)	40.58 (3.00)
Time 1 Efficacy	44.87 (8.53)	40.22 (6.88)	41.05 (9.98)
Time 2 Efficacy	41.47 (9.02)	39.96 (6.56)	42.78 (10.80)

NOTE: Standard Deviations presented in parentheses.

## Team BOS

The BOS were found to be highly reliable ( $\alpha=.93$ ). BOS was assessed at the individual level and then aggregated to the team level. The grand mean of team BOS score across all 38 teams was 39.72 (sd=4.11). ANOVA of the BOS scores did not find significant differences among study conditions. The means and standard deviations, by condition, are presented in Table 1.

## Efficacy

As previously stated, we assessed efficacy at the individual level and aggregated to the group level consistent with the recommendation of Bandura (1997). Both the time 1 and time 2 efficacy scales were found to be reliable with Cronbach's alpha coefficients of .87 and .88,

respectively. The correlation between the two measures was significant ( $r=.73$ ,  $p<.001$ ). Consistent with goal setting theory, time 1 and time 2 self-efficacy were significantly correlated with goal commitment ( $r=.38$ ,  $p<.06$ ;  $r=.48$ ,  $p<.01$ , respectively). ANOVA of the time 1 measure failed to detect significant differences by study condition ( $F=1.09$ ,  $p>.05$ ). In addition, ANCOVA of the time 2 measure failed to reveal significant differences ( $F=1.58$ ,  $p>.05$ ). The means and standard deviations of the time 2 measure are presented in Table 1.

## Discussion

The potential significance of this study is as follows. First, for the field of management education, it sheds light on which type of goal setting is best for student-based teams in learning contexts. More specifically, the results of the present study suggest that either urging teams to ‘do your best’ or training them to set outcome goals increases team performance relative to training them to set learning goals. There are at least two potential explanations for this conclusion. One, goal setting theory states that, assuming goal commitment, specific and difficult goals increase performance. However, the manipulation checks revealed that the goal commitment and goal difficulty levels of the learning goal participants were significantly lower than those in the outcome goal condition. These lower goal commitment and difficulty levels may provide the answer as to why the learning goals were less effective in this study. Future research should see whether these results are idiosyncratic. Second, previous research by Brown and Latham (2002) suggests that learning goals may not be effective when the strategies for effective performance are known. In this case, as was the case with Brown and Latham (2002), the strategies for working effectively in the team were provided on the BOS. In fact, the strategies recorded by participants often mirrored these BOS items. Hence, students in the learning goal condition may have remained searching for the strategies needed to perform the task rather than focusing on the task itself.

Second, as this study is among the first to examine team goal setting training, it helps fill voids in both goal setting and team training literatures. Our results provide evidence that on a complex task, such as team problem solving, having teams set an outcome goal (or encouraging them to do their best) can increase team performance relative to setting a learning goal. A potential explanation for this finding is that providing teams with BOS mitigates the need for learning goals on a complex task. BOS inform teams of the critical behaviors for effective performance on this task. As such, our results show the importance of defining teamwork behaviorally so team members know what actions they need to take to work effectively as a team. Providing people with BOS outlining the behaviors necessary for effective teamwork will result in superior team performance relative to asking teams to “go out and discover ways to complete the task.” As such, this study adds an important dimension to the management education literature, particularly as it relates to teams. For organizations attempting to increase team problem-solving skills, or for business schools who seek to teach their students how to work more effectively in teams, managers and instructors alike should provide teams with a list of effective team behaviors, such as a BOS, and then train them to set a specific, challenging outcome goal rather than asking them to discover how to work effectively as a team.

Third, as noted in the introduction, business schools have often been criticized for their lack of emphasis on the development of teamwork skills (Olian, Caldwell, Frank, Griffin, Liverpool, Thomas, Cornuel, Fernandes & LeClair, 2002). The present study shows that a short goal setting training session followed by an in-class experimental activity has the potential to improve team problem-solving skills. Moreover, given the number of reality shows that our students watch (e.g., *Survivor*), an added bonus of this short (i.e., 75-90 minute) activity is the fact that students enjoy the learning activity.



There are at least two limitations of this study. One limitation is the relative small number (n=38) of teams across the three study conditions. As previously noted, there were several null relationships in this study; potentially due to Type II errors. Thus, the sample should be augmented with additional participants to determine whether a Type II error exists.

A second limitation is the context. This laboratory study assessed team problem solving performance shortly after the training intervention (approximately 1 hour). While problem-solving skills are organizationally relevant, there were no consequences for the student teams in terms of high or low performance. Given the importance of teamwork in business schools and organizations in general, future research should now be conducted that either uses multiple measures of performance (i.e., several times in a semester) or uses a more distal measure of performance.

In addition, our context was a simulation-based laboratory study. We chose a laboratory study as it has higher internal validity relative to a field experiment. This higher internal validity is a result of several factors (see reviews in Saks, 2000; Kervin, 1994). First, a laboratory experiment is conducted in a controlled setting. Therefore, there are fewer alternative explanations for the findings and fewer, if any, confounding variables as compared to field studies. Thus, a laboratory experiment allows greater confidence in causal inference than does a field experiment. Second, maturation is less of a problem as there is little reason to believe that people age or tire differently due to experimental conditions. Third, history is less of a problem as the groups experience the same laboratory conditions. Fourth, random assignment minimizes the risk that selection differences produce main effects. In short, the greatest advantage of the laboratory is that it provides the purest possible test of the predictions of theory. Thus many goal setting issues have been initially examined in the laboratory and subsequently examined in the field (see reviews by Locke & Latham, 1990; 2002). However the greatest disadvantage of the laboratory is the artificial context that can limit external validity. While laboratory findings from goal setting studies have been found to generalize to the field (Locke, 1986), the generalizability of the present findings remains untested and should now to be examined. There are many potential samples for such studies, as numerous business schools require that students work in teams and provide team grades. In some cases, these teams work together for an entire semester across all courses. Future research should repeat these same interventions in a study involving such teams to see if the present results generalize.

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## **EDUCATIONAL DRAMA IN INVESTMENTS MANAGEMENT**

Changing foci in the field of investments along with the increasing use of concentrated teaching formats present new challenges for educators seeking to enhance student learning. This paper looks at a promising new pedagogical approach – educational drama – for the teaching of investments and reports on students' perceptions of its effectiveness.

### **Introduction**

Investments as a field of study is evolving beyond its sole reliance on capital market theory to include the more human aspects of decision making. Much of this movement is due to the increasing importance of behavioural finance in explaining investment behaviour. Indeed, the re-emergence of a more holistic view of investor behaviour is being trumpeted by many within the academy. Statman's (2005) declaration that "investors were normal before they were described as rational in the early 1960s, and they remain normal today" falls from his widely shared view that normal investors are affected by cognitive biases and emotions, not just the risk and return of their portfolios.

As educators, we have to ask a number of questions: How can we best teach these new wider parameters of investment theory? How do we evoke the emotions that characterise normal investor behaviour? How do we get our students to extend their learning of investments through feeling the intensity of the issues? Additionally, many MBA students are increasingly being taught using concentrated EMBA format classes that can extend to four hour sessions or even concentrated, 20 hour weekend sessions. Are there new teaching techniques that can improve student enjoyment of learning over these extended periods?

A new field of pedagogy, educational drama may provide a path forward. Educational drama has been successfully employed to explore, shape and symbolically represent human experience. Educational drama refers to the process of learning through or from drama as distinct from learning about drama. Drama, as described by Neelands (1998, p.4) is, 'the direct experience that is shared when people imagine and behave as if they were other than themselves in some other place at another time'. The notion of drama as a learning medium has been used successfully across a variety of cultures, fields and applications, including Kenyan village community health (Nyangore, 2000), marketing education (Pearce, 2004) and police training (O'Toole, 2000). However, to the authors' knowledge, educational drama conventions have not been used before in the teaching of finance.

This paper explores whether educational drama can be successfully used in the teaching of investments management. In particular, we report MBA student ratings of educational drama relative to more conventional teaching approaches across a range of teaching effectiveness indicators and their views

on whether MBA learning of investment management can be enhanced by using educational drama techniques in the classroom.

### **Literature Review**

There is a substantial literature on the use of drama as a learning medium (see Bolton 1984; Heathcote, 1977; O'Neil, 1995; Neelands, 1998). Central beliefs of the international drama-in-education community are that drama is a vitally important art that can be used to teach virtually anything and teach across curricula. In this section, we discuss the nature of educational drama, how student learning is enhanced through the use of drama conventions in the classrooms, various drama conventions commonly used, and educational drama used in the teaching of management.

The term "educational drama" is often regarded as being synonymous with "creative drama". Creative drama has been defined as: (1) "the play that is developed by a group, as opposed to the one that abides by a written script" (McCaslin, 1996, p.8); and (2) "an improvisational, non-exhibitional, process-centred form of drama in which participants are guided by a leader to imagine, enact and reflect upon human experiences" (Davis and Behm, 1978, cited in Woodson, 1999, p.203). According to British drama authority Dorothy Heathcote (1977) educational drama is: "anything which involves persons in active role-taking situations in which attitudes, not characters, are the chief concerns" (p.43).

From a theoretical perspective, educational drama conventions seek the encouragement of meaningful learning and construction of knowledge. For the study reported in this paper, an MBA student's learning about investment management involves understanding investment concepts and applying these concepts in business contexts. As such, it is vital for students to achieve their own meaningful construction of knowledge. By understanding both the structure of a body of information and how to represent relationships between fundamental ideas, each student can achieve a more personally meaningful construction of relevant knowledge. Discovery approaches to learning through methods such as drama, as opposed to 'reception learning' (Ausubel, 1978) - learning through exposition - are advocated so that students discover what they need to know (Bruner, 1966, 1972). Such discovery by students themselves reinforces the meaning and relevance of ideas that are identified as fundamental for their learning about investment management.

Compared to other more conventional educational approaches, experience-based learning (Kolb, 1984), such as educational drama is characterised by: (1) involvement of the whole person - feelings, senses and the intellect; (2) recognition and use of a learner's life experiences in order to create personal meaning and relevance of new learning; and (3) continued reflection on prior experiences so as to build and transform deeper understanding (Andresen, Boud and Cohen, 2000, Dewey 1963). Other unique advantages of educational drama include physical activity, which is associated with the embodiment of learning, otherwise known as learning through bodily movement (Beaver, 1999; Boal, 1979; Wright, 1998), the engagement of emotion (Boud, 1996; Brookfield 1990) and the removal of barriers to learning by introducing an element of play into a classroom or learning situation (Leigh and Kinder, 1999).

"Drama conventions" are techniques to facilitate the process-centred nature of educational drama. "Drama conventions" are defined as "indicators of the way in which time, space and presence can interact and be imaginatively shaped to create different kinds of meanings in theatre" (Neelands, 1998, p.4). Various drama conventions have been classified into four main groups (Neelands, 1998, p.6): (1) Context building action - where the focus is either to "set the scene" or add information to the context of the drama as it unfolds. Examples of drama conventions in this group include - 'Sound tracking', 'Defining Space' and 'Still-Image'; (2) Narrative action - where the focus is on the "story", "what-happens-next" and the attitudinal change and analytical critique dimensions of the drama. Examples of such drama

conventions include – ‘Meetings’, ‘A Day in the Life’ and ‘Hot-Seating’; (3) Poetic action – where the focus is on creating the symbolic potential of the drama through highly selective use of language and gesture. Examples of these drama conventions include – ‘Forum Theatre’, ‘Mimed Activity’ and ‘Prepared Roles’; and finally (4) Reflective action – where the focus is on “soliloquy” or “inner thinking” in the drama to allow people to review the drama from within the dramatic context. Examples here include – ‘Reflective Narration’, ‘Thought-Tracking’ and ‘Voices in the Head’.

The educational drama conventions approach is quite different from conventional role-play (Van Ments, 1989) in that it displays the following general features: (1) the drama is process-centred rather than being exhibitional (i.e. students engage in educational drama as a means of learning rather than a way of demonstrating the mastery of certain skills); (2) students are actively engaged in activities such as researching, designing and reporting; (3) the teacher is not a source of answers and does not tell the students what they will learn; (4) all students are involved in improvisational work whereby there are no scripts, and subsequent repeated enactments of the same drama may result in completely different dialogue and dramatic outcomes; (5) role context is given considerable emphasis, which is not always the case in traditional role-play; and (6) students are encouraged to find their own voice, immerse in role and create meaning for themselves.

Contrasting 'role-play' with drama conventions, Neelands (2004, personal communication) states:

The real difference between 'role-play' and the conventions approach is the focus on context. In the conventions approach context is everything! The assumption being that what we say and do is shaped by the situations that we find ourselves in - so in order to understand human behaviour in any situation we must understand how the situation and therefore the utterances and behaviour have been historically, socially and culturally shaped.

Conventional role-play as advocated by Van Ments (1989) usually takes the form of student dyads, practising and rehearsing skills that may have been taught in class (such as closing the sale, negotiating a deal or handling dissatisfied customers). In role-playing, students try to imagine what someone else would say or do and in the process often focus on mannerisms such as appearance, voice and so on, whereas in role-taking they ‘live’ the experience as themselves, in that role, within the drama.

In a rare study conducted into student perceptions of learning through educational drama in a higher education context, Pearce (2004) reports on qualitative research used to evaluate the effectiveness of a drama-based approach to teaching a marketing subject at an Australian university. Interpretive research was conducted using multiple sources of evidence with thirty-two undergraduate students experiencing learning through various types of drama conventions. The perceived advantages of educational drama were identified as: retention; imagination; confidence; freedom; application and activity; independent thinking; role/performance; learning; enjoyment; and social relations. Perceived disadvantages of educational drama were: that drama requires commitment; that drama may not be suitable for all subjects and all situations; and that drama may engender doubt, fear and suspicion in students. On balance, students considered the perceived advantages of educational drama outweighed any disadvantages associated with it.

## **Method**

To investigate whether educational drama could be successfully used in the teaching of investments management, two educational drama conventions (still image and forum theatre) were used to teach MBA students two investment topics (psychological biases of investing and insider trading). Student perceptions regarding the use of educational drama to enhance their learning of investments were then measured across 18 indicators of teaching effectiveness and student views were canvassed generally.

Teaching effectiveness was considered in terms of: (1) understanding theory, (2) application or real world use, (3) class dynamics, (4) learning outcomes, and (5) student engagement. Student perceptions on how they viewed the use of educational drama were considered in order to uncover other issues impacting on student learning using educational drama.

To introduce and warm the students to the educational drama experience, puppetry was used to contextualise drama in investments. Warren Puffet (the famous investor puppet) gave the class a number of investing tips and general words of wisdom. He also most importantly spoke on how – in spite of his great professor Benjamin Graham not using educational drama in his 1950's investment classroom - he was willing to “keep an open mind” on this new technique. To heighten the engagement, one lucky MBA student enjoyed a photo opportunity with the great Warren Puffet. A general warm-up “driving cars” then eased all students into the dramatic mode through their active participation in the exercise.

“Still-Image”- an educational drama convention whereby small groups of students collectively portray the key teaching objective as a frozen image – was used to engage student learning of various psychological biases in investing. The primary reading used for this topic was “Psychological Biases of Investors” by Baker and Nofsinger (2002) which details a number of cognitive and emotional weaknesses in the areas of how investors think, how investors feel, and social factors affecting financial decisions. Each group drew a particular bias (viz., cognitive dissonance, familiarity bias, mood and optimism, social interaction and investing), developed a caption that described their image, and enacted the bias through a still image. Debriefing or harvesting of the image and what lay behind it was accomplished by “thought tracking”, i.e., asking each group member to describe what they personally were portraying and how it related to the whole concept.

“Forum Theatre” – an educational drama convention whereby the audience (‘spectactors’) takes control of actors performing theatre – was used to explore the concept of insider trading. To provide the basis for the drama a mini-case “Bell Tolls for Citigroup over Insider Trading Claims” was written outlining alleged insider trading by Citigroup in Toll Holdings Limited days before Toll announced a takeover bid for Patrick Corporation. As this trading activity resulted in a 12% rise in the value of Patrick shares, and so potentially cost Toll hundreds of millions of dollars deep emotions within the management teams could be expected at both Toll and Citibank. The charged atmosphere of the meeting between senior executives of both companies provides the setting for a discussion of issues raised by insider trading.

The students being introduced to educational drama techniques were MBA students at Macquarie Graduate School of Management in Sydney, Australia. Two-thirds of the class were part-time students who currently held professional or managerial positions while the remainder of the class were full-time students from a wide range of countries. Student age ranged from 25 to 45 with most students having in excess of eight years of managerial/professional experience. About half of the students were being sponsored by their employers so as to cover the costs of attending a leading graduate school of management. To gauge teaching effectiveness, these MBA students were asked to indicate on a five point Likert scale their agreement (5 = “strongly agree”) or disagreement (1 = “strongly disagree”) to 18 statements about their learning of investments management using educational drama relative to other teaching techniques. Largely, this list was compiled, *mutatis mutandis*, from indicators used in Brennan and Ahmad's 2004 study of student perceptions of the case study approach to learning strategic management and marketing. Indicator scores were calculated for each item as well as each of the five teaching effectiveness factors set out above. Student perceptions about educational drama were also elicited using a cartoon bubble prompt “Hey, Don's wondering whether MBA learning of investment management can be enhanced by using educational drama techniques in the classroom. What are your views?”

## Findings

The teaching effectiveness of educational drama scores are presented in Table One. Overall, the scores show a substantial spread in student opinion as to the teaching effectiveness of education drama with most indicators receiving a wide range of scores. To guide the discussion, where the score was less than .25 points from the mid-point (3), student opinion on that factor or indicator was considered as evenly split. Factors and indicators having scores .25 to .50 points more or less than the mid-point were considered to be either positively or negatively (as the case may be) viewed by the students. Scores .50 points more or less than the mid-point indicated stronger positive or negative student views on teaching effectiveness. Teaching effectiveness scores are discussed along the lines of the five factors, namely; understanding theory, application or real world use, class dynamics, learning outcomes, and student engagement. Student views – as captured by the bubble cartoon – are integrated into each of these five discussions so as to provide more insight into why the students scored the items the way they did.

Educational drama was viewed as being strongly, positively related to understanding theory. This view held both generally in terms of understanding theoretical concepts and specifically for the two topics taught (psychological biases of investing and insider trading). However, students were mostly split on whether educational drama was helpful in understanding complex problems. Positive comments noted educational drama's "physically participative nature which some people may find easier to recall than purely theoretical discussions in a lecture or case oriented program delivery," "strength... in the visualisation of psychological biases (which enables recall) more strongly than through readings," "adds another dimension to learning (by using) the right side of the brain which enhances the use of the left side," and "makes complex issues memorable." On the other hand, some students commented that while educational drama "was an interesting exercise (it) didn't necessarily add to the learning of investments management more than other teaching techniques" and that while "educational drama could help to start the understanding of a concept but only as a complement of a class discussion."

The students were evenly split on whether educational drama has more real world application than other teaching techniques. They tended to disagree that educational drama helped them understand how investment decisions were made or that it helped them develop useful investment skills. On the positive side, they strongly disagreed with the notion that educational drama was a waste of time because they would never be faced with those kinds of investment management issues themselves. A positive comment about educational drama was that "it could relate to more real-life experiences (that) would/may give participants a better 'feel' of the 'real world'."

Class dynamics were substantially improved by using educational drama. The students felt that educational drama is a useful way to discuss investment issues and that educational drama gave them the confidence to express their opinions. They strongly felt that educational drama made the class more interesting and felt comfortable contributing to educational drama. Specific student comments as "nice deviation from normal teaching," "similar to case study but more fun", and "definitely makes class interesting" tend to capture the theme that educational drama lifts student enjoyment when learning investments. However, to enhance learning "all parties (needed to) participate and understand the value of educational drama" and "contributions from all need to be coaxed." In this latter case, the student noted "I am naturally confronted by drama but with appropriate coaxing, I enjoyed it and learned from it."



Table 1: Teaching Effectiveness of Educational Drama Scores

<i>Indicator</i>	<i>Mean Score</i>	<i>Standard Deviation</i>	<b>Range</b>
A: Educational Drama & Understanding Theory	3.33	.75	1.75-4.5
D helps me understand theoretical concepts	3.39	.92	2-5
D illuminated my understanding of psychological biases of investing	3.45	.92	1.5-5
D illuminated my understanding of insider trading	3.32	.9	2-5
D is helpful in understanding complex problems	3.16	1.11	1-5
B: Educational Drama & Real World Usefulness/Application	3.04	.69	1.75-4.5
D illustrates how investment management works in the real world	2.79	.83	1-4
D helps me understand how investment decisions are made	2.74	.94	1-4
D helps me develop to develop useful investment skills	2.64	1.1	1-5
D is a waste of time because I will never be in <i>that</i> position myself (RS)	4.07	.86	2-5
C: Educational Drama & Class Dynamics	3.80	.65	2-4.75
D is a useful way to discuss investment issues in the class	3.43	1.03	1-5
Doing ED gives me the confidence to express opinions	3.46	.92	1-5
D made the class more interesting	4.04	.92	2-5
I don't like contributing to ED in class because my comments may not be 'right' (RS)	4.29	.81	3-5
D: Educational Drama & Learning Outcomes	3.03	.76	1.25-4.75
D usually produces clear cut answers	2.39	1.07	1-5
Doing ED has helped me develop my analytical skills in investments	2.64	1.13	1-5
Doing ED has helped me develop my team-working skills	3.39	.88	2-5
I learn something new during ED sessions	3.68	1.02	1-5
E: Educational Drama & Student Engagement	3.05	.83	1.5-4.5
D invoked my emotions	3.21	.88	2-5
D makes investments more personally relevant	2.89	1.07	1-4

28; RS = reverse scored

The students were evenly split on whether educational drama lead to better learning outcomes. They strongly disagreed that educational drama produced clear cut answers and didn't view the technique as improving their analytical skills in investments. On the other hand, they did feel that educational drama helped them develop their team-working skills and, especially, that they learnt something new during the educational drama sessions. To accomplish the learning outcomes, students noted that "it was essential to read the article before coming to class (or) else I wouldn't be able to participate" and that a "more detailed brief or better informed participants might have enhanced the learning content."

The students were also evenly split on whether educational drama lead to more student engagement. In this regard, some students noted that educational drama "added value as it allowed (the) presentation of emotion (rather than) the cold calculated analytics of interaction," "focuses more on creativity and less on rational argument/discussion," "(was a) great way of encouraging all to 'connect' with the subject," and that "it engages participants fully."

### **Conclusions**

Educational drama can be used to improve the teaching of investments management. Its greatest contribution is in improving class dynamics where it is largely viewed as contributing a new and refreshing change from other, more conventional teaching approaches. This ability of educational drama to make the class more interesting by providing a nice deviation in teaching approach is especially valuable for long duration classes. Educational drama is also viewed as contributing to an enhanced understanding of investments theory by providing new ways of learning and knowing. On other aspects of teaching effectiveness, student perceptions are evenly split as to whether educational drama is better than other teaching approaches in terms of real-world applicability, enhanced learning outcomes, and student engagement.

Student reception of educational drama does appear to vary substantially. Some students seem to love it – others are much less enamoured with the technique. This widely varying reception of the technique does call for a measured use of educational drama in the classroom. Perhaps, it should be used on a selective basis for those investment topics – viz., those investigating the human dimensions of investment decisions - that really call out for an emotional engagement with the topic. In this regard, psychological biases of investing and insider trading issues proved to be good topics for educational drama. Expansion of the technique to ethical investing could possibly yield a good teaching outcome as well.

As this is the first study into the use of educational drama to teach investments much remains to be tested as to its efficacy. This work has focused on student perceptions and views. No work has yet been done to objectively measure student learning with educational drama against their learning with other techniques – perhaps looking for differences in test scores over time will tell us more in this regard. Likewise, perceptions of MBA students in Sydney, Australia may not be similar to those of MBA students learning investments in other places, or to undergraduate students studying investments. Extensions to this study which investigate cross-cultural influences on the use of educational drama, or its applicability to other levels of instruction are warranted.

As educators we have a continuing challenge to find new and interesting ways to encourage learning. For investments with its changing foci, and for intensive MBA teaching formats, educational drama seems to be part of the answer. As one student noted "I find educational drama similar to group case study analysis but more fun and interactive.... It is often those things that are out of the norm that

you remember – for example, (in) future discussions on insider trading... I will recall the forum theatre session... with investor biases, I will recall the visual, interactive elements of (still image).” These are promising thoughts.

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## ***STUDENT EVALUATION OF TEACHING: A DIFFERENT PERSPECTIVE***

Student evaluation of teaching instruments (or “SETs”) are used extensively despite considerable resistance from faculty. This resistance is surprising given extensive research which seemingly supports SET use for counselling and evaluation. A reason for this resistance is suggested, arguing that the current debate concerns academic values thus resistance will not be overcome by more or “better” data.

### **Introduction**

It seems the debate concerning student evaluation of teaching is closed. SETs, by a variety of names, are collected in approximately 98% of U.S. universities (Stack, 2003) are used extensively in Canada and, with growing frequency, are used overseas (e.g. Australia). In theory the SET process is a simple and direct measure of “consumer satisfaction” (Ramsden, 1991) that provides the instructor with information concerning the effectiveness of teaching. Students are asked to “rate” their instructors on a variety of dimensions using either locally developed forms or one of the many commercially available products (e.g. the C.I.E.Q., Aleamoni, 2006). The ensuing results, usually in summary form with faculty “averages” attached for comparison, are then given to the rated individual, to his/her supervisor, and placed in the instructor’s personnel file.

SETs are consequently used for personal development and for the evaluation and counselling of faculty members; additionally, and perhaps erroneously, SETs are also used to encourage competition between departments or universities (Johnson, 2000). In any event, considerable research has led to the general consensus that the SET process, if carefully done, provides reliable data that reflects the efficacy of teaching. Students who rate their instructors most highly seemingly perform better in some tests of learning (e.g. Pascarella, et. al., 1996) and SETs are generally seen to be reliable (Roy, 2005) and stable over time. In short it would appear that the use of SET data as a coaching and evaluation tool is justified.

Yet the picture from the perspective of the individual faculty member is often less clear. While some faculty members clearly embrace the SET process many others doubt the validity of such measures and their usefulness (e.g. Wachtel, 1998; Roy, 2005). As an example, some instructors report receiving less than desirable evaluations on SET questions where objective data would lead one to expect highly positive ratings. Two examples would be an instructor receiving a less than perfect rating on a question such as “Was the course held at the times agreed?” despite never having missed a class, or low ratings on the question “Was your work graded promptly?” where all work was returned at the next class meeting after it was collected (e.g. Stanfel, 1991; 1995). Additionally some of the advice given by SET experts, while in accord with the “common wisdom” of instructors, contradicts one or more reasons often given for having some trust in SET data. For instance it’s well known that the relationship between grades (measured as class mean grade) and a “global” SET evaluation averages about +.20 (Marsh and Roche,

2000). This somewhat surprising low correlation between SETs and mean class grade leads SET advocates to conclude that it is not possible to “bribe” students with high course grades and, consequently, the low SET-mean grade correlation is taken as proof that providing “good” grades will not bias the SET process (Wachtel, 1998). But while it would seem from this data that SETs are “grade proof”, experts still recommend not collecting SET data within one week of a scheduled examination or upon the return of the corrected assignments (e.g. Arreola, 2006). Further a number of puzzling relationships are often found in the collected SET data. One such relationship is a clear “discipline effect”. Instructors in the “hard” sciences (such a physics, engineering, or medicine) generally garner poorer ratings than their colleagues who teach in social sciences and “Arts” (e.g. Smith, 1992). This disparity, while noted extensively in the literature, is handled by SET advocates by recommending that ratings not be used to compare across disciplines (Arreola, 2006). Finally, as noted above, SETs are used both for self-development and for evaluation in an intuitional context. This is a comparatively recent development; the SET process generally failed to find extensive support for more than forty years after its introduction then gained a significant amount of acceptance rather quickly beginning in the late 1960’s.

Consequently while the debate concerning SETs seems closed the resulting disquiet from those who are subject to the SET process, and a number of anomalies such as those noted above argues for a slightly different look at SETs. Additionally, most SET research focuses primarily on measurement issues such as SET reliability, validity, or the relationship between SETs and other performance measures. Thus, as useful as current SET research may be, a broader perspective may well be justified. This paper, consequently, approaches SETs by first focusing on the change of emphasis which has taken place over the years and then by a brief discussion of the curious finding that instructors in the “hard” sciences seemingly do less well on SETs than their colleagues in the “Arts”. And while these points seem independent an argument may be made that they are related.

### ***A Change of Focus***

Early SET work was done by Remmers and Brandenburg (1927) who outlined what would be the central approach to SETs for the next 80 or so years. Their approach utilized a ten-item questionnaire covering dimensions such as “Interest in Subject”, “Sympathetic Attitude toward Students”, “Presentation of Subject-matter” and what was, at the time, called the instructor’s “Liberal and Progressive Attitude”, -- a dimension anchored at one end with “Welcomes differences in view point” and at the other with “Entirely intolerant, allows no contradiction” (Brandenburg and Remmers, 1927: 405).

If the general focus of such questions would be familiar to us today the *use* of this data would be generally counter to our current SET experience. As originally conceived SETs were entirely voluntary and used exclusively for the purposes of self-evaluation and self-development. As Brandenburg and Remmers put it:

While heads of departments and other executives might make considerable use of student’s ratings in forming judgements of instructors, still the wisdom of forcing any instructor to submit to such procedures is extremely doubtful. In fact such a compulsory procedure is almost certain to defeat its own ends and result in more harm than good. The entire results of the ratings should remain in the hands of the instructor to use as he [sic] sees fit. (Brandenburg and Remmers, 1927: 401)

A change in emphasis was not long in coming. An AAUP publication (1939) cites a 1935 speech by Alexander Ruthven, the then the president of the University of Michigan, who argued “In many institutions undesirable conditions prevail because it is difficult to eliminate the drones and superfluous men [sic] on the staff” and further that other instructors “...tire and bore and confuse students and show no signs of wishing to improve anything but their salaries” (AAUP 1939: 7). In the AAUP report this quotation was used as justification for examining a number of ways to measure performance including student questionnaires. In this regard the report’s authors offered the opinion that “...there is a body of worth-while student opinion which should be recorded and used in the *evaluation* of teaching ability” (AAUP, 1939: 11, [italics added]). It would appear, then, that by 1939 the shift from seeing SETs as a voluntary measure useful for self-improvement to SETs as an administrative tool was underway. Nevertheless, as many authors note, the major shift in emphasis didn’t take place until the late 1960’s. The reasons for this shift were essentially political and financial. They included a decline in university budgets relative to student enrolment, the student unrest of the 1960’s, undergraduate students’ demand for “better” undergraduate teaching and their demand for a larger “voice” in the administrative processes. The use of SETs was also encouraged by a shift in educational philosophy; universities became part of an industrial-governmental complex, charged with providing the necessary “inputs” for industrial and economic growth; finally universities also became tools for educational activism (e.g. Ory, 1991; Kwong, 1993; Ruedisili, 1970). These trends led to rapid expansion of universities, their “bureaucratization”<sup>1</sup>, and a demand for accountability. Students were subsequently redefined as “consumers” rather than as producers of education (Smith, 2004), and university administrators began to search for performance evidence that would stand court scrutiny (Ory, 1991).

Increasing bureaucratization could be seen as a natural outgrowth of scarce funding, an emphasis on students as homogeneous economic “factors” that could be “sold” a collection of skills and increased size (e.g. Johnson 2000); it could have been predicted from the general research on organizational size and growth. For example the use of SETs is but one indication of an increase in “formalization” normally associated with increased size (e.g. Child, 1984).

But additional factors should be considered, factors which include a change educational philosophy that are arguably the drivers of both increased size and an emphasis on “student opinions”. These factors can, for example, be found in the work of Ditz (1978) and Goldman (1999). Ditz (1978) traces the extensive growth of North American universities to two central factors: A philosophy of “mass-production” in higher education and the incorporation of the Calvinist ethic, with its emphasis on contribution and personal responsibility. According to Ditz the early goal of American university education was self-development and the “building of character” which, given the Calvinistic framework in vogue, could be recognized through an emphasis on vocational competence (Ditz, 1978) that is individual efforts directed toward the increase in *individual* productivity. This emphasis, of course, is in accord with, and sets the stage for, the view of the individual student as a factor of production and, as Ditz (1978) states, is in accord with the ensuing bureaucratic structure of universities, a demand for technical rationality, technical skill, and efficiency. But the early Calvinist foundations of universities also had as a fundamental dictum the concept of “elitism of merit”. Thus while universities emphasized growth of and equality in *admissions* they severely restricted success in terms of *graduation* ---- success was to be based on demonstrable personal competence and productivity. The difficulty arose when the Calvinist dictum of “Many being called, but few chosen” (Ditz, 1978: 162) was replaced by an emphasis on egalitarianism in preference to merit.

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<sup>1</sup> Interestingly, Ruthven’s biographers at the University of Michigan credit him as restructuring the university’s governance system to “a more corporate style”.

This shift in the philosophical ground could have well been anticipated by looking at some educational history, for example by looking at the history of adult education in England (Goldman, 1999). Goldman notes that adult education, which began in the English university in the 1870s, was by its nature essentially egalitarian and political, it was a "...child of liberalism that swept across the ancient universities in the mid-Victorian period..."(Goldman, 1999: 89). The original objectives of such adult education may well have been grounded in Calvinism, that is a genuine desire to offer to others the opportunity for demonstrable self-improvement and a "...genuine desire to inform and educate.... But many of the dons who began the movement, especially in Oxford, saw it [adult education] as a means of fostering social solidarity on the shared basis of progressive social liberalism"(Goldman, 1999: 91). Consequently education in this context ultimately took on significant political overtones, drawing inspiration not only from Ruskin (a major thinker of the 19<sup>th</sup> Century) but fostering the concepts of democracy, inclusion, and the advancement of the "working class". And, as Goldman (1999: 97) notes: "It should not be forgotten that a political education in this adult tradition was instilled not just by what was studied, but by the manner in which it was studied"(A point to which I will return).

This is but one example of a switch from an elitist emphasis on merit in education to a system that emphasised inclusion, democracy, and egalitarianism. According to Ditz (1978) such an egalitarian shift replaced Calvinist meritocracy with a set of "pre-Calvinist" values. What is the impact of such a shift at university? According to Ditz "The new egalitarianism first drowns elitism, then claims the ascriptive rights of the mediaeval aristocracy. Originally the gentleman's son at Oxford received his diploma...as his birthright", resulting in the dictum "If the young prince or gentleman-student did not learn, of course, his tutor was to blame" (Ditz, 1978: 163). Thus the change of emphasis from the Calvinist one of merit and restricted success to an emphasis on mass education founded on egalitarian, democratic and inclusive values (seen, I might argue, in the use of "retention rates" as a mark of university performance), shifts the onus from the student who must "prove" him or herself through competition (based clearly on the religious value that material success, as a mark of grace, might be difficult to attain) to an emphasis on the student as a "consumer" (Costin, et. al., 1973) who is a competent judge of the educational product "produced" by his or her tutors.

But this shift has a number of unintended effects. Chief among these is a renewed emphasis on "constructivism" where the instructor is not a student's "judge" but is, instead, a "facilitator" or "coach" who assists learners to achieve their personally generated learning goals (Smith, 2004: 5). Lest the implications of this shift be minimized or confused with a Calvinist emphasis on meritocracy and self-development a brief look at the work of Brew (1999) is instructive. In discussing the changing relationships between teaching and research Brew notes that there is a shift in what we believe knowledge *to be* from "an absolute" to knowledge as tentative, open to interpretation, and subject to reinterpretation. Specifically what determines what is accepted as "knowledge" is not truth but "who wins the political struggle" (Brew, 1999: 293 citing Barnes and Bloor, 1982). No longer is a teacher one who presents information objectively, where the students are passive empty vessels, but in order to stimulate "deep" learning the instructor must encourage the learner to build on his or her pre-existing ideas to develop a unique "personal understanding" of the area of study. Knowledge is not detached or separate from those who develop it but is intimately linked to social considerations and individual perspective (e.g. Brew and Wright, 1990; Brew and Boud, 1995).

This is a profound and fundamental shift in both the conception of teaching and the conception of knowledge; how great a shift it is can be determined by a partial examination of the work of Burrell and Morgan (1979) who discuss the assumptions researchers make concerning the ontology and epistemology employed in theory construction<sup>2</sup>. In Burrell and Morgan's framework a theorist's ontological assumptions may range from "realism" to "nominalism". In a realist view the world is seen as composed

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<sup>2</sup> Other dimensions include the methodology applicable and assumptions of human freewill.



of "...hard, tangible and relatively immutable structures" which are external to the individual. From a realist perspective an unbiased external observer can investigate these structures but there is always a clear separation of what is known from the investigator. On the other hand from a nominalist perspective the world is a strictly human creation where knowledge depends on the values of the observer and the observer's use of "... names, concepts and labels..." (Burrell and Morgan, 1979:4). What is known cannot and *should not* be separated from the one who knows. Thus there is a fundamental disagreement between nominalists and realists. Realists hold that while knowledge can be discovered and used, it is independent of any particular viewpoint. Nominalists, however, believe the ultimate definition of knowledge is the meaning an individual constructs. It consequently comes as no surprise that realists are also "positivists" who hold that an objective observer with enough effort and talent can discover "objective" knowledge while nominalists are "anti-positivists" who reject the concept that "...science can generate objective knowledge of any kind"(Burrell and Morgan, 1979:5). Realism and positivism<sup>3</sup> form a coherent, mutually supporting, "Objectivist" ideology that is in marked contrast to the "Subjectivist" ideology with its assumptions of nominalism and anti-positivism<sup>4</sup>. The hallmark of the Objective approach is "Seventeenth-century Newtonian science" while the Subjectivism has as its core an emphasis on individual understanding and personal meaning.

From this perspective the abandonment of elitism and a shift to constructivism, egalitarian values, and defining self-development as personal meaning rather than as personal competence in relation to an external standard also represents a fundamental shift to a Subjectivist approach to knowledge and evidence. Here SETs become a harbinger of this shift, a harbinger which curiously enough could have been seen by a more careful reading of Remmers and Brandenburg (1927:524) who state that "Since our Rating Scale purports to measure student judgements of instructors, the concepts of reliability and validity as applied to this study are synonymous". In other words student opinions represent a useful form of knowledge intimately linked to the personal meaning an individual derives from the instructional process; knowledge which must be evaluated strictly on its own terms without reference to an "objective" external standard. In this context the inclusion of a question dealing with "Liberal and Progressive Attitude" is reasonable and necessary; egalitarianism and a Subjectivist view encourage dissent, individual opinions and divergent world-views that must be considered equally valid. In this context personal development *is* individual "meaning", not demonstrable adherence to any external independent collection of facts or processes. Consequently who better than the "consumer" to know if a course of study has meaning for him or her and what exactly that meaning is? As Diez (1978:170) so aptly states while performance in vocational education requires objective measures of performance --- (measures<sup>5</sup> which, I would add, may not provide for a "difference of opinion" or a variety of divergent meanings) --- a "liberal education", (in the true sense of the word with a focus on individual meaning), should encourage dissent and "...the attainment of the educational objective must remain a matter of personal judgement between individual teacher and student".

But a possible explanation for why the "hard" sciences do less well than the more liberal "Arts" now becomes apparent. To the degree that SETs are directed toward Subjectivism and self-development as defined by individual meaning and away from externally verified technical competence disciplines that have at their core Objectivist assumptions and an emphasis on technical elitism might fare less well. Is this the case? Perhaps it is. Gamson (1967) investigated the relationship between performance and student-faculty relations. In this study "Natural Scientists" took a "utilitarian stance" to students; emphasized grades and were more likely to grade strictly on performance. In return the Natural Scientists were seen as cold, distant, and "anti-student" and were pressured to lower their objective demands for performance. Conversely Social scientists reacted to each student personally, promoted egalitarian relationships, used "incompletes" rather than give poor grades; assigned grades

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<sup>3</sup> Along with nomothetic procedures and the assumption of determinism.

<sup>4</sup> As well as the use of an ideographic methodology and the assumptions of human freewill.

<sup>5</sup> Aren't grades marks of merit? It would seem not given the significant problem of "grade inflation". Mansfield (2001), for example, notes that 50% of all the grades at Harvard were, as of his writing, "A's" or "A-".

in relation to the person being graded and gave higher grades when a student was known to them than when they graded the students anonymously. Gamson (1967) concludes that while the Natural scientists were more concerned with performance the Social scientists were oriented to the personal qualities of their students to include shared values that might not be directly related to performance. While this may seem a criticism of the Social scientists in this admittedly small study it is not. It is, however, in accord with a method of teaching that emphasizes the construction of personal meaning, an emphasis on the egalitarian notion of self-development and Subjectivism in general. In this context it is also interesting that in an investigation of over 900 statements used in assessing instructors Smith (2004) found that only 39 were indicative as teaching methods, the statements instead generally measuring “thoughtful” behaviour toward students --- in other words the development of an individual and considerate relationship between the instructor and the student.

More broadly then the advent of SETs is indicative of a more general challenge to Objectivism and to the elitism of merit. Haug and Sussman (1969), at the cusp of the changes that ushered in a reliance on SETs, noted that there was an ongoing “revolt” of the client occurring at most universities. They argued that the authority of the expert is always dependent upon the consent of the client who must believe that he/she will be rewarded --- in other terms the client must have a reason to defer to the expert’s judgement. This deference is less likely when the client believes he/she is as fully qualified as the professional --- an egalitarian position --- to determine what is best. The consequent result of such a revolt is a challenge to the assumption of the professionals’ superior expertise, the professionals’ humanism, and a denial of the professionals’ service orientation. As a later author (Bess, 1998) puts it when discussing collective societies of professionals (such as universities) “They carry with them the assumptions of good will, trust, and commitment to work, colleagues and institutions. That is, social systems of collaborating individuals expect that most members of the system will act according to *professional* standards and will make contributions in accordance with individual abilities” (Bess, 1989: 8, [italics in the original]). Thus to return to Haug and Sussman the client revolt resolves itself in a questioning of the underlying professionalism of the expert, the erosion of trust and a demand that the client, and only the client, have the right to define what counts as knowledge. Such erosion can clearly be seen in the original statements of Ruthven concerning academics that are only interested in fattening their own paycheques.

The general picture is now a bit clearer. The advent of the student revolt of the 1960’s shifted universities toward an egalitarian perspective and toward a Subjectivist definition of knowledge, a definition that is in accord with egalitarianism. As part of this shift has come an erosion of the willingness of students or administrators to grant assumptions of humanism, trust, and individual expertise. In fact with Subjectivism an instructor has *no* definable expertise but simply offers opinions concerning the course material; opinions which are no worse, but clearly no better, than the opinions of any one undergraduate. But for the more established sciences, where the assumptions of Objectivism and Rationality still hold considerable sway, there are demonstrable ways to sort “correct” opinions from those that are less correct: Some “laws” of physics and can be demonstrated independent of any individual’s belief. Here an instructor is in a position where he or she must be less welcoming of a “difference in view point” to use Brandenburg and Remmers’ (1927) terms.

But what about the findings that students who rate their instructors most highly do better on independent measures of learning? Well, the results suspect; the dependent variable is often students’ prediction of anticipated grade across multiple course sections. This dependent variable is curious given the rather low correlations noted above between grades and SETs. But such criticisms frankly beg the central question: Why not measure performance directly and eliminate SETs altogether? And while performance measurement may also be contentious we certainly have the ability to construct direct tests of academic performance. The answer to this hypothetical question is two fold: First the essentially Subjectivist response is that we cannot agree on an “acceptable” body of knowledge. Second is the response that we should maintain SETs *independent* of their relationship to any other measure because SETs are legitimate ultimate criteria in their own right. Simply put in an egalitarian system the “right” of

each individual to have a “voice” is a *political decision*, not a technical one. This, in fact, is the approach used by Job Satisfaction advocates. Originally it seemed imperative to link measures of Job Satisfaction<sup>6</sup> with performance as a justification for increasing employee “happiness” with conditions of work and supervision. But while related to absenteeism and turnover it was found that job satisfaction was only weakly related, if at all, to performance, despite numerous studies which tried to find such a connection. Ultimately the argument developed that Job Satisfaction is a justifiable outcome on moral grounds. Given an egalitarian and subjectivist perspective SETs will ultimately be justified on similar moral grounds, specifically the grounds of “voice” or the right to be heard. And if such a moral justification is not necessarily functional in all disciplines it will be a price many are willing to pay.

## **Summary**

In summary SETs are indicative of a shift in mass education away from the elitism of merit, Objectivism and a rational stance to knowledge. They are a hallmark of the “revolt of the client” and a subsequent challenge to the assumptions of professionalism on the part of the professoriate. I would submit that disciplines that hold most closely to Objectivism, Rationality and Meritocracy and Professionalism understandably do less well on SETs. I would further add that the ultimate results of such a value shift have yet to be known.

