

INNOVATIVE MANAGEMENT OF MANAGEMENT INNOVATION (IMMI)

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List of Abbreviations

BPO	Business Process Outsourcing
CANDU	CANada Deuterium Uranium
CCGT	Combined-Cycle Gas Turbine
CIS	Customer Information System
CNA	Centrica North America
CNO	Chief Nuclear Officer
COE	Centre of Excellence
DE	Direct Energy Marketing Limited (a Centrica Plc company)
DSM	Demand-Side Management
EEA	Extended Enterprise Architecture
EGD	Enbridge Gas Distribution Incorporated (an Enbridge Inc. company)
EVA	Economic Value Added
GENCO	Generation Company
GIE	Globally Integrated Enterprise
ICT	Information, Communication and Technology
IMMI	Innovative Management of Management Innovation
ISO	International Organisation for Standardisation
IT&S	Information Technology and Services
JVA	Joint Venture Accounting
LDC	Local Distribution Company
LMP	Lower Mattagami Project
MCRS	Management Control and Reporting System
MD&A	Management Discussion and Analysis
MFV	Managing-for-Value
MI	Management Innovation
MW	Megawatt
MWH	Megawatt Hour
OEB	Ontario Energy Board
OPG	Ontario Power Generation Incorporated
POLC	Planning, Organising, Leading and Controlling (of Management)
PRA	Production and Revenue Accounting
SAP	Systems, Applications and Products (in Data Processing)
SME	Subject Matter Expert
T&D	Transmission and Distribution
TH	Toronto Hydro Corporation (or Toronto Hydro-Electric System Limited)
TOU	Time-of-Use
VBM	Value-based Management

Abstract

**The University of Manchester | Frengky Chaniadi | Doctor of Business Administration |
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The rapid convergence of collaborative technologies, democratisation of digital communication and consumerisation of Smart Grid infrastructure (i.e.: smart metering and distribution substation automation) have faltered the efficacy of centralised command-and-control and its insular sub-culture. For complex firms in today's creative economy, this infers that management innovation (MI)—“an induced managerial capacity to search for novel ways to create value”, is rapidly becoming liabilities unless it is innovatively managed for overcoming the inertia of discontinuity opportunities.

The *raison d'être* of this thesis is to investigate the generative managerial processes through which MI can be fostered for experimentation and innovatively managed for acceleration. It comprises four qualitative case studies that involved in-depth interviews, surveys, public records and archival documentaries of four Canadian energy and utilities organisations. The conclusions are fascinating both expected and unanticipated. I found that many, if not most, of the contemporaneous routines of pyramidal target-setting and benchmark-driven cultures are ubiquitously evident. Business planning and risk management still function, albeit the objects of those tenets are different. These quasi-objects include, but are not limited to, organic structures, web-enabled paradigm, pragmatic mindset of middle-down-up crowdsourcing and fragmented evaluation of efforts to evoke the innovative management of management innovation (IMMI). Further adjacent to the quest for driving renewed growth, a new governing dynamic is hinging upon the IMMI that forges a pattern for resiliency and sustainability. Managers capitalise on the epistemic IMMI to regain competitive advantage while enduring endogenous fiefdoms and exogenous disruptions. They catalyse information semantically, harness collective capability effectively, stage prolifically faster MI experimentations and accelerate the cycle of MI more pervasively. I henceforth propose a unified managerial process, dubbed the "Cloverleaf 4S Model" (Strategise—Synchronise—Steward—Sustain). Implicit in this approach, managers believe that their finely-tailored practices epitomise an evolutionary process of deliberate selection in the pursuit for distinctive MI capabilities and expanding authority dynamics in the managership. This allows for self-adaptive mechanisms shifting from silos to swarming as well as the indigenous aspects of IMMI practices—exaptation, cognitive flexibility, speed to adaptation and executional excellence. The implication of this study presents heuristical insights to managers in galvanising perennial innovation and unlocking their IMMI to build an agile, intelligent enterprise.

Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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Language

The spelling and grammar used within this thesis is British English. For consistency, all spelling has been standardised to this format, including citations, titles of works and reference list entries. Hence words such as "organization", "behavior" or "dialog" will appear in this thesis as "organisation", "behaviour" or "dialogue" respectively, in all instances.

Further to the research setting of my fieldwork in the province of Ontario, Canada, the survey respondents and interviewees quoted directly in this doctoral thesis used spoken North American English (either Canadian English or American English) as opposed to written British English to elucidate their insights regarding the questionnaires probed.

The spoken language has been accordingly modified in this thesis to transcribe it to written form, including a manual process of filtering out any content and/or substance that does not directly add to the original meaning of the message (for instance, the use of assorted interjections such as "oops", "um", "hmm", "ah", "yippee", "phew", "oh", "wow" "eh", "huh", or pause, intermittent laughs, exclamations, slangs, and other conversational grammar).

Acknowledgement

In The Name of Almighty Allah, The Most Beneficent And The Most Merciful.

The Doctor of Business Administration (DBA) thesis is a culmination of my five years research study at Manchester Business School (MBS). It marks the finale of an eventful journey for which I have worked with original thinkers, management innovators, and business practitioners whose contributions, in innumerable ways to the research and production of the thesis, deserve my sincerest appreciation.

I am most indebted to my visionary supervising professor, Dr Thomas Kirchmaier who articulately guided me through the quagmire of strategic thinking and illuminated the domain of innovative management of management innovation. His unorthodox approach of navigating an emerging phenomenon was and still is my potent source of inspiration. A note of gratitude for MBS' prominent faculty members and the finest resources in academia for providing an immersive learning platform for collaborative dialogues. This was a true scholarly courtesy. Throughout The Manchester DBA programme, I have found presenting and discussing my findings at global conferences while participating in the courses to be intellectually rewarding.

I gratefully acknowledge the insights of executives and senior managers from Ontario Power Generation, Enbridge Gas Distribution, Toronto Hydro, and Direct Energy—the four organisations that became my core case companies. They constitute the thesis' central building blocks. Without your welcoming enthusiasm, this empirical study would have never been as comprehensive in magnitude and profundity as it has been.

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Penultimately I share the credit of my cerebral work with my wife and daughters. They are my best Cheerleaders! Special thoughts to my Papa and Mama who taught me about knowing how much I do not know and the future is what I will make it, and my Bapak and Ibu who reminded me not to fear my ambition in pursuit of excellence. For these and much more, I am forever in their debts.

Dedication

To My Wife, My Love And My Best Friend ~ Maya Chaniadi

*"Excellence is an art won by training and habituation.
We do not act rightly because we have virtue or excellence,
but we rather have those because we have acted rightly.
We are what we repeatedly do. Excellence, then,
is not an act but a habit" ~ Aristotle, B.C. 384–322*

Chapter 1: Introduction

Sustaining Intelligent Growth Through Management Innovation

A pivotal revival of management in the 21st century of creative economy

While many company understands the cause-and-effect of management innovation, an innovative process for accelerating its managerial practice has been elusive and more fleeting; until now

1.1 Background

For more than a century, managers revolutionise the modern corporations with practices of management innovation in structural, processual and cross-boundary networks. From Alfred Sloan to Jack Welch to Steve Jobs, the legendary corporate managers fed the rise of a vast global middle class, providing both the financial means and the goods and services to bring luxury to the masses (Murray, 2010). Peter Drucker (1954) identified management as the most significant 20th century innovation. When properly engineered and effectively functioned, the industrial-age management approach (Appendix 1: p.248) has produced four strategic benefits—cost efficiency, faster delivery, enhanced quality and increased competitive growth. But managers are increasingly recognising that these advantages while necessary, are not adequate to the challenges lie ahead. In reality management, as it is practiced today, is more about the perpetuation of status quo than about innovative approaches of managing better. Risk-averse managers tend to be more comfortable with ongoing business-as-usual and the very thought of disruptive management innovations is inclined to instigate a fear psychosis. The traditional management principles and practices of adopting a "best guess" strategy and relentlessly pursuing it loses validity when the tightening regulatory and business environment are uncertain. As a result, more shareholder value has been obliterated in the last decades as a consequence of mismanagement, erroneous judgments, anachronistic management model and inferior execution of corporate strategy than was vanished through all the corporate frauds at Enron and WorldCom unleashed a wave of scandal-inspired regulation, combined.

Geoffrey Moore (2007) suggested that the "return of the power ideas" is riding on a wave of new concepts on how to harness innovation for business growth. While in the past, acquired competitive advantage used to insure stability for many years, even decades, today such stable competitive advantage turns out to have become more and more transient (D'Aveni, 1995: p.255). Evidence of this pattern can be found in the magisterial study of 20,000 companies by Deloitte Consulting LLP, a premier global

consulting powerhouse, The Shift Index 2011: Measuring the Forces of Long-term Change. It divulges management's woeful state (Deloitte, 2011):

- Large established companies are losing their leadership position at an increasing rate, as measured by lower ranking of ROA-return on asset.
- Executive turnover is accelerating as performance pressures rise.
- Layoffs and other short-term measures taken by companies are largely the cause of the recent uptick in ROA.
- Shareholder returns for market "winners" increase at a modest rate; while "losers" destroy more value than ever before.
- Competitive intensity is increasing as the digital infrastructure erodes the barriers to entry and movement.
- Creative talent or knowledge workers are experiencing exponential growth in total compensation.

Further challenges compound the quandary:

- A recent study from Booz & Companies reveals that only 17 percent of companies (of 197 companies spreading across 17 industries) are poised for a profitable future (Divakaran and Couto, 2013).
- In 2012, McKinsey & Company carried out a study with 300 executives at 17 major global companies, less than half of respondents considered that their current structures of organisations have built clear responsibilities, and few hinted on the effect of globalisation fetches, as one lucidly asserts it, "cumulative degrees of complexity" (Gibbs, Heywood and Weiss, 2012)
- Through the 2011 survey conducted by Bain & Company, Chris and Allen (2011), affirmed that over the past decade, less than 10% of leading organisations could successfully attain a self-effacing point of cost-effective growth.
- Following a thorough analysis of HBS' Clayton Christensen masterpiece—The Innovator's Dilemma, Murray (2010) asserted that legacy managership has been unsuccessful to overcome the disruptive innovation in their business operations, not necessarily due to bad managership, but rather, most organisations imitated the orders of good managership.

- According to Arthur D. Little's 2010 survey on innovation excellence, although the vast majority of companies believe that innovation is a high priority, many are not prepared to take the bold steps necessary to maximise their chances of success.

As we shift from a knowledge-driven to a creative economy, the MI-driven companies will be the leader. Senior leaders must always understand what drives value in their organisation, and align internal goals with those drivers (Owen, Kirchmaier and Grant, 2006). Increasingly managers in high-performance organisations understand that management structures may be excessively inflexible to contain multidirectional pathways for new idea/practice democratisation and mobilisation of competence-based managership. As evidenced in most modern enterprises, cognitive rigidity suffocates innovation. Informal, self-organising shape-changing and temporary networks are more flexible and can make connections between people or connect bundles of resources more quickly (Kanter, 2011). Management innovation is thus considered to be pivotal for any organisation to construct and carry out an overall innovation-driven corporate strategy. Underlying this assertion is that the core notion of management innovation entails dependability of variation and inventiveness. Coalescing the two together, however, engenders a fundamental fusion, the pragmatic governing of management innovation is arguably not as a sporadic and intermittent episodes, but as iterative processes of managerial adaptation and value creation. A new paradigm of innovative management of management innovation is emerging as a vehicle for constructing a repeatable pattern for resiliency and sustainability. The new decade will demand innovative approaches of managing organisations and making apt decisions that allow senior leaders to work with uncertainty in accelerating the MI, rather than denying or ignoring it. This is a time of complex possibilities, and the best approach is to address that reality.

1.1.1 Knowledge Gap

The central theme of this research posits that the conventional management processes to management innovation can be agilely modified so as both to meet the strategic needs of companies better and so provide for fulfilling organisational experiences at work. Hamel and Breen (2007) call for the practice of management to be reinvented in order to meet the needs of the current world, where adaptability and creativity drive business success. Rather than focusing on operational excellence or new business models, I argue that "management innovation" (MI) – an induced managerial capacity to search for novel value to create value—is the engine to generate sustained competitive performance. Sarkar (2007) and Birkinshaw and Mol (2008) suggest that management innovation can create long-lasting advantage only when it meets at least

one of three conditions: (1) it is based on a novel principle that challenges the orthodoxy; (2) it is systemic, involving a range of managerial processes and methods; and (3) it is part of a programme of invention, where progress compounds over time.

1.1.2 Under-explored management phenomenon

Although there is a substantiation in the academic literature that highlights the importance of innovative practices, processes, and models to managing the management innovation process (Abrahamson, 1996), there seems to be a lack of rigorous qualitative studies to sustain the theory. Further despite growing evidence of some academic research being conducted on MI for the past seven years, much of this non-empirical research narrowly focuses on an inclusive comprehension of the foundations of thriving MI as a precondition for augmenting the productivity of human capital or knowledge management in the innovation process. Another justification for better understanding management innovation, namely that advancement in managership protracts strategic enhancements in shareholder value creation (Baumol, 2002; Schumpeter, 1947; Teece, 1980; Koller et al., 2006). This assertion seems to have been almost universally accepted by business historians who typically describe a new way of organising or a new management method in terms of its contribution to increased factor productivity and/or heightened competitive advantage (Chandler, 1962). Abrahamson (1996: p.257) suggestively argued that management innovation is an element of the "management fashion" process by which "management fashion setters continuously redefine both theirs and fashion followers" collective beliefs about which management techniques lead to rational management progress".

Many management scholars and researchers have contributed on intellectual knowledge of management innovation on five related areas. Firstly, the strategic diffusion process of MI in industrial organisation, which are inclusive of the organisational dissemination of the M-form (Fligstein, 1985; Palmer, Friedland, Jennings and Powers, 1987), the matrix structure (Burns and Wholey, 1993), ISO 9000 (Guler et al., 2002), TQM (Westphal, Gulati and Shortell, 1997; Zbaracki, 1998), and quality circles (Abrahamson and Fairchild, 1999). The study has also observed explicitly at the enterprise MI diffusion across the boundary of countries (Guler et al., 2002; Kogut and Parkinson, 1993; Lillrank, 1995). The focal point of this study chiefly on recognising the models of MI strategic dispersal and the convoluting dynamisms influencing those models (Abrahamson and Fairchild, 1999). The second domain of previous study deals with the operating conditions under which MI takes place. Few of the studies were orientated towards the past performance of leading companies in their efforts to distinguish the socio-economic circumstances under which an explicit MI became established (Abrahamson, 1997; Chandler, 1962; Pezet, 1997; Stjernberg and

Philips, 1993). Other explorative studies tackle contemporary examples of MI, though classically with a focus on single case study as opposed to more extensive themes materialising from those research (McCabe, 2000; Tichy and Sandstrom, 1974; Whitsett and Yorks, 1983). There were also pertinent works on various administrative innovations that aim to envisage the emergence of these administrative innovations in libraries and hospitals (Damanpour, 1987; Kimberly and Evanisko, 1981). Thirdly, the linkage of MI and technological innovation has outlined that MI often transpires in tandem with technically-driven innovation. However, progression of adaptive invention and uptake of MI is characteristically spun-out (Boer and Daring, 2001; Damanpour and Evan, 1984; Georgantzas and Shapiro, 1993; Kimberly and Evanisko, 1981), which might be associated with divergence among forms of innovations. The fourth is related to the framework for the process of management innovation, concentrating on three phases of activity–motivation, invention, and implementation (Birkinshaw, Hamel and Mol, 2005; Birkinshaw and Mol, 2006). Finally, prior research that is centred around the antecedents and performance consequences of MI (Mol and Birkinshaw, 2006). This leads to the exchanges between resolutions and key decision-makers and that MI has a positive correlation on the companies' expansive growth in future productivity. Nevertheless, no anecdotal evidence explains an under-studied phenomenon about the innovative management of management innovation and how it transpires in organisational settings of 21st century. The other is the lack of a strategic framework to help rationalise the innovative managerial processes of MI. Thus my research study attempts to close these knowledge gaps.

1.2 Research Objective and Question

A comprehensive organisational framework about the innovative management of management innovation is still its infancy, notwithstanding a recently growing number of qualitative researches since 2005. This lack of literature is due to its newness and the relatively under-explored phenomenon. In this context, the thesis contains half theory and half practice. The objective is to examine the generative managerial processes through which management innovation can be fostered for experimentation and managed for acceleration. In practice, the outcome of this research will provide an integrated pathway to the IMMI and new innovative managerial processes, which will assist ingenious managers in becoming more innovative, and management innovators in becoming agile managers. In line with the research objective, a research question was formulated to reinforce a clear understanding around the specific management gap. The central question to be posed is therefore: **"Which and how managerial processes accelerate the management innovation?"**

In order to answer the principal research question, three interrelated activities are envisaged. The first is concerned with obtaining a wide-ranging conceptual and empirical knowledge about the MI and its prolific experimentation. This knowledge is critical for uncovering pertinent methods to construct the study's conceptual research framework. This is needed to facilitate normative observation how innovative management of management innovation (IMMI) is carried out. The second is to pragmatically investigate the extant practices of IMMI within the Canadian energy and utility companies, anchored in the built-in research framework. Finally the provision of recommendation to extend an adaptive corporate strategy to enable the intelligent enterprises in speeding up the cycle of MI. As an implication, it is expected that the IMMI can enhance management capability to effectively administer collaboration, inter-organisational co-evolution, and co-creation with end-users. Pertaining to these requisite activities, the research question can be further drilled-down into four subordinate questions:

1. To what extent is MI experimented in companies?
2. Which managerial processes induce the acceleration of MI?
3. In what ways do the managerial processes differ across organisations?
4. What factors drive these differences?