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<sup>6</sup> The parallel of asking “workers” if they are satisfied with the conditions of labour, rewards, and the degree of supervision they receive and students if they are happy with the conditions of “class work”, grading, and “supervision” should be obvious.

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# Marketing

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## EARLY FINDINGS ON THE EFFECTS OF WATCHING WEB-BASED MOVIE TRAILERS FOR YOUNG PERSONS

The aim of this paper is to present exploratory research findings that offer an understanding of consumer behaviour in the context of web-based movie trailers. Central to this research is to expose three key periods of behaviour. These are the anticipation of the film, the experience of the film and the recollection of the experience, particularly by 15 to 24 year olds. The role of the web-based trailer as a moderator is pivotal. This research agenda is critical as there is a lack of empirical evidence and theoretical knowledge concerning the effect of a web-based movie trailer. The goal of this research is to begin to make in-roads and draw conclusions and new theories in this fertile area of study.

### Context and General Framework

Fattah (2001) describes the internet as a "strategic channel for cultivating buzz, building a community of avid viewers, and, most importantly, making an emotional connection with moviegoers." Fattah also notes that the internet is an effective way of reaching a key film demographic, 12 to 24 year olds, as they accounted for, in 1999, 40% of the movie-going audience. Thus, both their significant exposure and comfort with the internet and their interest in film attendance make this demographic a highly interesting and important one to investigate, especially when web-trailers for films are consulted.

Furthermore, Fattah also found that nearly half of the respondents between the ages of 12-17 deemed themselves as frequent moviegoers, entailing viewing a film at a theatre at least once a month. Comparatively, only 28% of adults above the age of 18 exhibit the same behaviour. A prime example of a successful web-based advertising strategy was 1999's *The Blair Witch Project*, a film that cost \$1 million to make, and earned \$142 million in ticket sales. Much of this success is credited, according to Fattah, to "the sense of investigation and discovery on the site". The film about teenagers lost in the woods had a major Web following, the website even acting as an extension of the film experience.

It is also argued that a web-trailer and web-site's main competitive advantage is "...the intimate, one-on-one feel the Web delivers that a blaring 30-second ad simply can't". Fattah also refers to films such as *X-Men*, *The Lord of the Rings* and *Series 7* as being models of websites that feature "...tangential plot lines, special footage...to deliver an experience that captures the essence of the movie." Fattah posits that a film's web-site plays a central role in raising a film's overall consumer awareness and visibility.

With regards to information searches, d'Astous and Colbert (2002) posit several insights concerning the collection of information at the consumer's pre-purchase stage and its implications in "...reducing risk for moviegoers." Their findings are important as they call for the consideration the information search and habits exhibited when viewing film trailers and, by consequence, their websites.

d'Astous and Colbert (2002) also report that the notoriety of the critic in question, their previous behaviours and their preferences will often play a role in the consumer's evaluation and interpretation of the review. Also, their research confirms that the impact of a film review is moderated by both its favourableness and the critic's degree of experience. This offers an understanding of the degree of need

that consumers have for information about a film prior to consumption. These questions remain unanswered, and some exploratory work is called for.

## **HEDONIC PRODUCTS AND THE ROLE OF EXPECTATIONS**

Novemsky and Ratner (2003) offer support to the notion that people expect to feel more enjoyment from an experience when it will follow an experience deemed worse. The study, centred on four experiments, indicates that recollection can significantly alter memory and perception of a given experience. In essence, the authors suggest that recollection can be altered or manipulated based upon the sequence of experience (better then worse, or worse then better). This is prompted by the question of ``...whether the enjoyment you derive from an initial sample carries over to your evaluation of a subsequent experience (assimilation effect) or serves as a frame of reference against which the second experience is judged (a contrast effect).``

The study confirmed that individuals recall the absence of contrast effects when the delay in question is short, however those reporting retrospective judgments after a long delay recalled that they had experienced contrast effects. These findings suggest that the amount of time after the experience that the individual is asked to recollect is a critical factor in shaping their perception and response of the given experience.

## **ONLINE AND OFFLINE EXPERIENCES, AND INFORMATION SEARCHES**

Novak, Hoffman and Yung (2000) posit a model that relates to consumer behaviour variables, online shopping included, and also for product information searches and chat room participation. Thus, their model is equally relevant on theoretical and practical levels. The goal of their study is to test this model and confirm a general model of the online customer experience. The article concludes that the interactive behaviour between individuals and the computer and its related devices constructs a unique relationship not encountered in an offline commercial environment. The individual's interactivity with various computer and technological tools, in addition to firms and consumers, creates an original and dynamic relationship. Internet has unique characteristics and poses a particular demand set on a marketer's approach to media (Hoffman and Novak 1996a, 1996b).

Findings from the model presented suggest, for instance, that a website design must be challenging enough for the individual in order to arouse them. However, the authors warn, not to the extent where the challenge induces frustration, confusion or task abandon. The study found that greater challenge corresponds to greater focused attention online, thus correlating challenge with excitement. Furthermore, if a website is not challenging enough, it may rapidly induce boredom or indifference and this will result in task-abandon by the user.

Furthermore, there is evidence of a positive correlation between how important the consumer considered the Web and how much attention they allotted a given web-based interaction. In addition, there exists another positive correlation with the degree of comfort and skill with using the Web.

Summarily, a compelling and involving online customer shopping experience is proven to be ``...positively correlated with fun, recreational and experiential uses of the Web, expected use of the Web in the future, and the amount of time consumers spend online.`` On the other hand, there is evidence of negative correlation with using the Web for work-related activities. The research also strongly argues that current website designs for online shopping and task-oriented activities are not at a level where arousal or challenge can be achieved, and are certainly lacking in inducing either time distortion or providing for a compelling online customer shopping experience.

Paying particular attention to online information search, Schlosser (2003) examined how individuals process information via virtual interaction with a product and the influence this has on the individual's purchase intentions. The primary goal of the article is to test whether object interactivity has a direct effect on intentions even when the user's goal interacts with object-interactivity to influence attitudes. The second goal is to verify if this divergence is the result of variance in the dominance of imagery versus discursive processing on each judgment.

Whether the individual was seeking an aesthetic experience (browsers) or to find specific information (searchers) also played a critical role in identifying these processes. Schlosser suggests that if the user's goals and the delivery of product information are congruent, they will exhibit influence over the processing of and attitude towards the experience. Furthermore, it is predicted that object interactivity will induce vivid mental images of product use regardless of the individual's goals, therefore increasing their intentions.

The study confirms that, across four experiments, object interactivity led to higher purchase intentions than when the same information was transmitted in a more passive fashion. "This finding occurred whether (1) users were motivated to search or browse; (2) their motivation interacted with site design to influence attitudes; and (3) the product information was delivered in blocks of text with graphics, through a storyboard format, or through interactivity in instruction." Thus, viewing a film or multiple images of product use does not explain the effect of object interactivity on intentions. The findings suggest that, in fact, "as if" responding via direct manipulation of the virtual object results in more intensive mental images and increased immersion into the virtual domain.

Schlosser, Shavitt and Kanfer (1999) 's comparative study of internet advertising and general advertising offered several new insights about internet users' attitudes towards online advertising. Their study found evidence of enjoyment of viewing internet advertisements, its informative nature, and the gained utility for making purchasing decisions. These three findings are important, especially in their contradictory relationships with internet advertising.

Firstly, according to the authors, while the enjoyment of looking at internet advertising was the strongest contributor to attitudes towards internet advertising, it appears to be one of internet advertising's weakest features. The study also found evidence of a greater degree of trust and information in internet advertising than from general, offline advertising. The comparison was made via the use of demographically comparable samples. Thus, even though both the perceptions and attitudes towards general advertising and internet advertising are substantially different, the structure of their attitudes is the same.

In terms of demographics, the article states that "...there appears to be a consensus that the Internet population is predominantly male, young, well-educated, and affluent." It has been previously proven that socio-demographic information such as age, gender (Shavitt, et al., 1998) education and income (Alwitt and Prabhaker, 1992; Shavitt et al., 1998) have a significant impact on consumer's judgments of and beliefs about advertising. It was also found that higher-educated, higher-income consumers hold less-positive attitudes towards advertising than less-educated, lower-income consumers do (Shavitt, et al. 1998). These results would posit that the typical internet user (male, well-educated, affluent) would judge internet advertising rather unfavourably.

The research findings also suggest that perhaps because the role of internet consumers is more active when selecting the advertisements they view, they evaluate the content more favourably, as more appropriate to their wants and needs. The inherent "pull" strategy involved here may be a critical factor in this perceived benefit.



Summarily, the combined knowledge available in the existing literature suggests a robust body of knowledge with regards to consumer behaviour and the internet, and arts consumption, but not in their interaction with each other. The lack of a full understanding on the effect of modifying the promotion of film via the use of the internet is certain. The marketing of arts and the impact of the internet is a young, undiscovered field.

### **Conceptual Framework**

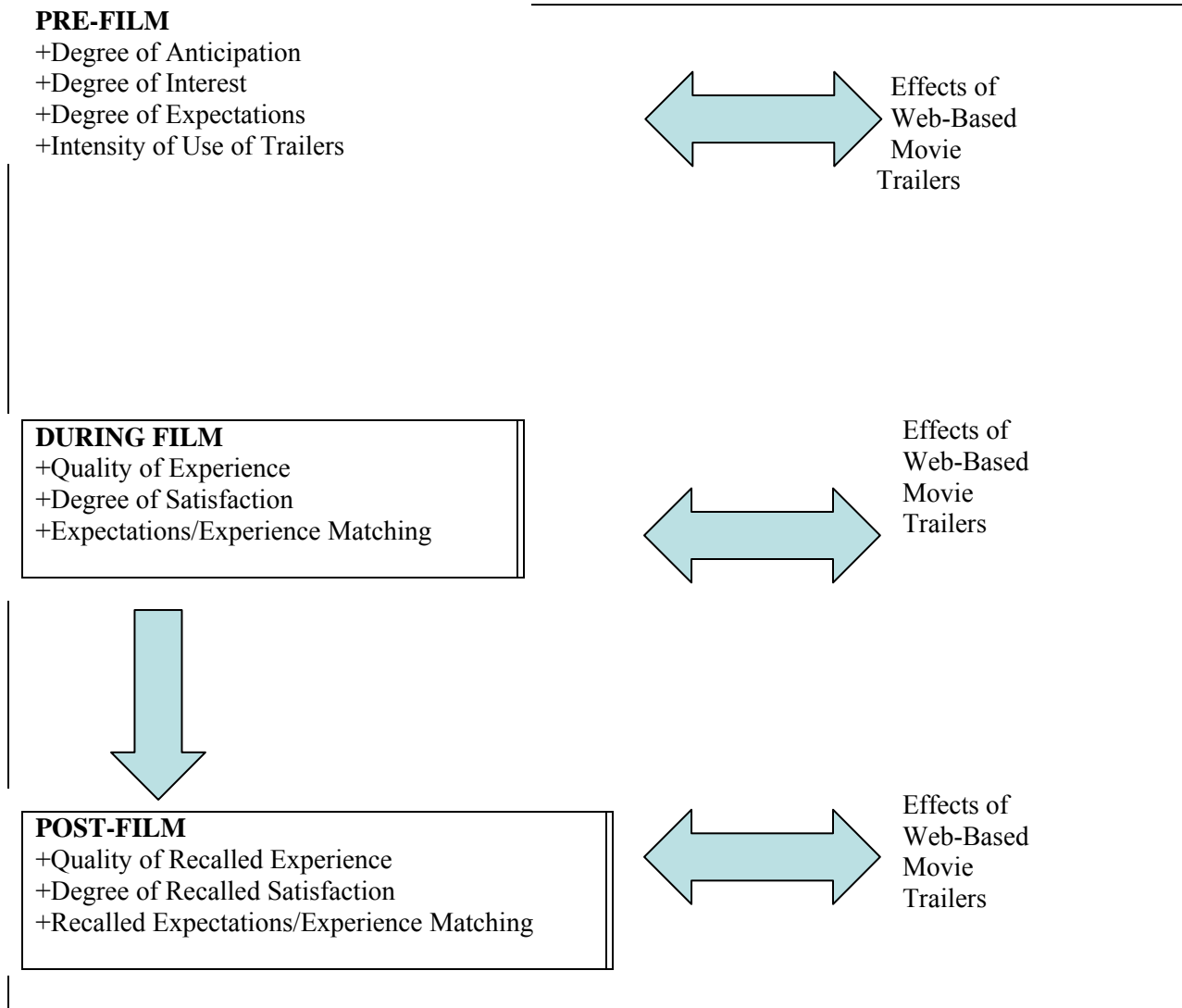
Conceptually, there is expected to be a relationship between the degree of freedom, self-selected control and manipulation that the subject has in applying technology to viewing the trailer and their anticipation of the film. It is predicted that the more freedom and options utilized to view the trailer, the more interested the subject will be to watch the film.

It is also theorized that using web-based movie trailers will be correlated to stimulating more interest in seeing the actual film than not, as there is additional effort made to locate and view the trailer. The subject is an active participant. Contrarily, a subject watching a movie preview in a cinema did not actively seek out this preview and has no capacity to moderate its delivery; they are passive participants in this instance.

Furthermore, there is the expectation that the subject will attest to enjoying the film experience both during and after viewing, due to the added-implication of seeking out the web-based movie trailer. Also, there is the belief that the degree of control that the subject has in relationship to viewing methods and delivery will positively influence their opinion of the film. The following visual of the conceptual framework (Table 1) indicates the relationships to be studied:

**Table 1**

**Conceptual Framework**



**Indicators of Effects:**

- +Range
- +Impact
- +Consistency
- +Change

## **Methodological Framework**

As suggested by Yin (1998), a grounded theory study would be the strongest and most appropriate fit. It is the most conducive to the generation and discovery of a theory, by using a theory-building structure. Yin (1998) notes that this approach is well-suited for research that is based on empirical evidence and aims to construct a sound theory. Considering the substantial gap in the literature regarding this topic, this approach will likely be most appropriate and beneficial. A grounded theory approach is both focused on discovering new theory, and structured enough to ensure proper coding methods and such

### ***UNIT OF ANALYSIS***

The most appropriate group to be looking at, considering that core consumers are young people aged 15-24 years, would be individuals. It is not believed that any formal business unit relations are necessary or appropriate. However, there is the potential to examine persons grouped in a same social setting (schools or circles of friends, for example). In this exploratory study, 9 persons were interviewed on a one-on-one basis.

### ***SAMPLE***

Considering Patton (2001), a completely random sample does not apply. It will be critical to focus on the age group previously discussed. In terms of gender, family income, completed education, all variables can be accounted for and taken into consideration. In terms of logistics, a sample of convenience may be most appropriate. Having access to such an age group, considering social structures (High School, CEGEP, College, University and Work Place) may dictate this. Furthermore, it is desirable to have a comparable representation of all age groups. Hence, a sample exclusively from students at a university would only provide the 18-25 crowd. Thus, a group of young persons were selected via a sample of convenience, for this exploratory study.

### ***ETHICAL CONSIDERATIONS***

In terms of ethics, sensitivity to the age of my subjects, especially the minors, will be pivotal. In terms of the purpose of the study and the nature of the questions, there is a minimal risk of discussion leading towards unethical behaviour. However, caution will have to be used if minors begin discussing the viewing of r-rated or x-rated films, in addition to any type of internet activity that could be deemed questionable for their age. Similarly, when interviewing adults, preparation in the unlikely event that a person admits to viewing internet materials and films, or engaging in online behaviour that is either unethical or illegal, will be necessary.

### ***EXPLORATORY EMPIRICAL STUDY***

A sample of preliminary interviews to begin to understand the interest, behaviours, opinions and patterns with regards to this form of activity. The primary goal in this exploratory study will be to gauge the temperature of the field, and thus reflect and review the findings and process accordingly. Reflexively, my pre-conceptions, biases, judgments, and (in)correct suppositions will be central. The quantity and quality of new knowledge to be generated here already appear to be bountiful.

## Exploratory Results

The following (Table 2) is a list and brief socio-demographic description of the 9 interviewees for this study. With respect for confidentiality, their names have been changed.

**Table 2**

### Participants

<i>Name</i>	<i>Gender</i>	<i>Age</i>	<i>Primary Occupation</i>
<b>Blake</b>	<b>Male</b>	<b>15</b>	<b>High School</b>
<b>Holly</b>	<b>Female</b>	<b>15</b>	<b>High School</b>
<b>Dinah</b>	<b>Female</b>	<b>17</b>	<b>High School</b>
<b>Ross</b>	<b>Male</b>	<b>17</b>	<b>University (U)</b>
<b>Alan</b>	<b>Male</b>	<b>22</b>	<b>University (U)</b>
<b>Roger</b>	<b>Male</b>	<b>22</b>	<b>University(U)</b>
<b>Olivia</b>	<b>Female</b>	<b>22</b>	<b>University (U)</b>
<b>Bill</b>	<b>Male</b>	<b>22</b>	<b>Labour/Services</b>
<b>Alex</b>	<b>Female</b>	<b>24</b>	<b>University (M)</b>

Some preliminary observations and comments from these interviews indicate both expected and unexpected results.

When asked about their appreciation of movie trailers at the theatre, the reactions are typically favourable to very strong. Terms such as “exciting”, “cool” and “interesting” were often cited. Concerning trailers on rented films, the results were unanimously unfavourable, describing them as “old”, and “boring” and that they were typically skipped at all costs. Finally, in terms of web-based movie trailers, responses were generally mixed to favourable. They were clearly more well-liked than watching previews on a rented film, but they did not illicit the enthusiasm or passion of seeing the trailer in a cinema. There appeared to be a continuous appreciation of the newness of the preview, in addition to the excitement factor.

Concerning web-trailers, interviewees typically appreciated the convenience of it, and that it often stimulated their desire to go watch the film. Success rates were as follows (Table 3):

**Table 3**

**Viewed Film Trailers and Subsequent Action**

<i>Name</i>	<i>Film (Web)</i>	<i>Saw</i>	<i>Appreciation</i>
<b>Blake</b>	<i>Harold &amp; Kumar Go To White Castle</i>	<b>Yes</b>	<b>Above Avg</b>
<b>Holly</b>	<i>Harry Potter &amp; The Chamber of Secrets</i>	<b>No</b>	<b>Not released; High Intent</b>
	<i>The Wedding Crashers</i>	<b>Yes</b>	<b>Average</b>
<b>Dinah</b>	<i>The Ring</i>	<b>Yes</b>	<b>Average</b>
<b>Ross</b>	<i>Mulholland Drive</i>	<b>No</b>	<b>Moderate Int.</b>
<b>Alan</b>	<i>The 40 Year Old Virgin</i>	<b>No</b>	<b>High Intent</b>
<b>Roger</b>	<i>Harry Potter &amp; The Chamber of Secrets</i>	<b>No</b>	<b>Not released; High Intent</b>
	<i>Batman Begins</i>	<b>Yes</b>	<b>Above Average</b>
<b>Olivia</b>	<i>The Forgotten</i>	<b>Yes</b>	<b>Average</b>
<b>Bill</b>	<i>The Island</i>	<b>Yes</b>	<b>Above Average</b>
<b>Alex</b>	<i>Aeon Flux</i>	<b>No</b>	<b>Not released; Moderate Int.</b>

Regarding appreciation, interviewees had generally favourable reviews of the previews themselves. Of those that actually went to see the film, all reported that the film either met their expectations or exceeded them. All exhibited positive stimulation from having seen the preview. One respondent commented that he watched the preview multiple times both *before* and *after* watching the film. He noted that the film itself inspired him to return to the trailer to re-visit what he had experienced, in order to further appreciate the film.

In terms of equipment and technology used to download the previews, interviewees reported monitors between 12” and 14”, or deemed “average”. One person reported the presence of a subwoofer, while most reported modest speakers and the computer’s own built in speaker. Surprisingly, the caliber of technology involved here was fairly commonplace, using websites and free software easily found on the internet. This would indicate that web-based movie trailers are fairly easily accessible to this age group, and can be located and downloaded with relative ease and speed. This was typically expected of this 15-24 year old group and would likely change with an older demographic.

Furthermore, these results also suggest that this form of behaviour is not reserved for *techy*-types and is displayed in a variety of persons. Lastly, two of the nine interviewees mentioned that the preview was shown to them by a second party.

Theoretically, the summary of these findings indicate that there exist relationships between the age of the participants and their comfort with the technology, the experience of seeing a preview (web or other) and later seeing the film, the medium of the preview and its likelihood of viewership, and the appreciation of the medium itself. It appears that there are strong sentiments in favour of the theatre-based preview, against the rented film preview and the web-based preview appears to exist in the middle, leaning towards the favourable. Clearly, more exploration of this reality and its antecedents will provide interesting theoretical contributions.

### **Conclusion**

As exhibited in early findings from this research, the scholarly contributions of this line of research will bring evidence and understanding to the practical and theoretical underpinnings that exist between consumer behaviour, electronic promotion and new media, film advertising and the multiple combinations of relationships that exist between them. This area of research is turning a new corner and is demanding the academic commitment to be explored and learned to further contribute to knowledge and scholarship. In terms of future research, it would be interesting to track, longitudinally, young persons online trailer viewing and their choice to see, or not see, a film in theatres. In terms of the sample and sample size, gaining access to consumers aged 12-14 would complete the target age range identified in the literature. Lastly, a study with a larger sample would prove to be beneficial to confirm or challenge some of the early findings of this study's sample.

### **Limitations**

It is important to note both the limitations in sample size and the overall exploratory nature of this study. While the participants in this study were age appropriate for this study, both the choice of using a sample of convenience of a small number of participants limits the generalizability of these findings. Considering this, it is important to emphasize that this study is of an exploratory nature on a subject that is relatively unknown. As these are only early findings, continued and long-term research agendas on this topic are necessary to further investigate the effects at hand.

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## **ANALYSIS OF CATEGORICAL MULTIPLE RESPONSE VARIABLES IN MARKETING RESEARCH**

Multiple Response Data (MRD) can be defined as the set of answers to a question that allows the respondent to pick more than one response, also known as a pick any/J format. Such questions have become very popular for marketing research, and are frequently encountered in the analysis of survey data. Although widely used, the analysis of these types of responses is becoming increasingly complex. The purpose of this paper is to examine the underlying issues and subsequent solutions for dealing with aggregated MRD. The paper also presents a summary of benefits and drawbacks associated with different analytical methods.

### ***Introduction***

MRD can be defined as the set of answers to a question that allows the respondent to pick more than one response, typically requiring the respondent to choose one or more responses from a predefined list, or an *a priori* determined population set of items (e.g. brands within a product class). These types of questions have become very popular for marketing research and numerous other disciplines for determining information such as customer purchasing patterns, product consumption, hobbies, brand preferences, and value propositions. Although widely used, the analysis of these types of responses is becoming increasingly complex.

The purpose of this paper is to examine the underlying issues and subsequent solutions for dealing with aggregated MRD. The intended contribution of this article is to bring forth common problems associated with the analysis of categorical MRD, and to provide a concise summarization of the benefits and drawbacks related to each of the major analytical techniques. The first section of this paper provides a brief background on the analysis of MRD followed by an overview of the current methodologies being proposed for use by practitioners. The second section of this paper provides a detailed analysis of a number of techniques found in the literature including Loughin and Scherer's (1998) modified chi-squared bootstrap methodologies, Agresti and Liu's (1999, 2001) naïve methodology, and Thomas and Dacady's 1<sup>st</sup> order and 2<sup>nd</sup> order Rao-Scott (1999, 2004) approaches. Concluding this paper is a table summarizing the various methodologies that includes both positive and negative aspects associated with each technique.

### **Problem with Analysis of MRD**

When dealing with MRD, it is important to understand the tabular formats in which this data can be displayed, because different methodologies require different base data formats. The most common data display formats are the aggregated and expanded tabular formats. In an aggregated form, the MRD is



aggregated against r rows or groups to create an r x c contingency table. This type of a table is also known as a marginal table or an original table. An example of an aggregated table can be seen below.

**Table 1**

**Aggregated Tabular Format**

Gender	Domestic	Japanese	European	Subjects
Male	146	131	138	216
Female	91	134	101	184
Total	237	265	239	400

An expanded table attempts to break out the multiple response items into individual, binary yes/no variables against each group. This table becomes the optimal format for many of the analysis techniques to be discussed. An example of the expanded table can be seen below.

**Table 2**

**Expanded Tabular Format**

	Japanese = Yes		Japanese = No	
	European		European	
Domestic	Yes	No	Yes	No
Yes	106	47	32	52
No	50	62	51	0

The difficulty in analysing MRD in an aggregated or an expanded format becomes apparent when attempting to calculate the marginal frequencies of the contingency table. As can be seen in the table below, when row totals are calculated for each group, the totals are greater than the number of subjects in each group.

**Table 3**

**Problem with MRD**

Gender	Domestic	Japanese	European	Subjects (ni)	Response (mi)
Male	146	131	138	216	415
Female	91	134	101	184	326
Total	237	265	239	400	Ni = 400 Mi = 741

Because of the nature of MRD, the contingency table now contains “double counting” within the cell frequencies for each group. This double-counting across groups leads to the violation of one of the major assumptions of the classic Pearson Chi-Square test used to determine independence, homogeneity, and goodness-of-fit in categorical contingency tables (Agresti, 1996 pp. 27-28). More specifically, the assumption that all variables are mutually exclusive and exhaustive does not hold true in this situation, as the column responses are not exclusive of each other. It is because of this lack of mutual exclusiveness and resulting inappropriateness of the classic Pearson Chi-Square test that has motivated research into various methodologies designed to overcome these unique data issues.

### **Snapshot of Alternate Methodologies**

In an attempt to work around the limitations of the classic Pearson chi-square test with respect to MRD, a number of researchers have put forth some innovative methodologies and techniques to solve this problem. Umesh (1995) was one of the first researchers to tackle this issue by developing an Adjusted chi-square test that modified the method for determining the expected cell frequencies for a standard Pearson chi-square test. Loughin and Scherer (1998) independently developed the same technique, but called their statistic a Modified chi-square statistic. Loughin and Scherer, recognizing the limitations of their modified chi-square statistic, further developed a bootstrap methodology to ensure proper estimation of the sampling distribution. Agresti and Liu (1999) entered the discussion by proposing a number of model-based approaches as well as a “quick and easy” naïve method. The naïve method spawned various permutations such as the Bonferroni naïve method and the Bootstrap naïve method. Lastly, building on statistical techniques used in complex survey theory, Thomas and Decady (2004) proposed the use of 1<sup>st</sup> and 2<sup>nd</sup> order Rao-Scott adjustments to the classic Pearson chi-square statistic to account for a lack of exclusiveness in multiple response items. In the following sections, a more detailed look will be provided for Loughin and Scherer’s, Agresti and Liu’s, and Thomas and Decady’s methodologies.

#### ***Loughin and Scherer – Modified Chi-Square Test***

In their 1998 paper, Loughin and Scherer reiterated Umesh’s work by demonstrating a modified chi-square test using the now popular pig farmer data set. In this study, 262 Kansas livestock farmers were asked a number of demographic questions as well as a multiple response question for their primary sources of veterinary information. The response of the farmers, along with their education level can be seen in table 4 below.

**Table 4**

**Demonstration of the Loughin and Scherer Method – Collapsed Marginal Table**

	Info Source					
Education	A	B	C	D	E	Total
High School	19	38	29	47	40	173
Vocational	2	6	8	8	4	28
Two-Year	1	13	10	17	14	55
Four Year	19	29	40	53	29	170
Other	3	4	8	6	6	27
Total	44	90	95	131	93	453

In this table, known as the marginal table (or original table), it is evident that the row totals are greater than the overall number of respondents due to the multiple response nature of the question. To address this, similar to Umesh (1995), Loughin and Scherer (1998) examined the notion using an expanded table to eliminate the double counting in the marginal table. This table, known as a joint table provided a cross-tabulation of the demographic education data against a set of binary response vectors that captured all possible answers to the multiple response questions. The joint table can be seen below.

Using the joint table, each column represents an individual respondent's possible answer combination to the multiple response questions, thus eliminating the double counting found in the marginal table (Table 4). Now, using the row totals of the original table and the column totals of the joint table, a slight variation to the traditional marginal calculation is implemented to determine the expected values of each cell. The new expected value calculation becomes, where  $F_{ij}$  = expected values;  $n_{i+}$  = row total;  $m_{+j}$  = column total.

$$F_{ij} = (n_{i+}m_{+j})/n_{++} \dots\dots\dots(1)$$

**Table 5**

**Demonstration of the Loughin and Scherer Method – Expanded Joint Table**

A	0	0	0	...	1	1
B	0	0	0	...	1	1
C	0	0	0	...	1	1
D	0	0	1	...	1	1
E	0	1	0	...	0	1
High	0	8	17	...	1	7
Vocational	0	1	3	...	1	0
Two-Year	0	6	6	...	0	0
Four Year	0	16	30	...	2	4
Other	0	1	1	...	0	1

With this expected value calculation, the notation  $F_{ij}$  is used instead of the traditional  $E_{ij}$  and  $M_{+j}$  in order to show that the column totals are drawn from the original table. Fed into the classic chi-square formula, the modified statistic becomes:

$$\chi^2_m = \sum_i \sum_j (m_{ij} - F_{ij})^2 / (F_{ij}) \dots\dots\dots(2)$$

Although this modified version of the classic Pearson chi-square test statistic satisfies the requirement for mutually exclusive variables, Loughin and Scherer recognized that this methodology has a few drawbacks:

- The expanded table, by definition would typically contain a large number of structural zeros, which affects subsequent analysis of this table.
- The asymptotic distribution of the modified chi-square statistic is in fact a linear combination of individual chi-square statistics with one degree of freedom and not a pure chi-square distribution.

The recognition of the asymptotic nature of the modified chi-square statistic results in a situation where the sampling distribution does not converge to the assumed distribution of the critical test value (in other words, not consistent); a basic foundation upon which hypothesis testing is built. In order to estimate the sampling distribution of the modified chi-square statistic more consistently, Loughin and Scherer (1998) turned to a resampling bootstrap methodology. With bootstrapping, Loughin and Scherer were able to better estimate the finite-sample sampling distribution of the modified chi-square statistic.

### ***Loughin and Scherer – Bootstrap Methodology***

Bootstrapping is a nonparametric statistical technique, introduced in the 1930's that treats the original sample of values as a "stand-in" for the population. Although theoretically understood at this time, it was not until much later, through the advancement of computer-based processing power, did bootstrapping become a viable analytical technique. At a conceptual level, bootstrapping attempts to reproduce the characteristics (parameters) of an unknown population distribution by repeatedly resampling with replacement from a baseline sampling set, recomputing the statistic of interest with each iteration (Efrom and Tibshirani, 1993) The empirical distribution of this resampled statistic is then treated as the bootstrap estimate of the sampling distribution of the statistic. It is this process of resampling and recomputing that becomes extremely computer intensive.

Even with the bootstrap approach, Loughin and Scherer (1998) were forced to adjust either the resampling procedure or the test statistic to ensure the sampling distribution falls under the assumption that the null hypothesis is true. Loughin and Scherer chose the first option under the null hypothesis of independence between sources of information and education levels of the pig farmers. The bootstrap approach involves creating a matrix of response vectors keyed to each row grouping, for example, the vector (1|10010) represents a respondent from group 1 who checked the first and fourth items of the five-item source of information multiple response question. Obviously, the individual responses (joint table) are needed for this approach. The resampling procedure then involves drawing independent random resamples from  $r$  rows and  $c$  categories and combining them randomly into a new data matrix  $M^*$ , which is in essence creating a new expanded and original table each time. With each new table, the modified Pearson chi-square statistic is computed. This was repeated 5000 times, each time comparing the new modified Pearson chi-square statistic against the baseline modified Pearson chi-square statistic. The  $p$ -value is then equal to the proportion of samples that satisfy this equation. In Loughin and Scherer's work, the  $p$ -value was equal to .047 resulting in a marginal rejection of the null hypothesis for independence between education level and sources of veterinary information.

As with many of the methods for dealing with MRD, this bootstrap approach has a few downsides:

- Computationally intensive - Although not necessarily an issue with contemporary processing power.
- Methodology is non-intuitive to practitioners, leading to a non-use or mis-use of the approach

### ***Agresti and Liu – Naive Sum Method***

Agresti and Liu (1999) proposed the analysis of MRD using a number of various categorical Logit and Loglinear models. Three of Agresti and Liu's methods include:

- Marginal Logit model
- Logit Random Effects model

- Quasi-Symmetric Loglinear models.

While developing these rather complicated and cumbersome methods for dealing with MRD, Agresti and Liu stumbled upon a short-cut approach, which they called the naïve sum method. The naïve sum method involves creating yes/no response tables for each item within the multiple response variable. In essence, a total of  $c_r \times 2$  tables are created from the original table. An example is shown below:

**Table 6**

**Naïve Sum Method**

Gender	A	B	C	D	E
Male	$M_{11}$				
Female					

Gender	A -1	A -0
Male	$M_{11}$	$N_i - M_{11}$
Female		

For each item, a yes and no for each group (in this case it is gender) is tabulated. By definition, each respondent can only have selected a yes or no to each individual item of the multiple response questions, regardless of their answer to any other item. As such, each of these individual tables satisfies the assumption of mutual exclusiveness; each respondent can only have ticked or not ticked each item of the overall question. In other words:

$$N_i = M_{11} + N_i - M_{11} \dots\dots\dots(3)$$

Agresti and Liu observed that by calculating individual classic Pearson chi-square statistics for each of these item tables, the sum of these statistics approximated the overall chi-square result from their much more elaborate model-based methods, thus, the name “Naïve Sum”. Worth noting is the fact that since each respondent has a response in each of the item tables, the individual chi-square statistics are not independent and their sum should not be a viable test statistic. Thomas and Decady (2004) later showed that the Rao-Scott adjustment proves why this in fact works. Although a tidy and convenient methodology, the naïve method does have a major drawback, in the fact that it relies on asymptotics for its sampling distribution assumptions. Because of this, large sample sizes are needed to ensure that the theory of asymptotics holds true. To deal with this limitation, as well as the original concern of a lack of independence between item tables, Agresti and Liu proposed adapting Loughin and Scherer’s bootstrap methodology for determining the sampling distribution of the test statistic. By doing so, the concept of asymptotics would no longer be needed.

***Decady and Thomas – Rao-Scott Approach***

Decady & Thomas (1999) explain that the problems associated with MRD are similar to problems with complex surveys.

- Main problem with complex surveys arises from cluster sampling, which results in violation of assumption of independence between sample units.
- Similarly, in MRD, each subject can contribute more than one count to the cells of a multiple response table, resulting in violation of the assumption of independent units.

Rao-Scott first order adjustment is given by:

$$\chi_p^2(\delta) = \chi_p^2 / \hat{\delta} \dots \dots \dots (4)$$

Where  $\hat{\delta}^{-1}$  is an estimate of the mean of eigen values. Decady & Thomas (1999) suggest that the adjusted Rao-Scott chi-square statistic could also be used for MRD due to its similarity with complex surveys. We expand this further with the use of an illustration. Table 7 shows multiple responses for effect of country of origin (COO) and gender on car selection.

**Table 7**  
**Effect of COO and Gender on Car Selection**

<b>Gender</b>	<b>Domestic</b>	<b>Japanese</b>	<b>European</b>	<b>Total Subjects</b>
<b>Male</b>	146	131	138	216
<b>Female</b>	91	134	101	184
<b>Total</b>	237	265	239	400

The Goodness of Fit Test is given by:  $H_0$  (GOF):  $\mathbf{pi} = \mathbf{po}$

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<sup>1</sup>  $\chi_p^2 = \delta_1 W_1 + \delta_2 W_2 + \dots + \delta_u - 1 W_u - i$ ;  $\chi_p^2$  is asymptotically distributed as a random variate  $dW$ , where  $W$  is a chi square random variate  $\chi_1^2$ , and the weights  $\delta$  are eigen values.

Where  $\mathbf{pi}$  is a matrix of sample estimates of response probability, that a respondent will provide a positive response to multiple response item I, i.e.  $\mathbf{pi} = E(mi)/n$ , and  $\mathbf{po}$  is a matrix of hypothesized probabilities obtained from secondary data. Conventional chi-square statistic is

$$\chi_p^2 = n \sum_{i=1}^C (\hat{p}_i - p_o)^2 / p_o \dots \dots \dots (5)$$

C is the no. of items, which in this case are 3. This can also be written in a matrix form as-

$$\chi_p^2 = (\hat{p} - p\hat{o})' D o^{-1} (\hat{p} - p\hat{o}) \dots \dots \dots (6)$$

Where Do is a C X C diagonal Matrix.  $\hat{\delta}$ 's are eigen values of  $Do^{-1}V$  matrix, where V is a covariance matrix. It is calculated as follows:

$$\hat{\delta} = \sum (1-p_i) / C = 1 - \sum p_i / C = 1 - \gamma / C \dots \dots \dots (7)$$

In terms of cell counts  $\gamma = m_+ / n$ . where  $m_+$  is the sum of C multiple response counts in a one-way array. For illustration only, let probabilities of males be known and considered as the hypothesized  $p_o$  value.

$$\gamma = (91+134+101)/184=1.772; \gamma / C = 1.772/3=0.591; \text{ thus } \hat{\delta} = 0.409$$

$\hat{\delta}$  can be equated in the Rao-Scott first order equation (eq. 4) to give the adjusted value. Advantage of Rao-Scott first order is that it only requires the knowledge of aggregated multiple response counts, a useful property when access to the full data set is not available.

### Conclusion

As hopefully apparent, there are a number of possible approaches available to the marketing researcher for dealing with the analysis of aggregate MRD. To predict which methodology will eventually become the standard approach is difficult at this time, as each technique has inherent advantages and disadvantages as outlined in the following summary table:

**Table 8****Summary of Alternate Methodologies**

<b>Method</b>	<b>Author</b>	<b>Upside</b>	<b>Downside</b>
Modified Chi-Square	Loughin Scherer	Straightforward	Not a Chi-Square Distribution Statistic is conservative
Bootstrap	Loughin Scherer	Uses familiar test statistic Doesn't rely on asymptotics Can apply for sparse data	Method is not intuitive to practitioners
Logit and Loglinear Models	Agresti Liu	Mathematically sound and complete	Extremely difficult for practitioner Vulnerable to sparse data
Naïve Approach	Agresti Liu	Mathematically sound and complete Invariant	Relies on asymptotics Item tables are not independent
Naïve Bootstrap	Agresti Liu	Combines naïve method with bootstrap	Resampling not done under null hypothesis Bootstrapping is not intuitive
Rao Scott	Decady Thomas	Well known test Easy to implement Relates to complex survey	1st order is not invariant 1st order affected by strong pair-wise dependence

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## **DETERMINANTS AND CONSEQUENCES OF SATISFACTION WITH RESTAURANT SERVICES**

The purpose of the present study is to empirically investigate the determinants and consequences of consumers' satisfaction with restaurant services. A total of 121 undergraduate business students participated in this study. We found that perceived service quality had a significant impact on emotions and satisfaction. Additionally, emotions significantly affect satisfaction, which in turn, had a significant impact on behavioural intentions. Restaurant managers should monitor customers' perceived service quality and make sure that it conveys positive emotions and reduces negative emotions in order to maximize customers' satisfaction.

### **Introduction**

The restaurant industry is one of the largest sectors in North America. The overall economic impact of the restaurant industry is expected to exceed \$1.3 trillion in 2006 (National Restaurant Association, 2006). Americans will spend approximately \$1.4 billion a day dining out in one of 925,000 existing locations. The restaurant industry employs an estimated 12.5 million people, making it the largest employer besides the American government. According to the same report, every dollar spent by American consumers in restaurants generates an additional \$2.34 spent in other related industries. Every additional \$1 million in restaurant sales generates an additional 37 jobs for the American economy. As for the Canadian restaurant industry, it employs 765,000 workers (Statistics Canada, 2004). The food industry (including the restaurant industry) represents 6.2% of total employment in the country. There are more people working in the food service industry than in agriculture, forestry, pulp and paper, banking and oil and gas extraction combined (Canadian Restaurant and Foodservices Association, 2005). On average, a Canadian household spends 22% of its total food dollar on foodservice (Canadian Restaurant and Foodservices Association, 2005). It is apparent that this industry contributes largely to both the American and Canadian economies. The restaurant sector is without doubts the largest service industry (Lord, 1999).

The growing competition in the restaurant industry and the increasing importance of consumer patronage imposes the need to provide better services and customer satisfaction. This task becomes complex because restaurants are not just providing food but rather a service experience (Yüksel and Yüksel, 2002). Consumers not only evaluate the functional outcome of the service (something to eat) but also every aspect of their dining experience. Many tangible and intangible components become important and must therefore be closely monitored by the restaurant's managers and owners. It is worth to note that satisfaction with the dining experience increases positive word-of-mouth communication, which prove to have a great influence on restaurant selection (Sweeney et al., 1992). Also, customer satisfaction can directly affect customer loyalty and organisational profits, and it's often used as an indicator of return patronage in the restaurant sector (Dubé et al., 1994; Soriano, 2002). Therefore, understanding how to

achieve customer satisfaction is of utmost importance for restaurant managers. The purpose of this research is to contribute to the understanding of the determinants of customer satisfaction and behavioral intentions in a restaurant setting.

### **Literature Review and Conceptual Model**

Determinants of restaurant evaluation (Dubé-Rioux, 1990; Yuksel and Yuksel, 2002; Sulek and Hensley, 2004; Iglesias and Guillén, 2004) and repeat patronage (Dubé et al., 1994; Soriano, 2002; Sulek and Hensley, 2004) are among the main studied topics in the satisfaction and service quality literature. The major studies that examined restaurant service quality and satisfaction are described in Table 1. These studies show that consumer satisfaction with restaurant services, and subsequently return patronage, are determined by the quality of food (tangible service element or the functional outcome), the cost/value of the meal, and also the manner in which the service is delivered (reliability, responsiveness and empathy of restaurant personnel, ambience or service environment). These studies reveal that perceived service quality is a factor of vital importance when developing satisfaction with a restaurant. Although these studies have helped to improve our knowledge about the determinants of satisfaction, their scope is exclusively cognitive<sup>1</sup>. In these previous studies (except Dubé-Rioux, 1990), there was no assessment of the emotional reaction to the service experience. However, numerous researchers claim that emotion is a central element in service quality and satisfaction management (Oliver, 1997; Liljander and Strandvik 1997; Wirtz and Bateson, 1999; Wong, 2004; Edvardsson, 2005). They argue that customer satisfaction includes both cognitive and emotional components.

We think, the emotional side of the consumption experience is an important and fundamental determinant of satisfaction (Westbrook 1987; Oliver 1997, Cronin et al., 2000), particularly in the case of the restaurant consumption experience. Previous studies reveal that emotions may play a central role in service satisfaction (Grönroos, 2001; Edvardsson, 2005). Oliver et al. (1997) posit that positive emotions lead to higher customer satisfaction which in turn increases repurchase intentions. However, there is still need to empirically study the role of the emotional component on

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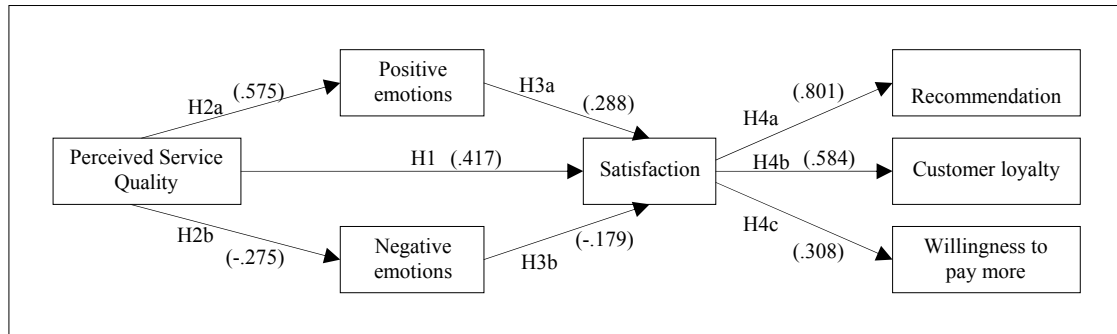
<sup>1</sup> For example, Iglesias and Guillén (2004) proposed and empirically tested model where only perceived quality and total perceived price (two cognitive constructs) are conceptualized as determinants of satisfaction.