1.3 Scope

Over fifty years, an extensive body of knowledge has been built up around the proposition that organisational work processes are primary means by which organisations accomplish much of what they do (Nelson and Winter, 1982). Most industrial organisations metamorphose what their collective managers do what they do and how they accomplish their deliverables by amending their sets of organisational processes. The prevalence of organisational processes could be explicated by the embedded requirements of cognitive competency and diminution of complexity (Cohen and Bacdayan, 1994). Organisational processes can be seen as a product of organisational learning (Levitt and March, 1988). Peter Senge of MIT Sloan (1990: p.3) envisions a learning organisation as a group of people who are continually expanding their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together. As summarised in Appendix 2 (p.249), David Garvin (1998) of Harvard Business School suggested that organisational processes could be subdivided into four categories: work processes (operational and administrative), behavioural processes (interpersonal and individual), change processes (autonomous and induced), and managerial processes (centre around collective managers and their working relationships). Garvin (1998) suggested that they are best

considered separate but related schools of thought because each focuses on a particular process and explores its distinctive characteristics, challenges, and business implications. In this study, I plan to empirically answer my research question based on innovative managerial processes that are of interest to senior leaders (c-suite executives and senior managers). Consequently, only managerial process type will be explored as my research focus. I draw this specific limitation because change of each type of the processes has its own constraints and enablers. Thus explanation of change of each type of processes requires an integrated approach in order to be insightful.

1.4 Setting

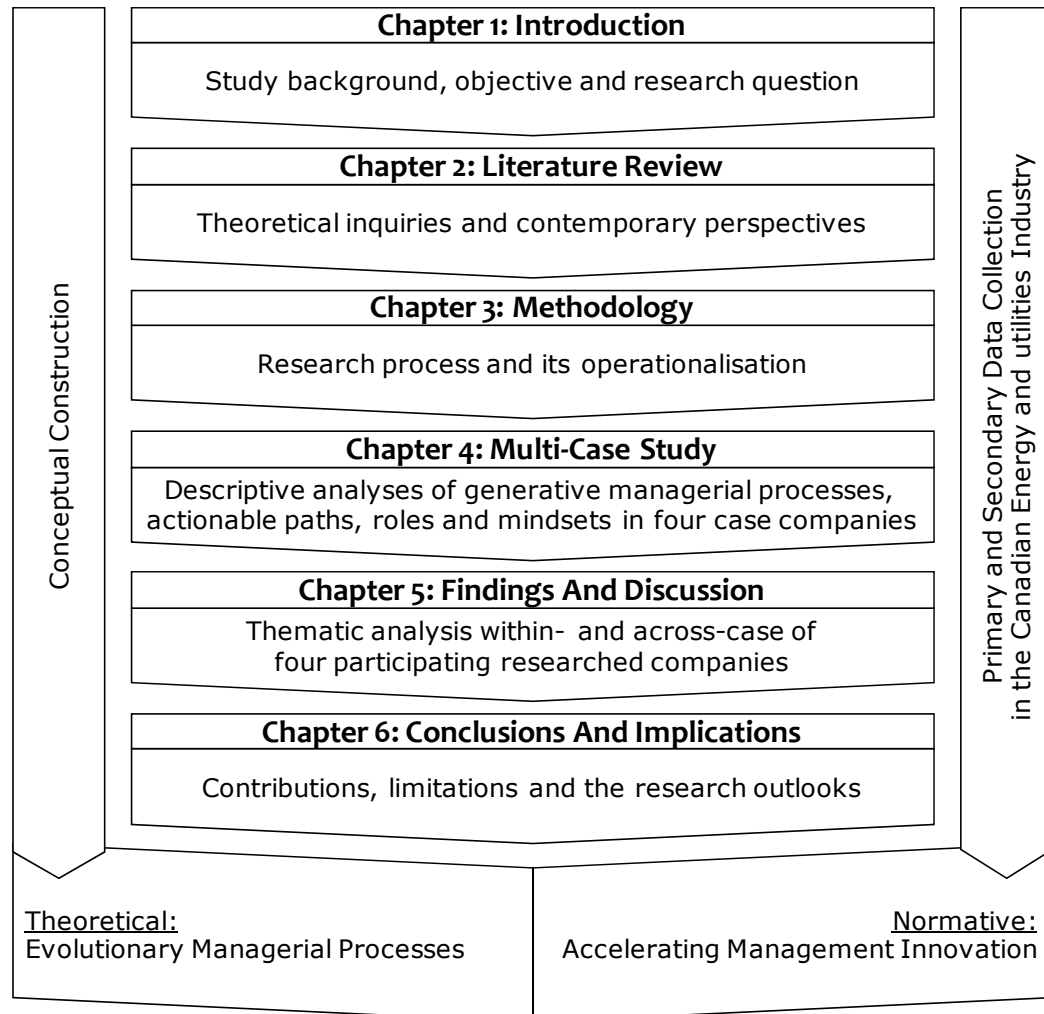
The research was conducted in four energy providers within the Canadian energy and utilities industry. This includes a power generation company, a hydro-electric utility, a natural gas distribution company and a deregulated energy retailer. I conducted twenty-three in-depth interviews at four separate organisations. These companies are the largest in their respective value chains and are headquartered in the province of Ontario, Canada. The case companies are (1) Ontario Power Generation Inc.; (2) Enbridge Gas Distribution Inc.; (3) Toronto Hydro Corporation; and (4) Direct Energy Marketing Limited. All interviewees are senior leaders (c-suite executives and senior managers) who have been with their respective organisations for more than 15 years. This suggests that their managership and leadership viewpoints provide commendable insights into the perceptions of energy business veterans. As part of research validation, I also conferred with a variety of secondary sources, including the trade press, Ontario Energy Board's regulatory filings, business publications, books, think tank reports, government publications, energy association position papers, and website postings. Finally I actively participated in a variety of industry conferences (Toronto Board of Trade's Power Breakfast series), symposiums, and seminars devoted to topics pertinent to the innovation in Canadian energy and utilities industry.

1.5 Thesis Structure

This thesis is structured into six chapters. Chapter one elucidates the research background, problem, objective, question, operating environment, assumptions, and common definitions used. The second chapter is used to elaborate the literature inquiries carried out for this research. Next, chapter three deals with the research methodology and proposes the conceptual research framework. Chapter four presents the multi-case study of four participating case companies. Chapter five explores discussion of the results and cross-case finding analysis. The last chapter, chapter six, concludes by responding to the research questions and presenting the research

contributions, limitations and the research outlooks. The following Figure 1.6 outlines of the structure of thesis.

Figure 1.1: Thesis structure



Source: Author

1.6 Assumptions

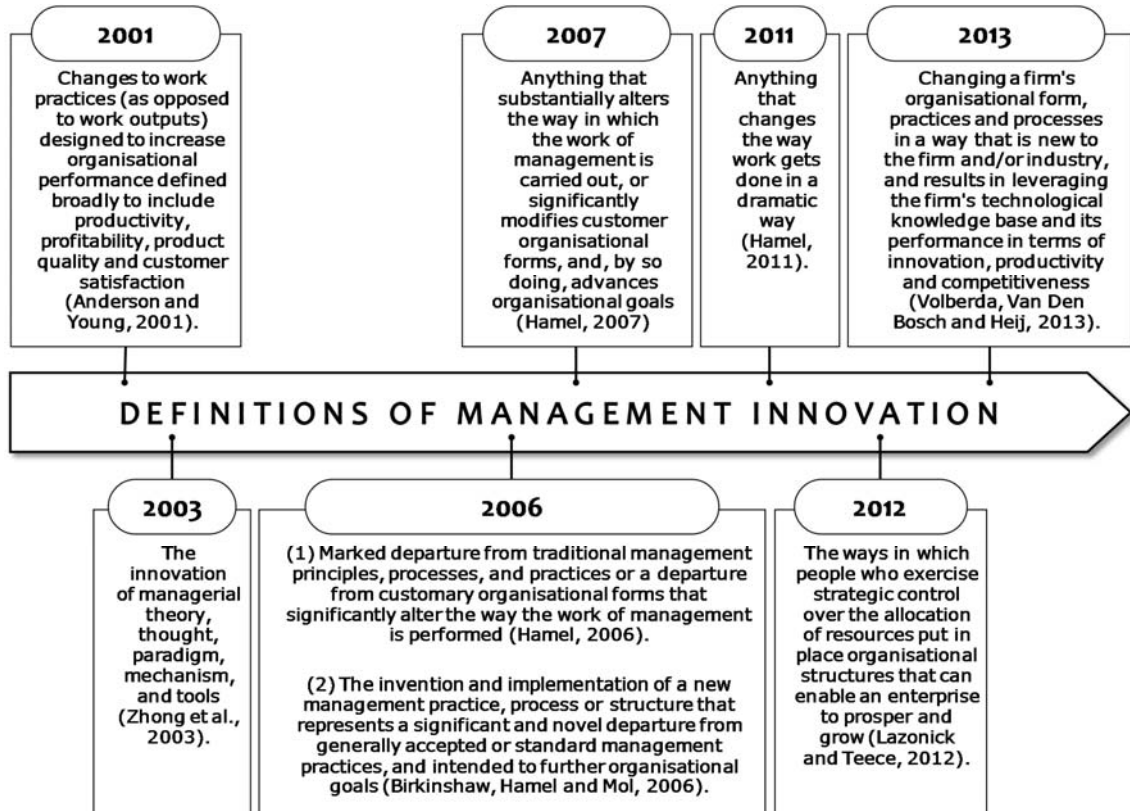
While it is important to be objective to responding to the research question, there are several assumptions that I believe, will be converging as the research moves on. The first core assumption is that this study is confined to only organisations, which have infused innovative managerial changes in their management structures, processes, and cross-boundary networked relationships. Secondly, this research is focused exclusively on the Canadian energy and utilities industry. Third, this study will explore only the managerial processes and does not include other organisational processes such as work process, behavioural process, and change process. Fourth, this research

will pinpoint sets of innovative managerial processes that are emerging within the corporate wall of four case researched organisations. This does not include any crossover processes that are transpiring in-between the four case companies. Finally, this study aims to cover management innovation from disruptive, adjacent and derivative perspectives. The distinctions of each, however, will be elaborated in each of the four case studies, cross-examined.