Table 1: Major studies on restaurant service quality and satisfaction

Study	Focus of the study	Methodology	Results
Dubé. (1990)	Determinants of satisfaction	<i>Sample size:</i> 52; <i>Determinants:</i> Affective reports and cognitive evaluations; <i>Survey mode:</i> Survey at the end of the meal; <i>Country:</i> NA; <i>Type of restaurant:</i> casual; <i>Analysis:</i> Reliability, regression, correlations.	<ul style="list-style-type: none"> <li>- Consumers' affective responses were highly predictive of their level of satisfaction and independent of cognitive evaluations.</li> <li>- The predictive value of cognitive evaluations and affective responses are function of the emotional intensity of satisfaction judgements.</li> </ul>
Dubé et al. (1994)	Determinants of restaurant return patronage	<i>Sample size:</i> 57; <i>Determinants:</i> Food tastiness, consistent food, menu variety, waiting time, attentive server, helpful server, and atmosphere have all a significant impact on return patronage; <i>Survey mode:</i> preaddressed questionnaires given to customers before leaving the restaurant; <i>Country:</i> NA; <i>Type of restaurant:</i> Small, independently owned, upscale restaurant; <i>Analysis:</i> conjoint, regression.	<ul style="list-style-type: none"> <li>- Food tastiness, consistent food, menu variety, waiting time, attentive server, helpful server, and atmosphere have all a significant impact on return patronage.</li> <li>- Service quality accounted for 35.3 percent of the final decision to repeat a purchase in the case of business dinners and 31.8 percent in the case of pleasure dinners.</li> </ul>
Soriano (2002)	Determinants of restaurant return patronage	<i>Sample size:</i> 3872; <i>Determinants:</i> Quality of food, service, cost/value, place/ambiance concerns; <i>Survey mode:</i> Survey at the end of the meal; <i>Country:</i> Spain; <i>Analysis:</i> Mean standard deviations and multiple range tests.	<ul style="list-style-type: none"> <li>- Quality of food (menu variety, innovative, presentation, fresh ingredients and food consistency) was rated as the most important attribute, followed by quality of service, cost/value of the meal and ambience/place of the restaurant.</li> <li>- Male and female customers rate the attributes similarly.</li> </ul>
Yuksel and Yuksel (2002)	Determinants of restaurant return patronage	<i>Sample size:</i> 441; <i>Determinants:</i> 42 attributes; <i>Survey mode:</i> departing tourists interviewed at airport in Turkey; <i>Country:</i> British (64%), German (11%), Scandinavian (11%); <i>Type of restaurants:</i> Independent non fast-food restaurants; <i>Analysis:</i> Factor analysis, hierarchical cluster analysis, regression analysis.	<ul style="list-style-type: none"> <li>- Service quality had the most significant effect on dining satisfaction followed by product quality, hygiene, menu diversity, price-value and convenience.</li> </ul>
Sulek and Hensley (2004)	Determinants of overall dining experience and repeat patronage	<i>Sample size:</i> 239; <i>Determinants:</i> Waiting time, seating-order fairness, wait-area comfort, wait-area crowding, host-staff politeness, server attentiveness, dining atmosphere, dining seating comfort, food quality; <i>Survey mode:</i> Survey at the end of the meal; <i>Country:</i> United States; <i>Analysis:</i> Regression analysis.	<ul style="list-style-type: none"> <li>- Food quality was the only factor which had a significant effect on return patronage.</li> </ul>
Pedraja and Guillén (2004)	Determinants of satisfaction	<i>Sample size:</i> 156; <i>Determinants:</i> Perceived quality and total perceived price; <i>Survey mode:</i> No information; <i>Country:</i> Spain; <i>Analysis:</i> structural equations.	<ul style="list-style-type: none"> <li>- Perceived quality has a positive impact on the level of customer satisfaction.</li> <li>- Total perceived price have no effect on satisfaction.</li> </ul>

satisfaction formation. In this study, we develop and test a model which includes a separate emotional component as a determinant of satisfaction (figure 1). This emotional component (negative and positive) is elicited by perceived service quality. We also, posit and empirically test the relationships between satisfaction and three behavioural intentions.

Figure 1: Conceptual model with results



### Effect of Perceived Service Quality on Satisfaction

According to numerous researchers, satisfaction and service quality are distinct but closely related constructs (Sureshchandar et al., 2002). Many studies have empirically studied the relationship between service quality and satisfaction (Oliver, 1993; Bitner and Hubbert, 1994; Cronin and Taylor, 1992; de Ruyter et al., 1997). Researchers have identified that an increase in perceived service quality leads to an increase in the service satisfaction. For example, Sureshchandar et al. (2002) found that respondents whose perception of service quality is high have a high satisfaction level, respondents whose perception of service quality is poor have a poor satisfaction level, and those respondents whose perception is medium have medium satisfaction levels. In a recent study, Iglesias and Guillén (2004) tested the impact of perceived quality and total perceived price on consumer satisfaction with restaurant service. They found no effect of perceived price but positive and significant impact of service quality on satisfaction. Hence, we posit that perceived service quality has an impact on satisfaction levels.

H1: Perceptions of high service quality are positively related to high satisfaction levels.

### Effect of Perceived Service Quality on Consumption Emotions

Research on service quality has been very cognitive in nature (Liljander and Strandvik, 1997). Few studies have evaluated the relationship between perceived service quality and consumption emotions<sup>2</sup>. Muller et al. (1991) found that positive emotions experienced by tourists were affected by pre-consumption expectations, norms from previous experiences, perceived performance and perceived disconfirmation, whereas negative emotions were affected by pre-consumption expectations and perceived performance. Wirtz and Bateson (1999) found that the levels of pleasure and arousal experienced in a service encounter are an increasing function of the perceived disconfirmation-of-expectations. Wong (2004) found that service quality is positively associated with emotional satisfaction.

<sup>2</sup> As mentioned by Westbrook and Oliver (1991), consumption emotions refers to the set of emotional responses elicited specifically during product usage or consumption experiences

According to her study a firm needs to put more effort in creating pleasant and entertaining experiences for its customers.

Hypothesis 2a: Perceptions of high service quality are positively related to positive emotions.

Hypothesis 2b: Perceptions of low service quality are positively related to negative emotions.

### **Effect of Emotions on Satisfaction**

The impact of emotional responses on satisfaction has been pointed out in several studies. Westbrook (1987) found that negative and positive affect were respectively negatively and positively related to consumer satisfaction judgements. Dubé-Rioux (1990) found that consumers' positive and negative emotional responses were highly predictive of the satisfaction levels with restaurant services. She further notes that affective responses to a dining experience influence satisfaction more than the restaurant's performance (cognitive evaluation). Oliver (1993) found that overall satisfaction was influenced by attribute satisfaction, attribute dissatisfaction, disconfirmation of expectations, positive emotions, and negative emotions. Liljander and Strandvik (1997) found that both, positive and negative emotions were correlated to satisfaction. However, the effect of negative emotions was stronger than the effect of positive emotions.

Hypothesis 3a: Positive emotions are positively related to satisfaction levels.

Hypothesis 3b: Negative emotions are negatively related to satisfaction levels.

### **Effect of Satisfaction on Behavioural Intentions**

The impact of satisfaction on behavioural intentions has also been examined in several studies, which support that there is a relationship between satisfaction/dissatisfaction and brand loyalty, purchase repetition and personal communication (word-of-mouth) (Parasuraman et al., 1991; Yu and Dean, 2001; Bigné et al., 2005). For example, Athanassopoulos et al. (2001) found that customer satisfaction is positively associated with word-of-mouth as well as with the decision of staying with existing service provider. Zeithaml et al. (1996) affirm that profits and financial outcomes of organizations are influenced by consumer's behaviours which are in turn influenced by satisfaction. Therefore the relationship between the last two needs to be examined and understood.

Hypothesis 4a: Recommendation is positively related to satisfaction level.

Hypothesis 4b: Customer loyalty is positively related to satisfaction level.

Hypothesis 4c: Willingness to pay more is positively related to satisfaction level.

## Methodology

A self-administered questionnaire was distributed to a convenience sample of undergraduate businesses students during the first half of 2005. Respondents were requested to evaluate their last dining experience and fill in the survey. A total of 121 usable questionnaires were finally collected. Perceived service quality was measured using DINESERV (Stevens et al., 1995). Satisfaction was measured using three unipolar items: “Globally, how satisfied are you with your last visit to the XYZ restaurant?” (from “very dissatisfied” to “very satisfied”); “I believe I did the right thing when I used the XYZ restaurant services” (from “strongly disagree” to “strongly agree”), and “I am happy about my decision to use XYZ restaurant services” (from “strongly disagree” to “strongly agree”). Emotion was measured using 12 descriptors selected from those most frequently cited in the literature: 5 positive emotions: happiness, pleasure, excitement, contentment, and enjoyment; and 7 negative emotions: anger, frustration, contempt, boredom, disgust, embarrassment, and sadness (Oliver, 1997; Liljander and Strandvik, 1997). Three items were used to measure behavioural intentions: “I will certainly recommend the XYZ restaurant to friends and acquaintances”, “This restaurant will be my first choice if I stay in the area again”, and “I would pay a higher price than the competitors charge for the benefits that I received from the XYZ restaurant”. Anchors for these items ranged from “strongly disagree” to “strongly agree”.

## Results

A confirmatory factor analysis using EQS 6.1 was performed to test the proposed model (figure 1). The overall evaluation of the model fit was based on multiple indicators: the Satorra-Bentler scale statistic<sup>3</sup>  $S-B\chi^2$ , the Non-Normed Fit Index (NNFI), the Robust Comparative Fit Index (RCFI), and the Root-Mean Square Residual (RMSEA). The assessment of these indicators revealed significant  $S-B\chi^2$  ( $S-B\chi^2 = 65.257$ ,  $df=18$ ,  $p<.001$ ).  $S-B\chi^2/df = 1.269$  was at an acceptable range. The NNFI and RCFI were respectively .912 and 0.917. The RMSEA was at .043. These results suggest an acceptable fit of the data to the model.

Table 2: Summary model fit indices

Satorra-Bentler scale statistic $S-B\chi^2$ (ddl)	1294.461
Degrees of Freedom (DF)	1020
$S-B\chi^2 / DF$	1.269
Non-Normed Fit Index (NNFI)	0.912
Robuts Comparative Fit Index (CFI)	0.917
Root-Mean Square Residual (RMSEA)	0.043
90% confidence interval of RMSEA	[0.034, 0.051]

Before examining the structural model estimates, an evaluation of the measurement items’ internal consistency was made. The  $\rho_c$  for each construct were all above 0.60 supporting the construct reliability of the scales (Bagozzi & Yi, 1988). All factor loadings were above 0.5 and significant ( $p<0.05$ ). Finally, the average variance extracted (AVE) for each of the three constructs was above 0.50. These results support the convergent validity of all scales.

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<sup>3</sup> The  $S-B\chi^2$  incorporates a scaling correction for the  $\chi^2$  when distributional assumptions are violated.

The results show a significant positive relationship between perceived service quality and satisfaction (coefficient=0.417,  $t=2.958$ ) supporting H1. Perceived service quality has a significant impact on positive consumption emotions (coefficient=0.575,  $t=4.259$ ) and a negative impact on negative consumption emotions (coefficient=-0.275,  $t=-2.086$ ) supporting H2a and H2b. These results show a significant positive relationship between positive consumption emotions and satisfaction (coefficient=0.288,  $t=2.910$ ) and a significant negative relationship between negative consumption emotions and satisfaction (coefficient=-0.179,  $t=-2.163$ ) supporting thus H3a and H3b. The variance explained by the model was 48.4%. Satisfaction has a significant effect on the three behavioral intentions included in this study: recommendation (coefficient=.801,  $t=4.914$ ), customer loyalty (coefficient=.584,  $t=5.050$ ) and willingness to pay more (coefficient=.308,  $t=9.990$ ). These results support H4a, H4b, and H4c.

To better understand the impact of discrete emotions on satisfaction we calculate their correlations (Appendix 1). All five positive emotions are significantly correlated to satisfaction and four of the seven negative emotions are correlated with satisfaction. We also report, in Appendix 1, the correlations between the five dimensions of DINESERV and the twelve discrete emotions. Most of these correlations are significant and as expected (positive for positive emotions and negative for negative emotions). Only three of the twelve emotions retained in this study (contempt, embarrassment, and sadness) are not significantly correlated with satisfaction.

### **Conclusion and Discussion**

In light of the results of this study, we conclude that there are three main sources of customers' satisfaction with restaurant services. These are positive emotions, perceived service quality and negative emotions. Statistically speaking, the standardized coefficients revealed that positive emotions along with service quality have more impact on customers' satisfaction than negative emotions. These findings are at odds with what Liljander and Strandvik (1997) found which is that the effect of negative emotions is stronger than the effect of positive emotions. This difference could stem from the fact that our research involved the restaurant sector whereas their study involved a labour force bureau. It is therefore of great interest to retest this model in other service industries. We also have to point out that positive and negative emotions are directly influenced by perceived service quality. This means that cognitive service quality has a direct and indirect impact (throughout consumption emotions) on satisfaction. According to Liljander and Strandvik (1996) the type of service may have an impact on which emotions are related to satisfaction. In our study we found that happiness and pleasure (positive emotions) and frustration and disgust (negative emotions) had the largest correlations with satisfaction.

On a strategic level, the results highlight the key role of service quality as a mean to ensuring competitive advantage of restaurants services, and as an effective tool to influence the satisfaction of restaurant patrons. Restaurants should monitor customers' perceived service quality and make sure that it conveys positive emotions and reduces negative emotions in order to maximize customers' satisfaction. Restaurant managers must retain that food quality is only one determinant of satisfaction. In fact, the quality of the service provided by the personnel and the ambience of the restaurant have a significant impact on the valence of the emotions experienced by customers and subsequently on satisfaction levels. The significant relationship between the emotional component and satisfaction makes it important for service providers to monitor the emotions felt by their consumers during the service delivery process. Contact employees should pay special attention to their customers' emotional reactions and adapt the service to meet their needs in a personalized and customized manner (Bitner et al., 2000; Wong, 2004). DINESERV's five dimensions must be analysed in order to improve quality and enhance satisfaction.

Regarding post purchase behaviour we first found a positive and significant relationship between satisfaction and recommendation. Positive word of mouth communication is considered as critical factor

of success in service industries such as restaurants. The importance of recommendation in the service sector is due to the uncertainty associated with the purchase and the difficulty related to the assessment of the service. Stevens et al. (1995) found that 44% of first-time restaurant consumers were driven by positive word-of-mouth and 10% of those consumers were accompanied by someone who had previously visited the restaurant. Research has shown that relatives and friends are among the most trusted sources of information for restaurant's consumers (Cheng, 2006). Second, a positive relationship between satisfaction and customer loyalty was also found. The length of the relationships with a customer can significantly increase profits as they can double when customers' patronage increases from 76 percent to 81 percent (Stevens et al., 1995). This increase in profits is based on the assumption that it is more expensive to attract new customers than to retain existing ones (Spreng et al., 1995; Zeithaml et al., 1996; Yu and Dean, 2001). Loyal customers will likely buy additional services and recommend the service to others (Zeithaml et al., 1996). Third, there is a significant relationship between satisfaction and consumers' willingness to pay more for the rendered services. By increasing customer satisfaction, service providers can ask higher prices and obtain higher profits. A firm that ranks in the top 20% of service quality ratings in its industry can exceed its competitors' prices by 8% (Gale, 1992; Zeithaml et al., 1996).

### **Limitations and future research directions**

This research contributed to a deeper understanding of the effect of perceived service quality and emotions on satisfaction and thereafter, its effect on behavioural intentions. However, due to the characteristics of our sample, the results of this study cannot be applied to the whole restaurant sector or other services. Therefore, other types of services should be analysed following the model suggested in this study in order to offer a broader perspective of the studied relationships. Researchers could also replicate this model by using larger and diverse samples (not only undergraduate business students) in order to provide a greater breath of understanding. Finally, researchers might consider enhance the proposed model by including consumers' behavioural responses and not only behavioural intentions so that the «actual behaviours» can be taken into account.

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### Appendix 1: Correlations

Correlations between satisfaction and discrete emotions, and perceived service quality and discrete emotions

	Satisfaction	Tangibles	Reliability	Responsiveness	Assurance	Empathy
Happiness	0.493**	0.466**	0.423**	0.424**	0.531**	0.433**
Pleasure	0.453**	0.408**	0.422**	0.429**	0.445**	0.388**
Excitement	0.318**	0.134	0.284**	0.216*	0.222*	0.315**
Contentment	0.348**	0.311**	0.241**	0.257**	0.396**	0.390**
Enjoyment	0.246**	0.219*	0.297**	0.233*	0.286**	0.326**
Anger	-0.218*	-0.145	-0.062	-0.069	-0.243**	-0.133
Frustration	-0.264**	-0.224**	-0.147	-0.210*	-0.317**	-0.189*
Contempt	-0.049	0.068	0.178	0.102	0.076	-0.160
Boredom	-0.243**	-0.265**	-0.102	-0.198*	-0.311**	-0.197*
Disgust	-0.262**	-0.311**	-0.105	-0.160	-0.372**	-0.209*
Embarrassment	-0.072	-0.171	-0.010	0.005	-0.218*	-0.043
Sadness	-0.150	-0.228*	-0.113	-0.125	-0.329**	-0.106

Note. Correlations marked by (\*\*) are significant at .01 level; Correlations marked by (\*) are significant at .05 level; All other correlations are not significant.

Correlations between satisfaction, positive emotions, negatives emotions and the five dimensions of service quality

	Tangibles	Reliability	Responsiveness	Assurance	Empathy
Satisfaction	0.414**	0.340**	0.482**	0.538**	0.532**
Positive emotions	0.368**	0.403**	0.374**	0.453**	0.451**
Negative emotions	-0.217*	-0.057	-0.110	-0.292**	-0.118

Note. Correlations marked by (\*\*) are significant at .01 level; Correlations marked by (\*) are significant at .05 level; All other correlations are not significant.

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## **INTERMODAL TRANSPORTATION OF DANGEROUS GOODS: A SPECIAL CASE**

Intermodal Transportation has sustained a promising growth over the past two decades and continues to be one of the rapidly growing segments of the transportation industry. Intermodal transportation is being increasingly used to move dangerous goods. In this work we present an optimization model for planning and managing intermodal shipments.

### **1: Introduction**

*Rail-truck intermodal transportation* (IM) combines accessibility advantage of road networks with scale economies associated with railroads in moving shipments. The main attractiveness of IM for shippers is its reliability in terms of on-time delivery due to the significant reduction in delivery times when using intermodal trains vis-à-vis traditional trains. Both in Europe and in the United States, intermodal transportation is increasingly being used for hazardous materials (hazmats) shipments that are potentially harmful for human health and the environment. For example, the Bureau of Transportation Statistics estimated that in 1997 over one and half million tons of hazmats were shipped across the U.S. intermodal transportation system (U.S. DoT, 1997). This statistic is already qualified as an underestimate by the 2002 Commodity Flow Survey (U.S. DoT, 2004).

Despite the increasing significance of IM in carrying hazmats, Erkut et al. (2005) identified –through a comprehensive review of the literature on hazmat logistics- that IM is an area that has not been studied in this domain. In Verma and Verter (2005b), we make a first attempt to develop an understanding of the trade-offs that underlie decisions pertaining to dangerous goods shipments via IM. To this end, we built a realistic case study that focused on transportation of hazmats across Canada via intermodal train network of Canadian Pacific Rail Company (CPR). Since there was a single pair of intermodal rail terminals (IMRT) in the illustrative case study, the arising problem lent itself to solution via an intelligent enumeration algorithm. Therefore, our contribution was a detailed analysis of the risk-cost-time trade-offs that defined the problem (which has not been studied before) rather than the development of a solution algorithm for the most general case. In this paper we present an analytical framework to Verma and Verter (2005b) by developing a special case optimization model in which route determination is driven by the delivery-time (or, lead-time) specified by customers.

Traditionally, hazmat transport risk is defined as the *expected* undesirable consequence of the shipment, i.e., the probability of a release incident multiplied by its consequence. But in an effort to circumvent the difficulties associated with conducting a detailed assessment of accident probabilities of railroad, we resort to a more aggregate measure of transport risk, i.e. *population exposure*. In contrast to the traditional risk measure, population exposure constitutes a “worst case” approach to transport risk, and hence is particularly suitable for assessing risk as perceived by public as well as for estimating the required emergency response capability.

In this paper, we focus on hazmats that become airborne in the event of an accidental release (such as chlorine, propane and ammonia) since they can travel long distances due to wind and expose large areas to health and environmental risks. Spatial distribution of toxic concentration level is estimated using Gaussian plume model (GPM), and at any given distance the maximum concentration is observed at the downwind locations. We use the immediately dangerous to life and health (IDLH) concentration levels of the hazmat being shipped in determining the threshold distances for fatality and injuries (NIOSH, [www.cdc.gov/niosh](http://www.cdc.gov/niosh)). In estimating the population exposure, we adopt the worst-case approach by assuming least favorable weather conditions and focusing on maximum concentration levels. Also, our population exposure estimates are based on the derailment and rupture of all railcars with hazardous cargo, which constitutes a real possibility (FRA, <http://safetydata.fra.dot.gov>). Less conservative exposure scenarios can be easily incorporated in the parameter settings of the risk assessment methodology as shown in Verma and Verter (2005a).

Excellent reviews of the academic literature on intermodal transportation can be found in Macharis and Bontekoning (2003), Bontekoning et al. (2004), and Crainic and Kim (2005). To the best of our knowledge, there is not a single refereed publication involving intermodal transportation of hazmats – which is confirmed by Erkut et al. (2005). While Verma and Verter (2005b) aimed at filling the important literature gap, this paper is our second contribution towards the same cause.

This paper has been organized as follows. In section *two* we illustrate a rail-truck intermodal transportation system pertinent to the two special cases. Section *three* presents the verbal description of the problem. Section *four* presents the first special case optimization model, appropriate solution methodology, and a number of managerial insights based on a realistic problem instance based in Canada. Section *five* presents the second special case optimization model, the corresponding solution methodology, and an analysis of the differences between the two special cases. Section *six* contains the conclusion and directions of future research.

## 2: Special Case: Problem Definition

The intermodal transportation system for the special case contains a single pair of IMRT, with only one type of intermodal train service between the IMRT pair. An intermodal container to be sent from a shipper to a receiver is first transported by truck to origin IMRT, where it is transshipped from truck onto a train. The train provides the transport until destination IMRT, where the container is transshipped back on a truck on its way to the receiver. Intermodal trains, unlike traditional freight trains, operate on a *fixed-schedule*, and are usually quite punctual (Nozick and Morlok, 1997), therefore such trains often operate non-stop between a pair of IMRTs, although infrequent stops and transfer of railcars among trains are also possible. Such punctuality implies reliable delivery and hence uncertainty reduction in the supply chains, which is the major selling point for IM, albeit at a higher cost to the receivers. The receivers are willing to pay more since it reduces the unreliability often associated with traditional freight trains and allows them to specify a delivery date when placing an order.

On receiving the request, the IMRT will dispatch the specified containers from the nearby pool, which starts inbound drayage. Once the container is ready to leave the shipper, the truck driver brings it to the IMRT for the rail-haul. It should be noted that the departure time of the intermodal train and the cut-off time for loading containers are fixed. It is reasonable to assume that shippers know about the critical times, and have the capacity and desire to make necessary adjustments in order to meet demand by the specified time. Following arrival to destination IMRT the container needs to be delivered to the receiver within the stipulated time, which completes outbound drayage. Since our objective is to conduct a tactical level analysis and not to be bogged down by the possibility of congestion at any point in the intermodal chain, we assume that there is enough equipment of the needed types.

Given the aforementioned, an IM system can be modeled as a *just-in-time* movement of traffic, both hazardous and non-hazardous, in an intermodal chain while ensuring that the delivery takes place by the specified time. It is important to note that an intermodal chain, formed by the three links-inbound

drayage, rail-haul, and outbound drayage-is feasible only if the total time needed to complete the set of link activities is less than the time specified by the receiver. We denote the time specified by the receiver as *lead-time* hereafter, which plays a major role in the construction of a feasible intermodal chain.

### 3: Optimization Model

Since in this special case there is only a single pair of IMRT and only one type of train service between them, hence each container will move on the only type of train service, which means that drayage will be the only difference between feasible intermodal chains for any origin-destination pair. The following notations will be used to describe the optimization model for the first special case. The proposed model will be denoted as (SP), which stands for optimization model for the special case.

#### Sets:

- $I$ : Set of shippers, indexed by  $i$ .  
 $J$ : Set of receivers, indexed by  $j$ .  
 $P_i$ : Set of paths between origin IMRT and shipper  $i$ , indexed by  $p$ .  
 $P_j$ : Set of paths between destination IMRT and receiver  $j$ , indexed by  $q$ .

#### Variables:

- $X(h)_{ij}^p$ : Number of hazmat containers demanded from shipper  $i$  by receiver  $j$  using path  $p$  for inbound drayage.  
 $X(\bar{h})_{ij}^p$ : Number of regular containers demanded from shipper  $i$  by receiver  $j$  using path  $p$  for inbound drayage.  
 $X(h)_{ij}$ : Number of hazmat containers demanded from shipper  $i$  by receiver  $j$  using the only intermodal train service type  $IM$ .  
 $X(\bar{h})_{ij}$ : Number of regular containers demanded from shipper  $i$  by receiver  $j$  using the only intermodal train service type  $IM$ .  
 $X(h)_{ij}^q$ : Number of hazmat containers demanded from shipper  $i$  by receiver  $j$  using path  $q$  for outbound drayage.  
 $X(\bar{h})_{ij}^q$ : Number of regular containers demanded from shipper  $i$  by receiver  $j$  using path  $q$  for outbound drayage.  
 $N^{IM}$ : Number of trains of type  $IM$  needed to move traffic.

#### Indicator Variables:

$$Y_{ij}^p = \begin{cases} 1 & \text{if } X(h)_{ij}^p > 0 \text{ or } X(\bar{h})_{ij}^p > 0 \\ 0 & \text{otherwise} \end{cases}$$

$$Y_{ij}^q = \begin{cases} 1 & \text{if } X(h)_{ij}^q > 0 \text{ or } X(\bar{h})_{ij}^q > 0 \\ 0 & \text{otherwise} \end{cases}$$

$$Y^{IM} = \begin{cases} 1 & \text{if } X(h)_{ij} > 0 \text{ or } X(\bar{h})_{ij} > 0 \\ 0 & \text{otherwise} \end{cases}$$

#### Parameters:

- $C(h)_{ij}^p$ : Inbound drayage cost of moving one hazmat container from shipper  $i$  to receiver  $j$  using path  $p$ .

- $C(\bar{h})_{ij}^p$  : Inbound drayage cost of moving one regular container from shipper  $i$  to receiver  $j$  using path  $p$ .
- $C(h)_{ij}$  : Intermodal train cost of moving one hazmat container demanded from shipper  $i$  by receiver  $j$ .
- $C(\bar{h})_{ij}$  : Intermodal train cost of moving one regular container demanded from shipper  $i$  by receiver  $j$ .
- $C(h)_{ij}^q$  : Outbound drayage cost of moving one hazmat container from shipper  $i$  to receiver  $j$  using path  $q$ .
- $C(\bar{h})_{ij}^p$  : Outbound drayage cost of moving one regular container from shipper  $i$  to receiver  $j$  using path  $q$ .
- $C_{IM}$  : Fixed Cost of operating intermodal train  $IM$ .
- $E(h)_{ij}^p$  : Inbound drayage population exposure due to moving one hazmat container from shipper  $i$  to receiver  $j$  using path  $p$ .
- $E(h)_{ij}^q$  : Outbound drayage population exposure due to moving one hazmat container from shipper  $i$  to receiver  $j$  using path  $q$ .
- $E(h)_{IM}$  : Intermodal train population exposure due to moving hazmat containers.
- $U_{IM}$  : Capacity of intermodal train  $IM$ .
- $D(h)_{j_i}$  : Number of hazmat containers demanded from shipper  $i$  by receiver  $j$ .
- $D(\bar{h})_{j_i}$  : Number of regular containers demanded from shipper  $i$  by receiver  $j$ .
- $t(in)_{ij}^p$  : Inbound drayage time for shipper  $i$  using path  $p$ .
- $t(IM)_{ij}$  : Intermodal train travel time.
- $t(out)_{ij}^q$  : Outbound drayage time for receiver  $j$  using path  $q$ .
- $(T)_{j_i}$  : Delivery time specified by receiver  $j$  to shipper  $i$ .

**(SP)**  
**Min**

$$\begin{aligned}
 \text{Cost : } & \sum_i \sum_j \sum_p \left[ C(h)_{ij}^p X(h)_{ij}^p + C(\bar{h})_{ij}^p X(\bar{h})_{ij}^p \right] \\
 & + \sum_i \sum_j \left[ C(h)_{ij} X(h)_{ij} + C(\bar{h})_{ij} X(\bar{h})_{ij} \right] \\
 & + \sum_i \sum_j \sum_q \left[ C(h)_{ij}^q X(h)_{ij}^q + C(\bar{h})_{ij}^q X(\bar{h})_{ij}^q \right] \\
 & + C_{IM} N_{IM}
 \end{aligned}$$

$$\begin{aligned}
\text{Exposure: } & \sum_i \sum_j \sum_p E(h)_{ij}^p X(h)_{ij}^p \\
& + E(h)_{IM} \left( \sum_i \sum_j X(h)_{ij} \right) \\
& + \sum_i \sum_j \sum_q E(h)_{ij}^q X(h)_{ij}^q
\end{aligned} \tag{1}$$

Subject to:

$$\sum_p X(h)_{ij}^p = X(h)_{ij} \quad \forall i, j \tag{2}$$

$$\sum_p X(\bar{h})_{ij}^p = X(\bar{h})_{ij} \quad \forall i, j \tag{3}$$

$$X(h)_{ij} = \sum_q X(h)_{ij}^q \quad \forall i, j \tag{4}$$

$$X(\bar{h})_{ij} = \sum_q X(\bar{h})_{ij}^q \quad \forall i, j \tag{5}$$

$$\sum_q X(h)_{ij}^q = D(h)_{ji} \quad \forall i, j \tag{6}$$

$$\sum_q X(\bar{h})_{ij}^q = D(\bar{h})_{ji} \quad \forall i, j \tag{7}$$

$$\sum_i \sum_j [X(h)_{ij} + X(\bar{h})_{ij}] \leq U_{IM} (N_{IM}) \tag{8}$$

$$t(in)_{ij}^p Y_{ij}^p + t(IM)_{ij} Y^{IM} + t(out)_{ij}^q Y_{ij}^q \leq (T)_{ji} \quad \forall p, i, j, q, IM \tag{9}$$

$$MY_{ij}^p \geq X(h)_{ij}^p \quad \forall p, i, j \tag{10}$$

$$MY_{ij}^p \geq X(\bar{h})_{ij}^p \quad \forall p, i, j \tag{11}$$

$$MY_{ij}^q \geq X(h)_{ij}^q \quad \forall q, i, j \tag{12}$$

$$MY_{ij}^q \geq X(\bar{h})_{ij}^q \quad \forall q, i, j \tag{13}$$

$$MY_{IM} \geq X(h)_{ij} \quad \forall IM, i, j \tag{14}$$

$$MY_{IM} \geq X(\bar{h})_{ij} \quad \forall IM, i, j \tag{15}$$

Sign Restriction Constraints involving flow variables- $X \geq 0$  integer;  $N_{IM} \geq 0$  integer, and,  $Y \in \{0,1\}$  for all indicator variables.

(SP) is a bi-criteria problem, with risk and cost objectives as represented in (1). (2) through (5) provide the transshipment constraints, while (6) and (7) the demand constraints. (8) will determine the number of trains required to move traffic. (9), the *lead-time* constraint, ensure that delivery takes place by the specified deadline for each shipper to each receiver. These constraints evaluate, based on travel and activity times, the feasibility of the three transport links of an IM chain. (11) to (15), the forcing

constraints for indicator variables, are activated by the flow variables. Finally there are sign restriction constraints on the variables, which for compactness have been represented as a group.

## Solution Methodology

The risk objective for rail-haul in (SP) is non-linear and without any closed form expression, whereby the latter characteristic rules out using any off-the-shelf commercial solver to solve such problems. We know that there is only one type of train service operating between the pair of IMRT and hence all containers will be transported by this train service, whereas the number of similar trains required will depend on the number of containers to be moved. Once again it is important to recall that we have assumed that the intermodal operator has enough resources to make decision about the number of intermodal trains required, and these intermodal trains arrive at the destination IMRT around the same time. Figure 1 illustrates the generic solution methodology for (SP).

- |  |
|--|
| <ol style="list-style-type: none"> <li>1. Solve (SP): <ul style="list-style-type: none"> <li>▪ Without the <i>risk</i> objective for the rail-haul.</li> </ul> </li> <li>2. Calculate Population Exposure Risk: <ul style="list-style-type: none"> <li>▪ Solution returned in step-1. <ul style="list-style-type: none"> <li>▪ Technique from Verma and Verter (2005a).</li> </ul> </li> </ul> </li> <li>3. Is further risk reduction possible? <ul style="list-style-type: none"> <li>▪ YES: Explore superior train makeup plans.</li> <li>▪ NO: Stop.</li> </ul> </li> </ol> |
|--|

Figure 1: Solution Methodology for (SP)

## 4: A Canadian Illustrative Example

### Experimental Setting

A realistic problem instance based on intermodal shipments across Canada by CPR-one of the two major railroad companies is developed, and then solved by (SP). The realistic problem is developed using publicly available data at the company's web site ([www.cpr.ca](http://www.cpr.ca)), which is complemented by a detailed interview with one of its staff in charge of IM (Calluri, 2004). Information pertaining to the existing railroad and road networks, location of the two IMRT as well as the population zones is represented via a geographical information system (GIS) model (ArcView, [www.esri.com](http://www.esri.com)).

The realistic problem instance focuses on intermodal shipments from Quebec to British Columbia that contain hazardous as well as regular freight. Although the IM infrastructure and population data used in this illustrative example are accurate, we had to resort to hypothetical data pertaining to shipment orders because of demand being confidential. A total of 1,036 container shipments are to be planned among 100 origin-destination pairs using the only type of intermodal train service, and where each shipment delivery needs to be made by the stipulated time.

We assume that there are ten shippers in Quebec, distributed around the Island of Montreal, and each has to fulfill (hazmat and non-hazmat) orders of ten customers in British Columbia. The IMRT in *Lachine* municipality, on the Island of Montreal, is the only intermodal terminal available to these ten shippers. Each shipper is linked to Lachine IMRT through the road network. Among the multiplicity of available routes, it is natural for a truck driver to take the shortest path between the shipper and the IMRT irrespective of the nature of cargo, although we have argued in Verma and Verter (2005b) that the nature of cargo should dictate path selection. Furthermore, we assume that these shipments are directed to the Delta Port in *Vancouver*, British Columbia, which is the destination IMRT in this problem instance, and from where outbound drayage starts. We assume that the truck driver stays on-site during loading and unloading at the shipper and receiver locations.

There is only one type of intermodal train service between Montreal and Vancouver. The single train type assumption is not far fetched, since the sparse intermodal infrastructure in North America precludes having a large number of intermodal routes between an IMRT pair. As mentioned earlier, we assume that all parties strive for a just-in-time approach and hence the waiting times prior to loading, unloading and transshipment activities along the IM chain are negligible. We assume that there is enough equipment at



each stage of the IM chain to prevent any congestion or waiting. Finally based on our understanding of the IM system and interview with the CPR employee, we have estimated the approximate delivery times associated with each order.

### **Solving the Illustrative Example**

CPR's intermodal route between Montreal and Vancouver was recreated in ArcView GIS, and it measured 2,713 miles. Average train speed, calculated using public information, of CPR in 2004 was 28.5 miles per hour, which was rounded up to 30 miles per hour. At this speed the distance between the two IMRTs will be covered in roughly 90 hours, and the rail-haul cost for each container will be approximately \$2,374 at a rate of \$0.875/mile.

The (SP) formulation for the illustrative case involving 100 supply-demand pairs but without the risk objective for the rail-haul contained 2,822 variables and 4,189 constraints, and was solved using CPLEX optimization package. With unit weight attached to both the cost and risk objectives, a weighted objective value of 4,513,801 people+\$ was returned. As noted in figure 1, this solution will contain both the risk and cost components for drayage, but just the cost component for the train segment. In this solution, it was going to cost \$ 3,927,081 to move the 1,036 containers from the ten shippers to the ten receivers, which means that 586,720 people are exposed to risk due to hazmat transportation on the inbound and outbound drayage. It should be noted that the solution to drayage is the best possible weighted solution, because dropping of risk objective for the rail-haul has no bearing on the drayage.

Now to accurately determine the population exposure risk from the trains, one needs to know the exact number of such containers and hence the train makeup (Verma and Verter, 2005a; Verma et al., 2005). With an assumed train length of roughly 120 containers, a total of nine trains will be needed to move the 1,036 containers including 538 with hazardous cargo. The intermodal yard master will execute a simple train loading plan due to two reasons: it is assumed that these trains are arriving into the destination IMRT (Vancouver) one after the other; and, transportation cost per container is the same. Shipments (hazardous or regular) are loaded onto a train until the number of containers on-board reaches the maximum allowed, at which point formation of the next train starts, and the process continues until all containers have been loaded. Such a straightforward loading plan will result in the nine trains and associated population exposure as depicted in table 1. The total population exposure risk for the rail-haul between the IMRT, stemming from the nine trains, is 9,431 people<sup>1</sup>. Hence the weighted objective value for the illustrative example, after adding the above population exposure risk, is 4,523,232 people+\$.

The exploration of better train makeup plans, as indicated in step 3 of figure 1, is based on our observation and related analysis in Verma and Verter (2005a). In that work we showed that the non-linearity associated with aggregate concentrate curves yields economies of risk when transporting multiple railcars (containers) with hazardous cargo. In managerial terms it means that sending fewer but longer trains with hazardous cargo is better than sending more frequent but shorter trains with hazardous cargo. This fact can be used to reduce population exposure risk for the illustrative example by implementing a prudent train makeup strategy, since the arrival times for all the nine trains are similar.

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<sup>1</sup> Unfortunately we have access only to province-level data for British Columbia, Manitoba and Saskatchewan in contrast with the census sub-division data in Quebec, Ontario and Alberta, and in each of these provinces the total population is assumed to be uniformly distributed. Admittedly the provincial level data is underestimating population exposure for these three provinces.

Train Number	Number of hazmat containers	Population Exposure
Train 1	66	1127
Train 2	69	1142
Train 3	56	1007
Train 4	58	1025
Train 5	63	1063
Train 6	60	1042
Train 7	60	1042
Train 8	66	1127
Train 9	40	856

**Table 1: Sample Train Plan for Illustrative Example**

Such a prudent strategy can be executed by forming hazmat unit trains, which are another way to reduce network risk over a given planning period (Verma and Verter, 2005a, b). These unit trains carry the same type of cargo between two yards without any intermediate handling, i.e., the destination of the entire cargo is also the destination of the train. If this approach is applied to the illustrative example, four hazmat unit trains each carrying 120 hazmat containers, one mixed train carrying 58 hazmat and 62 regular containers, and four regular trains each carrying only non-hazmat containers, will be needed to move all shipments. Now only five trains are carrying hazardous cargo, as opposed to all the nine as in table 1, which opens up the option of using a convoy kind of approach for hazardous trains since the risk is localized to just these trains. Population exposure risk due to each of the four hazmat unit train will be 1382 people while the only mixed train will expose 1025 people, for a total exposure to 6,553 people. It should be noted that population exposure risk on the rail-haul has been reduced by 2,878 people (or 30.5%) by simply implementing a more prudent train makeup plan, while the cost of the rail-haul remains the same. Given the advantage of such an approach it makes sense to implement such a strategy, not only is the aggregate risk lower but it is more localized since the decision maker does not have to worry about hazardous cargo on the other four trains.

### Managerial Insights

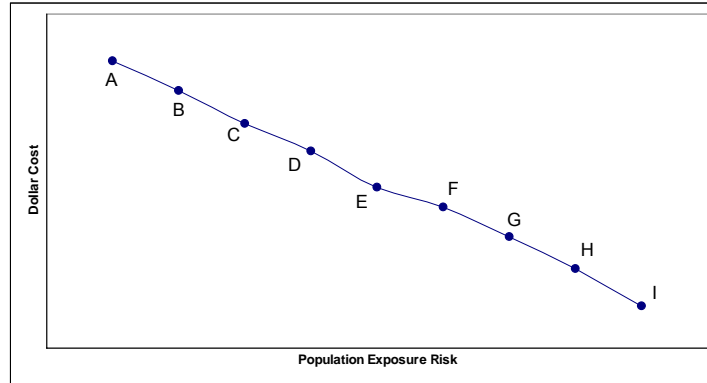
In an effort to gain managerial insights into the illustrative example using (SP), a conventional risk-cost analysis by varying the weights on the two objectives was conducted. To distinguish the additional computational effort made in this sub-section from that presented in the previous sub-section, we will refer to the result in the previous sub-section as the *base-case*. Table 2 and figure 2 represent nine different weight combinations on the cost and risk objectives. The two extreme points of the frontier, *A* and *I*, are obtained by attaching 90%-10% and 10%-90% weights respectively to the cost and risk objectives. The other points have been obtained by attaching intermediate weights to the two objectives, i.e. a 10% decrement on the cost objective and 10% increment on the risk objective, as one move from *A* towards *I*. Each of the nine points, forming the frontier in figure 2, contains a set of intermodal routes for the shipments and also the number of intermodal trains required. It is important to note that the impact of changing weights will occur only on the drayage component of the intermodal chain. This is because there is only one train type between the *Lachine* and *Delta Port* IMRT, which will move all the containers, and hence the cost-risk analysis will discuss only the impact on drayage.

At the very outset it should be stated that the *base-case* does not contain exactly the same solution as any of the nine scenarios presented here (table 2 and figure 2). With 90% weight attached to the cost objective scenario *A* was closest to the minimum cost solution, while scenario *I* was closer to the minimum risk solution. Under scenario *A*, inbound drayage (for both hazardous and non-hazardous cargo) for the first four shippers and the sixth shipper was different than those for the *base-case*, underlining the fact that the *base-case* solution is not the same as the minimum cost solution. Under scenario *I*, inbound drayage for the fourth, fifth and eighth shippers and outbound drayage to the first and sixth receivers were different than those for the *base-case*, indicating that the *base-case* solution was not dominated by the risk coefficients. Scenario *D*, the result of 60% weight on cost and 40% on risk, exhibited some movement away from the minimum cost end on the frontier, and this feature became more pronounced in scenario *E*. Scenario *E* was the first instance wherein the effect of cost starts waning and

the solution starts moving towards minimum risk. In the next two scenarios, *F* and *G*, the solution is closer to what was observed under scenario *I* and the minimum risk solution.

A	B	C	D	E	F	G	H	I
3,576,793	3,312,244	3,016,011	2,765,319	2,442,763	2,265,416	1,996,766	1,709,107	1,379,405

**Table 2: Scenarios with different weights on Risk and Cost**



**Figure 2: Risk-Cost Tradeoff Curve**

As is evident from figure 2 that the frontier defined by the nine points is not linear, and hence the choice of appropriate weights for the two objectives is not easy. It appears that scenario *E*, the result of attaching equal weights to the two objectives, could be an attractive option available to the two primary stakeholders, viz. regulatory agencies and transportation companies. We realize that quantifying risk is one of the most challenging and contentious issue in this line of research, and hence we would like to conclude this section by saying that appropriate weights should be negotiated by the two stakeholders. In an effort to facilitate prudent decisions we have developed a frontier on which every point is a solution to (SP), which can be used to both comprehend and evaluate the monetary and societal implications of trading one objective for the other.

## 5: Conclusion

This work provides an analytical framework to Verma and Verter (2005b), wherein a risk-cost tradeoff on the element of time was developed. An optimization model to plan and manage intermodal shipments for a special case, involving a single pair of IMRT and only one type of train service; and the appropriate solution methodology are developed. A realistic size problem instance based in Canada was solved using (SP), and a number of managerial insights were presented. Based on this study we can conclude that it is possible to reduce population exposure risk by spending more money, and/or readying the shipments earlier so that longer but less risky routes can be taken. It was shown that population exposure risk stemming from intermodal trains can be reduced by implementing a train makeup scheme striving for hazmat unit trains. But in general risk reduction is possible only when all the IM parties are concerned about safety, and not driven just by the desire to minimize cost.

Other directions for future research include, studying congestion in the IM system by relaxing the just-in-time assumption; comparing the performance of intermodal transportation with road and rail shipments from a risk-cost perspective; and investigating the assignment of intermodal units to flat railcars and makeup of intermodal train services when hazardous cargo is involved.

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# Organizational Behaviour

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## **THE EFFECTS OF ELECTRONIC PERFORMANCE MONITORING ON PERFORMANCE OUTCOMES: A REVIEW AND META-ANALYSIS**

A meta-analysis was conducted to examine the relationship between the feedback intervention method of electronic performance monitoring (EPM) and performance outcomes. The effects of feedback interventions on performance were largely ignored until Kluger and DeNisi's (1996) meta-analysis. Feedback intervention methods using EPM in the workplace have more than doubled the percent of employees monitored since Kluger and DeNisi's study. This current study supports the argument that increased electronic performance monitoring is positively correlated with performance. It also supports recent claims that other EPM presence factors such as employee perceptions of fairness and control positively correlate with performance and may possibly mediate or moderate the relationship between variables such as intensity and performance.