1.7 Definition of Terms

The objective of this section is to clarify the lexicon or nomenclature or terminology used throughout this thesis, in particular the language used in connection with the innovative management of management innovation. The phenomenon of management innovation is conditional on diverse interpretations within the different strands of innovation and management literatures. Hence there is a lack of consistency in the literature around the term—"Management Innovation (MI)." As depicted in Figure 1.2, some of its definitional penumbra that is chronologically conceptualised by scholars.

Figure 1.2: MI definitions by various authors



Source: Author

Given the principal aim of this study, I explicitly craft a narrower and more useful concept for purposes of practical discussion in this crowded semantic field. A glossary of terms, used advisedly, is enclosed right at the end of thesis.

- **Management Innovation (MI)** refers to an induced managerial capacity to search for novel ways to create value.
- **Innovative Management of Management Innovation (IMMI)** encapsulates the range of innovative tools, models, techniques and methodologies that support the process of accelerating management innovation.
- **Process** may be defined as an compilation of activities and inter-reliance that converts executable resources into deliberate outcomes (e.g.: strategise or steward).
- **Subordinate Process (Sub-Process)** refers to the subordinate group of process that explains an explicit sphere of managerial function and activity (e.g.: developing capital budgetary plan). In most modern companies today, sub-process represents work consisting of one or more subtasks.
- **Activity** is a breakdown of a sub-process into actionable tasks that produces a measurable result (e.g.: prioritise projects).
- **Task** represents an atomic amount of work.

1.8 Conclusion of Chapter One

Chapter one has examined the study background, objectives, research question, scope, fieldwork environment and the structure of DBA thesis. Other domains of the study are inclusive of literature or theoretical review, research methodology, and multi-case studies, which will be discussed in the following chapters.

Chapter 2: Literature Review

Demystifying Innovative Management Of Management Innovation

Management innovation affects strategy through both definition and impetus

*In the age of pervasive management innovation,
adaptation is a novel thing, unless you are
headed in the wrong direction*

2.1 Introduction

The literature review instigates from the basic principle that organisational processes are decisive to firm performance and considered to be a root cause of inertia against transformation (Nelson and Winter, 1982). This hesitation between forging effectual organisational processes and swiftly rewiring them for accelerating MI remains a fundamental challenge. Academic scholars have encountered parallel dilemmas in their investigative study, wrestling to rationalise the operations of firm and managership. For an assiduous advancement to be upheld, the proverbial black-box of the firm, has to be examined from inside-out (Chakravarthy and Doz, 1992). In this chapter, I enlighten some of the fundamental theoretical constructs on which the innovative management of management innovation is based. The first section presents a structure of the chapter two. The second section provides the fundamentals of management innovation. The third section explores the progress of management transformation. Foreseeing the discoveries of new management practices will be summarised in section four. The fifth section sets out the search for innovative management configurations. Section six identifies the innovation strategy from a relational or process perspective. The innovative management techniques and tools will be highlighted in section seven. The final section eight will conclude the literature and theoretical enquiries.

2.2 Fundamentals of Management Innovation

Sustained success requires most organisations to continually find new opportunities in mature markets. Since managers create performance through others, they must find new organisational vehicles that will focus their attention on sustained success, as well as manage what they have today. Unfortunately, it is axiomatic that organisation structure is developed to execute current strategies, not to see new strategic opportunities. The real challenge of building better companies is to intertwine and reinforce the horizontal and vertical dimensions (Stern and Daimler, 2006). Achieving

this new organisation is not really about infrastructure but rather about the structure. Structure is the organisation's total configuration of activities and may be a hierarchy (a cascade of one-to-many relationships) or a network featuring many-to-many relationships.

Furthermore, imagine when setting over corporate performance targets in the CEO/top management's office. The obvious problem always evident is that these "macro" targets are usually counter-productive (Rappaport, 1998). They are not particularly useful to middle-level managers seeking to maximise the warranted value of their business units, and they often result in reducing rather than increasing profitable growth. Hamel (2006; 2007) suggested reinventing the work of management. Sarkar (2007) and Birkinshaw and Mol (2008) supported this and further proposed that management innovation could create enduring benefit simply when it encounters either one of these: (1) MI should be based upon ingenuity that defies the status quo; or (2) MI must be uprooted in wide-ranging managerial processes, techniques and tools. Despite the rhetoric notion of management innovation, the real challenge for any companies is still how to instil innovative management into their organisations. In many organisations, the current work of management is built on four basic tenets (Leonardi, 2008): (i) managers have a clear vision; (ii) managers exert hierarchical power; (iii) managers get things done bureaucratic procedures; and (iv) managers motivate their people through extrinsic rewards. Hamel (2007) noted that in large organisations such as Toyota, Apple and General Electric, the best way to modify the extent of manager's work is to redesign the sets of processes that preside over that work.

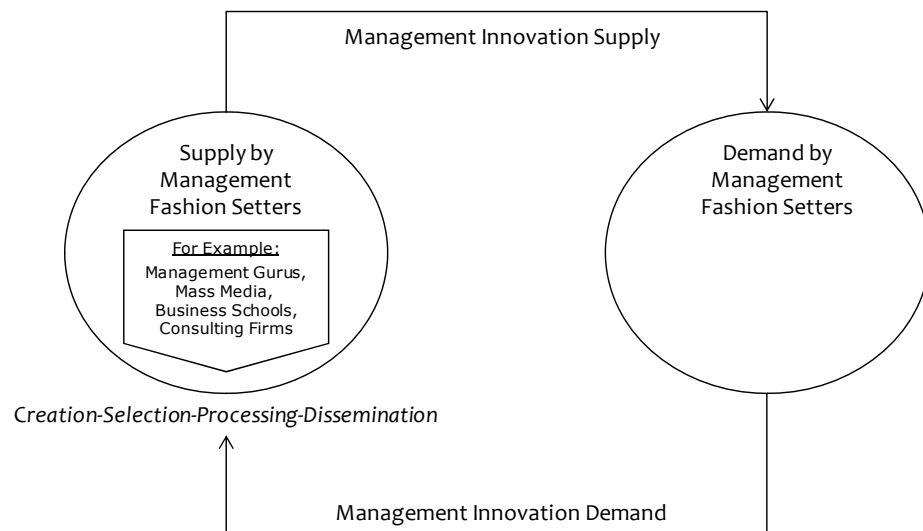
2.2.1 Conceptualisation of Management Innovation

All of the innovation related research beginning (Schumpeter, 1934) could be chiefly drilled down into two major camps – market driven perspective and resource driven perspective. Porter (1985) and Slater and Narver (1994) argue that it is the situation that steer innovation in modern companies. Cohen and Levinthal (1990) advocate that few companies are able to scan the market place to recognise such market driven innovation opportunities. The resource driven camp made up of (Penrose, 1959), (Prahalad and Hamel, 1990), (Wernerfelt, 1995), (Grant, 1996), (Conner and Prahalad, 1996) and (Eisenhart and Martin, 2000) show how it is a firm's rare and not easily copied resources, capabilities and skills result in sustainable performance.

A survey of the growing literature suggests four idioms in parallel use—managerial innovation (Kimberly and Evanisko, 1981), administrative innovation (Damanpour and Evan 1984), organisational innovation (Alänge et al., 1998) and management

innovation (Birkinshaw and Goddard, 2009; Birkinshaw and Mol, 2008; Hamel and Breen, 2007; Birkinshaw, Hamel and Mol, 2005; 2006; Abrahamson, 1991; Stata, 1989). While organisational innovation refers to a broad type of innovation produced inside the enterprise as in the case of new product development, the administrative innovation is a much confined type of innovation within the functional areas such as corporate policy of human capital or administrative structure of managership. Abrahamson (1996) proposes the model outlined in Figure 2.1 to help understand the conceptualisation of management fashions or innovations. It is based on the notion that there are trend setters who hunt for and influence innovations and fashion followers who use those fashions. He additionally recognise academic thinkers, consulting firms, social media, and business schools as characteristically trend setters.

Figure 2.1: Management fashion or innovation setting process



Source: Abrahamson (1996)

The rate of assimilation and retention of ideas initiated by outside management consultants inside an organisation can largely depend on the client managers (or similar) themselves who can act as a filter of ideas. The diffusion of management innovations, ideas, and practices across organisations is increasingly becoming a mainstream area of organisation studies. Specifically, it can be seen in the work of Abrahamson (1996), which theorises about the spread of management fads and fashions. In the work of Huczynski (1993), he recognises the underlying discursive structure of popular management ideas. Similarly Barley and Kunda (1992) track the cyclical emergence and re-emergence of new managerial ideologies. Further in the most recent works of Birkinshaw, Hamel and Mol (2005; 2006), they highlight the antecedents and performance consequences of management innovation.

2.2.2 Rethinking the Managerial Processes

Management is considered to be more of an art than a science (Schön, 1983). According to McCrimmon (2010), managership of the industrial age, could be explained by their prevailing authoritative roles and functions over others in an enterprise. However in today's creative economy, knowledge-based employees (as shifted from production worker of industrial economy), who tend to be self-managed, managership can be viewed simply as a process of which everyone can embrace on.

The conventional legacy of managerial roles where the managers assume all the authoritative power and proceed by role-playing the planning, organising, leading and controlling (POLC) in their deliverable. This fundamentally makes managership a pyramidal and self-constraining function. However, the companies are intrinsically multi-faceted social establishments with extensively dispersed duties, solitary endeavour is rarely adequate. Managership requires collaboration with and through other employees (Sayles, 1989). Most managers confront a plethora of governance-related issues such as to what extent they implement executable actions to fulfil varied interests of people, how to obtain the collective commitment and shared encouragement from diverse individuals, and/or how to attain shareholder value creation (i.e.: total shareholder return). Rationalising these conclusively, all these serve to be the core issues of managerial processes, explicating how works are completed instead of the subjective matters of management practices and principles.

In many modern companies, business scholars tend to frequently apply strategy (a high-level construct) or tactics (a lower level construct) to explain the under-studied phenomena. They clearly overlook the middle ground which are processual. These processes, in contradiction to strategies and tactics, are midway conceptions that coalesce actions into unified convergence and provide heuristical viewpoints. The processes are also inherently dynamics due to their applications to real-life events which in most cases, informatively illuminating in the fullness of time. Kueng and Kawalek (1997: p.19) asserted that business process models are created in order to manage the complexity of the behaviour of human organisations, and human activity can be described as inherently purposeful. In this case, processes encapsulate relationships among interrelated activities or events that may be vanished under static frameworks and/or cross-sectional investigative studies.

According to Mohr (1982), a process methodology promotes thinking in story lines rather than events; the appropriate metaphor is a movie as opposed to be a snapshot. Hence the method is extraordinarily supportive in responding to issues of execution. The technicalities of execution thus is positioned at a central part of this term of processes. The focal point of processes is on the avenues that managers embrace in

harmonising actions and dealings and take on others individuals in activities with the intention that the company's goals are achieved.

Newman, Summer and Warren (1972) inferred that managership should be viewed a social process. Bower et al., (1979) argued that the vast majority academic literatures has made a distinction between the CEO positional factors and managership by understanding the sequence of individual deeds, which result in the goal attainment. According to David Garvin (1998), in positional frameworks, the predicament of managership can be illustrated with respect to positional terms of obtaining inside the enterprise from one position to another. Alternatively in the management framework, attention is centred on the extent the company's objectives is established, on how resources (assets, capabilities and knowledge) are effectively mobilised, and on how the managerial efforts of individuals are orchestrated to attain shared objectives.

In general, there are two thematic groups that explain the managerial processes from the empirical perspectives. The first group is the anthropological. This methodology is concerned with the solitary managership with vibrant depictions of his or her managerial deeds. This is exemplified by the investigative study of business journalist with an exclusive access to the General Motors (GM) in 1950s, profoundly examined the innovative managerial processes successfully implemented by the legendary CEO of GM, Alfred Sloan (Sloan, 1964).

The second group is called "scholar or social." This methodology involves firstly applying a process viewpoint to the time-driven activities of select managers in proportion to their cultivated commitments and shared accountabilities. Secondly, clustering the managerial processes into contemporary groupings with respect to the company's objectives and shared values.

The following Table 2.1 discloses the variety of contemporaneous managerial processes, as conceptualised by scholar-researchers and management consultants.

Table 2.1: Authors' perspectives on key managerial processes

AUTHOR	YEAR	CATEGORY	MANAGERIAL PROCESSES
Frederick Taylor	1911	Functional	Plan → Organise → Lead → Control
H. Mintzberg (McGill)	1973	Role	Interpersonal-supporting → Information-processing → Decision-making
Peter Drucker (Claremont)	1974	Behaviour	Set objective → Organise → Motivate and communicate → Measure → Develop people
Ichak Adizes (UCLA)	1979	Behaviour	Produce → Administer → Entrepreneur → Integrate
Thomas Davenport (Boston)	1993	Functional	Formulate strategy → Plan and budget → Allocate resource → Manage human resources → Measure and report performance
Ron Sanchez (IMD)	1996	Competence	Gather/interpret data → Make decision → Implement action → Distribute reward/sanctions
David Garvin (HBS)	1998	Skill	Set direction → Negotiate and sell → Monitor and control
Erik Johnsen (CBS)	2002	Behaviour	Set goal → Solve problem → Create language (Communications)
Don Hellriegel (Texas A&M)	2005	Functional	Plan and administration → Comm-unication → Teamwork → Strategic action → Global awareness → Self-management
Price Waterhouse Coopers	2008	Skill	Develop and manage human resources → Manage information resources and technology → Manage financial and physical resources → Manage environmental, health and safety issues → Manage external relationships → Manage improvement and change
Bititci et al. (Strathfield/Cranfield)	2011	Skill	Manage performance → Manage decision making → Manage communications → Manage culture → Manage change

Source: Author

2.2.3 Three Categories of Management Innovation

Management innovation comes in a variety of forms, from small changes to existing managerial principles and practices. As illustrated in Table 2.2, there are three major categories of management innovation.

Derivative management innovation exploits existing management principles and practices by continuously enhancing on managerial processes currently existed, whereas adjacent management innovation uproots existing managerial processes by enabling expansive growth into cross-boundary networks. The disruptive management innovation provides something new to the corporate world by altering end-users' consumption or expectancy and thereby creating entirely new streams of profitable growth.

Table 2.2: Category of management innovation

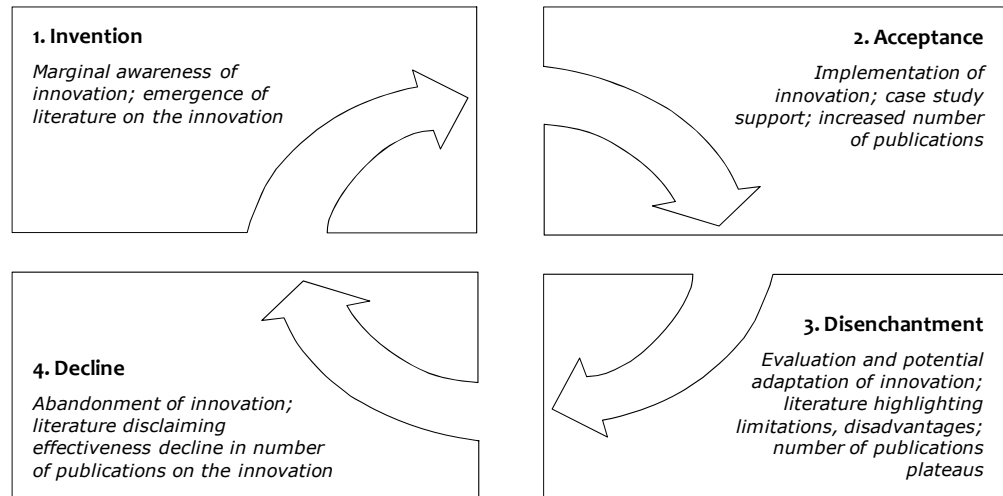
CATEGORY OF MANAGEMENT INNOVATION	DESCRIPTION	EXAMPLES (CANADIAN ENERGY AND UTILITIES INDUSTRY)
Disruptive	<ul style="list-style-type: none">• New management principles and practices that create entirely new streams of profitable growth	<ul style="list-style-type: none">• Smart Infrastructures (Smart Grid and Smart Meters)• Smart Meters deployment• Amoeba Management• IT/Cloud Computing
Adjacent	<ul style="list-style-type: none">• New management principles and practices that allow expansive growth into cross-boundary networks	<ul style="list-style-type: none">• Development of Ecosystem of Application/vendors• Globally-Integrated Enterprise• Centre of Excellence• Extended Enterprise Architecture
Derivative	<ul style="list-style-type: none">• Intermittent, incremental and/or continuous changes to existing management principles and practices.• Also typologically known as management innovation by imitation.	<ul style="list-style-type: none">• Six-Sigma Quality Methodology• SAP implementation• Time-driven ABC (Activity-based Costing)• Balance Scorecard• Value-based Management• Net Promoter Score• Conservation Demand Management• Ambidextrous Organisation