### **Introduction**

Research attention has increased on the use of electronic performance monitoring (EPM) in the workplace since the late 1980s. To date this research has provided mixed results (Alder & Ambrose, 2005) which have led to the development of various conceptual models and calls for future research directions (Aiello & Douthitt, 2001; eg. Alder & Ambrose, 2005; Kidwell & Kidwell, 1996; Stanton, 2000). Although several studies have showed evidence that intensity of EPM correlates with performance (eg, Holman, 2002a, 2002b, 2003; Moorman & Wells, 2003), other factors relating to its presence such as type, purpose, fairness and employee control have varied (eg., Alder & Ambrose, 2005; B. J. Alge, Ballinger, & Green, 2004; B. J. Alge, Purdue U, Krannert, 2001; Douthitt & Aiello, 2001). Thus, research in this area has contributed to debate and confusion about the implications of such technologically mediated control systems on performance outcomes.

The purpose of this paper is twofold. First, the paper provides a review of the literature relating to electronic performance monitoring over the past twenty years to assist with our understanding of the research developments in this area. Second, the literature review provides a basis to compare, contrast and cumulate findings through the use of a meta-analytical approach. Specifically, the overall aim of this study is to provide further research direction for the factors relating to the effects of EPM on performance.

## **EPM in the Workplace and Research**

### **The Technological Transformation of Performance Monitoring**

Monitoring performance using various feedback intervention methods is not a new phenomenon in the workplace. However, with the proliferation of technology over the past twenty years many organizations have expanded performance management practices to include the use of information technology monitoring systems (Moorman et al, 2003). Contemplation of the implications of such monitoring practices were initially explored in a report issued by the U.S. Congress, Office of Technology Assessment, in 1987 (U.S. Congress, 1987). This report predicted the proliferation of such monitoring based on the growing trend of computer adoption within the work place and the development of new technology innovations relating to knowledge workers. Since that time<sup>1</sup>, studies have shown that electronic performance monitoring of employees has grown from approximately 35 per cent being monitored between 1993 and 1997, to 78 per cent in 2001 (Moorman et al, 2003; Vorvoreanu, Reding, & Bradley, 2001). Thus, the past decade has witnessed fundamental changes in the ways in which employees are monitored and tracked.

The introduction of electronic performance monitoring has shifted employees from a state of intermittent to continuous monitoring (Alder et al, 2005). In the past, traditional performance monitoring (TPM) systems<sup>2</sup> typically monitored employees by reviewing documents or conducting side-by-side observations. These methods provided employees with a point in time assessment in which they had some type of control over the event or activity. EPM systems introduced a new layer of complexity in that every aspect of the employees work can be monitored for review by supervisors or organizational representatives. These electronic sources provide copious amounts of information to supervisors in areas such as attendance, work time, accuracy, quality and interactions with customers. In short, this evolution in technology has transformed feedback intervention to an always-on experience for employees.

Both academic and practitioner literatures have mixed reviews about EPM (Ariss, 2002; eg., DeTienne & Abbott, 1993; Kidwell et al, 1996). Practitioners and some researchers suggest that this new capability to access information virtually and in real time assists with the management of employees and positively contributes to increased customer and employee satisfaction and improved cost effectiveness (Chalykoff & Kochan, 1989). Yet some studies show that the impacts on employees being electronically monitored provides organizations with more varying performance outcomes (eg, Aiello & Kolb, 1995; Chalykoff et al, 1989; Douthitt & Aiello, 2001; Moorman et al, 2003; Stanton, 2000). Other issues relating to ethical and legal considerations such as employee privacy have also been discussed due to the invasive nature of these new methods (eg., Alder, 1998; Camardella, 2003; Greenlaw & Prundeanu, 1997). In short, these findings vacillate between the richness of the technologies ability to contribute positively to performance and organizational outcomes to the darker side of the technologies application to create a repressive employee experience. Thus, a growing body of literature has emerged to gain a deeper understanding of the effects of these new practices in an attempt to address the debates.

### **Key Research Directions for EPM**

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<sup>1</sup> In 1989 it was estimated by the Communications Workers of America (CWA) that six to eight million workers were electronically monitored (Pituro, 1989).

<sup>2</sup> Traditional Performance Monitoring (TPM): the observation, examination and/or recording of employee actions and behaviors within the work environment, either through the use of technologically mediated devices or without (Holman, 2002a). The primary purpose of such monitoring was, and still claims to be today, to improve customer service, increase productivity and reduce customer costs.

Studies in the early 1990s focused on employee reactions to electronic performance monitoring on job satisfaction and considered factors such as fairness, control and feedback (Chalykoff, 1989; Kidwell & Bennett, 1994). Initial research focused on effects of EPM presence on employee outcomes and developed over time to explore other aspects such as task performance, task satisfaction, procedural justice and distributive justice (Aiello et al, Aiello & Kolb, 1995; Chalykoff et al, 1989; Stanton & Barnes-Farrell, 1996). In sum, research in this area began by focusing on the immediate reactions to EPM by employees and built over time to explore more complex relationships among presence, performance, individual and situational factors.

An early conceptual model of EPM presented predictors of nature, frequency, intensity and other job related factors to help sort out initial competing claims (Chalykoff et al, 1989). This model has been tested in part in various lab or field studies over the past 15 years (eg., Holman, 2003; Moorman et al, 2003; Stanton et al, 1996). In these field studies, when employees in service delivery environments such as call centres are performance monitored closely, there are generally found higher levels of stress and dissatisfaction (Deery, Iverson, & Walsh, 2002; Deery & Kinnie, 2002; Holman, 2002a; Kolb & Aiello, 1996). Although the performance related content and purpose of the monitoring have been found to have positive effects on employee well being, the intensity of the monitoring as perceived by employees has had a negative impact and is dependent on the development of performance criteria and its application by management (Moorman et al, Holman, 2002a, 2002b; 2003). Each of the studies to date have shown some evidence in part to support the relationship between the predictors outlined above and performance, and have further defined predictors relating to factors such as monitoring consistency, knowledge of performance monitoring, monitoring control and justifications of monitoring (Stanton et al, 1996). Further, evidence has supported the effects of EPM on personal control and performance through lab studies (eg., Stanton, 2000) and several studies have examined the impact of EPM on perceived fairness and organizational justice (eg., Moorman et al, 2003; Niehoff & Moorman, 1993).

Since the introduction of this initial conceptual model, several other EPM conceptual models have been posited over the past five years. The two most recent works have presented future directions and highlighted areas of debate. The first is the social facilitation integrative model by Aiello and Doughitt (2001). This model integrates situational, individual, presence, performance and task factors. The aim of the model is to provide explanations on performance effects on other social factors. The second model is a recent development by Alder and Ambrose (2005) which integrates factors from existing models as well as attitudinal reactions to EPM. This latest study challenges the early work of Kluger and DeNisi's (1996) feedback intervention theory (FIT) by proposing that feedback medium alone does not determine performance. Thus, these latest developments have highlighted the debates about the effects of various factors relating to electronic performance monitoring on performance.

### **Rationale for a Meta-Analysis**

#### **Feedback Interventions**

EPM as a feedback intervention mechanism is relatively new. However, feedback intervention research spans the last century as the evolution and development of the modern workplace introduced new ways to monitor employee performance (Kluger & DeNisi, 1996). Feedback intervention systems have taken many forms over the years and research has resulted in an array of definitions to operationalize the construct. Although much research had been conducted on feedback intervention

mechanisms, debate and confusion existed over FIs effects on performance outcomes. To address this, Kluger and DeNisi (1996) embarked on a meta-analysis of all types of feedback intervention mechanisms.

Kluger and DeNisi's (1996) work on feedback intervention confirms the debate concerning FI effectiveness. This meta-analysis supplied several distinct contributions to the organizational behavior research relating to FIs. First, after an extensive review of the feedback intervention literature a definition of FI was presented. Specifically, the FI definition is: "actions taken by (an) external agent (s) to provide information regarding some aspect (s) of one's task performance" (Kluger et al, 1996, pg. 255). This definition combines aspects of past literature and includes elements of knowledge of performance, extrinsic factors and augmented feedback which has been helpful to guide future research relating to FIs. Secondly, the results from this meta-analysis showed that while some FIs increased performance others decreased it. Specifically, computer performance monitoring was found to decrease performance. Thus, this meta-analysis was conducted early in the development of EPM but showed some evidence of negative effects on performance outcomes. Although much research has been conducted on EPM since that time, results continue to be mixed 15 years later.

### **Alder and Ambrose 2005 Challenge**

Recent developments in integrated conceptual models for EPM noted above have questioned underlying assumptions in Kluger and DeNisi's (1996) study results. Specifically, Alder and Ambrose (2005) challenge some of these propositions and suggest that feedback presence alone does not predict performance but rather EPM presence includes other factors such as fairness and constructiveness. To address this debate, a meta-analysis was conducted using as a baseline the 1996 Kluger and DeNisi study results of EPM and performance, as well as adding studies conducted in this area since 1992<sup>3</sup>. This research project attempts to address the following research questions: What is the relationship between EPM and performance outcomes? Has the increase of EPM usage over the past 15 years changed the impact on these outcomes? And what is the effect of other EPM presence factors on performance?

### **Research Measures and Hypotheses**

The construct for this meta-analysis draws on aspects of Aiello and Douthitt's (2001) social facilitation integrative model. This model was used because it most completely incorporates and defines the construct relating to EPM presence and performance factors. Although other models offer elements of each of these (eg., Adler, 2005; Chalykoff et al, 1989), this model comprehensively captures a more detailed account of the factors within all of the conceptual frameworks. Specifically, the presence factor accounts for type, purpose, intensity, fairness, and control of EPM. Further, this model provides a basis to address the recent debate about the feedback intervention medium of EPM and effects of other constructive factors on performance.

EPM Presence Factor Measures:

Presence EPM: Central to this research study is the concept of electronic performance monitoring and accordingly a working definition is required. Firstly, defining what constitutes EPM for the purposes of this study must be considered. Upon review of the literature, the following adapted definition will be applied:

“Electronic performance monitoring (EPM) systems use electronic technologies to collect, store, analyzes, report actions or performance of individuals on the job

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<sup>3</sup> Although the Kluger and DeNisi meta-analysis was published in 1996, studies included in the article are only up to 1992.



(Nebeker & Tatum, 1993). Methods of EPM include telephone call accounting, keystroke or computer time accounting, cards and beepers to monitor locations, computer file monitoring, screen sharing capabilities on networks, telephone call observation and video camera observation (Adler & Tompkins, 1997).”  
(Moorman & Wells, 2003, p. 2)

This definition is inclusive of elements of EPM which also includes the earlier definitions of computer performance monitoring (CPM) as referred in the literature. Although there has been much debate about the effects of electronic performance monitoring, the literature supports that the mere presence of such systems increases performance.

*Hypothesis 1:*

*EPM presence will positively correlate to performance and increase in effect size and correlation since Kluger and DeNisi’s study in 1996.*

Drawing on Aiello and Douthitt’s (2001) social facilitation integrative model other factors of EPM presence such as purpose, fairness, control and intensity will be considered as part of the EPM presence factor. This approach is supported in the literature which focuses on the linkages between workplace practices and performance outcomes. For example, workplaces varying from professional to service delivery generally have different issues relating to performance outcomes including productivity, turnover, absenteeism and job satisfaction (Batt, 1999, 2002; Batt, Colvin, & Keefe, 2002; Batt & Moynihan, 2002). These differences may result in either enhanced or deteriorated organizational and performance outcomes. Studies focused on the relationship between how an organization manages people and the organizations profits and performance have found that few managers apply the best practices for high performance management (Pfeffer, 1996, 1997, 1998). Huselid (1995) also found a link between high performance management systems and company performance with economical impacts on intermediate employee outcomes, including turnover and performance, as well as short and long term financial impacts (Huselid, 1995). In short, the organizational practices are linked with performance outcomes. Thus, when considering the effects of EPM on performance the EPM presence factor must include the ways in which organizations deploy such practices. These EPM presence factors include the following:

Purpose: Research to date has suggested that the purpose and importance of monitoring plays a role in the effects on performance (Adler et al, 2005). Organizations that are perceived as employing the functionality of EPM systems for salient reasons enhance performance.

*Hypothesis 2:*

*There is a positive correlation between the EPM presence factor of purpose and performance.*

Control: Studies have shown that when employees have some control over when and how the monitoring is conducted performance is enhanced (B. J. Alge, Purdue U, Krannert, 2001; Douthitt & Aiello, 2001; Stanton & Barnes-Farrell, 1996). Extant theory indicates that employees with more control over the electronic performance monitoring systems have higher levels of performance.

*Hypothesis 3:*

*There is a positive correlation between the EPM presence factor of control and performance.*

Fairness: Research to date has also shown that when employees perceive the procedures of EPM to be fair the effect on performance will be positive (Adler, 2005).

*Hypothesis 4:*

*There will be a positive correlation between the EPM presence factor of fairness and performance.*

Intensity: As indicated in the literature review, intensity of EPM has negatively impacted employee performance. In Kluger and DeNisi's (1996) meta-analysis, intensity was positively correlated with performance ( $r = .27$ ) but did not reach significance. Studies conducted since this time have indicated that intensity negatively impacts performance (Aiello & Kolb, 1995; Holman, 2002a, 2002b; Moorman & Wells, 2003). Thus, with the intensity of such constant monitoring employee performance will decrease.

*Hypothesis 5:*

*There will be positive correlation between lower levels of intensity and higher levels of performance.*

## **Method**

In areas where growing numbers of studies have been conducted on a construct and the results have varied widely, a meta-analytical approach is often taken to attempt to develop a clearer understanding (Green, pre - 1986; Hunter, Schmidt, & Jackson, 1982; Ma & Liu, 2004; Viswesvaran, 2002). This statistical technique is an acceptable approach to synthesis across studies to provide further clarity on an issue or to illuminate areas requiring future research. This meta-analysis is the first to be conducted on EPM and performance outcomes. This research will follow the prescribed process for a meta-analytical study (Hunter et al., 1982; Lipsey & Wilson, 2001; Rosenthal, 1984).

### **Sample of Studies**

As mentioned above, this study used the computer monitoring factor in Kluger and DeNisi's (1996) meta-analysis as a baseline for the effect of EPM (or computer monitoring as it was called in early work) on performance. Their study gathered articles published in the academic literature up to 1992. Further articles for consideration in this meta-analysis were gathered through computer-based literature searches of ProQuest, Psychology Info, Science Direct, and EBSCO databases. These searches were performed using the following key terms: electronic performance monitoring; computer monitoring; performance monitoring; feedback interventions and; computer surveillance. The studies obtained from these preliminary searches provided references to additional studies which were gathered through manual searches. In addition, researchers with on-line web sites listing published articles were sourced to gather studies. Over 100 papers were obtained; 40 were studies of which 15, including Kluger et al (1996), met the criteria. All studies included were conducted in North America or Britain.

### **Inclusion Criteria and Coding of Studies**

Studies were initially selected if they evaluated some form of electronic performance monitoring condition. As the Kluger and DeNisi (1996) study was used as a baseline, only studies conducted post 1992 were part of the data gathering exercise. The EPM systems used in the studies varied from data entry tracking to voice recording of employees within an actual work place or a simulated setting. All studies fit within the definition listed above for EPM. Next, the studies were reviewed to see if they contained the EPM presence factors and performance factors as previously identified. The studies that met the inclusion criteria were coded for the following information: 1) year of publication; 2) sample size; 3) effect size; 4) EPM presence factor and; 5) performance factor (see table 1 and 2). In studies with control groups, only the effects from the group with the EPM presence factor were included. The sample size for the Kluger and DeNisi (1996) meta-analysis was calculated from data provided within the study.

This calculation was based on the average sample size per effect for each of the feedback interventions reported in the study.

## Results

In the compilation and analysis of the data from this study, on-line meta-analytic software was used. Comprehensive Meta-Analysis incorporates Hunter and Schmidt's (1982) guidelines in the calculation and computation of selected studies ([www.meta-analysis.com](http://www.meta-analysis.com)). Sample size and zero-order correlations from the correlation matrix ( $r$ ) were taken from the studies (Hunter et al., 1982; Rosenthal, 1984). To determine comparative effect sizes,  $r$  squared statistics were converted to  $r$  equivalents so that a comparison could be made across all studies.

In order to examine the differences between the previous meta-analysis and post studies gathered, several meta-analyses were conducted. For each of the EPM presence factors a meta-analysis was run with and without the Kluger and DeNisi (1996) study as required. As can be seen in table 3, several significant effect sizes resulted, although considered small according to Cohen's (1977) guidelines.

The results from this meta-analysis showed support for three of the five hypotheses tested. Support for hypothesis one was significant with a small effect size of  $r = .120$  when only the studies post 1992 were included for comparison. When all the studies were combined with the previous meta-analysis, the effect size was  $r = .74$  which is only marginally greater than the original study. This provides evidence that the new feedback intervention method of EPM has positively impacted performance since its introduction into the workplace. Although support was not found for hypothesis two (purpose  $r = .76$ ), both hypotheses three and four had small significant effect sizes of  $r = .105$  (control) and  $r = .104$  (fairness), indicating that control and fairness are both important factors. Most surprisingly, hypothesis five about intensity was not significant either pre ( $r = -.255$ ) or post ( $r = -.30$ ) 1992.

## Discussion

This meta-analysis supports claims that the presence of electronic performance monitoring positively impacts performance. There are several considerations we must make when interpreting these results. First, the Kluger and DeNisi meta-analysis includes studies from 1900 to 1992. During this time computerized monitoring was much different than the electronic performance monitoring that has become available in the past 15 years. Further, the types of workforces computerized monitored during that time were more reflective of manufacturing and factory versus knowledge worker environments. And finally, replicating the findings specific to computer monitoring in that study is difficult because of the source and age of the studies used so sample calculation was used which is not ideal. However, excluding the meta-analysis from this study is what reveals the most significant result in the current meta-analysis. Thus, the move to significance in this study supports research suggesting that this new always-on monitoring is different from previous intermittent forms.

This study provides some insight with respect to the recent claims about the necessity to include other EPM presence factors to more fully understand the effect on performance. Although the sample size is small in this meta-analysis, the overall results highlight a direction with respect to two additional presence factors. This meta-analysis provides preliminary evidence to support Alder and Ambrose's (2005) recent challenge to previously held FIT models. Thus, other factors such as fairness and control become part of the EPM presence factor which effects performance.

And finally, this meta-analysis uncovers a discrepancy among seemingly agreed upon findings related to the effect of intensity and performance outcomes. Given intensity is one of the most heavily

researched component of the EPM presence factor, aside from actual presence itself, it appears to run counter to study findings over the past 15 years. One contributing factor may be that two of the five studies included in this particular meta-analysis were conducted in Britain and have the highest impact on sample size and effect. However, it should also be noted that in two of the studies which included intensity, purpose and fairness were also examined. This may suggest that the effects of intensity on performance are less when an employee's perception of purpose and fairness are positive.

### Conclusions

This study attempts to synthesize the work to date in the area of EPM and provide further insight for future research. Although this meta-analysis is limited by the number of studies included, it provides valuable insights relating to this new phenomenon of electronic performance monitoring. It contributes in three meaningful ways. The first is by addressing recent discrepancies about what factors need to be accounted for when considering the effects of EPM on performance. Questions have been raised about what is missing from the current EPM models and if researchers are pursuing the most appropriate research directions (Stanton, 2000). In fact, it has been suggested that current developed constructs may be hiding some critical insights about the effects of EPM. This study lends to strengthen this concern by highlighting areas which show counter evidence to current research direction such as the EPM presence factor of intensity. The second is in the review of the literature in this area which highlights a significant amount of research focused on performance defined in terms of task performance and a gap in studies that focus on other employee outcomes such as turnover. And finally, this EPM presence factor may be linked to Strategic Human Resource Management (SHRM) models to determine its effects as an HR practice and its relationship to other organizational, group and individual level outcomes.

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**Table 1: Meta-Analysis Studies Factors for EPM and Performance**

Study	Authors	Title	Yr	N	EPM Presence Factors	Performance Factors
	Baseline study	Meta analysis up to 1992				
1	Kluger, Avraham & DeNisi, Angelo:	The effects of performance feedback interventions on performance; A historical review, a meta analysis, and preliminary feedback intervention theory	1996	23,673	Type Intensity	Task Complexity
	New Studies	Studies from 1993 on				
2	Niehoff, Brian, Moorman, Robert	Justice as a mediator of the relationship between monitoring and organizational citizenship	1993	111	Type Fairness	Quality
3	Kidwell, Roland, Bennett, Nathan	Employee reactions to electronic control systems	1994	151	Purpose Fairness	Task Performance
4	Aiello, John, Kolb, Katharine	Electronic performance monitoring and social context; Impact on productivity and stress	1995	202	Intensity	Cognitive
5	Stanton, Jeffrey, Barnes-Farrell, Janet	Effects of electronic performance monitoring on personal control, task satisfaction and task performance	1996	108	Control	Task Performance (time)
6	Stanton, Jeffrey	Traditional and electronic monitoring from an organizational justice perspective	2000	284	Type Fairness	Quality
7	Douthitt, Elizabeth, Aiello, John	The role of participation and control in the effects of computer monitoring on fairness perceptions, task satisfaction and performance	2001	128	Type Control	Task Performance
8	Alge, Bradley	Effects of computer surveillance on perceptions of privacy and procedural justice	2001	206	Purpose Control Fairness	Quality
9	Holman, David	Employee well-being in call centres	2002	557	Type Intensity	Cognitive
10	Holman, David, Chissack, Clare, Totterdell, Peter	The effects of electronic performance monitoring on emotional labour and well-being in call centres	2002	347	Type Purpose Intensity	Cognitive
11	Deery, Stephen, Iverson, Roderick	Work relationships in telephone call centres: Understanding emotional exhaustion and employee withdrawal	2002	480	Type	Time
12	Moorman, Robert, Wells, Deborah	Can electronic performance monitoring be fair? Exploring relationships among monitoring characteristics, perceived fairness and job performance	2003	330	Intensity Fairness	Task Performance
13	Stanton, Jeffrey, Sarkar-Barney, Shreya	A detailed analysis of task performance with and without computer monitoring	2003	37	Type	Quality
14	Alge, B. J., Ballinger, G. A., & Green, S. G.	Remote control: Predictors of electronic monitoring intensity and secrecy.	2004	90	Intensity	Cognitive
15	Alder, G Stoney, Ambrose, Maureen L	An examination of the effect of computerized performance monitoring and feedback on monitoring fairness, performance and satisfaction	2005	165	Fairness	Time

## Table 2 - Meta-Analysis Articles with Correlations

Study	Authors	Title	Yr	N	Type	Intensity	Purpose	Control	Fairness
	Baseline study	Meta analysis up to 1992							
	Kluger, Avraham & DeNisi, Angelo:	The effects of performance feedback interventions on performance; A historical review, a meta analysis, and preliminary feedback intervention theory	1996	23,673	.07	.27			
	New Studies	Studies from 1993 on							
	Niehoff, Brian, Moorman, Robert	Justice as a mediator of the relationship between monitoring and organizational citizenship	1993	111	-.11				.25
	Kidwell, Roland, Bennett, Nathan	Employee reactions to electronic control systems	1994	151			.21		.10
	Aiello, John, Kolb, Katharine	Electronic performance monitoring and social context; Impact on productivity and stress	1995	202		-.16**			
	Stanton, Jeffrey, Barnes-Farrell, Janet	Effects of electronic performance monitoring on personal control, task satisfaction and task performance	1996	108				.19	
	Stanton, Jeffrey	Traditional and electronic monitoring from an organizational justice perspective	2000	284	-.06				.03
	Douthitt, Elizabeth, Aiello, John	The role of participation and control in the effects of computer monitoring on fairness perceptions, task satisfaction and performance	2001	128	-.01			-.20*	
	Alge, Bradley	Effects of computer surveillance on perceptions of privacy and procedural justice	2001	206			-.02	.00	-.05
	Holman, David	Employee well-being in call centres	2002	557	.24***	.07			
	Holman, David, Chissack, Clare, Totterdell, Peter	The effects of electronic performance monitoring on emotional labour and well-being in call centres	2002	347	.09	.18***	-.05		
	Deery, Stephen, Iverson, Roderick	Work relationships in telephone call centres: Understanding emotional exhaustion and employee withdrawal	2002	480	.07				
	Moorman, Robert, Wells, Deborah	Can electronic performance monitoring be fair? Exploring relationships among monitoring characteristics, perceived fairness and job performance	2003	330		-.04			.12



3	Stanton, Jeffrey, Sarkar-Barney, Shreya	A detailed analysis of task performance with and without computer monitoring	2003	37	-.07				
4	Alder, G Stoney, Ambrose, Maureen L	An examination of the effect of computerized performance monitoring and feedback on monitoring fairness, performance and satisfaction	2005	165		-.13			
5	Alder, G Stoney, Ambrose, Maureen L	An examination of the effect of computerized performance monitoring and feedback on monitoring fairness, performance and satisfaction	2005	165					.17*

.05, \*\*p<.01, \*\*\*p<.001

**Table 3: Meta-Analysis Results**

<b>EPM Presence</b>	<b>Studies in Meta-Analysis</b>	<b>r</b>	<b>k</b>	<b>n</b>
<i>Type</i>	Pre-1992 (Kluger and DeNisi)	.070	131	23,663
	All Studies	.074	139	25,188
	Post - 1992	<b>.121</b>	7	1,944
<i>Purpose</i>	Post - 1992	.076	3	704
<i>Control</i>	Post - 1992	<b>.105</b>	3	442
<i>Fairness</i>	Post - 1992	<b>.104</b>	6	1,247
<i>Intensity</i>	Pre-1992 (Kluger and DeNisi)	-.270	6	21,372
	All Studies	-.255	6	22,898
	Post - 1992	-.030	5	1,526

Note (1): Cohen's guidelines for effect size were used in the analysis of the data.

.10 small, >.10 to .25 medium, >.25 to .45 large

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## NATURAL CHURCH DEVELOPMENT: BLENDING THE SPIRITUAL AND TRADITIONAL APPROACHES TO UNDERSTANDING ORGANIZATIONS

Natural Church Development (NCD) is an emerging model that was designed to assess and develop the health of a church (Schwarz, 1998). With modification, it is argued that the NCD model could make a significant contribution to the examination of secular organizations due to its fresh perspective on traditional management concepts, new dimensions, focus on organizational purpose, systematic nature and potential for providing a framework for exploring and developing the construct of spirituality. This paper will introduce the model, develop the links between the model and management literature and discuss the significant contribution made by the NCD perspective.

A lament regarding organizations today is that they have lost sight of their true purpose and turned their focus to short term goals such as profits for the next quarter, shareholder wealth, positive headlines, announcements about new programs, and public relations. Organizational scandals such as Enron and WorldCom have shaken the public's trust. It has been argued that organizations terminate their employees at will, and employees lack trust, and loyalty for their organizations (e.g., Farrell, 2003; Lee & Teo, 2005). Deep-rooted values, attachments, and a clear sense of fundamental purpose seem absent, which has prompted research into the soul and spirituality of organizations (Duchon & Plowman, 2005; Klein and Izzo, 1999; Hynes, MacAulay, Mahaffey, & Wright, 2004). Although preliminary research on spirituality suggests that it is important, traditional management models do not appear to be helpful for exploring spirituality in organizations. A coherent theoretical framework or paradigm is absent.

Natural Church Development (NCD) is an emerging model that was designed to assess and develop the health of a church (Schwarz, 1998). At this point, it has not been introduced to the management literature. Some of the model's components are similar to existing concepts in the management literature; however, they are explored, developed and presented from a significantly different perspective. Some of the components are new to the management literature. The NCD model is built on underlying principles which provide grounding for a church going through organizational change. Together, the fundamental principles, the differing perspective, and the new concepts in NCD contribute to deeper thinking about traditional concepts and a framework for the exploration of spirituality, which is not surprising given that the model is designed to assess and develop the health of a church. Furthermore, NCD provides a systematic and holistic framework, rather than focusing on a single element. Finally, NCD provides a survey which has been developed to measure the health of a church on each of the model's dimensions, making the model useful for practitioners and testable for researchers.

With modification, the NCD model could make a significant contribution to the examination of secular organizations due to its fresh perspective on traditional management concepts, new dimensions, focus on organizational purpose, systematic nature and potential for providing a framework for exploring and developing the construct of spirituality. In brief, NCD retains important, traditional management concepts and adds a new dimension which allows exploration and development of spirituality in organizations. It is a melding of the traditional management concepts and newer focus on spirituality.

First, the principles and dimensions of NCD will be outlined. The NCD dimensions will be compared to the management literature on a conceptual level in order to determine how NCD could inform existing management constructs. Although not exhaustive, the comparisons will begin to investigate the possible contribution of this model. Finally, the limitations of this paper will be discussed, as well as the opportunities for future research.

## NATURAL CHURCH DEVELOPMENT

The NCD model was conceived from a research question asking ‘what universal factors, regardless of culture and theological persuasion, contribute to growth and health in a church?’ In searching for the answer, Schwarz (1998) surveyed over 1000 churches from 32 different countries. He found eight core dimensions or quality characteristics, all of which, he asserts must be present, if a church is to be growing and healthy. Additionally, Schwarz has developed a questionnaire to help a church assess its health on each of the eight dimensions. Although it is beyond the scope of this paper to examine the survey, its existence points to the practical nature of NCD. It should also be noted that Schwarz (1998) did validate his measure within 201 churches in various countries. Each of the eight scales had reliabilities ranges from .75 to .89. Further, Schwarz & Schalk (1998) conducted a confirmatory factor analysis. The eight factors showed a strong fit to the data, demonstrating high convergent and discriminant validity. Also, churches that have shown growth had higher scores on each of the eight dimensions.

In order to provide the proper context for the discussion of the core dimensions of NCD (the focus of the paper), the fundamental principles will be outlined first. To aid in understanding the connection between secular organizations and NCD principles, wording appropriate for a secular organization will be provided in parentheses, following the religious terminology used by NCD. The first principle is called “Developing Spiritual (Organizational) Momentum.” Schwarz argues that a church (organization) must understand and be clear about its true purpose and mission, and this sense of purpose must underpin all change efforts, otherwise they will be misguided, fragmented and unsuccessful. For a church, Schwarz (1998, p.106) states that “unless devotion to Christ and a personal relationship with Him (organizational purpose and an individual’s connection to that organization) are at the centre of all activities, striving for growth and change amounts only to unfruitful busy-ness...” Translating for a secular organization, this would mean that the organization must be clear about its fundamental purpose, and retain this focus, if change and development is to be successful.

The second principle is called the “Biotic Principle.” This argues that for church (organizational) growth to be successful, it is necessary to create an environment where all the essential nutrients (organizational conditions) are present. These conditions allow the church to grow and reproduce with minimal environmental resistance, hence the name *Natural* Church Development. The Biotic Principle is in contrast to creating growth through more effort in areas that are already strong, or pushing harder with aggressive marketing as would be espoused by traditional organizational practice.

The third principle, the “Minimum Factor”, means that the first step in the change process is to identify a church’s (organization’s) weakest area, determine the causes for this weakness, and develop a plan to strengthen that area. Schwarz uses the metaphor of a rain barrel gathering water. There is no purpose served in lengthening the longest stave; if more water is to be contained, then the first stave to be fixed is the shortest one.

The fourth principle is “Qualitative Goals” which are “precise, time bound, measurable goals which relate to the fundamental purpose of a church.” (Schwarz, 1998, p.10) This is in contrast to quantitative goals (e.g., church attendance), which Schwarz argues are often counterproductive. Qualitative goals allow a church (organization) to focus on what is truly important to an organization.

These four principles provide the foundation for the NCD model and provide context for the following discussion about the eight core dimensions of NCD and their similarities, differences, and contribution to existing management concepts.

## **EIGHT CORE DIMENSIONS OF NCD AND THEIR RELATIONSHIP TO EXISTING MANAGEMENT CONCEPTS**

The eight core dimensions which Schwartz (1998) asserts must be present, if a church is to grow and develop, are empowering leadership (EL), functional structures (FS), gift-oriented ministry (GOM), holistic small groups (HSG), passionate spirituality (PS), inspiring worship service (IWS), loving relationships (LR), and need-oriented evangelism (NOE). These eight quality characteristics will be discussed, starting with those that are most similar to the concepts in the management literature, and finishing with a discussion of the dimensions that appear to be different. First, the NCD quality characteristic will be briefly described, then some related concepts in the management literature will be outlined, and finally the contribution that the NCD perspective can make to the existing management literature will be discussed.

### **1. Empowering Leadership (EL)**

NCD conceptualizes EL as those leaders who “invert the pyramid of authority so that the leader assists Christians to attain the spiritual potential God has given them. These pastors equip, support, motivate, and mentor individuals, enabling them to become all that God wants them to be” (Schwarz, 1996, p. 22). Schwarz contrasts this to pastors who use lay workers strictly as helpers in attaining the church’s or pastor’s goals and visions. EL is demonstrated by pastors who focus on the tasks for which they are gifted and seek help from lay people to complement those areas in which they are not gifted.

The NCD perspective emphasizes that EL does not require a pastor to be a multi-talented, spiritual superstar or guru. In fact, this can be a hindrance and “a sure sign that something is not going right in church” (Schwarz, 1998, p. 9). Similarly, pastors who exercise EL are not necessarily high profile individuals known to the wider public, rather they are leaders who use their own gifts and the gifts of other church members, as well as support, mentoring and training, to achieve the goals and visions of the church. In NCD, the focus of leadership is strictly on empowerment. The notion of a single, multi-talented, highly visible individual influencing the organization is dismissed. There are no traits, characteristics, personality types, or even behaviours that are discussed, other than a willingness of church leaders to let others develop their full potential. The image created when reading about EL is that of church leaders, quietly, outside the public eye, and without seeking the limelight, empowering others, and using their own gifts, to achieve the church’s goal.

The merit of the NCD perspective is consistent with and highlighted by recent research in transformational leadership and “the leader as servant” principle. Transformational leaders enable followers to move beyond their own self-interests in order to reach a higher purpose or vision and to exceed performance expectations (Greenleaf, 1973; Howell & Hall-Merenda, 1999). Current transformational leadership theory suggests that it leads to better employee, group and organizational level outcomes (Lowe, Kroeck, & Sivasubramanian, 1996). The leader as servant principle (Hunter, 2004) asserts that once the organization’s directions is established, servant leaders invert the traditional pyramid and focus on providing employees with what they need to succeed. Thus, EL, transformational leadership and the “servant as leader” principle espouse the value of follower development and the attainment of goals through the collectivity, rather than the focus being on the leader at the top of the hierarchy.

Historically, the management literature highlights individuals who are considered to be highly influential, sometimes they are even called heroic, leaders. Frequent reference is made to individuals who are considered to be great leaders, such as Jack Welch (General Motors), Steve Jobs (Apple Computers) and Bill Gates (Microsoft). Recently, however, the validity of the prevailing management focus is starting to be challenged. A *Globe and Mail* article, “The Diminishing Allure of Rock Star Executives” (2005), criticizes the focus on individual leaders taking responsibility for the success of an organization. Even within the management literature there has been some reference to its unhealthy “love affair” with the notion of the great leader (e.g., Ranft & O’Neill, 2001). As positions become increasingly complex, teams become more essential, employees become better educated and have higher expectations, and competition becomes fiercer, the focus should not be on the individual leader. Instead, the focus needs to be on how the leader can capitalize on the gifts of all the members of the organization and empower them to help the organization achieve its goals (Buckingham & Coffman, 1999). Consequently, the leadership focus in management literature may need realignment. The NCD perspective may make an important contribution in this process.

## **2. Functional Structures (FS)**

NCD describes FS as structures that encourage growth and development, as opposed to discourage it (Schwarz, 1998). Schwarz states that the most important criterion for functional structures is that they fulfill their purpose. Schwarz contrasts FS to traditionalism where church forms become an end in themselves, rather than a means to an end, and stay the same as they have always been, regardless of their functionality. Examples of structures not meeting their purpose within the church, and consequently not being functional, would be leadership structures that do not develop other leaders, inconvenient worship service times, and de-motivating financial concepts. In tandem, recent developments in organizational behaviour and human resource management theory supports the use of high involvement work practices (see Arthur, 1994; Huselid, 1995; Pfeffer, 1998, Wall & Wood, 2005; Zacharatos, Barling, & Iverson, 2005) as a means of obtaining superior organizational results through the removal of organizational barriers and the empowerment of employees.

There is no homogenous school of thought in the management literature regarding organizational structure. In his classic article, Koontz (1961) classifies the major schools of management theory into six main groups, which he argues have resulted in a “semantics jungle.” Although one might assume that the management literature purports that structures should be functional, as outlined by Scott (1961) and reprinted by Matteson and Ivancevich (1986) in *Management Classics*, organizations, particularly business organizations, need “stability, continuity and predictability in its internal activities and external contacts...and harmonious relationships among the people and processes which make it up...” (p. 158). These needs can direct the focus away from functionality and towards, for example, stability and harmony.

In light of this, the NCD perspective could make a contribution to the management research and practice by its clear reminder that the purpose of structures within organizations is to be functional and to help the organization achieve its goal. Although this point may seem self evident, it may well have been forgotten, or at least obscured, in the complexity of management research on organizational theory. What often happens in practice is what Schwarz refers to as traditionalism (the antithesis of functional) where a structure becomes an end itself (Mitnick, 1980), rather than a means to organizational goals.

## **3. Gift- Oriented Ministry (GOM)**

This principle states that “the role of church leadership is to help its members identify their gifts and integrate them into ministries that match their gifts” (Schwarz, 1998, p. 24). Schwarz contrasts GOM

to a technocratic approach within the church where church leaders dictate which ministries lay-persons should assume and then “volunteers” are pressured into filling the areas where there are gaps.

GOM sounds similar to the general definition of career planning and development function of human resources management which Greenhaus, Callanan, & Godshalk (2000, p. 423-424) defined as “the process by which individuals develop insight into themselves and their environment, formulate career goals and strategies, and acquire feedback regarding career progress”. GOM also mirrors Huselid, Becker & Beatty’s (2005) notion of the *Workforce Scorecard* that focuses attention away from the traditional measures of an organization to embracing the workforce’s impact on the organization. Their work deals with ensuring the employees relate and understand the goals and objectives of their role in the organization in order to effectively manage.

There is room for healthy discussion about the extent to which organizations should focus on helping employees identify their talents and matching those talents with positions in the organization (as espoused by NCD), as opposed to employees being expected to adapt to and fit the organization’s needs, and those employees that do not fit are terminated. However, given the cynicism stemming from corporate behaviour over the past decades, such as large scale layoffs, the NCD focus makes a contribution to the study of organizations today.

#### **4. Holistic Small Groups (HSG)**

NCD describes HSG as “a system of small groups where individual Christians can find intimate community, practical help and intensive spiritual interaction” (Schwarz, 1998 p. 13). The groups are described as obvious and vibrant entities within the church that meet a wide variety of the needs of group members. Holistic groups “go beyond just discussing Bible passages to applying its message to daily life. In these groups, members are able to bring up those issues and questions that are of immediate personal concerns. Holistic small groups are the natural place for Christians to learn to serve others...with their spiritual gifts.” (p. 32) Schwarz contrasts this to groups which meet strictly to resolve the task at hand.

Similar concepts in the management literature would be self-managed teams and sociotechnical systems (STS) which, according to Schermerhorn, Hunt, Osborn, and Currie (2005, p. 195) are “small groups that are empowered to make decisions about planning, doing, and evaluating their daily work.” STS refers to a joint optimization of social and technological systems to maximize the operation’s effectiveness, and teams should have sufficient autonomy to control key variances in the work process (Stewart, 2006).

The difference is that self-managed work teams and STS focus on completion of the organizational task. Although STS does say that social systems must be considered equally with technology when designing a work system; the focus is on organizational effectiveness. In HSG’s, the group is expected to address the needs of members which are of immediate personal concern, not strictly the need to resolve the task at hand.

It could be argued that the NCD orientation is not compatible with the workplace in that work teams are not appropriate places for consideration of an employee’s personal needs. One might say that work groups have enough trouble meeting their work goals, without trying to address personal needs, which should be addressed elsewhere. Alternatively, some might argue that for a work group to be effective, needs that are of immediate personal concern to a member must be considered for the team to be effective. Team members cannot concentrate on solving work issues when personal needs are on their minds. This perspective, which differs from the work group research in the management literature, may be controversial, but it makes a contribution by pointing to the training and skill development needed for group work.

## **5. Passionate Spirituality (PS)**

NCD depicts PS as members of the church practicing their faith with joy and enthusiasm. Schwarz argues that PS is not a matter of the methods a church uses to express spirituality but that faith is lived out with “commitment, fire, and enthusiasm.” (1998, p. 11) He uses the metaphor of a vehicle and states “what good is the most modern engine when the gas tank is empty...?” (p. 11). He contrasts PS to people who go to church only to perform their duty and to focus on rules, doctrine, and moral code.

While it may seem difficult to relate PS to the management literature, the concepts of motivation, job satisfaction, organizational citizenship and organizational commitment would be most closely aligned. These management concepts tap into effort, attitudes and overt behaviour, but do not go as far as PS which taps a deeper emotion (i.e., genuine joy about working for and supporting the goals of the organization). Although there is now some research that has attempted to link spirituality to workplace outcomes (e.g, Milliman, Czaplewski, & Ferguson, 2003), there still exists a considerable disconnect between traditional management concepts such as job satisfaction, commitment, and involvement and emerging concepts such as passion, wholeness, meaningful work and community (Milliman et al., 2003). While the NCD characteristic of PS looks for joy stemming from a true belief in being able to pursue the goals of the organization, the management concepts do not. In fact, they seem to be more closely aligned with the perspective that Schwarz criticizes, e.g., “people performing their duty”, as opposed to feeling joyful about their work.

One might argue that the notion of PS sounds superficial. There is a defensible argument that if employees do not feel joyful, then it is not healthy to suggest that they should exhibit joy and enthusiasm. Deep-rooted values, attachments, and clear sense of fundamental purpose seem to be absent from the literature, prompting questions about the soul and spirituality of organizations (Hynes et al., 2004).

## **6. Inspiring Worship Service (IWS)**

NCD asserts that to be a healthy church the worship service must be perceived as an inspiring experience. Schwartz states that although there are a wide variety of approaches to worship that suit various situations and needs, there is not one best method. People attending an inspired worship service, no matter what worship model is followed, report that attending church is fun. Members attend church because they want to be there. Schwarz contrasts this to people who attend church in order to fulfill a Christian duty or to do the pastor or someone else a favour (Schwarz, 1998, p. 31). The distinction between IWS and PS is that the latter comes from the individual and is demonstrated by the individual whereas IWS is provided by the environment.

Parallels could be drawn with several management concepts of motivation and organizational attachment, but within the confines of this paper the focus will be on corporate culture as there is a direct comparison that can be made. Schermerhorn et al. (2005, p. 261) state that elements of strong corporate culture include “a widely shared real understanding of what the firm stands for, a greater concern for individual than for rules... a recognition of heroes, a belief in ritual and ceremony as important... a belief that what employees and managers do is important...”

Both corporate culture and IWS aim at creating an environment that focuses on the purpose of the organization and may be described with positive adjectives such as creative, fun, and perhaps even inspiring. Although overlap exists, what may be prevalent is what Schwarz describes as the antithesis of PS, going to church, or in the management situation going to work, as a sense of duty and moral obligation. The NCD perspective may make a contribution due to its clear and simple focus on



organizational purpose and the importance of a fun and inspired environment. If an organization assesses this dimension and is found wanting, then the organization could explore what issues need to be addressed.

## **7. Loving Relationships (LR)**

NCD describes LR within a church as a situation where it is clear that members care for one another in an evident, unfeigned practical manner. Schwarz (1998, p. 37) states that he uses “the biblical definition of love-as fruit, action, or deed...” This dimension includes behaviours such as spending time with church members outside of official church events, inviting church members to your home, being generous with compliments, and laughter in the church. Schwarz contrasts this to the secular perspective of love where it is viewed as a romantic notion which mysteriously overwhelms a person, and then equally mysteriously may disappear.

LR may sound similar to the Human Relations School which argues that individuals must have personal needs met before they can be maximally productive. However, the focus in the Human Relations school is what management can do to satisfy needs of employees, whereas the NCD focus is what all members of the organization should do to demonstrate that they care about other members.

Although different from most concepts in the management literature, the NCD characteristic could make a contribution, particularly as organizations become increasingly cross-cultural. While there are reports in the management literature of North American managers who are skilled at, and believe in, developing relationships with business partners, it is viewed as the exception to the rule (Lewicki, Barry, Saunder & Minton, 2003, p. 402). A traditional North American perspective is to have a task orientation when working or negotiating with others (inside or outside the organization) and to work with others, regardless of whether or not a relationship is established. In fact, developing a relationship with the other party may be viewed as a distraction and counterproductive.

However, in many other cultures (e.g., Asian), a strong importance is placed on establishing a relationship with your business partner (Cullen, Johnson & Sakano, 2000; Hofstede, 1993; Nguyen, Weinstein, & Meyer, 2005). Business may not be conducted and contracts may not be signed, if a relationship is not built first. As organizations become increasingly cross-cultural, the importance of developing relationships must be addressed. Concepts such as LR, which highlight the importance of relationships, and provide insight as to how relationships might be developed, make a contribution.