Source: Author

2.2.4 Life Cycle of Management Innovation

Prior research indicates that any management innovation should embed a life cycle standard. As exhibited in the Figure 2.2, Carson et al. (1999) indicate the following stages in this life cycle:

Figure 2.2: Life cycle stages of management innovation



Source: Re-adapted from Carson et al. (1999)

Carson et al. (1999) asserts that companies have higher propensities to espouse an innovation when the innovation is being incubated at either the invention or acceptance stages. However the companies systematically discard experimentations of innovations in both disenchantment and decline stages due to potential value-destroy propositions. Given the epoch and pace of numerous high-performing companies and their diverse employee navigate as the life cycle diverges, the promise of an assortment of innovation espousal adoption could rapidly emerge. This prompted Rogers (1995) to posit that the effective adopters of novel practices or new ideas or MIs could be categorically clustered as (1) innovators; (2) early adopters; (3) early majority; and (4) laggards. It is important to note the life cycle of different companies vary greatly. Whereas the laggards are likely to start espousing the new novel practices or ideas enterprise-wide, the innovators at other similar companies, are proportionally discarding them.

2.2.5 Rationales for the MI Adoption

Sturdy (2004) argued that the choice of MI initiatives could be dependent upon both methodical assessment. There are two hypotheses concerning the espousal of MI-driven plans. The first one is the rational, which emphasises a supplementary configuration and methodical course of action. Secondly, it is the irrational that underpins a much fewer configuration and methodical assessment. According to Greatbatch and Clark (2005), one may deduce that the dissemination of novel practices or new ideas are sporadic akin to a fashion and the attractiveness of the idea or practice relies on the authority and influence of trend-setters, for instance, original thinkers, management innovators, business scholars and consultants. Boje et al. (1997) further stated that new managerial programmes are frequently established at

points of crisis (either voluntary or involuntary crisis that triggered adaptive changes) ascribed to under-performance of the conventional ways of managing things or perhaps at the point that progressive companies are pursuing adaptive transformation for a new managerial trend. As depicted in Table 2.3, Sturdy (2004) suggested the following rationales.

Table 2.3: Rationales for the MI adoption

RATIONALES	DESCRIPTION
Cultural View - <i>cultural resonance or meaning</i>	Highlights that the diffusion of ideas can be spread across cultures, for example, through globalisation, mergers/joint ventures. Local knowledge can act as a 'bridge or barrier to transfer.'
Dramaturgical View (Rhetoric) - <i>successful rhetoric</i>	Focuses on the supply side of the relationship, the persuasiveness influence of management gurus, management consultants, academics, etc. and their presentation techniques. Overall impression management is vital, not necessarily the content.
Institutional View - <i>securing organisational Legitimacy</i>	Now ascendant in organisational studies, this view accounts for social or societal influences on of organisational practices and that peer and shareholder legitimacy is sought more so than the efficiency and shareholder wealth maximisation concerns of the rational view.
Political View - <i>furthering career, function, status or control</i>	Broadly concerned with 'the instrumental use of ideas to secure power and/or with their content in terms of their material and/or discursive power effects'. Basically 'which ideas and practices are diffused depends in part on who has control of the means of dissemination' and 'ideas flow mostly from the powerful.'

Source: Sturdy (2004)

Accordingly, Sturdy (2004) proposes six rationales for MI adoption. These rationales are devoted to a dichotomy universally-oriented in contemporaneous theories of innovation management. Appendix 3 (p.250) provides detailed rationales of MI adoption. At one side of such dichotomy, it is concerned with impartiality as strictly related to rationalisation of undertaking from perspectives of neoclassical and keynesian economics. Sturdy (2004) nevertheless infers that his proposed rationales are not mutually-exclusive and that the tactical reinforcement of management innovation could be a direct resultant of multi-faceted innovation strategies. Whereas the rationalisation of MI adoption as hypothesised by Sturdy may appear instinctively alluring, it is yet decisive to notice if they may be distinguished in the real-life experimentation of various MIs (Table 2.4). Inconsistent reception of MI adoption may also be anticipated to encompass authoritative disparities on the extent of the management innovation, which is supported by the creative managers that are on the enterprises' life cycles.

Table 2.4: Comparable perspectives on the theoretical adoption of MI

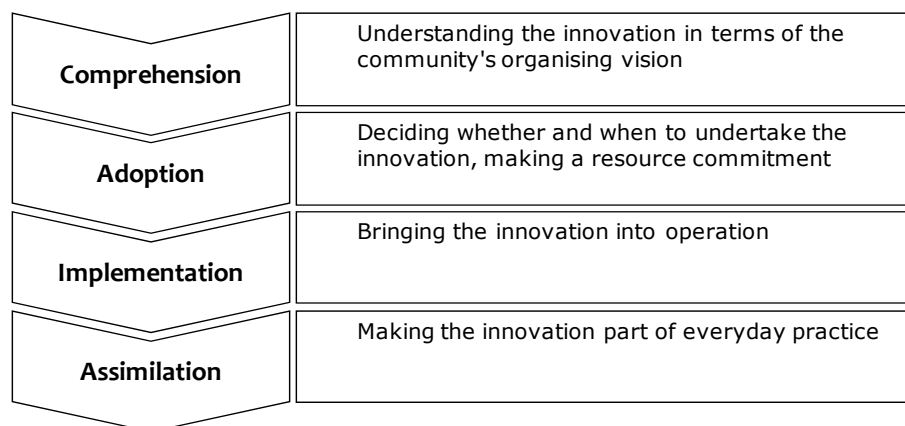
PERSPECTIVE	RATIONALE	STRENGTH	WEAKNESS
Rational	Effective for organisation	Prescriptive	Idealistic
Psychodynamic	Anxiety/ identity	Emotion focus	Essentialism
Dramaturgical	Rhetoric	Integrative	Mono-directional
Political	Interests/ effects	Critical	Functionalist
Cultural	Fits/ values	Contextual	Apolitical
Institutional	Imposed/ legitimation	Comparative/ integrative	Deterministic
Multi-dimensional	Various	Inclusive	Non-integrative
Contingency	It depends	Flexibility	Relativist

Source: Sturdy (2004)

2.2.6 Implementation of Management Innovation

As illustrated in Figure 2.3, Swanson (2001) suggests that the decision to adopt a particular innovation follows a stage of "comprehension", when the company initially absorbs knowledge about their intended MI, and decisively, to what extent it responds to the managership or leadership requirements and suitability to their enterprise.

Figure 2.3: Managerial life-cycle stages



Source: Re-adapted from Swanson (2001)

In general, the adoption of any innovation commences with a preliminary stage of comprehension. It is the requirement of having shared understanding of specific innovations among practising managers and constituents and to what extent do the innovations impact the performance of their hosting organisations. The second progression comes to the adoption life cycle itself where determining the appropriate strategies and processes while being committed to resource mobilisation. Next the decision to adopt the innovation is followed by two further stages: implementation and assimilation. Implementation is regarded as embarking on the pilot programme, ensuring it come about and fetching the MI to realisation for practising managers, whereas assimilation is all about adapting the MI as contemporaneous repetitions of innovative managership.

2.2.8 Contemporary Cases of Management Innovation

There are many contemporary cases of conventional mid to large companies experimenting with new management models. Although many MIs are incremental and a few is radical, both capture the essence of what the improvement in management practices and principles came about. Given that most companies are bureaucratic in ways that they infuse formalities and are subject to stringent rate of regulations, they adhere to warrant compliance and to engender sustainability (Birkinshaw and Goddard, 2009), they are still pursuing continuous efficiency and waste reduction. That is why it is evident that some famously make history, few notably work, and many have failed. As summarised in the Table 2.5, the management practices that we see in modern business organisations were developed during the last thirty years by the collective and creative efforts of management innovators (Birkinshaw and Mol, 2006: p.81).