## **8. Need-Oriented Evangelism (NOE)**

Schwarz (1998, p. 34) describes evangelism as bringing non-Christians to Christianity, and need-oriented evangelism as bringing non-Christians to Christ by identifying the non-Christian’s unique questions and needs. Schwarz distinguishes need-oriented evangelism from the approach of pushing, pressuring, or even manipulating non-Christians, in an effort to get them to accept Christ (p. 34).

In the management literature, the most closely related concepts would be employee recruitment, or sales. In these situations, it is important to identify the other party’s needs, in order to determine if your organization can meet them. However, too often we might resort to the approach of pushing, pressuring, or even manipulating which Schwarz (1998, p. 15) describes as the antithesis of need-oriented evangelism. Consequently, NOE makes a contribution by its focus on the needs of the client.

## **SUMMARY AND DISCUSSION**

The eight core dimensions of NCD have intuitive appeal in that they cover a spectrum of organizational concepts ranging from leadership (EL), through structures (FS), human resources planning (GOM), small groups (HSG), organizational commitment (PS), organizational culture (IWS), developing relationships (LR), and possibly selling and problem solving (NOE). The links between NCD and existing management constructs are stronger on some dimensions than others.

The NCD quality characteristics of empowering leadership, functional structures, and inspiring worship service overlap significantly with concepts in the management literature such as empowerment, organizational structure, and culture, respectively. Although similar, NCD provides a different perspective. For the NCD characteristics the focus is on the adjective describing the concept (e.g., empowering, functional, inspiring), whereas often the management literature, or at least the organizational reality, is closer to what Schwarz describes as the antithesis of, or the contrast to, the 'ideal' NCD characteristic. This different NCD perspective could inform the management literature by focussing on clearly aligning the quality characteristics together with what is fundamentally important to the true purpose of the organization.

The NCD characteristics of gift oriented ministry, holistic small groups, and passionate spirituality have some overlap with concepts in the management literature, such as human resource planning, self-managing work teams, and organizational commitment, respectively. However, the focus in NCD is very much on the individual's needs, whereas the focus in the management literature is on the organization's needs. While some might suggest that the differing focus of NCD is inappropriate for secular organizations, this paper argues that in some situations it could make a contribution to the effective functioning of the organization, and particularly groups within it.

The NCD characteristics of loving relationships and need oriented evangelism have little overlap with the existing concepts in the management literature. Although not currently present in the management literature, it is argued that, in particular loving relationships, makes an important contribution due to increasing globalization, and the importance in many cultures outside North America to establish a personal relationship with your business partners prior to discussing business. Loving relationships informs the management literature on this dimension. However, like all NCD quality characteristics, the name would have to be altered in order to be received by the readers of the management literature.

## **Limitations of NCD and Future Research**

Although it is argued that NCD is a comprehensive model, there are concepts from the traditional management literature which may not be adequately represented. For example, the concepts of Emotional Intelligence (Mayer, Salovey & Caruso, 2000; Goleman, 1995) and personality type are not clearly evident in NCD. One might argue that the former is incorporated under Loving Relationships and that the latter is accommodated under Gift Oriented Ministry, which suggests that all personality types and talents need to be accommodated within the church (organization), however, the link is not strong. At the macro level, concepts such as Total Quality Management (Soltani et al. 2005; Gomez-Gras & Verdu-Jover 2005) are not addressed in a direct way, although NCD advocates might argue that Total Quality Management is an inevitable outcome if the NCD model is applied appropriately. In order to identify gaps in the NCD model, the similarities and differences of each of the eight quality characteristics, and the fundamental principles, to extant management concepts need to be examined fully. Although limited to a few paragraphs in this paper, areas in which the management literature could inform NCD, and NCD could inform the management literature, should be discussed in much greater depth for each dimension. Adequate coverage of each quality characteristic could require an entire paper.

Related to the above, a detailed critique of the NCD model must be conducted. This has begun in the religious literature, but not in the management literature. Within this critique, the instrument used in the NCD model to measure the presence of quality characteristics in churches could be examined for its validity, reliability, and psychometric properties in secular organizations. At present, NCD is not directly generalizable to secular organizations. Modifications would have to be made to the wording of the quality characteristics and fundamental principles. The survey which measures the presence of the eight quality characteristics and the universal principles would also have to be adapted and psychometric testing of the modified survey for secular organizations would have to be conducted.

Additionally, it is possible that NCD is more applicable to some types of secular organizations than others. For example, it may be a better fit with not-for-profit organizations dealing with health and well being, learning, and leisure, or professional organizations such as law and accounting, than, for example, a manufacturing or marketing organization. This issue of fit must be explored.

Finally, while it is argued that NCD provides a marriage between the rigorous approach of the traditional management research and the less rigorous, yet deeper, approach of the spirituality researchers, it may be that the balance must still be “fine tuned.” Proponents of the traditional management perspective may argue that the NCD perspective focuses excessively on individual needs and proponents of the spiritual perspective might argue that NCD has too much of a business of focus. An analysis of the conceptualization and operationalization of spirituality in the management literature, and its compatibility with NCD dimensions, would inform this debate and is the next step for research in this area.

## CONCLUSION

The NCD model, it is argued, makes a contribution to the management literature because it retains traditional management concepts, such as leadership, teams, and human resource management, but presents them from a different perspective and, simultaneously, introduces new concepts such as loving relationships and need oriented evangelism. Furthermore, while recent research points to the importance of developing spirituality in corporate North America, there is limited availability of useful frameworks to push the development forward. Traditional management concepts, although useful for many purposes, lack the dimension of spirituality, and spiritual research lacks a systematic, business framework. NCD melds the two approaches and, with some modification, provides a promising paradigm for exploring, developing, and researching spirituality in nonreligious organizations.

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## **LOOKING TO THE PAST TO UNDERSTAND ORGANIZATIONAL CHANGE IN THE PRESENT**

This study explores how the past plays a role in how individuals make sense of organizational change in the present. Othering, a process whereby individuals construct comparisons between old and new leaders, is theorized as a useful heuristic from which to capture the contradictory, fluid and multiple realities of change.

### Introduction

It has been argued over and over again that organizations need to embrace change in order to survive (Senge, Kliener, Roberts, Ross, Roth and Smith, 2002; Todnem By, 2005). Despite the ubiquitous nature of change initiatives, however, estimates from the 1980s, 1990s and through into the 2000s indicate that up to 70 to 75 percent of all change programs fail (Higgs and Rowland, 2005; Miller, 2002). In this study we look to the history of an organization to understand what happens when change does not result in its intended outcomes. We contend an appreciation of the organization's past leadership and change efforts will help new leaders better manage change and understand how individuals make sense of these processes. In looking to the past to understand intergroup conflict and change in the present Wolfram Cox (2001:183) asks us, "Does the past lead "up" to a better future? Does the present allow us to gaze "back" fondly on the past?" Our aim is to build upon her argument and explore the stories of those involved in a major change process to understand how individuals draw upon the past in their struggles to make sense of ongoing organizational change and its perceived success. Specifically, this study explores how individuals construct comparisons between old and new leaders as they struggle with unmet expectations of change. These efforts are conceptualized as 'othering' techniques through which individuals construct more favourable impressions of one leader over another to rationalize their experiences.

In an attempt to surface unique insights on organizational change we look to an alternative site for organization studies (Parker, 2002), that is, a sports team. The team under study is a university football team that has, and continues to, undergo major change processes after experiencing six consecutive losing seasons. The team, who produced a dismal one win and twenty-three loss record in three seasons under one Head Coach, hired a new Head Coach to lead a turnaround process. We argue that a university football team provides a strong lens for viewing organizational issues. It has a clearly defined hierarchy with few structural variations from team to team. Organizational commitment, that is so often presented as key to organizational success (Bateman & Strasser, 1984; Locke, Latham, & Erez, 1988; Logan, 1984), is plainly visible here in all organizational actors. The strong desire to achieve clearly defined goals in the highly competitive environment of university football breeds organizational commitment and teamwork that many leaders in other industries strive to create. Many organizations from a diverse range of industries often turn to the knowledge, lessons, and strong motivational words of great sports coaches or distinguished athletes who have earned status and respect through their organizational successes. Sports teams provide universal metaphors for the various types of organizations and situations that exist (Kanter, 2004). Furthermore, a university athlete is part of the organization for about four to five years which is

probably as long if not longer than the average tenure of employees in most business organizations (Wright, 1995).

In exploring how individuals struggle with and make sense of change, the theoretical and empirical contribution offered here was developed through an iterative process. This involved both authors going back and forth between the existing literature, interviews with participants and the ethnographic reflections of the first author in theorizing othering as a useful heuristic from which to understand how the past plays a role in how individuals understand change in the present. In doing this, our contribution is three-fold: first, by taking into account the history of the organization we acknowledge that organization and change are processual phenomena always in a state of becoming (Tsoukas and Chia, 2002). Understanding change entails more than just taking a snapshot picture of an organization. Second, we offer support for Dawson's (2004) and Collins and Rainwater's (2005) argument that change is a complex and messy process of managing multiple meanings. In this messy process we argue that the past matters in understanding how change happens in the present. New leaders have no control over the past, yet at the same time they need to be aware of how individuals experienced the past in order to increase the likelihood of success in the present. Finally, looking to a relatively unstudied site in organization studies offers us new ways of seeing 'old' issues, that is, organizational change and individuals' experiences of change. Moreover, it extends our understanding of different types of organizing to offer a more holistic picture of organizations in general.

### Change as 'Becoming'

Helms Mills (2003) notes that the number of written pieces concerned with organizational change has increased substantially since the 1970s. Thousands of articles and books have been published to date. Throughout the literature hundreds of different interpretations of meanings and definitions of change in organizations are offered (e.g., Amis, 2004; Boeker, 1997; Bruch, 2001; Kraatz & Moore, 2002). We interpret change as ongoing processes in organizations (Tsoukas and Chia, 2002). Our interest in the case study in question, however, was triggered by a key change event, that is, a change in leadership that impacted upon the strategy and structure of the organization.

A growing body of research has begun to critique the somewhat euphoric view of change as the successful top-down initiative with managers and employees working together towards a common goal (e.g., Buchanan, 2003; Badham and Garrety, 2003; Dawson, 2004). Such a view neglects and suppresses the political nature of change and change failure (Butcher and Atkinson, 2001; Collins, 2003; Dawson, 2004). Dawson (2000; 2004) and Collins (2003) argue for research that examines multiple change narratives overtime to provide a better understanding of the complex and contested nature of change processes in organizational life. Our study responds to this growing critique and re-presents a processual account of a case study of organizational change; one where multiplicity and contradiction are embraced. To do this, we draw upon the tenants of symbolic interactionism.

Symbolic interactionism is a sociological perspective (Armstrong, 1999; Prasad, 1993) developed in the late nineteenth and early twentieth century (Fidishun, 2002). Central to the concept is that an individual creates meaning through her social interaction with others. Symbolic interactionism is concerned with how social interactions (e.g. events and situations) are interpreted through individual sense making processes (Prasad, 1993). Key to this perspective is that meaning is explored at the individual level of analysis. Blumer (1969) discusses the premises of symbolic interactionism. He contends that individual actions are determined by the meanings the individual has constructed about the events, objects or individuals she encounters, that is, action and meaning cannot be separated. Second, meanings are constructed through social interactions with others. Third, meanings are constructed and re-constructed through an interpretative process as the individual experiences life. Overall, as we interpret it, symbolic

interactionism emphasizes ongoing individual meaning making overtime through interaction with others. Symbolic interactionism encourages us to explore change at the individual level and how individuals make sense of change through ongoing construction and negotiation of meanings.

In her study on the symbolic processes involved in the computerization of work in a health maintenance organization, Prasad (1993) notes that symbolic interactionism would be a useful lens from which to capture the multiple, local realities of leadership transition. Taking our lead from Prasad (1993), in this study we explore the stories of individuals to determine how they make sense of change processes involving a new organizational leader. Moreover, in drawing upon symbolic interactionism we emphasize the ‘becoming’ aspect of change (Tsoukas and Chia, 2002). In this way, change is experienced and understood as a dynamic and fluid phenomenon, rather than a final state of achievement. Change as becoming involves an appreciation for both retrospective and prospective sense making efforts of individuals, whereby individuals draw upon the past, present and future in their re-tellings of their experiences with change. We theorize here that history plays a significant role in understanding how individuals (and organizations) experience change.

Employing the tenants of symbolic interactionism Wolfram Cox (1997; 2001) explores how a group of Australian employees of an American multinational manufacturing firm talk about change retrospectively and how they draw upon the past, present and future in their re-tellings. She (1997: 626) sets out to understand, “how does consideration of background, or past of an organization help to describe views of its change to the present and beyond?” Wolfram Cox (1997) analyzes how individuals have different orientations to time in their talk of change through a lens of loss. She surfaces four different constructions of loss including, loss as regret for what has been in the past, return to the past and loss of what might have been, loss of relief to move on to what can be in the future, and loss as release from constraints of the past. In 2001 Wolfram Cox explores similar questions about the role of the past in understanding change, however, this time she focuses upon intergroup conflict. In this latter piece, she makes sense of the stories of change through the theories of team development, paternalism and nostalgia. While we do not focus upon intergroup conflict or loss, we do build upon Wolfram Cox’s (2001:168) work so that “further attention can be given to theorizing and researching subtleties in talk of the past”. Similar to Wolfram Cox (1997; 2001) we adopt an approach that views talk about change as retrospective sense making. The individuals interviewed for this study, however, are making sense of change as they are experiencing it under a new leader.

In different ways, Gioia, Corley and Fabbri (2002) and Shamir, Arthur and House (1994) also explore how the past plays a role in constructing change in the present (or future). Giora et al. (2002) theorize organizations and their members sometimes revise the past in order to fit with how the organization wants to be perceived in the future. They argue for a revisionist history perspective that draws upon future perfect thinking, that is, “imagining the future in a way in which one considers the consequences of present actions that will constitute the past sometime in the future” (Giora et al., 2002: 624/625). They go further to draw links between organizational change, organizational identity and history. While our study is not concerned with how the future is constructed using the past, Giora et al.’s (2002) notion that history is malleable and plays a role in making sense of organizational change is useful for our present study.

Shamir, Arthur and House (1994) draw our attention to how past leadership can be used to understand the present. They deconstruct Jesse Jackson’s speech to the National Convention of the Democratic Party in 1988 to illuminate how he symbolically aligned himself with successful historical figures to present himself more favourably to voters. The focus in this piece was not upon organizational change per se, however, issues of leadership transition and how individuals might draw upon the past to create continuance to the present is relevant to our current study. In our study, we theorize attempts by individuals to draw upon past leaders or attributes of past leaders to understand ongoing organizational change as ‘othering’ techniques. Grandy (2006) describes othering as a process through which individuals or groups construct and draw upon others viewed less favourably to help make sense of their experiences.



Grandy (2006) conceptualizes othering as a technique through which individuals and groups create a more positive self-view for themselves and their group by drawing attention to individuals viewed less favourably. In this way, compared to the inferior other, the individual will always hold a position of superiority. In this study, we transfer Grandy's (2006) notion of othering to understand how individuals experiencing organizational change draw upon their organization's past efforts of change and those associated with it as a point of comparison. We theorize that the past may be constructed as an Other from which the present change experiences can be viewed more favourable. We also contend that the present can be constructed as an Other from which the past experiences are viewed more favourably. In either situation, drawing upon the past serves as a tool from which the individual can better manage, order and rationalize her experiences associated with organizational change.

### Research Approach

This study is a part of a larger research project that explores symbolism and organizational change. A qualitative approach was adopted so as to access thick, rich descriptions and embrace the localities of the research site in an exploratory manner (Alvesson, 2002; Alvesson and Skoldberg, 2000; Mason, 2002). As a member of the organization for the past four years the first author's experiences with the team also offered an ethnographic account of the organization under exploration. His reflections allowed us to access the mundane of organizational life, adopt an iterative process of discovery and embrace the tensions between participants' and researchers' voices (Schwartzman, 1993). The stories re-told in this paper are co-produced re-presentations of the experiences we heard (and read) by the individuals we encountered (Alvesson and Deetz, 2000). In other words, we are making sense of how individuals make sense of their experiences (Thomas and Davies, 2005).

This study takes place in a small university with a varsity football team competing on a national level. The football program has been in existence for over 50 years and has played a significant role in the university's identity and community links. The team roster fluctuates quite regularly in terms of numbers. During the season the roster usually employs 70 to 75 players, while the off season roster is usually smaller and fluctuates with greater frequency. Off season roster size can be anywhere from 45 to 70 players. Coaching staff employment follows a similar trend with seven to ten coaches during the season and two to three in the off season. The previous Head Coach was relieved of his command post after two winless seasons. The new Head Coach began his term not long after the end of that second winless season. This research site provided a perfect opportunity to study the unfolding events of a turnaround change program. The new Head Coach was hired to improve team performance and this study analyzes how individuals experience that change.

This site serves both as an instrumental and intrinsic case study (Stake, 2000). It is an instrumental case study in that we look to a novel and relatively unexplored site for organization studies, to see old issues, that is, organizational change as a well-studied topic, in new ways. It extends current knowledge on the role of history in organizational change to theorize new ways of capturing how individuals draw upon the past to make sense of change processes in the present. Second, the site is of interest in and of itself to organization studies and serves as an intrinsic case study. As an unexplored site, or 'alternative' site of study (Parker, 2002), we can learn more about this form of organizing. As noted earlier, there are many similarities that can be drawn across sports teams and other forms of organizing. In this way, this case study offers an opportunity to explore the sameness and difference between this unexplored site in organization studies and other sites of study.

Coupled with the personal experiences of the first author, interviews with players and coaches were conducted and taped by the first author. We developed a semi-structured interview guide so that the process was flexible enough to allow space for new and interesting themes to surface in the interviews. This also allowed individuals the opportunity to talk about what was meaningful to them (Wolfram Cox, 2001). Participants were asked to describe critical incidents they had experienced since the change efforts began or were experiencing at the time of interviewing. We did not, however, set out to explore othering as a way through which to understand organizational change. It was through an iterative process of reviewing the existing literature, collecting material and analyzing interview transcriptions (McCracken, 1988; Mason, 2002) that othering was theorized as a means through which to capture how individuals draw upon the past to make sense of change in the present.

To capture the processual nature of meaning making, each individual was interviewed at two different points in time throughout the football season. We refer to these accounts as stories, however, we do not engage in storytelling as a methodological strategy. In total, nine participants were interviewed (18 interviews) holding a variety of positions within the organization. Three coaches and six players participated. Of the coaches, two were full-time employees and one was a volunteer. Tenure of each varied from a few months to more than four years. Of the six players interviewed, three played offence and three played defence. Tenure of players varied from second year players to fifth year players. Interviews ranged from 50 minutes to 100 minutes in length.

### Drawing Upon the Past to Make Sense of the Present

The change process occurring at this organization is a particularly difficult situation for those involved, that is, for both the coaching staff and the players. The first set of interviews was conducted soon after the official football season began and up to this point the team has still not won a game under the new leadership and strategy. The second set of interviews was conducted after the season with the team ending the season as it had the year before, winless. Mixed emotions of frustration, disappointment, and hope emerge in individuals' struggles to make sense of the ongoing change process. Individuals reflect upon their past experiences with the team and make comparisons to rationalize their emotions and the ongoing events. These struggles are also often marked with confusion and contradiction as to who is to blame, the appropriate leadership style and the best strategy to organizational success. The stories of three senior players and one coach are re-told in the paragraphs that follow.

Thomas reflects upon differences between the old Head Coach, Jim, and the new Head Coach, Sam, in regards to leadership style and strategy. Early in the season still with no wins, Thomas struggles to make sense of the unmet expectations of the new leader and his strategies. It is not clear, however, if Thomas feels the current 'regime', as he refers to it, is better or worse than the previous.

Well it's definitely a completely different philosophy. I mean, ah, Jim was a lot more outside of football type things. Like he was really organized and he was into the community and he wanted to get all the little things correct. I think he's more of like a general manager type than a Head Coach type. Where Sam is, he's more of a on the field, trying to give everyone as much free time as possible and trying to make everything, football seem fun, more enjoyable to the players. Basically just trying to be the opposite of what he thought Jim was. Ah, just, the best example is probably with the meeting times. Like we had a lot of meetings Sundays, I think it was last year, we'd sit in a meeting for a good six hours or something like that and this year we don't. We, defense, has maybe an hour meeting on Mondays. I think that a lot of these guys [*new guys*] need to be watching film and seeing what it is that they're doing wrong. It's one

thing to tell somebody “you can’t do this”, but it’s another thing whenever you have video evidence to show them. As well, I think it makes it more professional when we’re actually in there watching film and taking the time out to correct the little things and fix mental mistakes which I think is our biggest problem. Not so much the physical aspect, but the mental aspect.

Thomas clearly re-presents different images of Jim and Sam in his story. He starts by simply describing these differences, that is, in regards to organizational skills, community links, time commitment required, and culture (serious versus fun). In offering a specific example of these differences, however, his discontentment with the current change process begins to surface. Thomas is not certain if Sam’s decision to substantially cut down on the number of meetings and the amount of time spent watching performance film is a good strategy. He notes how the new players need to see their mistakes in order to improve upon them. Thomas also comments that using film as a feedback and learning technique is a more professional way through which to improve upon the team’s performance, rather than simply telling players what they did ‘wrong’. Thomas does note, however, that he thinks Sam has adopted the style he has partly to distinguish himself from the past leadership of the organization, in effect, trying to start fresh.

Thomas becomes more critical of Sam’s style as he continues with his story. Despite the ‘failures’ of the previous regime and Thomas’s feelings that “the players all just quit on Jim and there obviously had to be a change made because the players wouldn’t play for him anymore”, he still constructs the past leadership in a positive way to make his critique of the current regime more persuasive.

Just little things. I think Sam is more ‘this sounds like a good idea so let’s do it’. Whereas Jim was a guy who, ‘okay what’s the consequences of everything’. Like he took in the consequences of all of his actions. We were all promised black jerseys to play in this year. It was definitely something that wasn’t needed and I don’t think it was ever really feasible considering the budget that we have. As well, playing in [*nearby city*] for a game this year. I think if Jim had decided to do that he would have made sure everything went off. Like if Jim was going to promise a game in [*nearby city*] it would of went down. But Sam just kind of, ‘yeah lets play in [*nearby city*] it sounds like a good idea’ and then doesn’t follow through with those kind of things. So I just don’t think Sam has a set schedule, like ‘I need to do this, this, and this’. It’s just kind of, he goes into the office does what he wants to do that day.

Interestingly, Thomas re-constructs the past of the organization in a positive manner even though the team produced two winless seasons under the leadership and strategy of Jim. He discusses how the team had, in effect, come to a point of no return under Jim’s leadership, virtually refusing to play for him. At the same time, however, Thomas re-presents Jim as an organized, devoted, methodological leader who delivered on his promises. In doing this, he constructs Sam as an Other re-presented less favourably in comparison to Jim. In effect, to make sense of the unmet expectations of the new regime Thomas reconstructs the past in a more positive light, despite the lack of success of the organization during this time.

In a similar way, Edward draws upon the past to make sense of his disappointment and frustration with the present change process. For the most part, he positions Jim and his leadership style in a positive way. These more favourable experiences associated with the past are compared to the negativity he associates with the present change process. Edward draws attention to organizational skills and work ethic, as well as building a sense of community among players, coaches and various other constituents.

Jim got us involved with the school. He was very good at being the head coach and doing the administrative stuff. He was a much harder worker and he was motivated. Jim was very interactive with

all his players on a personal level. With Jim it had to look all pretty all the time. Jim felt that on the field, um, success on the field could be found outside, like beyond the field. I guess Sam's idea was to just focus on football. With Sam, I really haven't seen anything. I haven't seen any of his head coaching talents put on the playing field and I haven't seen them on the administrative side. For me, the legitimacy of Sam, kind of, dissipates. I can't see his effect on the playing field. I look in other places where he could be effective, but when I look in other places I don't see anything either. Sam started off very personal. He was very interactive and sociable with the players, myself as well. He doesn't seem to put in the time as much on an administrative level. He doesn't seem to be highly interested in forming relationships with people's families or, or the alumni class, or the school itself. He doesn't seem to be as active. He seems to just want to be a head coach and run his offence on Saturday. Everything is so isolated this year. Whatever happens up in that office, happens up in that office and no one knows about it outside of the office. If he was producing wins, then who cares, but it's not so I think, the other things which can make the program look better or good should be addressed.

Edward also comments on the problems associated with the past leadership and the difficult task the present coach has in overcoming these problems and leading the team to success. At the same time, however, in coming to terms with the disappointment and frustration of the zero wins in eight games the team is presently experiencing, Edward reflects upon the past as a point of comparison to make sense of his experiences.

Richard re-presents a different picture than Thomas and Edward in regards to the change process and leadership under the past and present leaders. He too comments on organizational skills, time commitment, and culture, however, he positions leadership under Sam as more favourable to that under Jim. Richard also emphasizes the importance of approachability, something he attributes to Sam. The meanings Richard constructs in making sense of his experiences are different to those constructed by Thomas and Edward as described above.

Approachability is a lot better. I find it a lot easier to talk to coaches or just even just to be around them. So approachability is definitely, definitely better. It's an open door policy. He's [*Sam*] very approachable. If I just wanted to talk to him about something, if I had a small concern about something then I could talk to him about it and it didn't matter. He's good at listening. I think the current coaching staff has better communication with themselves than the previous coaching staff. Sam recognized that we all needed to have time off from football so that we can do things that weren't football, either school or free time. The fact that he was able to recognize that we needed that was a good thing. He expects us to watch tape but it's not as rigorous of a tracking system that Jim had. Jim was hard to approach. With Jim, this is just in terms of scheduling of events, he was anal about that kind of thing. So we always knew what was going on. The previous coaching staff, I felt, was very individual goal oriented.

Although Richard does offer some points of criticism of the new leader in his comments above, overall Richard draws on the past to construct the present as more favourable. Richard constructs the past under Jim's leadership as the Other, an inferior other, whereas Thomas and Edward construct the past more favourably to rationalize the unmet expectations of the present change process.

Harry, a coach under the new and old leaders, also draws upon his past experiences to make sense of the present change initiative. He shifts between past and present experiences and negative and positive meanings in evaluating the success of the current strategy and ongoing change processes. Overall, Harry constructs a more balanced view between positive and negative meanings of the past and present. In the excerpt below, Harry compares Sam's ability to delegate and create an environment where players and

coaches take responsibility for their own actions to the previous style of Jim. At the same time, he also positions Jim's strong organizational skills in a positive light.

I think from a player's perspective, it [*new leadership*] treats them more like men. It gives them more responsibility than to be on top of them all the time and treat them like they need to check in all the time, or micromanage, that sort of deal. From a coach's perspective, it helps them feel empowered to be able to do their job. The negative side of that would be sometimes we're not as organized. Communication isn't as affective as it was before, where meeting on a regular basis and having everything, all the details taken care of. Where I would see Coach Jim much more administratively gifted in terms of providing systems for people to be able to know where they're supposed to be and what time they're supposed to be there. The new coach brought freshness, and new attitudes, um, excitement. The hope of winning a football game. Up until recently, just the last couple of weeks it's started to diminish quite a bit. I think with the end of the chance of making the playoffs, it really took a dip emotionally. It's mid-term time as well, so people just shift gears, and shift focus in life and you can see that on the field.

It is also important to note that all individuals emphasize various mediating factors that make this change process more complicated. Discussions about the challenge of recruiting and retaining staff and players, as well as a small operating budget restricting growth and development opportunities are common. These challenges are not new to the present leadership; they are challenges that also haunted the previous coach. Individuals recognize these challenges in rationalizing the limited success of the team under the new and old leadership. Overall, individuals involved in this change process struggle to make sense of their experiences amidst a variety of complicating factors. Meaning making then becomes a complex process of to-ing and fro-ing between past and present to make sense of the present. In this case study, these struggles are further complicated by the lack of perceived success under the present leadership. If under Sam's leadership the team was able to produce 'a win', the relationships between past and present and the meanings constructed around it might be different.

### Looking Beyond the Gridiron

In his work on the strategic presentation of history Ooi (2002) contends mediators and recipients engage in processes of negotiation and persuasion in presenting the past in a particular way. For the individuals in this study, the reconstruction and negotiation of the past serves as a tool to facilitate sense making around emotionally stirring experiences. Ooi (2002: 618) notes, "history is a resource that can mobilize emotions" and "is interpreted by recipients in relation to their own existing experiences". In making sense of the feelings of disappointment, frustration, and confusion that accompany the unmet expectations of the new leader and his strategies, some individuals rationalize the situation by reconstructing the past more favourably. Given the two winless seasons under the previous Head Coach, it also appears likely that some of these individuals reconstruct the past more favourable than it was experienced at the time. "Memory itself is a reiterated act of interpretation. As we remember the past, we reconstruct it in accordance with our present ideas of what is important and what is not" (Berger, 1963: 70, in Tsoukas and Chia, 2002: 575). In a similar manner, Giora et al. (2002) contend history is malleable and in this case reconstructing the past allows individuals a means through which to make better sense of their present experiences. Whether re-told positively or negatively, the past offers continuity into the present (Ooi, 2002). We theorize here that individuals engage in processes of othering to construct this continuity. In comparing the past and the present and positioning one more favourably over the other, individuals' meaning making becomes more persuasive, for themselves and others. Othering becomes a useful heuristic to capture the processual nature of change and organizing, that is, change and organizing as

becoming (Tsoukas and Chia, 2002). Change can best be understood as a process of to-ing and fro-ing between past and present (and even future).

We can also see here how multiple meanings are often constructed around the same events and actions. For example, the organizational skills and emphasis upon meetings evident under Jim's leadership is re-told positively by Thomas, negatively by Richard and somewhere in between by Harry. Moreover, individuals interpret events based upon the meanings they have constructed about these events (Blumer, 1969). It is through interaction these meanings are constantly negotiated and reconstructed. This alludes to the difficulty leaders face in coping with the multiple realities of change (Beech and Cairns, 2001). Many different interpretations emerge; meanings are constantly renegotiated and these meanings play a role in individual action. Yet, as argued by Kan and Parry (2004:487) identifying and reconciling paradox facilitates the surfacing of underlying issues and "offers an in-depth insight into the processes leading to both negative and positive perceptions of change". If leaders become sensitive to the different interpretations of events and actions it offers them a better means through which to 'grapple with success' (Fowler and Fowler, 1964, in Beech and Cairns, 2001:1305) among the complexity, ambiguity and fluidity of organizational change and meaning. The change processes described in this study is a situation of 'multilayered reality', whereby underlying assumptions about the 'world behind the scenes' are broadly shared, but multiple meanings are constructed by individuals involved (Beech and Cairns, 2001). Members of the football team talk the same language; they are highly committed to the organizational purpose and are motivated primarily by non-monetary factors. At the same time, however, we can see how individuals construct different meanings around events and individuals. Beech and Cairns (2001:1321) contend in this type of situation, leaders "should seek to develop and support shared meaning for coping with difference, recognizing, however, that alternatives are not necessarily set in opposition to each other". Coping with this multilayered reality is not an easy process with clear 'answers', but it is nevertheless an important one for the individuals and organization involved.

It is also important to note that in re-presenting the stories of these individuals, our intent is not to uncover 'what really' happened at the organization. Similar to Buchanan (2003) and Collins' and Rainwater (2005) (who argue it in different ways), we offer a number of alternative, local understandings of change processes so as to embrace the contradiction, multiplicity and fluidity of change. Moreover, by taking into account history we illustrate that the past cannot be separated from the present (or future). The past, however, can be reconstructed (Giora et al., 2002) and this makes it even more problematic for those experiencing and coping with change.

### Concluding Thoughts

In this paper we set out to explore how individuals draw upon the past in making sense of organizational change in the present. We theorize othering as a heuristic from which to capture the complex and contradictory nature of change. Individuals construct an Other to rationalize the unmet expectations of a change process. Like others before us, we propose that change is best interpreted as an ongoing process of becoming whereby change events or programs trigger ongoing change (Tsoukas and Chia, 2002). Moreover, change is a messy meaning making process and individuals, through interaction, negotiate and reconstruct meanings as they experience organizational life. In this study, this is evident in individuals' struggles marked by a to-ing and fro-ing process between the past and present to make sense of present experiences. History as a malleable resource then becomes an integral part of understanding change. Leaders need to uncover the multiple meanings of change experiences so that they are more prepared to 'grapple with success' (Fowler and Fowler, 1964, in Beech and Cairns, 2001:1305) as they embrace the ambiguous nature of change.

In this study we explored an alternative site for organization studies to open space to see organizational change in new ways. We conclude by asking the question, is a football team all that different to other organizations? We argue that members of this organization are likely to be even more motivated to 'buy into' change than members of many other organizations. The university football team under study offers very little in regards to scholarships to its players, yet most of these players selected the university they did because of the football program and its long history of success (prior to the last six years). The insights offered here are likely to be more vivid because of the sharp emotions these individuals experience when change does not result in the intended outcomes. As a result, it catches our attention and demonstrates the need for us to look closer at how individuals experience change when it does not work and the role that history plays in this sense making process.

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# Strategy

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## **PERFORMANCE AND VALUE CREATION IN INTERNATIONAL ACQUISITIONS: AN EMPIRICAL ANALYSIS OF FOREIGN ACQUISITIONS BY INDIAN FIRMS**

This study examines the announcement effect and the post-acquisition long-term performance of 96 Indian international acquisitions of U.S. firms made in the period 1999-2005. We find that while the international acquisition announcements by Indian firms create significant short-term shareholders' wealth, in the long-run international acquisitions have a negative impact on the shareholders' wealth.

### **Introduction**

There has been growing interest in the area of international (or cross-border) acquisitions over the last decade (Shimizu et al., 2004). International acquisitions have become a popular strategy for firms undergoing international expansion. Worldwide mergers and acquisitions in 1997 alone were valued more than all of the acquisitions completed in the 1980s (Hitt et al., 2001a, b). From 1998 to 2000, international acquisitions valued nearly US \$4 trillion in terms of the stock value of the transactions announced (Henry, 2002).

Previous research on international acquisitions has focused on acquisitions made by firms from developed economies; where the target firms belonged to either the developed or developing economy. Most of these studies have focused primarily on U.S. firms acquiring international firms (Chen et al., 2000). The empirical evidence into shareholder wealth creation due to international acquisitions has been mixed. Of these, Morck & Yeung (1992) and Markides & Ittner (1994) report significant positive abnormal returns for U.S. acquiring firms around the announcement date. On the other hand, Datta & Puia (1995), using a slightly different time-frame (1978 – 1990), concluded that international acquisitions do not create value for the U.S. acquiring firms' shareholders. Shimizu et al. (2004) attribute this to the fact that Datta and Puia (1995) included relatively newer acquisitions as compared with other studies, suggesting that the rapid globalization has reduced market differences across countries, thus, decreasing the benefits of international acquisitions.

While the previous research highlighted the predominant pattern at that time (where firms from developed economies acquired firms from developing economies), there has been to some extent a reversal in the previous pattern. With increasing globalization of firms from the developing economies, there has been a recent surge in international acquisitions by multinational firms from developing economies (such as India and China), where the target firms belong to the developed economies. According to Lang (2005), a big new development is the emergence of Chinese companies themselves as acquirers of businesses outside China. Similarly, more and more Indian firms are stepping beyond Indian shores to expand their businesses. There have been more than 90 overseas acquisitions by Indian firms worth nearly U.S. \$4.5 billion in the year 2005, a significant increase from 2004, when the Indian firms' overseas acquisitions were worth U.S. \$2 billion (FT, 2005). Major international acquisitions by Indian

firms in the year 2005 include: television company Videocon's U.S. \$29 million takeover of U.S. based Thomson's picture tube business; pharma company Matrix's U.S. \$23 million acquisition of Belgian firm Docpharma, followed by 43% stake in Swiss firm Explora; steel manufacturer Tata steel's U.S. \$130 million acquisition of Thai firm Cememthai Holding; and trade company Apeejay Surrendra Group's purchase of the tea business of the U.K.-based Brunner Mond Group Ltd. for about U.S. \$110 million (FT, 2005). A major reason for such an increase in international acquisitions by Indian firms is the booming Indian stock markets, which makes it easier for Indian companies to raise funds for overseas acquisitions.

The increasing trend towards international acquisitions by firms from developing economies creates a pressing need to address explicitly, whether the existing frameworks and results on international acquisitions are compatible with firms from outside the developed countries. Thus, the generalizability of the existing international acquisition results to the developing country firms remains a question to be answered. There has been no study to the best of our knowledge that has looked at international acquisitions by firms from developing economies. To address this gap in the literature, we examine the announcement effect and the post-acquisition long-term performance of 96 Indian international acquisitions of U.S. firms made in the period 1999-2005. The sample is collected from the SDC Thomson Financial database. We use standard event-study methodology to assess the impact of acquisitions on shareholders' wealth. We believe our paper would make a unique contribution to the international mergers and acquisitions literature, as many influencing factors in international acquisitions by firms from developed countries would be substantially different from those in the developing country: such as international experience and exposure, corporate governance, cultural background, government regulation, and maturity of the domestic capital market. Therefore, shareholder expectations and management perspectives may differ for firms in the developed and developing economies, thus; there is a need to study international acquisitions from a perspective of firms from a developing economy. The remainder of the article is structured as follows. In section 2, we discuss the sample and methodology, followed by results in section 3. We provide the discussions and concluding remarks in section 4.

## **Sample and Methodology**

### **Sample and Descriptive Statistics**

The sample used in this study consists of Indian bidding firms engaged in acquisitions of U.S. firms over the period beginning January 1999 and ending December 2005. The sampling scope of the study was to include those Indian acquiring firms that are publicly listed. The initial sample of 115 acquisitions was generated from the SDC Thomson Financial database (it was used to collect the acquisition announcement dates, transaction values, and other acquisition related information). Out of the initial sample, we shortlisted those international acquisitions for which the firm-level data were available on the Bombay stock exchange (BSE). The final sample for the purpose of analysis included 96 Indian firms' acquisitions of U.S. firms. The daily stock returns for Indian firms were downloaded from the BSE website to test the short-term announcement effect. In addition, the monthly stock returns and market index returns were also collected from the BSE website to examine the long-term consequences on shareholders' wealth. The BSE website also contained some audited financial statements on the sampled firms, which were used to observe the acquisition impact on the operating variables. It should be noted that although the overall sample size was 96, the sample varied for different analysis due to missing information.

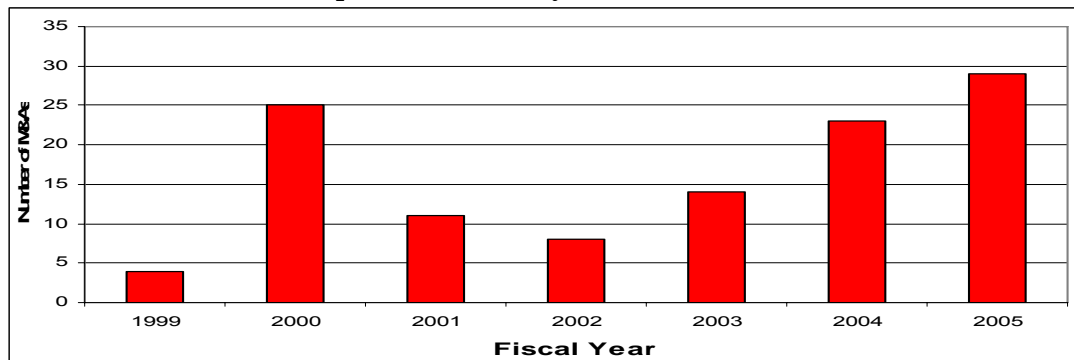
Figure 1 shows the acquisition frequency over the seven-year period. The trend is consistent with the evidence in the literature that mergers and acquisitions move in waves (e.g., see Resende, 1999). The initial peak in the international acquisitions wave was in the year 2000, which was followed by a substantial decline in the consequent two years. The decline might be due to the sudden crash of the

“technology stock bubble” near the end of the last century. However, another wave in international US acquisitions by Indian firms can be seen in the recent years. The recovery of the global technology market and the fast growing Indian economy are the main thrusts behind the new momentum.

Table 1 shows that the Indian overseas acquisitions are mostly driven by the technology sector. About 70% of the Indian acquiring firms come from the technology sector, and 72% of the US firms that were acquired are also in the technology sector. The high frequency of acquisitions occurring in the same sector suggests that most of the acquisitions are horizontal.

**Figure 1**

**Number of US Acquisitions Made by Indian Firms (Year 1999 to 2005)**



**Table 1**

**Industry Statistics of the Indian Cross-board Acquisitions**

<b>Indian Acquirer Industry Sector</b>	<b>Number of Acqs.</b>	<b>Percentage</b>
IT Sector	80	70%
Chemicals and Drugs Sector	16	14%
Industrial Manufacturing Sector	9	8%
Others*	10	9%
<b>Total</b>	<b>115</b>	<b>100%</b>

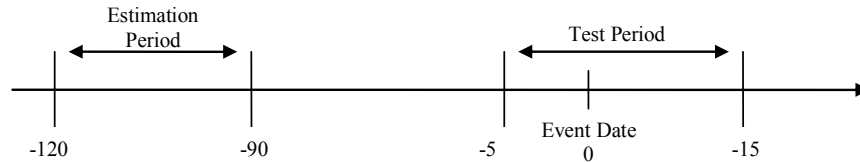
<b>U.S. Target Industry Sector</b>	<b>Number of Acqs.</b>	<b>Percentage</b>
IT Sector	83	72%
Chemicals and Drugs Sector	12	10%
Industrial Manufacturing Sector	7	6%
Others*	13	11%
<b>Total</b>	<b>115</b>	<b>100%</b>

\* Other industries include financial services, health care services, consumer staples, and energy.

## Methodology

A standard event analysis methodology is used to examine the market reaction to international acquisition announcements on the acquiring firms’ stock price. We also used the event study technique to observe the long-term stock performance (i.e. 2 years post acquisition) of the acquiring firms. We used the Mean Adjusted Return Model to calculate the abnormal returns (AR), which were then compounded into

cumulative abnormal returns (CAR) over a defined time horizon. Specifically, to observe the market reaction to the announcement event (the announcement date is indexed as date 0 in the event study), we specified -120 to -90 days as the estimation period (which means 120 to 90 days prior to the announcement date)<sup>1</sup>. We use -5 to +15 days as the test period (i.e. 5 days before the announcement and 15 days after the announcement). A time line graph is shown below.



For a stock  $i$ , we collect the daily stock returns from day  $-120$  to  $-90$ ,  $R_{i,t}$  ( $i = 1$  to  $N$ , where  $N$  are the 96 acquisitions in the sample; and  $t = -120$  to  $-90$ ). We use the average of the  $R_{i,t}$  to calculate the “normal returns” from the estimation period for each stock. Next we calculate the abnormal returns by subtracting the  $\bar{R}_{i,t}$  from each respective stock’s daily returns in the test period, and average the individual stock’s

abnormal returns to get the sample abnormal returns ( $\overline{AR}_t^*$ ).

To calculate the cumulative abnormal returns (CAR) of the sample, we aggregate the daily sample abnormal returns (AR) over a specified number of days in the test period.

$$CAR = \sum_{t^*=t_1}^{t_2} \overline{AR}_t^* \quad (1)$$

Where  $t_1$  and  $t_2$  are specified to examine the cumulative effects of the events over a certain time-period. For this study, we have tested multiple time-periods in order to make sure the results are robust to the test parameters we have chosen (such as  $t_1$  and  $t_2$ ).

To examine the long-term stock performance of the Indian acquiring firms after the acquisition events, we use the local stock market index - the Bombay Stock Exchange 200 Index (BSE200) as the benchmark to calculate the cumulative abnormal returns in the two years after the acquisitions<sup>2</sup>. For a stock  $i$ , we collect the monthly stock returns ( $R_{i,t}$ ) and market index returns ( $R_{M,t}$ ) for months -1 to +24 (i.e. 1 month before the acquisition to 24 months after the acquisition). We subtract the market returns from the stock returns to calculate the abnormal returns (AR). We then aggregate the monthly AR to calculate the cumulative abnormal returns (CAR) in the specified time-period (i.e. -1 to +24 month).