Table 2.5: Contemporary cases of management innovation

<ul style="list-style-type: none"> Centralised Services and Decentralised Controllership (Ontario Power Generation, Canada) 	<ul style="list-style-type: none"> Amoeba Management—extreme decentralisation with more than 3,000 amoebas (=small customer-focused BUs of which have between 5 to 50 staffs) (Kyocera Corporation, Japan)
<ul style="list-style-type: none"> Nuclear Contractor Management Practice (Ontario Power Generation, Canada) 	<ul style="list-style-type: none"> Global account management structure for sales organisation (Hewlett-Packard, USA)
<ul style="list-style-type: none"> Ambidextrous organisation (Direct Energy/Centrica NA, Canada) 	<ul style="list-style-type: none"> Brand Management (Procter & Gamble, USA)
<ul style="list-style-type: none"> Extended Enterprise Architecture (Toronto Hydro, Canada) 	<ul style="list-style-type: none"> GameChanger—Venture capital funding model for new business development (Shell, Netherlands/UK)
<ul style="list-style-type: none"> SAP Implementation (Enbridge, Canada) 	<ul style="list-style-type: none"> Development of "Ecosystem" of software vendors (Sun Microsystems; Apple, USA)

<ul style="list-style-type: none"> • Participative Management (Semco, Brazil). 	<ul style="list-style-type: none"> • Spaghetti organisation—removal of formal hierarchy and job descriptions (Oticon, Denmark)
<ul style="list-style-type: none"> • Six-Sigma Quality Methodology (Motorola, USA) 	<ul style="list-style-type: none"> • Balanced Scorecard for monitoring financial and non-financial performance measures (Analog Devices, USA)
<ul style="list-style-type: none"> • Creation of Intellectual Property (General Electric, USA) 	<ul style="list-style-type: none"> • TPS—Toyota Production System (Toyota Corporation, Japan)
<ul style="list-style-type: none"> • Flexible employment/pay model for consulting (Partners for Change, UK) 	<ul style="list-style-type: none"> • Centre of Excellence for drug discovery (GlaxoSmithKline, UK)
<ul style="list-style-type: none"> • DCF—Discounted Cash Flow (DuPont, USA) 	<ul style="list-style-type: none"> • TQM—Total Quality Management (Nippon Telegraph & Telephone, Japan)

Sources: Birkinshaw and Mol (2006), Hamel (2007), Author

2.3 Transforming Management

For several of the dominant organisation theories focused on structure and governance, including the transaction cost paradigm and agency theory, Chandler (1962) description of the M-form organisations still served as the model of complex organisations. In this model, a complex organisation consists of a number of more or less self-contained, semi-autonomous divisions, grouped according to some set of criteria such as product lines, technologies, distribution channels, geography, or some combination of these under a corporate M-form, as described by Hill (1985), for example, are:

- Responsibility of all operating decisions is assigned to divisions
- Staffs attached to the general office are concerned with monitoring division performance, allocating resources among divisions and making strategic plans. Organisations are economic machines and at the same social systems (Magretta, 2003).

Then following the rise of ICT (information, communication, and technology), a great deal of emerging research on business management improves the legacy management practices to fit contemporary landscape of sustainable competitive growth. During the second half of the twentieth century, the momentum developed towards a fundamental break from the long-established bureaucratic model. Burns and Stalker (1961) identified a form of organisational that was considerably more organic and less hierarchical than the typical bureaucracy, as presented in Table 2.6 below. They concluded that this organic form was more conducive to success in a turbulent, unpredictable environment than the more common "mechanistic" (bureaucratic) form.

Alternatives to environment thus began to be recommended on the grounds that they were more functional for certain conditions.

Table 2.6: Type of organisational structure

<ul style="list-style-type: none"> • MECHANISTIC (BUREAUCRATIC) <p>Authoritative power (decision-making) is centralised, standard operating protocols are enumerated and staffs are monitored for individual performance.</p>	<ul style="list-style-type: none"> • ORGANIC <p>Authoritative power (decision-making) is decentralised, standard operating protocols are unclear, prompting staffs to collaborate for collective performance</p>
<ul style="list-style-type: none"> • Hierarchy prominence based on centralised and top-down communication 	<ul style="list-style-type: none"> • Reinforcing decentralisation and lateral communication multi-directionally
<ul style="list-style-type: none"> • Well-defined and specialised functions 	<ul style="list-style-type: none"> • Loosely-defined and less specialised functions
<ul style="list-style-type: none"> • Over dependence on standardised operating protocols 	<ul style="list-style-type: none"> • Over dependence on reciprocal alteration among staffs

Source: Burns and Stalker (1994)

In addition to the mounting evidence of bureaucratic dysfunctions, there was concern over the restrictive, even oppressive, impact the bureaucracy could have on individuals. Many people working in organisations, together with their clients and customers, were becoming increasingly dissatisfied with conventional organisational forms based on a combination of Taylorist work systems and hierarchical bureaucratic managerial structure. Social scientists articulated these discontents in the 1950s and 1960s through landmark studies such as those by Argyris (1957) and Blauner (1964). Intensive case studies exposed the use of organisations by interest groups such as managers to accomplish their own self-serving ends (Benson, 1977). A radical critique of conventional organisational forms developed on the grounds that these embodied inequalities of power and thus encouraged exploitation. This critique was directed against both the failings of bureaucracy and the newer contingency perspective because it rejected any functionalist approach that justified organisation in terms of its efficiency, it maintained that efficiency simply reflected a pursuit of elite interests and this orientation did not seriously challenge existing structures of power and control (Benson, 1977).

The rapid progression from the industrial-based economy to the one centred around the streams of fact-based knowledge became ever more apparent, especially in the developed economies. This transition unfettered many aspects of organisation from their former physical constraints, permitting, for example, activities in dispersed

locations to be as effectively integrated as those gathered on the same site. This challenge is so fundamental because knowledge that has competitive utility originates with small groups of internal learners, for instance, an R&D team. As in the rigid bureaucratic operations, the aim is to tabulate all practical facts as swiftly as possible. One can as a result observe in many industries that existing regimes of safeguarding proprietary knowledge seem to be hugely unproductive at providing genuine control over knowledge flows. One implication is that the only way to sustain superior performance is to promote faster learning. The problem is that the control and reliance on conformity to rules implied in the bureaucratic form have been shown to inhibit the accidental, fortuitous, and creative processes that facilitate exploratory learning (McGrath, 2001). When coupled with the stability, routinisation, and robustness of process at which bureaucracies excel, one has a recipe for rigidity in a company's core activities and consequently poor performance (Leonard-Barton, 1992).

The search is now on for new structure, process, and networked relationships of organisation that can evolve with changing circumstances through providing opportunities for employee to express themselves, achieve personal fulfilment, and as a result, enthusiastically contribute to adaptive organisational learning. The empowered team provides one organisational mode that appears to meet many of the new criteria. It can be a favourable context for engendering the creativity and innovation that are assuming increasing competitive importance. It is also consistent with the return to smallness and to focus through "sticking to the knitting" (Peters and Waterman, 1982). Companies have therefore been urged to divest themselves of non-core activities. Rather than internalising complete value chains and their supporting activities into large hierarchies, networks of smaller, focused units appear in many cases to offer superior economic and human returns (Nohria and Eccles, 1992). However the design of an organisation is implicit in its strategy, so much so that it is sometimes hard to tell where strategy leaves off and organisation begins. Because strategy is dynamic, organisations must always be flexible (Magretta, 2003).

2.4 Foreseeing the Discoveries of Management Practices

In contrary of improving current operations or reconfiguring new business models, Hamel (2006) posits that MI may be the answer to sustainable shareholder value creation. As disclosed in Table 2.7, Hamel (2008) further reinforces that the present management model, pyramidal and centred around the command-and-control, will not be sufficient in today's economy where persistent innovations steer competitive

successes. Appendix 4 (p.252) presents a comparative list of the evolutionary management principles and practices.

Table 2.7: Evolutionary practice of management

CATEGORY	EXTANT (BEST)	EMERGENT (NEXT)
Organising Hierarchy	Rigid	Flat and flexible (based on the roles one perform)
Resource Management	Centralised and command-and-control	Decentralised and community-based networking
Operational Excellence	Top-down, centralised decision making (based on staff's obedience and compliance)	Democracy, bottom-up, diversity, and free experimentation (based on staff's natural ingenuity)
Work Commitment	Involuntary	Voluntary, opt-in
Employee Compensation	Gender and status (extrinsic factors e.g., money)	Skills, intelligence, and hard work (based on human motivation)
Staff Competency	Position and seniority	A function of fair competence and capability
Drivers for Change	Crisis (voluntary or involuntary)	Intrinsic to how a firm operates
Budget Mobilisation	Non-flexible (budgetary-driven)/ project/portfolio prioritisation (for the department with the loudest voice)	Dynamic or flexible (through a competitive market of ideas' models)
Flow of Information	Restricted control	Flexible and dynamic
Measure of Creativity	Limited (within organisation)	Widely distributed to all staff
Employee Motivation	Pay for attendance and performance	Pay for performance and result
Performance Measurement	Accounting-based or economic-based	Human value
Technology Deployment	Large and expensive	Reliable, robust, and configurable solution via intra-/internet

Sources: Carter (1999), Hamel (2007), Birkinshaw & Mol (2008), Birkinshaw & Goddard (2009).