## Empirical Results

### Short Term Impact on the Acquiring Firms’ Value

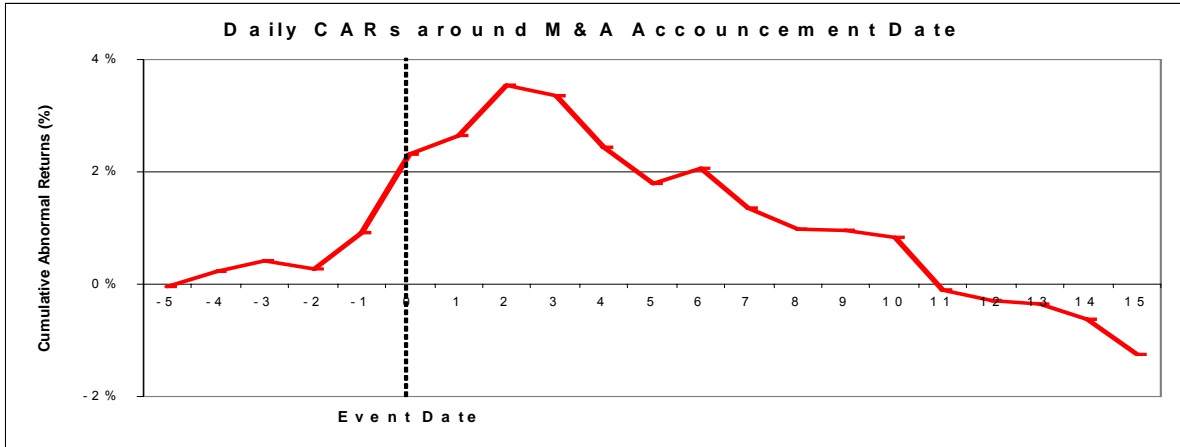
Figure 2 illustrates the short-term impact of the acquisitions on the Indian acquiring firms’ value. The Indian domestic market has significant positive response to the announcement of the Indian firms’ acquisition of U.S. firms. The cumulative abnormal return (CAR) in the first three days after the announcement is around 2.4%, which is statistically significant at 5% level (in Table 2). Figure 2 also shows that the positive impact of the announcement does not persist for a long time. Thus, it indicates that the Indian stock market is quite efficient in quickly absorbing the information and correcting the abnormal returns. The CAR after the initial three days is not significant.

<sup>1</sup> We also tried various time periods as the estimation period. Our results are not sensitive to the different estimation periods.

<sup>2</sup> We also used BSE100 and BSE TECK Index as the benchmark. The results and conclusions do not change based on the different market index benchmarks.

Figure 2

Acquisition Announcement Effect on the Acquiring Firm Stocks



**Table 2**

<b>CARs of the Acquiring Firm Stocks around Announcement Date</b>				
<b>CARs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Sample Size</b>	<b>t stats</b>
CAR (0, +3)	0.024	0.092	74	2.29**
CAR (0, +5)	0.009	0.113	74	0.68
CAR (-3, +3)	0.031	0.146	74	1.83*
CAR (-5, -1)	0.009	0.109	74	0.72
CAR (-5, +3)	0.034	0.167	74	1.73*
CAR (-5, +10)	0.008	0.237	74	0.30
CAR (-5, +15)	-0.012	0.319	74	-0.34

\* 10% significance level.

\*\* 5% significance level.

### **Long Term Impact on the Acquiring Firms' Value**

As noted above, to examine the long-term impact of the acquisitions on the shareholder's wealth of the Indian acquiring firms, we compare the monthly returns of the sample firm stocks with the local market index benchmark, BSE 200.<sup>3</sup> Figure 3 shows the cumulative abnormal returns (based on the market index benchmark) over the two-year post-acquisition period. As we can see, the acquiring firms' stocks consistently underperformed the market benchmark. The two-year average CAR of the sample firms is as low as -30% (Table 3). This is in contrast to the short-term positive results.

### **Discussion and Concluding Remarks**

In this study, we find that the acquisitions of U.S. firms by the Indian firms, on average, have positive impact on the acquiring firm value in short term, but have negative impact on the firm value in the long term. There are two possible explanations to the significant positive impact on the acquiring firms' value upon international acquisitions announcements. First, the positive reaction suggests that the Indian domestic investors have an optimistic outlook of the transaction.

<sup>3</sup> Since 70% of the Indian acquiring firms come from the technology sector, using a general market benchmark may not provide a reasonable answer. (e.g., it is possible that the technology sector is not performing well in the sampling period) Therefore, we also use the BSE-TECK index, which is more concentrated in the technology firms. The results and conclusions do not change.

Figure 3

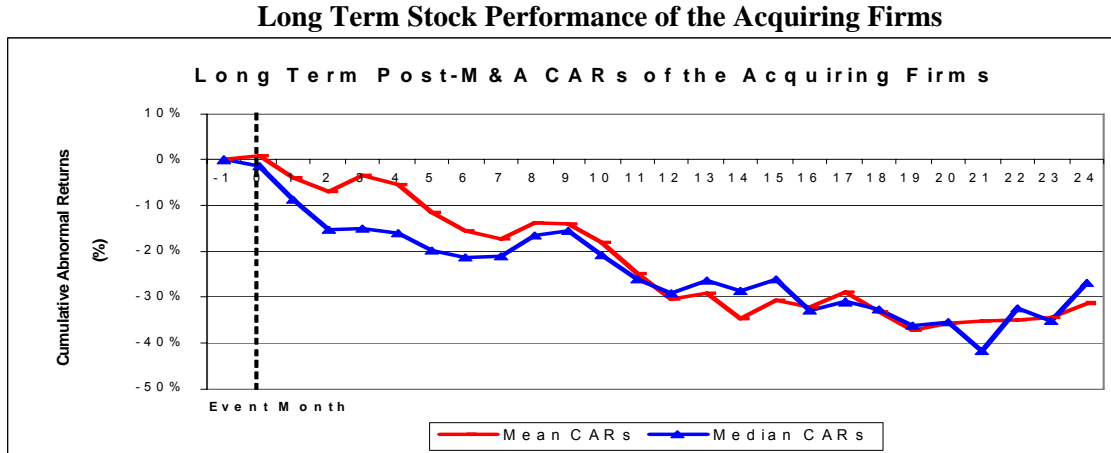


Table 3

**Cumulative Abnormal Returns of the Acquiring Firm Stocks after Acquisitions**

CARs (BCE200)	Mean	Median	Std. Dev.	Sample Size	t stats
CAR (0, +3)	-0.04	-0.15	0.82	48	-0.30
CAR (0, +6)	-0.16	-0.21	0.83	48	-1.29
CAR (0, +9)	-0.14	-0.16	1.04	48	-0.91
CAR (0, +12)	-0.30	-0.29	1.11	48	-1.88
CAR (0, +15)	-0.31	-0.26	0.96	48	-2.21**
CAR (0, +18)	-0.33	-0.33	0.98	48	-2.32**
CAR (0, +24)	-0.31	-0.27	1.04	46	-2.02**

\*\* 5% significance level.

They believe that the international acquisitions would bring more benefits to the shareholders than the associated costs. The consolidation is expected to create “synergy” values and opportunities for the acquiring firms to grow in the global market. Second, we might also interpret it as an overreaction signal that results from the psychological bias of the developing market investors. Many investors in the developing market tend to think of the developed market as a “prestigious” market that the domestic firms should enter. Therefore, they may tend to overreact to the announcements of acquiring developed market firms without carefully examining the real underlying value consequences. The psychological bias to the reputation of the developed market may result in the positive overreaction in the short term. The negative impact on the acquiring firms’ stock performance in the long-term suggests that either the investors have made a wrong “optimistic” projection of the deal or they truly “overreacted” to the announcements due to psychological bias. In addition, they overestimated the “synergy” values that might be created in the consolidated firm. However, as we can see in the event study graph, the investors adjusted their biased projection in a very quick time. The positive cumulative abnormal returns diminish in a couple of days after the announcement date.

The long-term weak stock performance indicates that international acquisitions do not lead to financial profits for the Indian firms. This is understandable considering that there are many challenges facing the Indian firms entering U.S. markets, such as, adjusting their management style, governance mechanisms, and operational basis to the global market standard. We believe it may take some time for the Indian firms to go through a learning process until they gain sufficient experience in handling



international acquisitions. It is important to note that our long-term analysis is over 24 months after the acquisition; in retrospect 24 months may be a short-time period to predict the success of these acquisitions considering the many challenges the acquiring firms will face in their early attempts to expand into developed markets.

This paper makes a contribution to the field by examining the implications of international acquisitions by firms from a developing economy. Results indicate that the shareholders of acquiring firms in a developing economy view international acquisitions positively. This can be viewed as an encouragement for firms in a developing economy to consistently move towards expanding their businesses in a global market. The negative impact on the acquiring firms' long-term stock performance can be viewed as "growing pains" that these firms encounter in international markets. With increasing experience of operating in international markets, the firms will see a positive impact on profitability ratios. Thus, a two-year post-acquisition time-period may be too short to observe long-term benefits.

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# Tourism

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## **CRISIS MANAGEMENT AND THE ROLE OF HUMAN RESOURCE MANAGEMENT IN THE HOTEL INDUSTRY**

In today's business world, crisis management is a normal part of a managers' day. This paper discusses crisis management strategies in the hotel industry and illustrates how human resource management can play more of a strategic role in the business continuity plan.

### *Introduction*

Crises management has received much attention recently due to the number of unexpected events that have occurred, including the Asian financial crises of 1997, the tsunami of December 2004 and, closer to the western world, the fear of the Millennium Bug, hurricane Katrina, the blackout of 2003 and the terrorists attacks of September 11, 2001 (9/11). Tourism is greatly impacted by disasters or any sizable crisis as they decrease the propensity of tourists to travel to affected areas or to use a certain mode of transportation.

Tourism demand is particularly sensitive to security and health concerns. The list of cases where this has taken a sudden and unexpected downturn is long, and includes the effects of the Gulf War on tourism in the Middle East, the Mediterranean, and other European countries, terrorists attacks at Luxor in Egypt in 1997, the Kosovo conflict in 1999, the effects of the foot and mouth disease outbreak in the United Kingdom in 2001 and, most recently, the effects of the September 11 terrorist attacks in the United States (Blake & Sinclair, 2003, p. 814).

The accommodation industry is highly susceptible to any decrease in travel. The crisis to date to generate one of the greatest negative effects in the tourism industry was "9/11". The ripple effects were widespread and the accommodation industry had to respond on several fronts such as:

1. Hotels close to the scene or directly affected by grounding airplanes due to a complete shutdown of the U.S. aviation system went on alert to handle stranded passengers.

2. Emergency plans were implemented to safeguard the hotels and to start and gather facts about the attack. Staff were required to help calm guests and to set up a communication system. Command posts were set up to prepare for further possible incidents and offers of assistance were given to the public.
3. Policies were implemented for room reservation and meeting space cancellations in these special circumstances. Decisions on cancellation policies sometimes entailed forfeiting thousands of dollars of revenue.
4. Prolonged revenue decreases forced managers to severely reduce operating costs.

The tourism damage was expansive and Blake and Sinclair (2003) found the following devastation in the U.S.:

The fall in tourism expenditures reduces GDP to almost \$30 billion less than it would otherwise have been, and worsens the government budget by over \$7 billion. Factor adjustment, the amount of capital and labor that leave their original sector of employment, is \$31 billion. The loss of employment is high, at 383,000 full time equivalents. A total of 559,000 jobs are lost, of which 203,000 are in airlines: with 174,000 in accommodation establishments (p. 823).

Hotel groups are often located in far-flung regions of the world due to global expansion and are, therefore, exposed to greater risks. As this trend will continue, crisis management should be a core competency of any hotel general manager as preparation can mitigate the severity of the damage (Ritchie, 2004).

One definition of crisis is “A crisis is any unexpected event that affects traveler confidence in a destination and interferes with the ability to continue to operate normally” (World Tourism Organization). Glaesser’s (2003) definition takes a more generalized view “a crisis is defined as an unwanted, unusual situation for an organization, which, due to the seriousness of the event, demands an immediate entrepreneurial response” (p. 8). Another definition with more tourism flavour is:

Any occurrence which can threaten the normal operations and conduct of tourism related businesses; damage a tourist destination’s overall reputation for safety, attractiveness, and comfort by negatively affecting visitors’ perceptions of that destination; and, in turn, cause downturn in the local travel and tourism economy, and interrupt the continuity of business operations for the local travel and tourism industry, by the reduction in tourist arrivals and expenditures (Sonmez, Bachmann & Allen, 1994 as quoted by Glaesser, 2003, p. 7).

The following will describe possible crises for the hotel industry, steps to ensure preparedness and the important role of human resource management.

### *Hotels Respond to Crises*

Hotels give shelter to large numbers of people and are usually one of the first players on the front line when disasters or crises occur. Organizations such as Fairmont Hotels and Resorts (FHR) are multinational and are often located in areas that are high risk for crises such as weather conditions, political unrest, and acts of terrorism. Terrorists will target tourism destinations to gain the shock element of maiming and injuring thousands of innocent people and the media often assists them in their agenda by mass communication of their message. Any hint of a possible decrease in safety or security decreases travel as demonstrated recently by SARS and the earlier panic of hoof and mouth in the UK.

The most common crises that occur in hotels usually include criminal acts such as robberies, assaults, and burglaries, and workplace accidents. Managers on duty are trained on first aid, completing incident reports and working with the local police. Guest room security remains a major concern and liability issues can be damaging to the organization.

Other crises that have had a direct impact on the hotel industry include:

- Natural disasters such as hurricanes in the Caribbean and Florida (Fall 2004), tsunamis in Indonesia (December 2004), earthquakes, tornados, and even snowstorms (White Juan, Halifax, Nova Scotia, February, 2003)
- Fires – MGM Grand Fire, Nov. 21, 1980 – 85 dead, \$225 million in legal settlements
- Structural disasters such as the Hyatt Regency Walkway Collapse, Kansas City, 1981 – 114 dead (Grollmes and Sklar, 1982, as quoted by Laurence, 1994)
- Labor strikes and work stoppages – occurs regularly in areas where industry is highly unionized
- Blackouts – August 14, 2003 – affected New York, New Jersey, Vermont, Michigan, Ohio, Pennsylvania, Connecticut, Massachusetts, Ontario, and Quebec – approximately 50 million people affected (Kwortnik, 2005).

After “9/11”, the industry faced numerous uncertain times and potential financial disaster. Management practices often included cost cutting devices such as employee layoffs, reduced hours, and reductions in salaries/bonuses, etc. Due to the seasonality of the business, these strategies are implemented frequently. However, when the revenue decrease continued in 2001, it generated a business crisis. A study of the Washington DC area indicates the decrease in business levels after “9/11”. “As room sales remained dismal for several more weeks, hotel managers then had to reduce the work schedules or lay off most of the 75,000 employees directly supported by the D.C. hospitality industry” (Stafford, Yu, & Armoo, 2002, p. 31). Other statistics which showed the impact included “hotel occupancy plummeted to 41.8 percent the week following the attacks, a 52 percent decrease from the same period in 2000” (Stafford et al, 2002, p. 31).

Also, during this revenue decrease, one large hotel group, Fairmont Hotels and Resorts, managed its finances by reducing its debt load in 2001 to prepare for acquisitions. Its acquisition of The Savoy in London was in partnership with Kingdom Hotels International, affiliated with His Royal Highness Prince Alwaleed Bin Talal Bin Abdulaziz Al Saud, and the Bank of Scotland (Building Global Momentum, Fairmont Annual Report, 2004). The prince has since purchased Fairmont Hotels & Resorts for US \$3.9 billion in January 2006.

### *Strategies for Managing a Crisis*

There are a number of techniques that can be deployed when planning and developing strategies to prevent or reduce crises. The type and scale of the crisis will affect the strategies implemented. A crisis may be a long-term event or it could have a very short life cycle. However, as pointed out by Ritchie (2004), there are similarities between the lifecycle and the strategic management framework as follows:

- A pre-event stage allowing the development of strategy and plans;
- A stage immediately before or after a crisis or disaster occurs which requires the implementation of strategies to deal with its impacts;
- Continued implementation of strategies to control or reduce the severity of the crisis/disaster; and,
- A long-term recovery or resolution phase allowing for evaluation and feedback into future prevention and planning strategies for destinations and businesses (p. 673).

Crises preparation includes a number of steps and procedures. Usually there are three distinct time periods involved with every crisis; before the event, during the event and after the event. The pre-event stage includes awareness and identification of the potential crises and the development of strategies that will reduce the risks. During the event requires specific plans and directions put into place to prevent further damage. At this time, decisions need to be made quickly, so the process must be well understood by those involved as stress can diminish the effectiveness of the decision making process. The last stage involves a debriefing strategy and records are made of the incident to preserve the lessons learned. Augustine (1995) outlines them with suggestions as follows:

Stage 1: Avoiding the Crisis – risk management techniques

Stage 2: Preparing to Manage the Crisis – practice drills, contingency plans

Stage 3: Recognizing the Crisis – fast reaction, information management

Stage 4: Containing the Crisis – Triage – CEO's need to be seen, get information out, and identify spokesperson

Stage 5: Resolving the Crisis – all resources are brought to bear quickly

Stage 6: Profiting from the Crisis – show commitment and concern for public

Whenever a crisis occurs, the hotel management team must respond quickly. The response needs to be well rehearsed and the lines of communication quickly drawn. The preparation process for crises, according to Kwortnik (2004) include:

- Formulate emergency plan – know the physical plant's systems and identify which will fail due to lack of power. Purchase a generator for backup power
- Perform "what if" scenarios or simulations, and plan appropriate responses
- Run drills and tests
- Train and re-train staff on emergency procedures – have manual systems prepared
- Stock up on emergency supplies – water, flashlights, and gasoline
- Prepare a customer management plan – appoint a spokesperson, prepare information and methods of information dissemination. Designate a "holding" area where people can meet

The SARS outbreak in Hong Kong brought other factors into the crisis arena: those of health and hygiene. Hotel tasks forces set up contingency plans to minimize the spread and infection of employees, guests, and suppliers. Chien and Law (2003) identified the following functions of the SARS task force as "cancellation of bookings; enforcing environmental hygiene and personal health; cleaning and disinfecting of guest rooms and public areas; acquisition of protective equipment and controlling of preventive measures; and media handling" (p. 330). The greatest tools for those on the front line was information and communication used to distribute details of preventive measures such

as the screening of suspected patients, use of surgical masks, cleaning of air outlets, and quarantine procedures. This information also kept panic to a tolerable level as fears of infection spread. These lessons may be vital as we now face a possible flu pandemic in the near future.

Any crisis plan needs to include a media strategy. If information is not made available quickly, it may come from less reliable resources and difficult to correct later. A poor media or overall communication strategy can intensify a crisis as questions start to be asked from a range of stakeholders (Ritchie, 2004). If information is not forthcoming in a timely fashion, hostility from the media may build and the organization involved may be put into a negative light. Giving correct and consistent information can create control and transparency. All relationships with media need to be built on co-operation and they welcome frequent briefings. According to the World Tourism Organization, the first 24 hours of a crisis are critical. “An unprofessional response could wreak further havoc on the destination, while responsible management of the crisis can actually enhance relations with the travel trade and help the destination recuperate faster” (World Tourism Organization). Hotel general managers do represent the travel trade and are seen by the public as representatives of the travel organizations of the destination.

A crisis puts management into a position where their true leadership skills are tested. “Successful performance in times of collective stress turns leaders into statesmen. But when the crisis fails to dissipate and ‘normality’ does not return, leaders are obvious scapegoats” (Boin & Hart, 2003, p. 544). Preparation and a strong emergency plan can greatly assist managers in coping with potential disasters that could put their organizations or their own careers at risk. See Appendix for more details on crisis management concepts and suggested actions.

### *The Role of Human Resources Management*

The human resource manager should play a strategic role in the crisis planning of any organization. “To be most effective, HR leaders work collaboratively with top-down commitment to develop enterprise-wide solutions” (Lockwood, 2005, p. 2). Scenario planning and the identification of future possibilities that may affect the workforce is one means of contribution. HRM has knowledge of the organizational culture, the capabilities of its human capital and the informal and formal communication lines that can greatly contribute to the creation of the crisis management plan.

Businesses depend on their human capital in order to recover. In the hotel industry, employees are the front line for communication and service to the guests. They will also be the front line when a crisis occurs and their reaction and responses will be vital to the organization’s image and management. The emergency training programs for employees should include decision-making experiences, communication plans and equipment, first aid, evacuation procedures, assembly areas, and security procedures for the hotel’s assets.

Employees require more than just training, as there are lasting consequences after the incident. “They need immediate aid and assurance of safety; information and reassurance; understanding and ongoing support; and a rapid return to productivity” (Blythe, 2004, p. 37). Decreasing the stress and supporting morale also assists the company in a faster return to normal operations.

Impact studies following incidents ranging from Hurricane Andrew to the Oklahoma City bombing have shown significantly increased morale and lower distress within companies that responded with appropriate

support for their employees. Those that do not support employees risk on-going problems, such as damaged morale – which can compromise productivity and reputation (Blythe, 2004, p. 38).

The crisis plan of any organization should take into account the needs of the employees, especially those who may have witnessed unpleasant incidents or coped with very stressful situations. Blythe (2004) suggests the creation of a Humanitarian Response Team that functions as follows:

- Immediate Aftermath
  - Gather employees into a secure area
  - Enlist co-workers to stay with those who are distressed
  - Do not let employees leave until released by management
  - Reconstruct the facts
  - Deal with family members
- Ensuing Days
  - Hold employee briefing
  - Hold crisis intervention group sessions

The aftermath of a crisis may involve steps to decrease operational costs such as layoffs, forced vacations, or decreasing working hours. The human resource manager (HRM) has a direct influence on all of these issues and should work with management to ensure a smooth plan is put into effect. Union contracts need to be followed in regards to seniority issues and HRM can ensure these policies are implemented.

Counseling can be used to assist all employees in the aftermath of a crisis. Employee and family assistance programs (EFAP) are very useful in assisting employees with situations that may affect their performance at work. They can also be used to counsel those laid off, or experiencing other job changes.

Legal obligations may encumber any employer in cutting operating costs, especially layoffs or decreases in hours. Notice requirements and union contracts may require negotiations due to special circumstances. The HRM should be aware of these legal ramifications and be prepared to make the necessary arrangements for negotiations with union representatives or other regulatory bodies.

Payments will need to continue for employees and wages due may need to be paid out in instances of layoff. Benefit plans need to be maintained for employees to ensure adequate coverage. “In the aftermath of Sept. 11<sup>th</sup> there were many families of the World Trade Center employees who were unable to resolve benefit issues” (Pasek, 2002, p. 112).

One of HR’s critical roles is to assist the organization in business continuity and recovery. HR can identify the key people required when a crisis occurs to prevent stoppage of the critical components of the organization’s business, as employees tend to want to go home or to their family during crises or disasters. Communication becomes critical during this time as families try to contact each other. Communication emergency systems and plans need to be developed and employees trained. A business cannot afford their staff to suddenly cease operations for any length of time and plans are required to ensure the continued viability of the company.

The HR role has the most influence during the recovery stage. Employee contact information and follow up is critical to bring the workforce back into place. If layoffs become long term, the challenge will be greater to replenish the required human capital. Aggressive recruiting methods may be required.

Many hotel groups are multinational organizations (MNO’s) and may encounter political unrest or potential natural disasters away from the home office. Areas of perceived risk need to be identified and

plans are required for the evacuation of key personnel if situations escalate. Formal evacuation plans and training can also help reduce the insurance rates of MNO's.

### *Conclusion*

Crisis planning and management is the duty of every organization in every type of industry. Some industries such as the hotel sector require greater planning due to the very nature of their business, and their role when disasters occur, that of being a shelter for the public.

Human resource professionals have information and skills that can be used for crisis planning and management and they should be involved in the strategic planning sense. Their unique knowledge of the internal organization and its human capital can be very valuable in planning for disasters, establishing communication policies, and ensuring business continuity and recovery. As we face another potential crisis in the near future in the guise of a possible flu pandemic, crisis management becomes ever more critical for organizations.

**Figure 1 Crisis Management Concepts**

<u>Concepts</u>	<u>Explanation</u>
<p>1. Preparing for crisis by having a plan. Plan should include:</p> <ul style="list-style-type: none"> <li>• Prevention</li> <li>• Managing the Crisis</li> <li>• Recognizing the Crisis</li> <li>• Containing the Crisis</li> <li>• Resolving the Crisis</li> <li>• Profiting from the Crisis</li> </ul>	<p>Businesses need to be prepared to handle crises, as they are a normal part of business today. Those with the potential need to be identified so executives are not taken by surprise and can react quickly as speed is very important in a crisis. A company is judged by its initial reaction. Practice drills, crises teams, and communication plans can minimize the damage. CEO's need to be highly visible and seen as part of the solution to show accountability. The Tylenol case is an example.</p>
<p>2. Managing Product Recalls – strategies include:</p> <p>Discovery –</p> <ul style="list-style-type: none"> <li>• Be prepared with a plan</li> <li>• Identify defects using trace ability</li> <li>• List of stakeholders ready for communication</li> <li>• Notify chain for recall action</li> </ul> <p>Recall</p> <ul style="list-style-type: none"> <li>• Decision need to be made quickly and announced</li> <li>• Try to find the cause, use outside consultant and estimate damage</li> <li>• Inform stakeholders, media and give customers information</li> <li>• Trace products and monitor recall</li> </ul> <p>Aftermath</p> <ul style="list-style-type: none"> <li>• Audit the recall for effectiveness</li> <li>• Reward those involved</li> <li>• Check with customers on their perceptions</li> <li>• Circulate success stories with communications strategy</li> </ul>	<p>Recalls are very time sensitive to prevent further injury to the public. A recall strategy should be part of the organization's business strategy and include:</p> <ul style="list-style-type: none"> <li>• Confessing to the mistake</li> <li>• Quickly making amends and fixing the problem (Sharma, p. 68.)</li> </ul> <p>Recalls' greatest impact is they shatter the public's confidence and lead to an organization's demise if not handled properly. The negative effects can involve the competition gaining ground, instability and lose of suppliers and distributors. However, if they are handled well, they give an organization the opportunity to create customer loyalty and build employee pride within. After the recall, it is important to review the steps and use it as a learning experience.</p>
<p>3. Media Policy</p> <p>The press should be thought of as another tool to use in the communication process. Normal business etiquette should include relationship building with local media to keep company image positive.</p>	<p>A crisis communications and media policy is critical for a company to ensure their survival. It should include:</p> <ul style="list-style-type: none"> <li>• Communication strategies such as who does what. I.e. who issues statement to the press, which press are contacted and how.</li> <li>• Appointed spokesperson in the company and executives roles.</li> <li>• Notification of company lawyers for counsel</li> <li>• Regular testing of plan</li> <li>• Realize that the first few hours are critical</li> </ul>
<p>4. Possible crises that companies need to be ready to manage include:</p>	<p>1. How well the executive leaving crisis is managed will rely on the media policy that the company has created. Its quick implementation will</p>



- Executive leaves – joins the competition
  - Company is close to financial disaster
  - Implementing major change into an organization.
2. Pulling a company from the brink of financial disaster is a very difficult task and requires the support of the company's employees. Speed, simplicity of the plan and full commitment from the employees can bring customer service to a new level and save a company. Management must be in the spotlight. Downsizing is often used as a strategy to survive a financial crisis. If layoffs are not handled properly, the employees can become angry. Downsizing can be an effective strategy if implemented using a planned approach – one that includes handling the “survivor syndrome.” A financial crisis can be caused by overextension of a company's resources in attempting international growth through international expansion. Before committing to expansion, a detailed SWOT should be conducted to highlight the possible weaknesses within the organization that need to be addressed first. In addition, the threats of culture differences should be identified.
  3. Implementing major change into a company requires strong leadership in which risks are taken. In addition, the leader needs to know the company well to make the right decisions and then good communication skills to send the message through the organization.

6. Importance of leadership during a crisis.

In any situation in which major change is implemented into a company in order for it to become successful, leadership is the key to the transformation. It involves understanding the strategic direction and clear objectives required, communicating these to the rest of the managers, and keeping the communication lines open. Taking risks is part of the CEO's position.

Note: The above is a summary of ideas from *Harvard Business Review on Crisis Management*, (2000). Boston: Harvard Business School Press.

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## **WHO ARE THESE VISITORS?**

### **PROFILING TOURISTS TO LUNENBURG, NOVA SCOTIA**

In 2003, as part of a doctoral research project, a survey was administered to tourists who visited Lunenburg, Nova Scotia, in efforts to get a clearer understanding of who the ‘visitor’ was to the community since its new marketing focus and image as a cultural tourism destination. This paper outlines and discusses this project and key findings of the research.

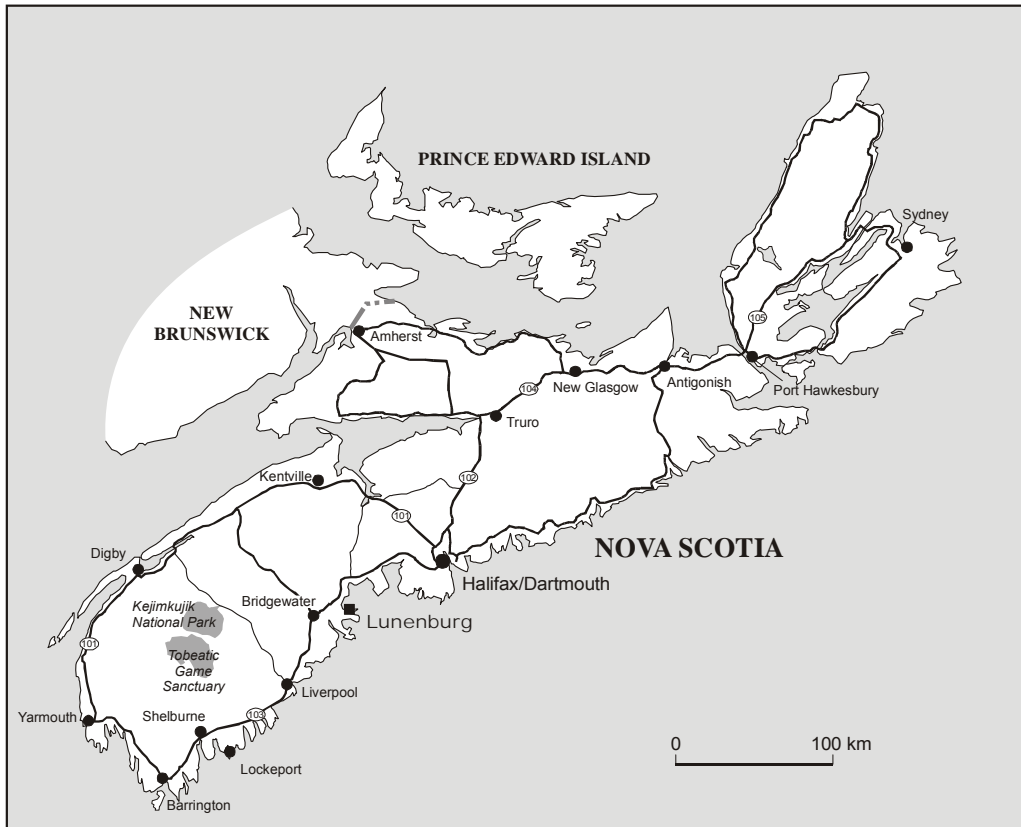
#### **Introduction**

In 1995, Lunenburg, a small rural community on the southeast coast of Nova Scotia, was awarded the prestigious UNESCO World Heritage Site designation. The community, traditionally known for its prosperous fishing industry and reputation as ‘fishing capital of the Atlantic’ before the collapse of the Atlantic fishery in the early 1990s subsequently re-positioned itself as an international tourism destination and set about marketing and promoting itself under a new ‘image.’ In 2003, as part of a doctoral research project, a survey was administered to tourists who visited Lunenburg, Nova Scotia, in efforts to get a clearer understanding of the characteristics, preferences, opinions and motivations of the ‘visitor’ to the community since its new marketing focus and image as a cultural tourism destination. This paper is a modified excerpt taken from the researcher’s original unpublished doctoral dissertation. Of particular interest to the researcher were the notion of ‘local culture’ and its importance to the travelling consumer when choosing this particular community as a destination.

#### **Lunenburg – Past and Present**

Lunenburg is a rural community situated on Nova Scotia’s southern coastal region and approximately 100 kilometers from Halifax, capital city of Nova Scotia (Figure 1).

**Figure 1. Location of Lunenburg, Nova Scotia**



Source: Map drawn by cartographer, Puddister, in George, 2004

Lunenburg was founded in the mid 1700s when it was first settled by a group of Germans, along with a few Swiss and French, who were brought in by the British to ‘anglicize’ and colonize the area. From its historic beginning, Lunenburg experienced exceptional growth and gained community prosperity by developing what became the most advanced fishing industry in North America. The fishing industry (and related industries i.e. shipbuilding) was its dominant economic generator and sustained livelihoods for a majority of its residents over many decades. The fishing industry dictated a particular and dominant lifestyle and image in the community. With the decline and subsequent collapse of the fishing industry in the late 1990s, however, the community, like others, was forced to consider diversification efforts to remain economically viable and to achieve future sustainability. Although Lunenburg today has a significant and growing manufacturing sector, particularly plastic composites for the aerospace sector, most will argue that its well-developed tourism industry with a strong emphasis on its culture and heritage, is its mainstay industry. According to Lunenburg’s Internet Web site in August 2004, there were at that time 180 businesses in Lunenburg, which offered a diverse variety of retails and wholesale goods and services to townspeople and visitors alike. The fishing and related industries are currently not considered as significant industries in the community.

Lunenburg was awarded its UNESCO World Heritage designation because it serves as the best example of a preserved British Colonial settlement in North America. Such an honour has given the

community much exposure and prestige on the global scene, and provided, without doubt, a major opportunity for tourism growth and potential success as a competitive tourist destination. Since 1995, community authorities have set out to develop and implement tourism strategy and policies. Marketing efforts concentrated heavily on the new UNESCO designation and the cultural dimensions in the community. Lunenburg was now involved in cultural tourism and developing a new image. In spite of a few idealists who still retain an ‘unrealistic optimism’ that a rejuvenated fishery will emerge, most Lunenburgers agree that their community no longer personifies ‘the fishing capital’ that it once proclaimed to be. Today, it has taken a different shape under its new image as a cultural tourism destination. This new shape has resulted in changes to the landscapes, seascapes and streetscapes in the community and area. By the late-1980s, the waterfront was no longer the bustling fishing working area that it had been for centuries. Today it boasts a sleek new paved street, known as Bluenose Drive, which now provides a core of shops – craft and souvenir, food and lodging and other attractions and activities for the thousands of people who now visit the community each tourism season. As part of a larger doctoral case study on the community, the primary intent of the following research activity, and the purpose of this paper, was to determine who the tourists were – their characteristics, preferences, opinions and motivations – and, most particularly, to what extent *culture* was relevant to their choice to visit Lunenburg. Another objective was to look at how findings from this research activity related to other similar research.

## Background Discussion

### Cultural Tourism

Definitions of cultural tourism are numerous and arbitrary. According to the Canadian Tourism Commission (CTC) 2003, cultural and heritage tourism occurs when participation in a cultural, educational, or heritage experience is a significant factor in a trip. This could involve: museums and galleries; performing, literary and visual arts; festivals and events; historic sites and heritage attractions; and, local customs and cuisines. Cultural tourism is being increasingly recognized by both heritage institutions and tourism operators around the world as a legitimate component of tourism, capable of increasing tourists visits and generating income (ARA/LORD, 1997). According to Lord (1999), cultural tourism involves "visits by persons from outside the host community motivated wholly or in part by interest in the historical, artistic, scientific or lifestyle/heritage offerings of a community, region, group or institution" (p. 3). In 1997, ARA Consulting Group Inc. and LORD Cultural Resources Planning and Management Inc. (ARA/LORD) were engaged to do a study on Nova Scotia cultural tourism to “assess the potential demand for Nova Scotia’s cultural tourism products, and to identify opportunities for developing cultural tourism products in response to market demand” (p.1). In their report, the authors purport that *cultural* tourism, as distinct from *recreational* tourism and other forms of pleasure travel began to be recognized in the early 1980s as a distinct form of tourism with its own products and markets.

Further, other research and trends suggest that local (small, rural, regional communities) culture (and heritage) is becoming a ‘hot’ commodity for the tourism industry. Several research studies completed over the last five years have led to the conclusion that cultural tourism is a significant and growing component of the overall tourism mix in North America (Grant Thornton: Langley study, 2003, p. 4). Highlights from relevant research on the North American and U.S. markets, conducted by the Travel Industry Association of America (TIAA) indicated that heritage and cultural activities were

significant components of the travel experience for Americans travelling within the USA. Statistics showed that, in 1999, visiting historical sites ranked second (15%), while cultural events ranked third (12%), in terms of activities that respondents participated in while on vacation in the USA (p. 6). Key conclusions from another study that was done in Langley, British Columbia (Grant Thornton: Langley study, 2003) provide further support that the cultural component is a significant factor of the tourism experience:

Cultural tourism is among the mix of tourism products that are growing in popularity... The World Tourism Organization estimates that cultural tourism is growing at a rate of 15% per year and that 37% of all international travel includes a cultural component... Within North America, a Canadian Tourism Commission study has profiled three key market segments that show a strong affinity for cultural tourism experiences. Together, their market size is estimated to be 49.1 million people, representing a large existing and potential market for cultural tourism... Research conducted in the U.S. market and for visitors to the Greater Vancouver area show that cultural tourism is a significant component of the overall tourism experience. (Grant Thornton: Langley study, 2003, p. 8).

In a Vancouver Tourism report (2005), statistics pulled from Statistic Canada's *Tourism in Canadian Cities – A Statistical Outlook 2004* confirmed that participation in cultural activities was significant among overnight visitors to the Greater Vancouver area. In an earlier study of overnight visitors to Greater Vancouver area in 1999, shopping and sightseeing topped the list of activities they participated in (Grant Thornton: Langley study, 2003, p.8). However, the study also showed that several other categories, which fall within the definition of cultural tourism, also ranked highly: parks and historic sites, when combined ranked third; cultural events ranked fourth; nightlife and entertainment ranked sixth; theme parks ranked seventh; and festivals and events ranked ninth. These findings imply that activities related to cultural tourism are a critical component of the overall visitor experience.

### **Who is the Cultural Tourist?**

Are cultural tourists really different than other tourists? Do they have different preferences and motivations? Shemdin-Simison (1993) suggests that cultural tourists have a new attitude:

Cultural sites are visited today not only to provide an interesting background for a day out, a picnic or a meal. People are visiting their countries of origins, sites of their spiritual beliefs, sites of nostalgic events, personal or communal among other things. The culture tourism today has acquired a sense of responsibility and respect toward the cultural heritage that guardians of these cultures and places can and should count on this new attitude (Shemdin-Simison, n.d, p. 170).

Like the concept of cultural tourism, definitions of a 'cultural tourist' are varied and arbitrary. In a 2004 study (The Tourism Monographs, No.58, 2004, p. iii) on overnight cultural tourists in Ontario, the definition of a culture tourist used was:

- ...basically any visitor, international or domestic, who stayed in the province for at least one night and who...
- attended festivals or fairs, or

- attended cultural events, or
- visited a zoo, museum or natural display or
- attended cultural performances, or
- attended an aboriginal/native cultural activity, or
- visited a museum or art gallery, or
- visited a historic site.

In the United States, according to the Tourism Industry Association of America (TIAA) 1998 *National Travel Survey* (National Endowment for the Arts (NEA), 2006), travelers who include cultural events on their trips *do* differ from other U.S. travelers in a number of ways. They are more likely to:

- have higher average household incomes: \$48,000 vs. \$37,000.
- have completed college: 41% vs. 32%.
- have managerial or professional occupations: 31% vs. 24%.

Further, in 1997, the TIAA released a landmark report, *The Profile of Travelers Who Participate in Historic and Cultural Activities*, profiling the cultural tourist (NEA, 2006). It documented that compared to *all* U.S. travelers, those who participate in a cultural event:

- spend more money (\$615 per trip) than the average U.S. traveler (\$425).
- are more likely to stay at a hotel, motel or bed and breakfast (56 percent) than the average U.S. traveler (42 percent).
- travel for longer periods of time: 4.7 nights vs. 3.3 nights.
- are more likely to have a graduate degree: 21% vs. 18%.
- are more likely to spend over \$1,000 when they travel: 17% vs. 11%.

A similar Canadian study (The Tourism Monographs, No. 58, 2004) was done in 2004 by in Canada by the Ontario Ministry of Tourism on overnight cultural visitor to Ontario – visitors from Canada and or abroad who participated in various cultural activities, including visits to a zoo, museum, art gallery, historic site or natural history display; attended festivals, fairs, cultural events, or aboriginal/native cultural activities. Some highlights (Tourism Research Unit: Monographs, 2004, p. ii) of this study were:

- Ontario's overnight cultural visitors increased by 12% in 2004 to 10.6 million.
- Overnight cultural visits accounted for 23% of Ontario's total overnight visits in 2004.
- Spending by overnight cultural visitors increased to \$4.5 billion (from \$3.9 billion in 2003), and accounted for 36% of total overnight visitor spending in 2004.
- Overnight visitor spending generated \$4.6 billion in Gross Domestic Product (GDP) and supported 75,000 jobs in Ontario.
- Overnight cultural visitors spent \$423 per person visit; this is 57% higher than spending by total overnight visitors.
- Canadians made up 62% of overnight cultural visitors; 29% were Americans and 9% from overseas. 53% of overnight cultural visitors were Ontario residents.
- The summer months are peak for overnight cultural visitors: 50% came to Ontario during July, August and September.



- Overnight cultural visitors stayed 31% longer than other total overnight visitors, an average of 4.2 nights.
- Accommodation in private homes or cottages accounted for 49% of person nights for overnight cultural visitors.
- 82% of overnight cultural visitors were in adults-only parties, compared to 86% of total overnight visitors. Average party sizes ranged from 1.4 to 2.5.
- The top leisure activities for overnight cultural visitors included shopping, sightseeing, visiting friends and/or relatives, and visiting historic sites, museums or art galleries.

The findings and conclusions from these previous research studies leads us to believe that cultural tourists *do* have different characteristics, patterns, perceptions and motivations than other types of tourists. This paper presents the findings from the data collected from tourists to Lunenburg in Summer 2003. From the data, the researcher develops a profile of Lunenburg's tourists, which is compared to the previous research about cultural tourism and the 'cultural tourist' as discussed above. Important questions that were considered are, "Do the types of tourists (demand) who visit Lunenburg fit the profile of the 'cultural tourist'?" and "Does the community fit the profile of a cultural tourism destination, certainly within the context of image?"

### **Data Collection, Methods and Procedures**

A mail-in survey questionnaire was designed and implemented to collect data from tourists visiting Lunenburg in Summer 2003. Two different distribution outlets were used: the local Visitor Information Centre (VIC) and a group of selected hospitality operators. This allowed for data to be collected from a wider range of visitors who would patronize the different establishments. The VIC was opened daily during the community's official annual tourism season, which was generally assumed as May 15 – October 15<sup>th</sup>, to receive visitors seeking information on the area. Hospitality and other tourism operators in the community, generally, used this same timeframe as their established 'tourism season.' The researcher distributed the questionnaire during a time period that included its pre-peak visitation period in late May and also its peak visitation period of mid-July to mid-August, based on historical patterns of traffic. Again, this allowed for a wider range of tourist types who may be visiting the community at different times. For instance, visitors with children were not likely to visit May or June because school would still be in session. Subsequently, distribution took place over a nine-week period between late May and early August 2003. There was no systematic method of selecting tourists; the researcher arbitrarily chose as many tourists visiting the community on any given day of the week that she could effectively manage and interview. The questionnaire included questions about demographics, tourists' travel decisions, what attractions they saw, importance of these attractions to their tourism experience, their image of Lunenburg, and so on. In the beginning, the researcher attempted to conduct these interviews in person by arbitrarily picking two days of a week to spend at the Visitor Information Centre (VIC) and to interview all tourists that entered the facility on that particular day. This procedure was neither effective nor successful because of limited time and facility inconvenience constraints. The ongoing activity, distractions and public openness of the VIC were not conducive to using this method, and it also interfered with VIC personnel conducting their work duties.

**Modified strategy.** Consequently, the researcher developed a second strategy, which was to use a mail-in interview questionnaire approach. The sample was drawn from those tourists visiting the community who stopped at the VIC and/or stayed overnight at local accommodations. The sample was selected in an unordered and random procedure at the discretion of industry operators from the accommodation sector (who selected from their customers), and of personnel from the local VIC (who selected from their visitors). The number comprising the sample was arbitrarily chosen by the researcher to be adequately representative of the larger tourist market visiting the community, in this case, three hundred visitors. Owners of purposely selected establishments, representing a wide cross-section of the accommodation sector in Lunenburg, that is, Bed & Breakfast establishments, a motel operation, an inn and housekeeping suites, were asked to randomly distribute one hundred of the questionnaires. The local visitor information centre (VIC) personnel were asked to randomly distribute two hundred questionnaires. They were asked to focus on the overnight visitor as day visitors are generally considered excursionists. Their approach was to distribute an unspecified number each day stretched out over a period of 9 weeks. This meant that they would only give out so many on any given day. Overall, it was felt that this strategy would result in a reasonable sample that represented a diversity of tourist types over a range of time. Subsequently, two hundred questionnaires, including pre-stamped return-addressed envelopes, were distributed to tourists who visited the VIC and the accommodations' operators distributed one hundred questionnaires with return envelopes. Ultimately, data was derived from 151 respondents from a possible 300 who received questionnaires. The following section provides a summary of key findings from a qualitative analysis of data collected from Lunenburg's tourists in Summer 2003.

### Key Findings

To gain an understanding of the importance of Lunenburg's culture, i.e. its history, heritage, traditions and unique way of life, as a factor in tourists choosing Lunenburg as a place to visit, visitors to Lunenburg in Summer 2003 were asked, "How important is Lunenburg's culture, its history, heritage, traditions and unique way of life as a factor in choosing Lunenburg as a destination? Analysis of the data suggests that local culture was of significant importance to individual tourists as a decision-making factor in choosing Lunenburg to visit (Table 1).

**Table 1. Local Culture as a Factor in Tourist's Decision-Making to Visit Lunenburg**

	<b>No Response</b>	<b>Not Important</b>	<b>Little Importance</b>	<b>Somewhat Important</b>	<b>Very Important</b>	<b>Extremely Important</b>
<b>% of Total</b>	2%	1%	4%	18%	46%	30%

Of the 151 respondents, 94% said that Lunenburg's culture had importance in their decision-making process. Moreover, 30 % said it was extremely important, and 46 % said it was very important while 17 % said it was somewhat important. From these results, it is apparent that Lunenburg's culture has strong drawing power in attracting tourists to the community. To further support the notion that culture was significant to tourists visiting Lunenburg, the researcher inquired about what attractions and activities they participated in while visiting the community to see how many of them were cultural-

related (see Table 2). The results from the data showed that 88% of respondents attended local restaurants; 84% visited the historic waterfront; 73% used local accommodations; 70% visited historic building and sites, and 68% visited local craft/souvenir shops. Lunenburg architecture was an attraction for 66%, and 45% of respondents attended the Fisheries Museum of the Atlantic. The Museum, considered one of Lunenburg's top attractions, is a very large complex and requires a minimum of 2-3 hours for a visit, which may be a deterrent factor for travellers who have limited time. Overall, the results indicated that tourists purchased a high selection of culture-related attractions and activities during their visit to Lunenburg in Summer 2003.

**Table 2. Attractions and Activities Attended/Participated in While in Lunenburg**

<b>Activities and Attractions Attended</b>	<b>% of Total (N=151)</b>
Local Restaurants	88%
Waterfront	84%
Local Accommodations	73%
Historic Buildings/Sites	70%
Craft/Souvenir Shops	68%
Lunenburg Architecture	66%
Visitor Information Centre	50%
Fisheries Museum	45%
Walking Tour	34%
Shipyards	32%
Art Galleries	28%
Bluenose	21%
Friends & Relatives	17%
Harbour Tour	15%
Whale Watching	9%
Trot in Time Tour	8%
Other	

To gain a sense of how tourists perceived Lunenburg as a destination and what images they held of the community, particularly in relation to culture, tourists were asked to select from a list of 25 common descriptors, subjectively chosen by the researcher, that they felt best described Lunenburg. They could select as many as applied to their individual situations. As displayed in Table 3, the ten most commonly selected descriptors (in rank order) indicate that tourists generally perceive Lunenburg as: historic, picturesque, friendly, attractive, seafaring, quaint, quiet, unique, a fishing community, and traditional.

**Table 3. Tourists' Perceptions/Image of Lunenburg**

<b>Descriptor</b>	<b>% of Total (N=151)</b>	<b>Descriptor</b>	<b>% of Total (N=151)</b>
Historic	93%	Quality Life	36%
Picturesque	86%	Artsy	26%
Friendly	79%	Folksy	23%
Attractive	72%	Rural	11%
Quaint	59%	Exciting	5%
Seafaring	58%	Diversity	5%
Quiet	56%	Farming	3%
Unique	54%	Crowded	3%
Fishing	53%	Modern	3%
Traditional	46%	Dull	2%
Nostalgic	40%	Urban	1%
Slow Pace	40%	Industrial	1%
Cultural	38%		

To compare tourists' perceptions of Lunenburg with their personal motivations to travel, tourists were asked to select from a list of 25 common travel motivators, subjectively chosen by the researcher, which ones best applied to them. Again, they could select as many as were applicable to their individual situations. Generally, social scientists agree, "a motive is an internal factor that arouses, directs and integrates a person's behavior" (Murray, 1964). Interestingly, results of the data showed that 'scenery,' an *aesthetic experience*, was the number one motivator for this group of travellers (Table 4). Following scenery, in rank order, tourists said they were motivated to travel by: unique places, history, relaxation, culture, a sense of past, exploring, getting away, curiosity, folklore and tradition. While not a subject for debate in this paper, it is interesting to note that of the top ten motivators selected, only two of these - getting away and relaxation - appear driven from physiological needs, a biological process; the other eight are driven through cognitive processes. These *cognitive* type variables strongly support Robinson's (1999, p. 1) notion, "the desire to make contact with one's own culture(s), in all its forms, and the search for experiences of other cultures is very much at the heart of tourism."

**Table 4. Motivators for Tourist Travel by Tourists to Lunenburg**

<b>Motivator</b>	<b>% of Total (N=151)</b>	<b>Motivator</b>	<b>% of Total (N=151)</b>
Escapism	34%	Exploring	54%
Roots	15%	New People	34%
Nostalgia	21%	Diversity	20%
Rest	41%	Sense of Past	55%
Excitement	13%	Adventure	28%
Unique Places	81%	Getting Away	52%
Seek Identity	2%	Fantasy	4%
Scenery	84%	Novelty	9%
Rural Life	18%	Folklore & Tradition	45%
History	71%	Relaxation	66%
Culture	61%	Curiosity	48%
Fun	38%	Urban Life	8%

### **Other Data**

Tourists were asked a question on how long they visited in the community. The data showed the average duration of tourists' visits was 2.74 days. One respondent, staying for 54 days, was considered an exception and was excluded from the averaging calculation. Tourists were also asked a question on how they learned about Lunenburg. The results showed: TV = 6%; Internet = 21%; Brochure = 19%; Newspaper = 8%; Word of Mouth = 41%; Do'ers & Dreamers = 45% and Other = 36%. Do'ers & Dreamers is the Provincial guidebook and primary marketing 'tool' for Nova Scotia. The 'Other' category, generally, made reference to other travel guides, for example, Fodor's Guide, Lonely Planet Guide, Frommers and so on.

### **Demographic Data on the Tourist to Lunenburg in 2003**

Demographic data (Table 5) was also collected from the survey. Questions were asked about: age, gender, and origin, reason for visiting, education level, income level, occupation grouping, duration of stay and so on. The data showed there were more female visitors than male. A significant proportion, almost 50%, was over 55 years and 22% retired. Likewise, a significant number were found to be highly educated with 64% having university education. An astounding 37% made over \$85,000 in annual income, while 58% had incomes of over \$55,000. Thirty percent (30%) of the tourists were professionals.

**Table 5. Demographic Data**

<p><b><i>Gender</i></b></p> <p>43% were male 56% were female</p>	<p><b><i>Age</i></b></p> <p>49% were over 55 28% were between 46-55 16% were between 36-45 7% were between 18-35</p>
<p><b><i>Point of Origin</i></b></p> <p>6% were from Canada 40 % were from USA 4% were International (Europe)</p>	<p><b><i>Reason for Visiting</i></b></p> <p>95% visited for pleasure/holiday 3% visited for business</p>
<p><b><i>Income of tourists</i></b></p> <p>37 % had incomes over \$85,000 58% had income over \$55,000 70% had incomes over \$40,000</p>	<p><b><i>Highest level of education</i></b></p> <p>64% had university education 21% had college, vocational or trade school 10% had high school education</p>
<p><b><i>Occupational Grouping</i></b></p> <p>30% were professionals 23% were business/service 22% were retired 15% were academic/teaching 4% were public service/government</p>	

In summary, the findings from the data generated by the questionnaire distributed to tourists visiting the community indicated that Lunenburg’s culture was an important factor in their decision-making processes in choosing Lunenburg as a destination. In addition, the data showed that culture was a strong personal travel motivator for them. This sample of tourists who were surveyed perceived Lunenburg as a destination composed of historic, seafaring, traditional, and cultural characteristics. While visiting the community, Lunenburg tourists participated heavily in what are considered to be cultural based activities/attractions. The four top activities/attractions selected as those that contributed most to the tourism experience in the community were all culturally based. Demographic data also indicated that the Lunenburg tourists have characteristics that compare fairly consistent with findings from the ARA/LORD, Langley, TIAA and Ontario studies; they are inclined to have higher education levels (university or college) and higher household incomes and be professionals. In fact, the proportion of the Lunenburg sample reporting an exceptional high level of household incomes was significantly greater than those in the other studies. Similarly, the number of tourists reporting university or college education was significantly high in the Lunenburg study. This supported the TIAA (1997) that concluded that the ‘cultural’ tourist is more likely to have a graduate degree. The number of Lunenburg tourists who were professionals was significantly higher than other occupational categories; this also supported the findings from the TIAA (1997) study. The average stay in Lunenburg was less than the average of 4.2 nights spent by Ontario’s ‘cultural’ tourists in 2004 as

noted in the Ontario study (Tourism Research Unit, 2006). This may be relevant to the size of the destination and/or scope of attractions/activities available to the tourists in an area.

## Conclusions

Who are Lunenburg's visitors? From this research, one can strongly argue that the Lunenburg tourist does fit the profile of the 'cultural tourist' as defined and discussed earlier. In the ARA/LORD (1997) report on cultural tourism potential in Nova Scotia, key findings suggested that there were important *differences* in average length of stay and expenditures by *cultural* tourists to the province as compared to other types of tourists. They spend more dollars and generally stay longer. Additional research studies done in other regions of Canada and USA also support the notion that 'cultural' tourists have different characteristics and motivations than other types of tourists. The Lunenburg study tends to corroborate these findings. The research showed that Lunenburg's visitors have the particular characteristics and motivations of the 'cultural tourist.' Further, cognitive processes drive many of these motivations. Motivation is a key factor in the choices a visitor makes for her/his travel and tourism experiences. The research also suggests that Lunenburg does fit the profile of a cultural tourism destination. The community has developed a solid image through its marketing efforts to build and reinforce its new position as a cultural tourism destination. Although a relatively new focus by governments and tourism operators, studies on cultural tourism in local regions, i.e. Nova Scotia, arguably, have been sparse. For Nova Scotia communities that are positioned or are intending to position and market themselves as cultural tourism destinations, the research findings outlined here could be an important factor to consider in developing community tourism strategies. Ongoing research on *cultural* tourism and the *cultural* tourist is necessary to expand and enhance our understanding about the uniqueness of this particular market segment. It may present some new and potentially viable opportunities for tourism development in many smaller, rural communities like Lunenburg that have a substantial cultural 'product' to offer the visitor.

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## **LEADING THE WAY IN E-MARKETING: ATLANTIC CANADA'S B&BS**

Researchers conducted a study of the e-Marketing practices of bed and breakfast accommodations in Atlantic Canada. The results revealed that bed and breakfasts are embracing web-based marketing activities to a greater extent than SMEs across Canada, and that they are employing more creative marketing techniques using technology. E-Marketing activities among B&Bs also rival those of much larger firms. These results are encouraging given that previous research has identified key barriers to successful implementation of e-Marketing among small and medium-sized enterprises.

### **Introduction**

#### **E-Marketing and SMEs**

Information technology have revolutionized the way suppliers and distributors interact with each other, as well as how firms interact with customers, and how customers interact with businesses (Bourgouin, 2002). Technology must be managed in a meaningful way by local firms and consumers in order to be fully adopted. Local management of technology requires that the information shared include local contexts and content.

Research indicates that all firms competing in the travel industry need to be technologically linked, incorporating Internet-based communications into their marketing strategy plans. The ability of firms to compete effectively in today's market is stymied if technology is not incorporated into the business function (Zongqing, 2004).

The tourism industry has the greatest acceptance of technology in the world by consumers (Côté, Vézina, and Sabourin, 2004). Assuming that a key motivation to go online is a customer pull, the tourism sector should be the most vibrant online sector. Online spending for travel purchases has increased ten times over the last five years. Consumers take advantage of tourism-based Internet links to obtain road maps (59%), accommodations (54%), activities (46%), air fares (45%), restaurants and entertainment (36%) (Davis, et al. 2005)..

Results of recent studies regarding the adoption of e-commerce among tourism firms in Atlantic Canada have been cause for alarm. Results have shown that many firms are reluctant to embrace online technology, and those who do often do a poor job of e-Marketing (Blotnicky, 2004a). There is evidence that limited adoption of Internet-based marketing technology is linked to small and medium-sized enterprises (Côté, Vézina and Sabourin,2004).

The level of sophisticated technology use varies among firms of different sizes, with larger firms using the most sophisticated systems. A study by the Centre for Independent Business (CFIB) revealed that virtually all firms that had Internet access used email (Mallett and Kisekka, 2000). The study also revealed that only half of the number of micro-enterprises, compared to large firms, had their own websites, used the Internet to make purchases and to sell goods and services (Doyle, Foley, Hicks, and Legér, 2002).

A 2002 Atlantic Canadian study revealed that 97% of firms used email and 76% of firms had a website. Over sixty percent of firms with websites used an external hosting service. A recent study revealed that basic Internet technologies, including email and information searches, are well used by New Brunswick SMEs (Davis and Vladica, 2005). However, more sophisticated forms of web-based marketing were seldom used.

Such limitations have also been attributed to firms in the tourism industry. A 2004 study benchmarking the Nova Scotia tourism industry, and its adoption and implementation of information and communications technologies revealed that many smaller firms use insecure online resources for commercial transactions and that most do not take full advantage of the opportunities available through a fully integrated IT-driven marketing plan. Only 35.2% of firms used e-commerce and of those, only 60.7% used secure e-commerce technology. Factors contributing to an inability to use e-commerce technology included a perceived lack of need (10.8%), lack of skills and IT knowledge (7.9%), cost of technology (6.6%), and the belief that they were too small to benefit from such technologies (6.2%) (Blotnicky, 2004a). Only 57% conducted online marketing activities. The main reason for not conducting such activities was a lack of knowledge (13%). Firm size and seasonality were also critical factors. Firms with year-round operations, and larger firms (seasonal or unseasonal), were more likely to use secure e-commerce solutions, conduct marketing activities, use a website for buying or selling online, and use the Internet to track data trends (Blotnicky, 2004b).

### **Benefits of IT Adoption**

There are various benefits to adopting IT. Technology changes the nature of competition in an industry (Buhalis, 1998). Technology can impact competitive advantage by reducing operating costs and enhancing the firm's ability to differentiate its service. Information technology impacts an industry's marketing system in a number of ways. Apart from strengthening information flow within and between departments, IT impacts communication and information flow between members of a distribution channel network. In addition, Canadian SMEs who use the Internet are more likely to grow, to create more jobs and to do a larger amount of international business than firms without Internet access (Dulipovici, 2002).

There are many more benefits for those adopting Internet technology. These include improved information (77%), increased competitive advantage (79%), improved external communications (65%), better management of computer resources (63%) and improved decision making (61%). There is also evidence that technology and information are a valuable combination when entering into negotiations with other firms in the industry, or the distribution channel (Canadian e-Business Initiative, 2004). The Internet allows firms to collaborate in fundamental ways, increasing interactivity and communication, while also doing transactions. Integration is critical because there is often no time gap between the production of information and its online distribution (Gretzel, Yuan, & Fesenmaier, 2000). Finally, the adoption of IT has been linked to greater sales levels, reduced costs and improved profitability (Government of Canada, 2002; Blotnicky, 2004b; Lau, Lee, Lam and Ho, 2000).

Research has demonstrated that firms that adopt IT are also more optimistic, anticipating better results than do non-Internet linked firms. When they anticipate better results, firms also post higher earnings goals and work hard to reach them. They tend to post better international returns simply because they do more research prior to launching international products. The end result of Internet adoption is quite simply, a more dynamic, better-managed and more aggressive marketing organization (Canadian e-Business Initiative, 2004).

Small and medium-sized enterprises are critical to regional growth and development, and they account for 95% of all firms in the tourism sector in Atlantic Canada. Technology is a fundamental requirement to enable such firms to succeed, resulting in greater economic growth, particularly in rural areas (Buhalis, 1998; Buhalis & Main, 1998). In essence, technology can level the playing field between large and small firms, while enhancing the entire tourism sector.

### **Goals and Methodology**

The primary purpose of this study was to obtain a detailed perspective of how bed and breakfast accommodations in Atlantic Canada were implementing IT, with a specific focus on web-based marketing activities. Based on previous studies, and given that most B&Bs are SMEs that are also owner-operated, researchers anticipated a low level of e-Marketing adoption.

A random sample of B&Bs was contacted from across Atlantic Canada by telephone in 2005. A total of 88 qualified survey responses were obtained from more than 600 contacts, resulting in a response rate of 13.6%, which is reasonable for a telephone survey (Zikmund, 2003). The target respondent was the owner, an approach consistent with that in Harrison, Mykytyn, and Riemenschneider (1997). Completed surveys included 30 from Nova Scotia, 21 from New Brunswick, 14 from Prince Edward Island and 23 from Newfoundland and Labrador. The sample size is limited, and as a result, this study should be considered to be exploratory in nature.

## **Results and Discussion**

In nine out of ten cases, the owner of the B&B was interviewed, resulting in a very reliable survey. Only 20% of the B&Bs had been in business for less than four years, and 20% had been in business for seven years or more. This indicates that the businesses studied were very stable and well established firms.

Sixty-nine percent of firms had five to six rooms, and 20% had seven rooms or more. The firms were quite small, with more than 70% have an annual marketing budget of less than \$4,000. The organizations were relatively high-end service providers, with more than 60% having room rates that exceeded \$100 per night. Despite rather high average daily room rates, most were small businesses with revenues of \$50,000 or less. Forty percent of firms had average revenues of \$100,000 or more. Clearly, the bed and breakfast market in Atlantic Canada consists of small and medium-sized tourism enterprises, with the majority of firms being micro businesses.

Firms used a variety of methods to promote their services. Of the services used, the Internet was ranked most highly on a scale of 1) Very Poor to 5) Very Good for its ability to attract customers to the firm, exceeding word of mouth and the website as a marketing tool. The average scale rating for each method of promotion used appears in Table 1 in the Appendix. These results are intriguing given that previous research studies demonstrated that smaller firms were less likely to adopt IT than were larger firms (Mallett and Muhamood, 2000; Doyle, Foley, Hicks, and Legér, 2002; Blotnicky, 2004b).

Ninety-seven firms said that they were engaged in e-Marketing, and all firms had a websites. Forty-seven percent had designed and maintained their own websites. Over 75% had used their websites for four years or more. On average, 43.5% of all reservations were made over the Internet. Over half of the websites were sophisticated enough to involve various levels of service and customer tracking, with almost 30% providing full financial transaction processing. A variety of services and information was provided on the websites of the firms studied. Only 39% of websites used languages other than English. These languages included French (28.4%), German (13.6%) and Japanese (4.5%). A list of website features is included in Table 2 in the Appendix.

These results are intriguing because previous research indicated that most small firms did not have a website, or did not engage in selling their goods and services over the Internet. The CFIB found that among really small firms across Canada, only 18% had websites, and only 8% of small firms were

involved in e-Marketing (Mallett and Muhamood, 2000; Doyle, Foley, Hicks, and Legér, 2002; Blotnick, 2004).

Key motivations cited by bed and breakfast operators for going online were because they thought it was a useful marketing tool (37.6%), they had been influenced by a trade group or association (32.9%) or they had been compelled to do so by a salesperson or supplier (21.2%). The main reasons that they used the Internet were its value as an overall marketing tool, as well as its usefulness in communicating with customers for a variety of reasons. Reasons listed are included in Table 3 in the Appendix .

There were mixed results among those who conduct e-Marketing as to whether or not they would expand their e-Marketing activities. Of those who were currently involved in e-Marketing, 37.6% expected to expand their use of e-Marketing. Those who were not currently involved in e-Marketing did not plan to adopt it. Those who were planning on expanding their use of e-Marketing believed it would be useful to their firm, while those who did not want to expand their use of e-Marketing did not see such a benefit (Mean = 4.032, SD = 0.752 vs. Mean = 2.315, SD = 0.987, Scale = 1) Very Unlikely to 5) Very Likely).

Those who used e-Marketing generally felt that it had met their expectations for increasing profitability, increasing sales, and expanding their customer base. B&B owners were generally unsure about whether or not e-Marketing had met their expectations regarding enhancement of customer service, and they did not feel that it had met their expectations for cost savings.

Those who did not wish to expand their use of e-Marketing responded that they were unsure regarding whether or not e-Marketing had met their expectations for increasing sales, profits or enhancing customer service. They responded negatively regarding whether or not e-Marketing had expanded their customer base or reduced their costs. The results are summarized in Table 4 in the Appendix.

Many of the respondents felt that they did not have the resources to expand their e-Marketing activities at this time. Among those who did wish to expand their activities, 35% did not feel they had the resources to do so. Similar concerns were expressed by 50% of those who did not plan to expand their e-Marketing activities.

## **Conclusions and Recommendations**

Bed and breakfast firms across Atlantic Canada demonstrated a much higher adoption rate of Internet promotion, e-Marketing and website adoption than many other firms across Canada, including those that are much larger firms. This calls into question some of the barriers that have been acknowledged as stumbling blocks in the adoption of technology by smaller businesses.

B&Bs not only adopted the technology, many have invested in a variety of high-end web-based marketing activities. Generally, their experiences have been good, leading most to consider expanding their e-Marketing services. This puts B&Bs in a role as technology leaders in web-based marketing. Results revealed that these firms have pulled web-based marketing into their existing marketing programs, while being able to increase their profits, and operate on very limited marketing budgets. These firms have also been able to position their products as rather upscale services, commanding medium-high to high room rates for their operations. Future research should investigate the adoption of technology among other industry sectors, while also tracking the adoption of web-based marketing and its impact across the tourism industry.

## Appendix

**Table 1: Ratings of Various Promotion Methods in Attracting Customers to the Firm**

<b>Media</b>	<b>Number</b>	<b>Mean*</b>	<b>Std Dev</b>
Internet	88	4.080	0.861
Word of Mouth	88	4.057	0.927
Website	88	4.000	0.830
Signs	88	3.682	1.099
Brochure	88	3.307	1.216
Tourism Office/Government	88	2.886	1.198
Brochures/Guidebooks (Gov't Published)	88	2.795	1.195
Newspaper Advertising	75	3.301	1.288
Emails	88	3.301	1.288
Online banner ads or links	88	3.301	1.288
Advertising - Magazines	85	2.627	1.520
Direct Mail	73	2.986	1.315

\* Scale: 1) Very Poor, 2) Poor, 3) Average, 4) Good, 5) Very Good.

**Table 2: Website Features**

<b>Feature</b>	<b>Percent</b>
Phone number	100.0
Address	98.8
Email address	97.6
Pics of B&B	97.6
Description of property	95.3
Rates	92.9
Basic tracking tools - number of visits	91.8
Directions	89.4
Description of dining	82.4
Ability to click and email company	82.4
Pics of main area	75.3
Links to other sites	75.3
Information on local area including attractions	72.9
Pics of guest rooms	69.4
Maps - General – Non-Interactive directions	69.4
Ability to reserve rooms	50.6
Information on Special Packages	29.4
Ability to book rooms and process payment	28.2
Ability to data mine (see adanced tracking)	14.1
Advanced tracking tools - compile customer info, store info, actual info for search	10.6
Actual video footage of rooms and/or property	9.4
Customer Surveys	7.1
Ability to personalize message	5.9
Maps - Interactive	3.5

Table 3: Reasons for Using the Internet

<b>Reason</b>	<b>Percent</b>
Overall Marketing tool	94.1
Help with communications (email, marketing communications, etc.)	75.3
Provide quotes to customers	72.9
Increase exposure	71.8
Expand business outside Canada	69.4
Project a professional image	62.4
Save money	54.1
Level the playing field with larger companies	49.4
Paperless documentation	28.2
Obtain feedback from customers	21.2

Table 4: Meeting Expectations for e-Marketing Benefits

<b>Among those planning to expand their e-Marketing activities</b>	<b>Number</b>	<b>Mean</b>	<b>Std Dev</b>
Increased Profitability	31	3.516	1.061
Increased Sales	31	3.452	1.207
Expanded customer base	31	3.258	1.154
Enhanced service	31	3.129	1.088
Cost Savings	31	2.839	1.214
<b>Among those not planning to expand their e-Marketing activities</b>	<b>Number</b>	<b>Mean</b>	<b>Std Dev</b>
Increased Profitability	54	2.870	1.245
Increased Sales	54	2.926	1.113
Expanded customer base	50	2.700	1.093
Enhanced service	54	2.852	0.998
Cost Savings	54	2.630	0.917

\* Scale: 1) Very Unlikely, 2) Unlikely 3) Neither Likely nor Unlikely, 4) Likely, 5) Very Likely.

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# Undergraduate Student Papers

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## **THE USABILITY OF NET CHANGES IN WORKING CAPITAL FROM THE CASH FLOW STATEMENT**

Changes in working capital accounts are used by analysts and investors to study and interpret the financial health of a company. This study conducted an analysis on the reliability of the net non-cash working capital account figure found on the cash flow statement. The findings of the study revealed that the figure has lost its relevance and reliability, and is harder to understand.

### **A Flaw in Accounting for Working Capital**

In our Financial Accounting Analysis class at Saint Mary's University, we learned how to dissect and interpret information in various companies' financial statements. When we were analyzing the cash flow statements, our professor, Dr. Karen Lightstone, came across a frustrating problem—she was having difficulty finding a company whose net change in non-cash working capital items, found on the cash flow statement, balanced with the number computed from the balance sheet.

Financial statements have various accounts which balance to or are equal to other accounts within the same set of statements. For example, an increase (decrease) in retained earnings is found on the balance sheet and the income statement; net income is found on the income statement and on the cash flow statement; cash and cash equivalents is on the balance sheet and on the cash flow statement. All the statements combined have a series of checks and balances throughout them, to ensure proper financial reporting.

Net change in non-cash working capital is supposed to balance with changes in current assets and current liabilities. The net change in working capital account on the cash flow statement is supposed to reflect sources and uses of cash resulting from an increase or decrease in the current accounts. Current accounts on the balance sheet are accounts that are due within one year or fiscal period. Changes in long-term accounts on the balance sheet are reflected in financing and investing activities. Net change in working capital is found under operating activities on the cash flow statement.

Working capital tells investors and analysts how companies are paying their short-term borrowings and how well they are collecting from customers and moving inventory. In this regard, working capital is an essential component in revealing vital information about a company to outside users.

It can also send important signals to the market of changes in policy that have occurred in the company throughout the year; it can reveal increases in efficiency in inventory turnover, more aggressive credit policy for customers, and an increase in efficiency in paying bills to short-term borrowers, such as suppliers.

Our professor felt that the variation in the reported and computed working capital number was getting larger over time. It was revealed to us that in August 1998 the Canadian Institute of Chartered Accountants (CICA) released a change in the procedure for deriving the cash flow statement. The change was in regard to non-cash transactions that were previously being reflected in the cash flow statement. The change released in August 1998 was that “investing and financing transactions that do not require the use of cash or cash equivalents should be excluded from a cash flow statement. Such transactions should be disclosed elsewhere in the financial statements in a way that provides all relevant information about these investing and financing activities” (CICA: Section 1540, 2006, Para. .46) Therefore, accountants no longer had to account for transactions that were done without any exchange of cash. Perhaps this was the reason that when analyzing current financial statements, we could seldom find a set of statements in which the changes in current assets and current liabilities balanced with the net change in the working capital account on the cash flow statement. We decided to put this theory to the test and developed our two hypotheses.

### **First Hypothesis**

The change in the standard for reporting for non-cash working capital released by the CICA in August 1998 produce a noticeable difference in the calculated net change in working capital off the balance sheet and the reported amount on the cash flow statement.

### **Second Hypothesis**

We are worse off since the accounting change by the CICA, and the difference between the calculated and reported amounts for non-cash working capital has become progressively worse overtime.

### **Procedure for Calculating Net Change in Working Capital**

To test our hypotheses we had to accumulate a list of companies whose financial statements we could use to calculate the net change in working capital and then compare it to the reported figure on the cash flow statement. We used the Cancorp database included in LexisNexis to compile a Canadian corporation list. The original list contained 330 companies. This was reduced to 98 as a result of incomplete data. In order to be used in our analysis, the company had to be in existence from 1996 to 2005, it had to be a Canadian publicly traded company that used Canadian Generally Accepted Accounting Principals (GAAP), and could not be acquired during the study period by another company used our sample. We excluded insurance companies and other companies that were in the investing, real estate, or financing industry. Companies in these industries produce financial reports that would not be useful in our experiment.

Since we used Canadian Publicly traded companies, we were able to gain easy access to and print off the companies' financial reports financial reports from the System for Electronic Document Analysis and Retrieval (SEDAR) website ([www.sedar.com](http://www.sedar.com)). We analyzed each company's financial statements over a three-year period (1997, 1998 and 2004). If the company under review had a year-end other than December 31<sup>st</sup>, we analyzed the financial statements for the year prior (e.g. instead of using the 1997

financial statements, we used the 1996 financial statements). This ensured that we were analyzing statements released prior to the change that occurred in the CICA handbook in 1998.

Some of the companies in our analysis released their financial statements in United States dollar amounts. To ensure that our results were comparable, we converted all United States dollar amounts into Canadian dollar amounts. To do this, we used the nominal year-end exchange rates reported by the Bank of Canada for each year under review. In most cases, this meant we used the December 31<sup>st</sup> 1997, 1998, and 2004 rates (1.43, 1.53, and 1.20 Can/US, respectively), however, for two of the companies in our sample that released their financial statements in United States dollar amounts--Zarlink Semiconductor Ltd. and Research in Motion--their year-end did not fall on December 31<sup>st</sup>. In these two cases, we converted their United States dollar amounts into Canadian dollar amounts using their year-end 2004 exchange rates (1.22 and 1.24, respectively); we did not need to convert their previous years financial statements because those statements were reported in Canadian dollar amounts (Bank of Canada, 2006).

To analyze the statements, we calculated the net increase or decrease in current accounts, subtracting out any cash and cash equivalents and other accounts that was noticeably accounted for elsewhere in the cash flow statement. If the company had a note in the financial statements on the net change in working capital account, we would examine the accounts that they used, and calculate the changes in those accounts. Most of the difference that we found was not in the actual accounts that the company used to arrive at the net change in working capital figure found on the cash flow statement, but rather in the individual accounts computed and reported number.

We compared our calculated figure to their reported figure on the cash flow statement and then calculated the difference between the two figures. This difference between the calculated and reported figure was then recorded as overstated, understated, or equal to each other. This dollar amount of the difference was then tested for materiality. According to the CICA Handbook "materiality is the term used to describe the significance of financial statement information to decision makers" ("CICA: Section 1000", 2006, Para. .17). The difference, between our calculated figure and the reported figure, was marked as either material or immaterial in nature compared to the value of the company overall. The test for materiality we used was if the difference was more (material) or less (immaterial) then 1% of total assets (Pany et. al., 1996, p.235). If the difference "is material it is probable that its... misstatement would influence or change a decision" of a user of financial statements ("CICA: Section 1000", 2006, Para. 17). (See appendix 1)

### **Results of the Data on Net Change in Working Capital**

The data we collected and analyzed produced interesting results that support our theories. Materiality has steadily increased over the three years. In 1997, the number of companies that had material differences was 35.71%; in 1998, this number increased to 40.82%, and in 2004, the number increased to 45.92%. The amount of the discrepancy between the two figures has been steadily increasing since 1997. There was an overall increase (10.21%) between the years 1997 and 2004 in the number of companies who had material discrepancies. (See appendix 3)

In 1997, only 16.33% of companies, in our study, had no difference between the figure we computed and the figure that was reported on the cash flow statement; that number increased in 1998 to 19.39%, although it sharply decreased to 6.12%, in 2004. (See appendix 1) Since the change in the CICA handbook occurred in 1998, it is possible that not all companies at that time had changed their means of accounting items on the cash flow statement. This means that 1998 could be viewed as a hybrid year, and the real focus should be on the drastic change (10.21%) from 1997 to 2004 of companies that balanced. Only six companies out of the 98 analyzed were able to balance in 2004; this is truly shocking and makes you wonder from where this discrepancy arises. The number of companies that have overstated their net

changes in working capital account has increased over the years. This means they are presenting a better view than the calculated position supports. In 1997, 37.76% of companies were overstated; this increased in 1998 to 40.82%, and then dramatically increased to 48.98%, in 2004.

### **Analysis of Overstated and Understated Differences**

Of the 98 companies analyzed, 16.3% balanced in 1997. 75.0% of the companies that balanced in 1997 also balanced in 1998, although only 12.5% of the 1997 balanced companies still balanced in 2004. Only two companies, out of the 98 companies in our sample, balanced in all three years—Newfoundland light & power Co. Ltd. and Vasogen Inc. (See appendix 2)

Of the companies that were overstated in 1997, 67.6% were overstated in 1998, and of the companies that were understated in 1997, 62.2% were understated in 1998. The results from 1998 to 2004 show a similar trend; companies who were overstated in 1998 were 60% more likely to be overstated in 2004, and companies who were understated in 1998 were 56.4% more likely to be understated in 2004. These results tell us that if a company was overstating (understating) the working capital number in one year, they were more likely to continue overstating (understating) it in the following year. The results of the cross analysis between 1997 and 2004, though, produced even results. If a company was overstated (understated) in 1997 and produced a difference in 2004, they had a 50/50 chance of being overstated (understated) in 2004.

### **Analysis of Materiality of the Differences**

In 1997, companies who produced overstated differences, between the calculated and reported net changes in working capital, were 70.3% more likely to have material differences; the companies that produced understated differences, were 53.3% more likely to generate immaterial differences. The opposite was the case in 1998. (See appendix 3)

In 1997, if a company was overstated, it was 70.3% more likely to be material, and in 2004, of the 49.0% of companies that were overstated, 52.1% of them were material. This shows that accountants are going against the conservatism principal, in which when computing financial statements, “uncertainty exists, estimates of a conservative nature attempt to ensure that assets, revenues and gains are not overstated and, conversely, that liabilities, expenses and losses are not understated” ( “CICA: Section 1000”, 2006, Para. .21(d)). It appears based on our research that this CICA principal of conservatism is not fully being adhered to by management.

### **Conclusions**

Balancing to the net changes in working capital account from the balance sheet has become progressively more difficult over time. Our analysis has revealed that more companies are having differences between the calculated and reported amounts, and that these differences are continually becoming larger as a percent of the company’s total assets. This supports hypothesis 2. This may however be a general trend, and may not necessarily be a direct result of the CICA’s accounting standard change. Since 1998 may have been a hybrid year--some companies in 1998 may not have fully moved over to the new accounting principals--it may be necessary to conduct a further study, including results from 1999. Our results in 2004 show a drastic increase in the number of companies producing a material difference, and a decrease in the number of companies that can be reconciled from the balance sheet. Since the CICA accounting change, the net change in working capital account has become progressively worse and the difference between calculated and reported net change in working capital is increasing. Whether it was a direct result of the change, or it is something that has gotten progressively worse on its own accord, due to the

increasing complexity of financial reporting, the effects overtime are still up for further analysis. Therefore, we cannot conclude that the results are a result of the standard change.

In conclusion, the net change in working capital account has lost most of its usefulness, by no longer being able to reconcile the figure to the balance sheet. When one analyzes company's financial statements, it is extremely difficult to account for every dollar, even with the notes in the financial statements. The question arises as to whether companies are taking advantage of the change in the CICA handbook. No longer having to account for non-cash transactions has given companies more freedom to use this account as a balancing account to ensure that the cash and cash equivalents number found on the cash flow statement balances to the number reported on the balance sheet, as the cash and cash equivalents number is a lot more difficult to manipulate. The net change in working capital account has lost its understandability, relevance, and reliability. The net change in working capital account is no longer providing useful information. The account is continually being overstated or understated, and is producing material differences between the reported and calculated figures.

## Appendices

### Appendix 1: Summary of results for the three years

	1997		1998		2004	
Not Material	63	64.29%	58	59.18%	53	54.08%
Material	35	35.71%	40	40.82%	45	45.92%
Total	98	100.00%	98	100.00%	98	100.00%

	1997		1998		2004	
Balanced(0)	16	16.33%	19	19.39%	6	6.12%
Overstated(1)	37	37.76%	40	40.82%	48	48.98%
Understated(2)	45	45.92%	39	39.80%	44	44.90%
Total	98	100.00%	98	100.00%	98	100.00%

**Appendix 2: Cross Tabulation of overstated and understated differences between years**

<b>The Code used for Overstated and Understated</b>	
0	Balanced
1	Overstated
2	Understated

**97 over/under \* 98 Over/under Crosstabulation**

			98 Over/under			Total
			0	1	2	
97 over/under	0	Count	12	1	3	16
		% within 97 over/under	75.0%	6.3%	18.8%	100.0%
		% within 98 Over/under	63.2%	2.5%	7.7%	16.3%
		% of Total	12.2%	1.0%	3.1%	16.3%
	1	Count	4	25	8	37
		% within 97 over/under	10.8%	67.6%	21.6%	100.0%
		% within 98 Over/under	21.1%	62.5%	20.5%	37.8%
		% of Total	4.1%	25.5%	8.2%	37.8%
	2	Count	3	14	28	45
		% within 97 over/under	6.7%	31.1%	62.2%	100.0%
		% within 98 Over/under	15.8%	35.0%	71.8%	45.9%
		% of Total	3.1%	14.3%	28.6%	45.9%
Total	Count	19	40	39	98	
	% within 97 over/under	19.4%	40.8%	39.8%	100.0%	
	% within 98 Over/under	100.0%	100.0%	100.0%	100.0%	
	% of Total	19.4%	40.8%	39.8%	100.0%	

**97 over/under \* 04 over/under Crosstabulation**

			04 over/under			Total
			0	1	2	
97 over/under	0	Count	2	9	5	16
		% within 97 over/under	12.5%	56.3%	31.3%	100.0%
		% within 04 over/under	33.3%	18.8%	11.4%	16.3%
		% of Total	2.0%	9.2%	5.1%	16.3%
	1	Count	1	18	18	37
		% within 97 over/under	2.7%	48.6%	48.6%	100.0%
		% within 04 over/under	16.7%	37.5%	40.9%	37.8%
		% of Total	1.0%	18.4%	18.4%	37.8%
	2	Count	3	21	21	45
		% within 97 over/under	6.7%	46.7%	46.7%	100.0%
		% within 04 over/under	50.0%	43.8%	47.7%	45.9%
		% of Total	3.1%	21.4%	21.4%	45.9%
Total	Count	6	48	44	98	
	% within 97 over/under	6.1%	49.0%	44.9%	100.0%	
	% within 04 over/under	100.0%	100.0%	100.0%	100.0%	
	% of Total	6.1%	49.0%	44.9%	100.0%	

**98 Over/under \* 04 over/under Crosstabulation**

			04 over/under			Total
			0	1	2	
98 Over/under	0	Count	3	9	7	19
		% within 98 Over/under	15.8%	47.4%	36.8%	100.0%
		% within 04 over/under	50.0%	18.8%	15.9%	19.4%
		% of Total	3.1%	9.2%	7.1%	19.4%
	1	Count	1	24	15	40
		% within 98 Over/under	2.5%	60.0%	37.5%	100.0%
		% within 04 over/under	16.7%	50.0%	34.1%	40.8%
		% of Total	1.0%	24.5%	15.3%	40.8%
	2	Count	2	15	22	39
		% within 98 Over/under	5.1%	38.5%	56.4%	100.0%
		% within 04 over/under	33.3%	31.3%	50.0%	39.8%
		% of Total	2.0%	15.3%	22.4%	39.8%
Total	Count	6	48	44	98	
	% within 98 Over/under	6.1%	49.0%	44.9%	100.0%	
	% within 04 over/under	100.0%	100.0%	100.0%	100.0%	
	% of Total	6.1%	49.0%	44.9%	100.0%	

**Appendix 3: Cross tabulation between overstated/understated and Material/Immaterial for each year.**

<b>The Code used for Overstated and Understated</b>	
0	Balanced
1	Overstated
2	Understated

<b>The Code used for Materiality</b>	
0	Material
1	Immaterial



**97 over/under \* 97 Material Crosstabulation**

			97 Material		Total
			0	1	
97 over/under	0	Count	16	0	16
		% within 97 over/under	100.0%	.0%	100.0%
		% within 97 Material	25.4%	.0%	16.3%
		% of Total	16.3%	.0%	16.3%
	1	Count	26	11	37
		% within 97 over/under	70.3%	29.7%	100.0%
		% within 97 Material	41.3%	31.4%	37.8%
		% of Total	26.5%	11.2%	37.8%
	2	Count	21	24	45
		% within 97 over/under	46.7%	53.3%	100.0%
		% within 97 Material	33.3%	68.6%	45.9%
		% of Total	21.4%	24.5%	45.9%
Total	Count	63	35	98	
	% within 97 over/under	64.3%	35.7%	100.0%	
	% within 97 Material	100.0%	100.0%	100.0%	
	% of Total	64.3%	35.7%	100.0%	

**98 Over/under \* 98 material Crosstabulation**

			98 material		Total
			0	1	
98 Over/under	0	Count	19	0	19
		% within 98 Over/under	100.0%	.0%	100.0%
		% within 98 material	32.8%	.0%	19.4%
		% of Total	19.4%	.0%	19.4%
	1	Count	18	22	40
		% within 98 Over/under	45.0%	55.0%	100.0%
		% within 98 material	31.0%	55.0%	40.8%
		% of Total	18.4%	22.4%	40.8%
	2	Count	21	18	39
		% within 98 Over/under	53.8%	46.2%	100.0%
		% within 98 material	36.2%	45.0%	39.8%
		% of Total	21.4%	18.4%	39.8%
Total	Count	58	40	98	
	% within 98 Over/under	59.2%	40.8%	100.0%	
	% within 98 material	100.0%	100.0%	100.0%	
	% of Total	59.2%	40.8%	100.0%	

**04 over/under \* 04 matieral Crosstabulation**

			04 matieral		Total
			0	1	
04 over/under	0	Count	6	0	6
		% within 04 over/under	100.0%	.0%	100.0%
		% within 04 matieral	11.3%	.0%	6.1%
		% of Total	6.1%	.0%	6.1%
1	1	Count	25	23	48
		% within 04 over/under	52.1%	47.9%	100.0%
		% within 04 matieral	47.2%	51.1%	49.0%
		% of Total	25.5%	23.5%	49.0%
2	2	Count	22	22	44
		% within 04 over/under	50.0%	50.0%	100.0%
		% within 04 matieral	41.5%	48.9%	44.9%
		% of Total	22.4%	22.4%	44.9%
Total		Count	53	45	98
		% within 04 over/under	54.1%	45.9%	100.0%
		% within 04 matieral	100.0%	100.0%	100.0%
		% of Total	54.1%	45.9%	100.0%

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## **Investigation of the Impact of Interest Rates on Canadian Financial Services Stock Performance**

### **Abstract**

This research paper investigates the impact that changes in yields on Government of Canada debt securities have on the performance of Canadian financial services stocks. The statistical models used to test for the relationship include the Kerkovius model and the two-index model developed by Stone. The study finds evidence of negative relationship between excess return on financial services stocks and the ratio of the dividend yield of these stocks to the yield on 10-year Government debt securities. The Stone model finds evidence of a positive relationship between bank stocks performance and the monthly return on long-term Government debt. However, the same relationship is not evident for insurance companies.

### **1. Introduction**

This research paper investigates the possibility of a significant relationship between the performance of financial services stocks and yields on Government debt securities. Two models were used for the research: the Kerkovius and Stone models. The investigation covers the period ranging from 1986-2005 for the Kerkovius model and 1986-2004 period for the Stone model.

The Kerkovius model compares the ratio of dividend and earning yield to short-term and long-term interest rate Government bonds. The results of the Kerkovius model confirms the expected negative relationship between dividend yield divided by the long-term interest rate ratio. This significant relationship suggests that an investor could put confidence in this model when developing an investment process that targets financial services stock. However, other ratios suggested by Kerkovius did not hold any statistical significance. This suggests that the insignificant ratios should not be used when developing an investment process as there cannot be any confidence in the results generated by the model.

The two-index model developed by Stone [1974] was tested using two different portfolios. First, financial services stock were tested individually. Second, the two portfolios of securities were created with a different set of criteria and tested. The first portfolio contained

any financial services stocks that represented a 0.5% weight or more in the previous year on the markets. The second was a portfolio containing only the six major Canadian banks.

The two different portfolios using the Stone model showed evidence of a significant relationship between bank stocks performance and monthly return on long-term Government debt. However, this relationship is insignificant with short-term interest yield of Government debt securities when looking at bank stock individually or group as a portfolio. This suggests that long-term interest rate may be a useful tool for investors to assist them in their investment process to take an informed decision. Also, the majority of the banks could hold this process in a stand alone investment but that would not be the case for other financial services stock as the results offered a mix of significant and insignificant relation with long-term interest rate. The results also show that short-term (91-day Treasury bill) holds no significant relationship to these types of stock performances.

The rest of this report is organized as follows: Section 2 presents an overview of literature summarizing previous relevant research around the world; Section 3 presents the research hypothesis; Section 4 presents the data and methodology used to conduct the research; Section 5 offers an analysis of the results of the investigation; and, Section 6 provides the conclusion to this report.

## **2. Literature Review**

Over the years, much research has been completed in an attempt to determine the driving factors behind the investment return generated by the banking industry. This research varies across time and topic. The specific topic focused on in this paper is the relationship between the changes in interest rate and the corresponding effect these changes have on the return on financial services stocks.

An article published by the *National Post* on May 14, 2005, Lex Kerkovius suggested that when bond yield falls, it is meant as a strong buy signal to buy Canadian bank stock. He classified bank stock as interest rate sensitive investments. To establish the best time to buy bank stock, he follows two distinct comparisons. First, Kerkovius uses the earning yield divided by a benchmark bond yield. He classifies a ratio of two as extreme and states that the higher the ratio, the higher the buy signal to buy bank stocks. The second test he conducts is the dividend yield divided by a benchmark bond with a ratio of over a half being classified as a buy signal. The philosophy is that by buying at a high ratio, it can be expected that the ratio will diminish in the future as the price of the stock increases, which in turn should creates excess return on the initial investment. Kerkovius completes these tests on two types of bonds, short-term and the 10-year bonds, these two proxy allow to capture long term expectation and current inflation reflected by the market at the time of the investigation.

Stone [1974] suggested a two-index model involving return on equity and debt market as a useful framework to measure the systematic interest rate risk. The frame work for his model implied that there were no transaction costs, no taxes, no short-sale prohibition and no margin

requirement in making the following assumptions: the return-generating process is a linear two-index model, the investor maximizes the single period mean variance expected utility function and the investor holds a well diversified portfolio. Stone's model contains a modification to ensure that it responds to the limitation of the market index model by adding an extra variable that reflects an interest rate factor. Stone's model was the basis of the research of many others attempting to establish the sensitivity of financial services stock return to a number of interest rate measures.

Benink and Wolff [2000] offers empirical evidence on the interest rate sensitivity of the stock returns of the largest US banks. Their choice of model were the two-index model developed by Stone discussed previously to measure the assets return and account for the interest change, they found significant evidence of negative interest rate sensitivity in the early 1980's. They also found that the significance of this relationship, although it still holds, is less powerful in the late 1980s and early 1990s. The interest rates used during the research included the three-month Treasury bills (risk free) and the 10-year Treasury bonds. Their research had a range of twenty years (1974-1993) and involved weekly return testing on individual bank stock and on an equally weighted groups of the twenty largest US banks used as an index in the model. Banink and Wolff [2000] concluded there was a relationship between interest rates sensitivity and bank stock returns.

Australia has been subject of at least two relevant studies. Faff, Hodgson and Kremmer [2005] and Simpson and Evans [2003] researched the effect of interest rate on the financial services sectors. While Faff, Hodgson and Kremmer used the multivariate GARCH model, Simpson and Evans used a level series and first differences model. With different models came similar results as both found evidence of negative interest rates relation to bank stock return during the 1994-2002 period.

Oertmann, Rendu and Zimmermann [2000] searched this process to four European countries namely France, United Kingdom, Switzerland and Germany. The process involved comparisons of monthly dividend adjusted stock price of fifty-seven financial intermediaries between 1982 and 1995 across the four countries. Information regarding long-term government bonds was also collected. The returns were continuously compounded in local currency. Using a three factor model and the Arbitrage Pricing Theory (APT) approach, the research tested the sensitivity of the stock returns against the stock market return index (MSCI indices) and against long-term government bonds (return compounded monthly) to determine the effect of international and domestic interest rates on financial institution stock returns. In France, regional bank returns were shown to be negatively related to domestic and international interest rate movement. Yet in Germany, the regional bank stock returns were inconsistent while the international bank stock returns were driven by international interest rate changes. In Switzerland, international bank rates were affected by domestic interest rate and, again, the results generated were inconclusive for the impact on regional bank stock returns. While, in the United Kingdom, the research shows that international banks are affected by change in international interest rates, the impact on the domestic financial institution was also inconclusive. These results confirm Simpson and Evans [2003] work, that the impact of interest rate on banking stock returns can varies between countries.

Japan offered similar results. Broussard, Kim and Limpaphayom [2003] found evidence of negatively related long-term interest rate and the bank stock returns for the 1975-1994

periods. The final conclusion of their research found that prior to deregulation, the interest rate had no effect on bank stock performance but stock return became more sensitive to the interest rate changes after the regulations were lowered. They also concluded that asset mismatch also leads to a negative relationship between interest rate change and equity returns.

Previous Canadian investigation was conducted by Foerster and Sapp [2001]. Through the use of Sharpe and Lintner's Capital Asset Pricing Model (CAPM), Foerster and Sapp assessed the major types of risk an investor faces: systematic and non-systematic. To test their proposition about the relationships between the interest rates and the performance of the bank stock, they tested the five largest banks in Canada. The sample considered represents approximately 80% of Canadian financial services sector in many categories (such as market capitalization, assets, market share, etc.) over a period of forty years (1960-2000). Their conclusion found the monthly return of bank stock to be most sensitive to long-term government bond yield and returns.

In the United States, Flannery and James [1984] found that financial stock performance to be related with interest rate change. They concluded that "nominal interest rate changes on common stock are related to the maturity composition of a firm's net asset holding". Therefore, the readjusting the value of bank stocks in the market to fit the risk of the new interest rates can explain the negative relationships between interest rates and the return of banks stocks. This conclusion is consistent with the finding of Fraser, Madura and Weigand [2002] that also concluded that financial statements such as the balance sheet are affected by the interest change because its mismatch of floating and fixed assets and liability. Also considered, is the higher possibility of large bank to experience greater sensitivity to interest rates as it has the opportunity to expand its business in a broader way than smaller banks when experiencing economic growth, where interest rate are usually falling.

Also, Chen and Chan [1989] as well as French and Fraser [1986] finds to be consistent with Flannery and James [1984] and Fraser, Madura and Weigand in explaining the relationships. Chen and Chan results also show that there is a asymmetrical behavior in the stock performance and that the markets behaviour, meaning that when interest rates are falling, the market reacts by rewarding financial institution stocks positively and when interest rates rise, their stock seems to be affected negatively and that beyond the reward generated during the previous interest rate fall. Chen and Chan [1989] also found that the evidence of a relationship between interest rate sensitivity and the return of financial institution stock. Their finding suggests that the Federal monetary policy plays a major role in this relationship between the banking industry and interest rates and that it is significant only during periods that interest rates are allowed to fluctuate freely

### **3. Hypothesis**

This section presents the hypothesis of every test conducted throughout this project. It begins by presenting the null hypothesis ( $H_0$ ) and then presents the alternated hypothesis ( $H_1$ ) that will be valid in the case where the null hypothesis can be rejected.

The following hypothesis statements are made for every ratio that will be tested.

Ho: There are no relationships between the dividend yield to Treasury bill interest rate and the stock return of financial services stock performance.

H1: There are relationships between the dividend yield to Treasury bill interest rate and the stock return of financial services stock performance.

Ho1: There are no relationships between the dividend yield to long term government bond interest rate and the stock return of financial services stock performance.

H11: There are relationships between the dividend yield to long term government bond interest rate and the stock return of financial services stock performance.

Ho2: There are no relationships between the earning yield to Treasury bill interest rate and the stock return of financial services stock performance.

H12: There are relationships between the earning yield to Treasury bill interest rate and the stock return of financial services stock performance.

Ho3: There are no relationships between earning yield to long term government bond interest rate and the stock return of financial services stock performance.

H13: There are relationships between the earning yield to long term government bond interest rate and the stock return of financial services stock performance.

For the second test, the following hypotheses are formulated:

Ho4: There is no significant relationship between monthly yield on Treasury bill and monthly stock returns of financial services companies.

H14: There is a significant relationship between monthly yield on Treasury bill and monthly stock returns of financial services.

Ho5: There is no significant relationship between monthly yield of long-term Government bond and monthly stock returns of financial services.

H15: There is significant relationship between monthly yield of long-term Government bond and monthly stock returns of financial services.

#### **4. Data and Methodology**

In this section, the data and methodology that was used throughout the research for this paper is presented. The data was collected for two different types of tests facilitating an examination of the relationships between interest rate changes and the performance of financial services stocks. To conduct the first test, monthly data was collected from January 1, 1986 to December 31, 2005 from the CFMRC TSX database. The following data was also selected: the

annual rate of interest on the 91-day Treasury bill; the 10-year Government bond rate on the closing day of each December; earnings per share (EPS) and dividend payment for selected stocks from the TSX Review for each December during that 20-year span; the monthly closing price of the selected stocks and their monthly return adjusted for dividend payment and stock split taken from CFMRC TSX database; and the index total return on the TSX 300.

The securities assembled to compose the portfolio that is examined in this research include the following criteria: all six major banks and any financial stock that represented 0.5% of the total TSX index<sup>1</sup> and that had a closing price on December 31 were included in the portfolio which range from January 1, 1986 to December 31, 2005. This amounted to approximately 80% or greater of the TSX financial services index for any given year.<sup>2</sup>

To test Kerkovius theory, dividend yield was calculated as a function of the total dividend paid in one year divided by the closing price on the last day of trading every year was completed. Earning yield was calculated as a function of the yearly EPS divided by the closing price on the last day of trade of each year. This process was done for each year of the investigated period. Also calculated were the monthly compounded yearly returns on each security and the S&P/TSX total return index.

To investigate Kerkovius' method, the previously stated hypotheses are tested through scrutinizing the following ratios:

- 1) Dividend yield/ Short term interest rate
- 2) Dividend yield/ Long-term Government bond
- 3) Earning yield/ Short term interest rate
- 4) Earning yield/ Long term interest rate

During the length of the investigation, equal weight was given to every security in the portfolio. The excess return of the portfolio is also calculated as a function of average return of the portfolio minus the S&P/TSX total return index. A normal regression model was used to test the relation between the excess return and the four different types of ratios using the Minitab program. The regression model used for the four tests is as follows:

$$\epsilon_{pt} = \alpha + \beta_1 R_{mt}$$

Where  $\epsilon_{pt}$  represents the excess return on the portfolio and is the investigated variable (depend variable).  $\beta_1 R_{mt}$  represents the coefficient relationship on the chosen ratio to explain the excess return on our portfolio.

The Stone model [1974] was chosen to conduct another investigation between the relationships between monthly yield on 91-day Treasury bill and on monthly yield on long-term government bond and every stock for the year that they were included in the portfolio. This investigation covered the period between January 1, 1986 to December 31, 2004 and the

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<sup>1</sup> The following stock were excluded from the portfolio because they did not offer a December closing price or their information could not be found on the CFMRC TSX database: 1987: National Victoria & Grey Trusco, Trillion Financial A, Royal Trusco (87-90), 1990: Horsham. 1999: Newcourt Credit group, Fairfax. 2002: Clarica Life Insurance Company. 2003: Canadian Life Financial Corp.

<sup>2</sup> Only during the 1986-1988 period did the portfolio not reach 80% of the TSX financial index.



portfolios were assembled in the same manner as in the first model. This analysis was also used to test the average monthly return of the portfolio as a whole, the portfolio of the six main Canadian banks<sup>3</sup>, weighted equally, and the different securities independently. Stone's two-index model [1974] is expressed as follows:

$$R_{it} = \alpha + \beta_1 R_{mt} + \beta_2 R_{dt}$$

Where  $R_{it}$  is the return on a security which is the dependant variable being investigated and can also be replaced by  $R_{pt}$  (return on a portfolio),  $R_{mt}$  represents the composite S&P/TSX Total return index and  $R_{dt}$  represents the return on the government debt security.  $\beta_1$  and  $\beta_2$  are coefficients estimated in the course of the regression exercise and reflects the relationship to the investigate variable.

In order to complete the calculations, the monthly yield on long-term government bonds from the CFMRC TSX database, which uses the 17-year bond to maturity when calculating monthly yield, was collected. The CFMRC TSX calculates the monthly yield on a 17-year to maturity bond as a function of

$$R(t) = [P(t) - 100 + \{Y(t-1)/12\}]/100$$

The CFMRC TSX also assumes a 17-year to maturity long term bond is purchased at the end of last month at par [ $P(t-1) = 100$ ] and sold at the end of this month (t). If  $Y(t)$  is the yield at the end of month t, then  $P(t)$  is a function of the present value of the future semi-annual interest payments plus the discounted terminal or par value<sup>4</sup>.

The CFMRC TSX database provided the data used in the following equation to calculate the monthly yield on a 91-day Treasury bill security:

The return on a 91-day T-bill purchased at the end of last month and sold at the end of this month assumes that if  $R(t)$  is the yield (in percent) at the end of month t, then the price last month is  $P(t-1)$ . Therefore, a T-bill with 91 days to maturity is  $P(t-1) = 100/[100 + r(t-1)*91/365]$ , and the price today of that same bill with today's yield with only 61 days to maturity is  $P(t) = 100/[100 + r(t)*61/365]$ . The yield at  $R(t)$  is therefore:  $R(t) = [P(t) - P(t-1)]/P(t-1)$

The monthly return for each year included in the portfolio as well as the monthly return of the financial services index of the TSX was compiled. The security specific return is a function of the close price plus dividend payout at period (t) divided by the close price at period (t-1) minus 1. The securities were provided equal weight in the portfolio. The monthly return of the financial service index is a function of the total return of the financial services index in period (t) divided by the total return of the financial services index in period (t-1) minus 1.

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<sup>3</sup> Bank of Montreal, Bank of Nova Scotia, Imperial Bank, National Bank, Royal Bank, Toronto Dominion

<sup>4</sup>  $P(t) = [Y(t-1)/2]/[1+\{Y(t)/100\}/2]**1 + [Y(t-1)/2]/[1+\{Y(t)/100\}/2]**2 +$   
 $\dots + [Y(t-1)/2]/[1+\{Y(t)/100\}/2]**2M + 100/[1+Y(t)/100/2]**2M$

where M is the number of years to maturity (=17 in this case). The interest received in month t is  $Y(t-1)/12$  so the total return is  $R(t) = [P(t) - 100 + \{Y(t-1)/12\}]/100$

## 5. Results

In this section, the results of the two methodology tests that were conducted on the data are presented in the following order: first, the result of the Kerkovius method and secondly, the result generated using a two-index model.

### Kerkovius' methods

When comparing the ratio results of the Kerkovius' methodology of purchasing stock of financial institutions, it is found that the dividend yield divided by Treasury bill interest rate, the earning yield divided by Treasury bill interest rate and the Earning yield divided by 10-year Government bond rate bare no significant relationship to the excess return on financial services stock as their t-stats cannot reject the null hypothesis:  $H_0$ ,  $H_{01}$ , and  $H_{02}$ . The only significant ratio was the dividend yield to long-term Government bond rate. These results are quite unexpected since a strong negative relationship was advanced by Kerkovius as he preaches the higher the ratio, the greater the expected return should be, as an increase in price of the stock over time will drive the ratio down and cause an excess return to be generated in relation to the market.

However, it was found that dividend yield on long-term interest rates actually show a significant influence in explanation of the excess return on financial services stocks. This relationship shows a negative correlation between the two factors (**See Table 1**). This new found evidence of a relationship leads to the rejection of the null hypothesis  $H_{01}$  in favor of the alternate hypothesis  $H_{11}$  that predicted the relationship between the ratio and the excess return. An investor whose goal is to generate an investment process to expect excess return, could use the dividend yield divided by the 10-year Government bond in order to assist him/her to make an educated decision on the timing of that decision (sell-buy-hold). Although useful, it is not recommended to solely depend in this method when making a rational decision. As shown in **Table 1**, this ratio explains excess return at 27% (R-square adjusted) which suggest that other factor should also influence a decision making process regarding these types of securities. Also, it is not recommended that investor rely on any of the other three types of ratios when making a decision to buy financial services stocks.

Constant	0.9559
SE	0.3092
T-stats	3.09
P-level	0.007
Average dividend yield/Long-term Gov. bo	-1.6914
SE	0.6108
T-stats	-2.77
P-level	0.013
R-square (adjusted)	27.00%

Table 1

## Stone's Two-index model investigation

The second part of the investigation uses the two-index model developed by Stone [1974]. It is important to note that based on the previous research and theory of return on financial stock, the results expectations should demonstrate a positive relationship between the yield of government security and the performance of financial services stock. Given that yield on a bond is negatively related to interest rate change and a positive relationship between stock performance and bond yield is expected, by deduction, a negative relationship between interest rate and the financial stock performance should be anticipated. The data observed included the monthly yield on Treasury bills and long-term Government bonds, the monthly return on the individual stocks for the years in which they appear in the portfolio, and the portfolio in its entirety, as well as a separate portfolio of the six major banks in Canada.

**Table 2** results showed there is no statistically significant relationship with bank stock performance and the short-term (91-day T-bill) interest rate. Therefore, bank securities individually cannot reject the  $H_{04}$  hypotheses. This suggests that investors cannot put any confidence in predicting future return of these type of stocks by looking at the volatility of yield offered by short-term interest rates. However, bank securities show strong evidence of positive correlation with the overall market. These results should increase an investor confidence in bank stocks when the expectation are leaning towards a *bull* market suggesting that a buy or hold strategy would be appropriated. In *bear* market expectation, this strategy should be revised to reduce or close the position on these stocks.

	Bank of Montreal	Bank of Nova Scotia	Canadian Imperial	National Bank	Royal Bank	Toronto Dominion
Constant	0.003783	0.005745	0.004922	0.008682	0.001844	0.009766
SE	0.007258	0.007752	0.007597	0.008251	0.006776	0.007489
T-stats	0.52	0.74	0.65	1.05	0.27	1.3
P-level	0.603	0.459	0.518	0.294	0.786	0.194
91-day T-bill	0.947	0.683	0.185	-0.724	1.151	-0.668
SE	1.253	1.338	1.311	1.424	1.17	1.293
T-stats	0.76	0.51	0.14	-0.51	0.98	-0.52
P-level	0.45	0.61	0.888	0.612	0.326	0.606
S&P/TSX total return	0.64516	0.86544	0.91724	0.88206	0.72539	0.98325
SE	0.07538	0.08051	0.0789	0.08569	0.07037	0.07778
T-stats	8.56	10.75	11.62	10.29	10.31	12.64
P-level	0	0	0	0	0	0
R-square (adjusted)	24.00%	33.40%	37.00%	31.50%	31.60%	41.10%

**Table 2**

**Table 3** results showed that, in general, insurance companies demonstrate no significant relationship with short-term interest rate. Therefore, as with bank securities, insurance companies cannot reject the  $H_{04}$  hypotheses. However, unlike banks securities which show strong evidence of relationship with the overall market, insurance securities offer a broader puzzle as some securities shows significant evidence of correlation with the overall market as some others do not. This would suggest that greater care as to be taken from an investor in this case and that a rational investor trading in momentum of the market should be aware of the possibilities of these securities not to follow the market. Therefore, these results would suggest greater risk overall risk as some of them do not seem to depend on the market but maybe on another variable.

	National Grey Victoria	Fairfax	Canadian Life corp.	Clarica	Manulife	Sun Life	Power Financial	Great-West
Constant	-0.0046	-0.04097	0.03122	0.03879	-0.01638	-0.34	0.0321	-0.02282
SE	0.1673	0.06994	0.04264	0.08847	0.02741	0.02832	0.02091	0.02884
T-stats	-0.03	-0.59	-0.73	0.44	-0.6	-1.2	1.53	-0.79
P-level	0.979	0.562	0.469	0.666	0.552	0.235	0.13	0.438
91-day T-bill	1.38	24.76	15.66	-1.29	13.01	18.947	-9.324	16.38
SE	22.76	19.91	11.92	21.38	8.832	9.288	7.165	13.79
T-stats	0.06	1.24	1.31	-0.06	1.47	2.04	-1.3	1.19
P-level	0.953	0.223	0.198	0.952	0.146	0.046	0.198	0.248
S&P/TSX total return	0.72	1.0599	0.2393	0.1249	0.3994	0.7796	0.5677	0.3562
SE	1.141	0.3557	0.2578	0.2405	0.2184	0.2309	0.1448	0.2516
T-stats	0.51	2.98	0.93	0.52	1.83	3.38	3.92	1.42
P-level	0.623	0.005	0.36	0.609	0.073	0.001	0	0.172
R-square (adjusted)	0.00%	19.40%	1.60%	0.00%	4.90%	17.40%	19.60%	12.30%

**Table 3**

The previously illustrated result in **Table 2** and **Table 3** confirm that there are in fact no significant relations to financial service to short-term interest rate when taken individually. Therefore, it is no surprise to find that neither a portfolio of containing all financial securities or only the six most important Canadian banks would show any significance to this relationship (See **Table 4**). In the light of these results, it can be recommended that a rational investor do not look at short-term interest fluctuation in order to take an enlighten decision about investing or selling financial institution securities. This reinforces previous statement that  $H_{04}$  cannot be rejected.

	Portfolio of Financial Institution securities	Portfolio of the 6 Big Canadian Bank
Constant	0.00753	0.00579
SE	0.005422	0.005597
T-stats	1.39	1.03
P-level	0.166	0.302
91-day T-bill	0.01927	0.2624
SE	0.9358	0.966
T-stats	0.21	0.27
P-level	0.837	0.786
S&P/TSX total return	0.80842	0.83642
SE	0.05631	0.05813
T-stats	14.36	14.39
P-level	0	0
R-square (adjusted)	47.30%	47.50%

**Table 4**

**Table 5** shows completely different results when it come to the relation of the same bank stock has with long-term interest yield. The results shows below confirm previous study of different model and different country. In Canada, bank stocks performance have a significant relationship and that relation is positively correlated with monthly yield from Government long-term debt securities. In other words, this relation is negatively correlated with the fluctuation of nominal interest rates of Government long-term securities debt. Only the Toronto Dominion bank stock cannot reject the  $H_{05}$  in favor of the alternate  $H_{15}$ . Also, as expected, when group as a portfolio of equal weight, the big six Canadian bank stocks still shows strong evidence of correlation with long-term Government debt securities. A rational investor interested in bank stock could use the nominal long-term Government securities rate fluctuation to help taking a rational decision and reduce the risk of that investment as these variables offers valid clues. Group as a portfolio, long-term monthly return on government debt show a correlation of 0.4556 with the performance of this portfolio and 0.78337 with the overall market. This variable explain 0.522 (R square-adjusted) of the six bank portfolio return. Even if these clues are strong indicator of the potential for these types of stocks, other concerns should review before a final decision could be made by a rational investor.

	Bank of Montreal	Bank of Nova Scotia	Canadian Imperial	National Bank	Royal Bank	Toronto Dominion	Big 6 Canadian bank portfolio
Constant (L-T bond)	0.005288	0.005084	0.00254	-0.00041	0.003419	0.005184	0.003517
SE	0.003467	0.003669	0.003633	0.003843	0.003168	0.003655	0.002608
T-stats	1.53	1.39	0.7	-0.11	1.08	1.42	1.35
P-level	0.129	0.167	0.485	0.915	0.282	0.157	0.179
L-T bond yield	0.4218	0.5239	0.4194	0.6778	0.5447	0.1461	0.4556
SE	0.1286	0.1361	0.1348	0.1426	0.1175	0.1354	0.09675
T-stats	3.28	3.85	3.11	4.75	4.63	1.08	4.71
P-level	0.001	0	0.002	0	0	0.282	0
S&P/TSX total return	0.59509	0.80392	0.86849	0.80465	0.66083	0.96725	0.78337
SE	0.07521	0.07958	0.0788	0.08336	0.06872	0.07917	0.05657
T-stats	7.91	10.1	11.02	9.65	9.62	12.22	13.85
P-level	0	0	0	0	0	0	0
R-square (adjusted)	27.30%	37.40%	39.60%	37.70%	37.30%	41.30%	52.20%

**Table 5**

However, in general, the majority of the insurance stocks that were included in the portfolio proved to have an insignificant relationship with the composite S&P/TSX total return and the monthly return on any of the tested Government debt instruments over the period (**See Table 6**). There were several exceptions to these results found. Power Financial Corporation showed a significant positive relationship to the monthly return on long-term Government debt and to the monthly S&P/TSX total return. Fairfax financial corporation did not show a significant relationship to the return on government debt, but it did demonstrate a significant relationship to the monthly S&P/TSX total return. National Grey Victoria proved to be positively correlated to the monthly return on long-term government debt but did not demonstrate any significant results for short-term government debt nor the monthly S&P/TSX total return.

	National Grey Victoria	Fairfax	Canadian Life corp.	Clarica	Manulife	Sun Life	Power Financial	Great-West
Constant (L-T bond)	-0.03393	0.0539	0.01805	0.02745	0.02347	0.01993	0.002458	0.010264
SE	0.02643	0.02089	0.01521	0.01461	0.01088	0.01156	0.006861	0.007384
T-stats	-1.28	2.58	1.19	1.88	2.16	1.72	0.36	1.39
P-level	0.231	0.015	0.244	0.074	0.035	0.091	0.721	0.179
L-T bond yield	3.519	-1.1085	0.5012	0.8425	-0.3012	-0.0267	0.762	0.0316
SE	1.123	0.7646	0.7563	0.6865	0.547	0.5994	0.323	0.3465
T-stats	3.13	-1.45	0.66	1.23	-0.55	-0.04	2.36	0.09
P-level	0.012	0.157	0.512	0.233	0.584	0.965	0.022	0.928
S&P/TSX total return	-0.511	1.2682	0.2606	0.1578	0.3594	0.7087	0.5249	0.4568
SE	0.9008	0.3806	0.2657	0.2307	0.2215	0.2393	0.1404	0.2474
T-stats	-0.57	3.33	0.98	0.68	1.62	2.96	3.74	1.85
P-level	0.584	0.002	0.334	0.501	0.11	0.005	0	0.079
R-square (adjusted)	44.30%	20.70%	0.00%	0.00%	1.80%	11.10%	24.60%	6.50%

**Table 6**

**Table 7** presents a portfolio composed of any stock that showed a weight of 0.5% in the previous year. This portfolio shows significant positive correlation to monthly return on long-term Government debt which suggests a negative relationship to long-term nominal interest rate. Therefore, an investor expectation on the monthly return on long-term Government debt (or nominal long-term interest rate) and the performance of the monthly S&P/TSX total return are valid clues and helpful resources to take a rational and educated decision.

	Financial institution portfolio
Constant (L-T bond)	0.004642
SE	0.002498
T-stats	1.86
P-level	0.064
L-T bond yield	0.48812
SE	0.09268
T-stats	5.27
P-level	0
S&P/TSX total return	0.75171
SE	0.05419
T-stats	13.87
P-level	0
R-square (adjusted)	53.10%

**Table 7**

It can be concluded that, in general, financial services stocks are sensitive to long-term Government interest rate change and to the S&P/TSX total return. However, we can also claim that insurance company stocks do not appear to be affected in the same manner as financial services stock with respect to their reaction to the S&P/TSX total return and interest rate sensitivity.

## **6. Conclusion**

This report examined the relationships between diverse ratios and excess return on financial services stock for the 1986 to 2005 period. Kerkovius' method has found evidence of a negative relationship between dividend yield on long-term Government bonds and excess return of the portfolio of financial services stocks. This suggests that this ratio can be helpful for an investor when making a decision. However, the other ratios suggested by Kerkovius have show no significant relationship to excess return and therefore are not a valid tool in an investment process that lead to an educated decision.

The second objective was to examine was the sensitivity of the monthly yield on financial services stock portfolio using the monthly yield on short and long-term bonds as a benchmark as well as the financial services index. With the use of the popular two-index model developed by Stone, an overall significant positive relationship between the monthly yield on long term Government bonds and the financial services stock was demonstrated for a portfolio composed of the six most important Canadian banks and added any stocks that held a weight of 0.5% or over of the financial services index in the previous year over the time of the study. However, the results relating to the monthly yield on short term bonds (91-day Treasury bills) were insignificant for the same period. It is also interesting to note that bank and insurance companies stock seem to react much differently to change in interest rates.

It is important to recognize that due to the limited scope of this research, no further explanation is offered to what causes the performance of the financial services stock return to be sensitive to interest rates. Other researches originating from different countries have suggested that the balance sheet mix of floating and fixed asset and liabilities that vary with interest rate

fluctuations has caused this relation. Also mentioned was that the broader the gap between the asset holdings and liabilities, the greater the influence of the fluctuations on the stock return. The results of these researches also shows that the market reaction is asymmetrical, and that the return of bank stocks in a rising interest rates environment are affected to the higher degree than in a falling rates environment. Whether similar explanation holds for the Canadian market could perhaps be a new research topic as to find out why financial services react the way it does to interest rates. For now, all that can be offered with this research is the answer that in fact, the Canadian banking industry shows a negatively significant relation to long-term interest rate.

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## THE STATE OF QUALITATIVE RESEARCH IN THE FIELD OF PUBLIC RELATIONS

This paper provides a review of the literature on the state of qualitative research in the field of public relations. It suggests that although quantitative methodologies are prominent, there is a call to action for the profession to shift to qualitative methodologies supported through theoretical paradigms related to social science research. This paper will evaluate the state of qualitative research and the methodologies being practiced by researchers and public relations professionals.

### Introduction

This is a study of qualitative research in the field of public relations. Spanning over the 100 years of public relations history, professionals and researchers have theorized and prospected the answer to one specific question: where does public relations fit as a management function in the overall organizational hierarchy? Research, both qualitative and quantitative, has revealed that public relations is a defined set of roles “that leads practitioners to play different roles and enact different roles in their organizations” (Cutlip et al, 2000:44).

As Cutler (2004:366) points out, quantitative research such as that of Grunig’s (1992) Excellence Study applies case methods that are not well understood. Drawing on the current literature, it is evident that both quantitative and qualitative case methods continue to be applied by public relations professionals. Quantitative research is alive and well and continues to anchor many case studies as evidenced in scholarly journals such as *Public Relations Review* and the *Journal of Public Relations Research*. This does not presuppose that the field of public relations is dominated by researchers with quantitative research agendas; if anything, the work being done in social science journals such as *Administrative Science Quarterly*, *Human Relations*, and the *British Journal of Social Psychology* proves that researchers and practitioners continue to expand new theories and practical methodologies in both quantitative and qualitative realms.

Stacks (2002:13) describes public relations research as “getting increasingly more complex, often employing both formal and informal methods and increasingly sophisticated statistical analyses of the formal data generated.” Nowhere in his book does he describe the benefits of qualitative research, yet he does suggest a “larger and more comprehensive body of knowledge is needed to address questions dealing with change in social and economic environments and change and change management” (Stacks, 2002:13). This body of knowledge will come from growing interest in social science research methodologies and should reveal an important dynamic: qualitative research offers a human element critical to understanding social trends and perspectives.

The literature review revealed a variety of qualitative case studies, employing methods such as longitudinal analyses, ethnographic, retrospective and narrative accounts, triangulation methods and exploratory studies (Alvesson, 1994; Appelbaum et al, 2004; Chia, 2005; D’Abate, 2005; Glaser, 1994; Hacker et al, 1998; Hopwood, 2005; Huang, 2006; Llewellyn & Harrison, 2006; Molleda & Suarez, 2005; Pratt & Bloom, 1997; Sallot et al, 2004; and Stewart-Knox et al, 2005). Some studies used a mixed-methods approach (Aldoory & Toth, 2004; Chapman Perkins, 2005; Hofstede et al, 1990; and Johnson, 2005), combining quantitative and qualitative information relevant to the question or problem being investigated by the researcher. Case studies have comprised “up to a third of published articles in the public relations literature” (Cutler, 2004:365); therefore, it was determined that journals and professional

case studies primarily from management, business, human relations, organizational, social science, marketing and public relations disciplines would be ideal for this study. It was felt these disciplines would provide a well-rounded and targeted approach to understanding the kinds of questions and methodologies researchers were actively pursuing in the field of public relations.

After analyzing both qualitative and quantitative studies, valuable questions about the role and future of qualitative research must be considered. Questions such as: 1) What types of ideas are being studied?; 2) Qualitative vs. Quantitative: Today's Debate; and finally, 3) Why this is interesting to professionals and researchers?

### **Is Qualitative Research Being Done?**

At the present time, practitioners appear to be using three consistent qualitative methodologies to collect information: focus groups, in-depth interviews and content analyses. Of the 34 studies reviewed for this study, 11 used the focus group method, 17 used in-depth interviews (including a variety of methods – semi/highly-structured, open/closed-ended and semi-focused), and 5 used content analysis. In total, 31 qualitative methodologies were used. In her book *Crafting Qualitative Research: Working in the Postpositivist Traditions*, Prasad (2005:7) talks about qualitative research and methodologies as craftwork, or “the development and perfection of skills and expertise that are usually handed down through several generations.” As qualitative research in public relations has evolved over the last 25 years, perfecting and honing the craft is challenging, albeit many researchers have provided us with essential findings as evidenced through a cross-section of qualitative methodologies. For example, multi-level and structured methodologies such as group elicitation, tiered-inductive analyses, social network analysis, document analyses, framing analyses, retrospective interviews and cross-comparison were used by researchers in several of the studies researched for this paper. This not only tells us that researchers continue to use a variety of qualitative methods, but that qualitative research is being pursued and validated more and more each day.

### **Time**

Bowen's (2003) longitudinal study of junior public relations students at two American universities is an excellent example of combining time and qualitative research techniques. Conducting her research over the course of two years, Bowen gained exclusive access to students and their perception of public relations as a profession. By dividing her research into two phases – qualitative questionnaires and focus groups – with the same students, Bowen found that the amount of change between phase one and phase two in the study indicated that student perceptions had changed by the end of the semester (2003, 210). A majority of students believing that public relations was ‘glamorous’ upon entering a public relations degree program actually changed their minds after participating in Bowen's qualitative research project. Therefore, we must be cognizant of cause and effect; did Bowen's research over time have an impact on attitude and/or behaviour change, or were students' perceptions changed because of education?

Although Bowen's research seems to indicate that students did change their perceptions over time, we must consider the impact of time (longitudinal analysis) as a methodology. The qualitative tools used to assess common perceptions or themes with junior public relations students allowed Bowen to gauge cognitive processes over time and extrapolate key information related to the primary research question(s). Bowen's study raises a valid question about time. For example, what is the key difference between studies conducted over three months compared to studies conducted over three years? I would propose this question be examined for further study as the literature seemed to indicate no common variable in terms of time other than several studies ranging from two weeks to three years (Bonnin et al, 2004; Bowen, 2003; Davis, 2006; DeVries & Fitzpatrick, 2006; Glaser, 1994; Manz & Sims, 1984; and McMillan & Morrison, 2006).

This case is interesting because it proves that qualitative research methodologies used over time help to make formal conclusions without quantifiable data. It provides a personal and relational feel, thus supporting specific research objectives. Nevertheless, Bowen concludes with an important observation. She says: “Finally, we should seek out the analytically oriented students found in quantitative methods courses in sociology and psychology departments...It is time for the public relations discipline to stop relying on fate and to assertively recruit the students who will likely succeed in our major and profession (Bowen, 2002:210). Bowen recognizes the shift in paradigm toward what Trujillo and Toth (1987:202) describe as employing “measurable and quantifiable (bottom-line) indicators of organizational effectiveness.” This shift – beginning with students – reflects a growing need to comply with the changing environment, beginning with business and social science research.

The literature also revealed qualitative differentiation. The variety of qualitative methodologies used throughout the literature is differentiated from one case study to the next. For example, Anderson (2004) uses content and document analysis to study the use of public relations in Major League Baseball; Berkowitz & Jonghyuk (2004) draw on in-depth interviews to study relationships between public relations professionals and journalists in Korea; and finally, Alvesson’s (1994) ethnographic study of an advertising agency in Sweden explores how advertising professionals view themselves, their work and organizations.

These studies remind us that qualitative methodologies are not only used to secure and validate specific research agendas and results, but they are differentiated through consistent and reliable methods that fit the researchers’ objectives. What is right for one researcher may not be right for another, allowing researchers to apply the methods they feel best represent the study involved.

### **What Types of Ideas are Being Studied?**

#### **Specialization**

It appears that methodologies are specialized, often focusing on one specific aspect of the public relations function and not the field in general. Cutler (2004:368) continues by stating, “if a researcher was interested in aspects of crisis management, he or she could select an instance, or instances of crisis management to study in depth...Many examples of public relations practice are defined by the issues they manage, by the approach taken (media relations for example) or by the roles of practitioners, and are essentially ready-made cases.” Interestingly, research questions found throughout the review showed a profession specialized in areas like crisis communication, risk communication, media relations, gender, technology and web-based communication. A good example of this is Pompper’s (2004:277) study, linking ethnic diversity and gender to the role of public relations through qualitative methodologies, and allowing her to focus on a distinctive area of public relations: gender.

The focus group method was used to discover a) what factors affect female African Americans’ decisions to pursue public relations careers, b) how they describe their public relations roles, and c) how they characterize their career concerns; and to illuminate how they address these concerns.

What makes this study important – and others like it – is Pompper’s insistence that “qualitative measures bring texture and depth to findings” (2004:277) more than quantitative survey results. This study reinforces and strengthens qualitative methodologies as a practical public relations tool and recognizes contributions that have helped shape public relations as a vitally important organizational function.

Many of the qualitative case studies reviewed involve different areas of public relations. For example, Hacker, Goss, Townley and Horton (1998) employed a triangulated qualitative method and studied organizational electronic mail policies among employees (note in parentheses that each word

represents the area of specialization). Aldoory and Toth (2004) constructed an argument on the perceived effectiveness of public relations leaders (leadership). Wrigley (2002) examined gender in public relations by conducting a qualitative study with men and women on the state of the glass ceiling in public relations (gender). Bowen (2003) looked at education in public relations and common perceptions held by students (education in public relations). Murray and White (2005) interviewed 14 CEO's from leading UK corporations, applying research questions based on reputation, benefits, and the value of public relations and professionals (public relations as a management function). Kwansah-Aidoo (2001) collected information through document analysis and in-depth personal interviews to study the appeal of qualitative methods to traditional agenda-setting research (theory). Finally, Chia (2005) looked at trust as a necessary component of relationship management (relationship and trust).

Potential gaps in the literature do exist with respect to specialization. Cutler describes specialization as "ready-made cases," and it would appear that much of the literature is specialized through researcher interest, translating interest into ideas for further study or research.

In Murray and White's (2005:349) qualitative study of 14 U.K CEO's, they found through personal interviews that the study was unusual in public relations research because it had drawn from the CEOs themselves and not public relations practitioners. The purpose of these interviews was to "determine what CEOs perceive to be the value of public relations, the extent of their own involvement in reputation management and how they assess the contribution that public relations makes to their overall business and performance" (Murray & White, 2005:349). The study was specific and intended to collect information from one main source – that being the highest source in the hierarchal structure of the organization. Comparing the purpose of this study to Bowen's perception study, we find that both researchers use qualitative methodologies to measure two distinct areas in public relations: CEO management and education. The literature provided seems to offer that qualitative research from senior management (other than PR/Communications professionals) is extremely important to the state of the field – especially when it is directly coordinated with the CEO. Therefore, we should be asking questions designed for CEOs, executive directors and president's of companies that have a public relations department.

Although the emergence of theory in public relations is not the focal point of this paper, Botan and Taylor's (2004) content analyses, which outlines specific theoretical case studies, is interesting not because of what it reveals about theory, but for what it tells us about the problems or gaps associated with content analyses. [Referring to content analyses] "This is certainly one credible approach to analyzing the state of theory in the field" but it suffers from at least two inherent flaws: frequency rather than qualitative assessments and escaping the central question of how content analyses is represented and shaped by researcher objectives (Botan & Taylor, 2004:650).

### **Quantitative vs. Qualitative: Today's Debate**

Compared to quantitative case studies, qualitative research gives researchers the benefit of interpersonal communication with participants – especially in focus groups and personal interviews which were the methods heavily favoured in the literature. In terms of the literature studied, questions varied by subject matter and their relation to the actual study. For example, most of the literature contained research questions involving these key terms: relationship, trust, value, commitment, satisfaction, control, power, comparison, positives, problems and policy. Notably, theoretical case studies presented longer, more complex research questions dealing often with discourse or language within the community or organization (Palenchar and Heath, 2002: 136). This could be a result of the researchers' agenda, which in most cases was to apply the qualitative findings to theoretical concepts.

Qualitative research has helped researchers' present stronger arguments. Kwansah-Aidoo (2001:521) states that the "qualitative approach helped to avoid some of the criticisms leveled against

traditional agenda-setting methodology.” It appears that many researchers used qualitative methods for the very same reason: to provide rich, textual information to support research questions, and to assess/compare a) theory; b) current functions and tactics being employed in public relations; and c) enhancement of public relations professionals as experts in the field. According to Hacker, Goss, Townley and Horton (1998:433), in-depth interviews allowed interviewees to elaborate, providing more detailed information to the researcher. Also, participants in focus groups were given questions that elicited deeper elaborations of employee attitudes.

In her exploratory study on individuals engaging in personal business on the job, D’Abate (2005:1009) used semi-structured interviews with individuals from a variety of occupations to determine the types of personal activity that takes place on company time. This study provides current research and duality in terms of qualitative and exploratory usages and helps to explain the gap between qualitative and quantitative methodologies. The current research addressed that gap by “(i) identifying the full-range of activities that individuals are engaging in on work time and (ii) providing insight into the factors behind the behaviour” (D’Abate, 2005:1022).

D’Abate reveals that the qualitative method was chosen for its “richness in data, its flexibility and its ability to fulfill the research purpose of identifying and understanding the full range of activities and factors behind engaging in personal activities at work” (2005:1016).

When participants are actively engaged either through focus groups or in-depth interviews, there is a greater chance of disclosing valuable information, whereas quantitative methods lack this personality. In conducting 32 in-depth interviews to measure consumer preference, De Allegri, Sanon, Bridges and Sauerborn (2006:60) found “individual interviews were judged to be a better means to assessing consumer preferences because people were allowed to express feelings without the fear of being judged by other community members.” Walther and Burgoon (1992:62) found “studies to indicate that social penetration processes (i.e. getting to know one’s communication partners more closely, leading to relationship formation) occur with sustained email interactions as they do in face-to-face interactions.” Therefore, disclosure is more prominent in qualitative research, proving that tangible human results help to differentiate key findings.

### **Why This is Interesting to Professionals and Researchers**

The rise of e-marketing, media and corporate social responsibility has shifted the paradigm toward more accountable and integrated public relations approaches, thus making research a top organizational priority. For example, public relations researchers are studying organizations from pin-point perspectives through areas like crisis communication, risk communication, corporate social responsibility, media relations, employee relations, new media, technical communication and management. These specialized areas are critically important to the success of public relations as a functioning organizational unit and as a learning tool. The qualitative studies represented in this literature review not only provide a “snap-shot” in time, but they also help to understand the gradual evolution of public relations as a profession. What we have learned in this study is that researchers and public relations professionals are not only getting the answers to their questions through qualitative research, but they are learning more about public relations through specialization and productive research methods. For example, Bowen’s (2003) study shows us that qualitative methodologies not only provide good, sound research, but they also lead to unexpected conclusions advocating the re-arming of the profession through education-rich quantitative disciplines. The beauty of qualitative research isn’t what you go into the study with; it’s the unexpected information you come out with. Each new research question answered fosters the development of another question, creating an expansive collection of tools, methodologies, innovation and direction for future research.

### **Conclusion**

Whether public relations professionals and researchers should adapt more theoretically based concepts in their studies is not a question to be answered in this paper; however, I would propose that theoretical concepts are growing and becoming more entrenched in qualitative research methodologies. Palenchar and Heath's (2002) study is an excellent example of theory amalgamated with qualitative research methods. Mats Alvesson has provided several theoretically based ideas in his work, thus highlighting the interest and evolution of public relations research towards theory.

The studies outlined in this paper focus on qualitative methods as they exist in the field of public relations through time, specialization and qualitative differentiation. The research has shown the uniqueness of the studies in terms of their qualitative methodologies; they all bring valuable resources to the field of public relations.

The literature review conducted for this study identified three common themes: 1) public relations is continuously evolving and has been shaped by both quantitative and qualitative research over the last 25 years; 2) the literature suggests that a majority of case studies are specialized in a defined area of public relations; and 3) practitioners and researchers are being challenged to identify and create new social science research opportunities in the field. The research methods employed in the literature reviewed for this study support both quantitative and qualitative methodologies; however, many researchers and practitioners believe that qualitative research provides more in terms of assessing and understanding internal and external environments.

As public relations continues to develop well into the 21<sup>st</sup> century, understanding and evaluating the profession from a strategic management perspective will make further case study research interesting. The continual evolution of the profession will be a major indicator of the different policies and research objectives researchers' use over time.

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