The revival of management principles and practices clearly faces considerable inertia. There is always reluctance at the top management to sacrifice the vested interests that conventional organisations can support, and to some extent even conceal. It is more comfortable to maintain principles and practices that preserve a distance between

managers and workers, especially when this is accompanied by the huge differentials in reward and privilege. By the same token, we have witnessed in many anecdotal evidence, has demonstrated a consistent reluctance to reform corporate governance in ways that meaningfully reduce the distance between top managers and stockholders. The result is that often only lip service is paid to socially desirable policies. It does appear that many top management will only introduce meaningful changes when forced to by the public reaction to their misdemeanours and to the harmful effects of the ways they organise their business or public services or remobilise their resources innovatively to execute management innovation enterprise-wide. Heightened competition in which success requires a distinctive competence, the need to have adaptive learning organisations that can innovate and adapt to societal change, and the growing reliance on knowledge and information workers to provide this distinctive edge are among the obvious developments forthcoming.

2.5 In Search of the Innovative Management Configurations

In today's creative economy characterised by high uncertainty, the sustainability of managerial capacity to adaptive transformations may be more critical than the capacity to initiate transformation. Mix of internal and external developmental resources might be an important mechanism in the innovative configuration of management practices as a dynamic capability or as a means to exploit and explore human capital assets and ICT acceleration that are two of the main sources of sustainable competitive advantage.

2.5.1 Structures: Hierarchy, Heterarchy, Wirearchy and Holacracy

For activity to be organised inside a single company and coordinated through some form of "hierarchy" rather than in an open market, it must be because it is inherently more efficient to do it that way. Where the business units of the company are related, various efficiencies from operating and strategic coordination are the answer (Bower and Gilbert, 2005). In any company, the mobilisation of strategic resources ought to be at least as efficient as the capital markets to justify the existence of the company. Williamson (1981) purports that because knowledge is specialised and distributed and roles narrowly defined, the only role of corporate management is to mobilise capital among units—the management of the internal capital market. Management knows more about the potential profitability of business units, but not the details of running those units. This idea has also been the focus of important work by David Teece (1980) who has argued that skill at the transfer of knowledge justifies extending the scope of the

company. Chesbrough (2011) reinforced that to really transfer knowledge effectively in a way companies can really make use of it, one needs a certain amount of creative abrasion and a certain amount of dwell time together working on it. The hierarchical model, as observed in organisational practice, obscures the difference between kinds of relation and puts the command structure as the primary one (Hedlund, 1994). The importance of formal structuring of tasks and managerial hierarchy as a way to coordinate work is, of course, treated in great detail in the contributions of the contingency school (e.g.: Burns and Stalker, 1961; Lawrence and Lorsch, 1967).

"Heterarchy" is a form of organisation resembling a network or fishnet. Authority is determined by knowledge and function. The heterarchy is not a stable ordering of jobs, roles, and transactions, nor is it a particular structure or governance mode; instead it is a mechanism for constantly selecting and adapting structure and governance mode (Ghoshal and Westney, 2005). Most recently, rapid flows of information have been dramatically diminishing the pillars of rigid traditional hierarchies and heterarchies. This new set of conditions is having real impact on organisational structures and the dynamics they generate, contain and also block, which in turn are making for massive change in the ways we do things and behave (Husband, 2008).

Further "Wirearchy" is an emerging and primary organising principle capitalising on the ubiquitous power of ICT. Jon Husband (2008) defines wirearchy as "a dynamic bi-directional flow of power and authority, based on knowledge, trust, credibility and a focus on results, enabled by interconnected people and technology." It is about the power and effectiveness of staff jointly-delivering work through personal relationship and collaborative teamwork, taking accountability as opposed to depending upon conventionally-rigid hierarchy or heterarchical models. For management, wirearchy means that we grow to be well-informed concerning web-based managership and how the requirement for collaborative teamwork is rapidly altering the ecosystems leadership and managership.

As recently infused at Zappos Inc. (an Amazon.com company), "Holacracy" is an agilely new structure of organisation transpires where the emphasis is on the distributed authority system for more empowered decision making throughout the enterprise. According to Holacracy.org (2014), this new concept is a real-world-tested social technology for agile and purposeful organisation. It is unlike the conventional pyramidal top-down or progressive bottom-up approaches, holacracy is based upon social integrates the benefits of both without relying on parental heroic leaders. Everyone becomes a leader of their roles and a follower of others', processing tensions with real authority and real responsibility, through dynamic governance and transparent operations.

2.5.2 Management Designs: Top-Down, Bottom-Up, and Middle-Up-Down

The pyramidal, top-down managership conceives of knowledge creation within the viewpoint of insight-rationalisation. Pyramidal concept becomes the dominant operating model by mid-level managers, who will decide on the means to realise them. The middle managers' decisions, in turn, constitute the operational conditions for front-line employees, who are responsible for executing the business judgments. At the front-line level, execution becomes largely routine. As a consequence, the organisation is a whole executed a huge amount of work and information.

General Electric is a well-known company that embraces a pyramidal design where dyadic inter-relationships between c-suite executives and middle managers and front-line supervisory are clearly explicit throughout the enterprise. An implicit assumption behind this traditional model of organisation is that only c-suite executives/managers are embedded with responsibilities to produce and disseminate knowledge. Moreover, knowledge created by top managers are available merely for rationalisation or being implemented (Nonaka and Takeuchi, 1995), therefore, it is only a means, not an end (Dalkir, 2005). The concepts that top management generates should be void of any ambiguity or equivocality (Ichijo and Nonaka, 2007). In other words, the concepts are anchored in the premise that they have a singular meaning.

The bottom-up management is basically an inverted pyramid, which is a mirror of top-down management. There have been critics of top-down management, which is closely linked to the scientific management tradition of Taylor, from the very beginning. These critics, who belonged to the humanistic camp, devised an alternative model of management process that eventually came to be known as bottom-up management. Instead of hierarchy and division of labour, there is autonomy. Instead of knowledge being created at and controlled from the top, it is created at and, to a large extent, controlled by the bottom. A bottom-up organisation (e.g., 3M) has a flat and horizontal shape, with hierarchy and division of labour eliminated, the organisation might have only three to four layers of management between the top and the front-line. Few orders and instructions are given by the top managers, who serve as sponsors of entrepreneurially minded front-line employees.

The top-down model is suited for dealing with explicit knowledge (Dalkir, 2005). But in controlling knowledge creation from the top, it neglects the development of tacit knowledge that can take place on the front line of an organisation. The operating managership at Canon has been heavily-oriented towards the middle-up-down model. This configuration emphasises the dynamic role of the middle manager as the knowledge facilitator (Dalkir, 2005), resource locator (Bower and Gilbert, 2005), and the key driver to continuous management innovation (Nonaka and Takeuchi, 1995).

2.6 Relational View (Process Perspective) of Innovation Strategy

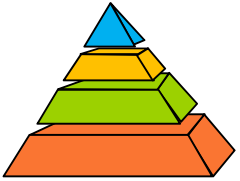
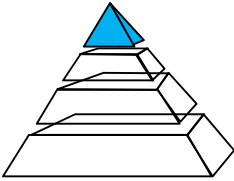
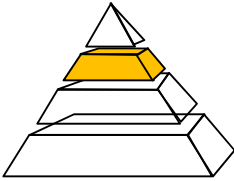
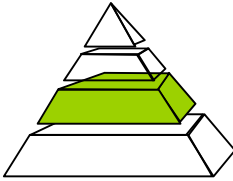
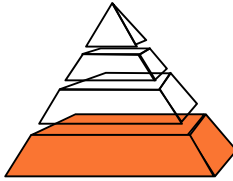
It is evident that the today's innovation is derived from borrowing. Past information and intelligence provides an aptitude to obtain and process information (Cohen and Levinthal, 1990). The quintessence of innovation is discerning what the organisation is distinctively good at, what core competence it possesses and how it can exploit its capabilities for a sustainable return to high performance. Every organisation has unique strengths. Competitive success comes from leveraging these strengths in its own business model.

As exclusively oriented to recognise, innovation may also be best known as an informational managerial process. Whereas innovations could be considered as objects, I select to, for the purpose of this study, observe innovation from a different vantage point. Innovation is inherently a process by which new information (e.g.: rituals and routines) is constructed, and it is exemplified in the very practice of managership and in parallel cases, leadership. By comprehending this process I conceptualise practising managers not simply as information processors (Galbraith, 1973), but more determinedly as information originators.

2.6.1 Hierarchical Types of Innovation

In its simplest form, innovation may be defined as novel ideas or new practices put into operation in distinct paths of value creation to end-users and the company. It is the main driver for companies to prosper, grow and sustain a high profitability (Christensen and Raynor, 2013; Christensen, 1997; Drucker, 1988). Many scholars generally agree that some types of innovation produce more sustainable competitive advantage than others. They also acknowledge that the position of innovation types within a hierarchy varies by the industry and is not static. The current economic progress is driven by hierarchy of innovation (Hamel, 2006). Hamel (2006) offered his pyramidal view that right at the foundation is the "operational innovation" such as an organisation when it is reconfigured to be agile by delivering intuitive customer service. Then we have the "product innovation", which delivers the next wonderful flat-screen television. Followed by the "business model innovation" which exemplifies the pioneering endeavour of Dell Inc. Further another higher level, where Hamel (2006) called the "architectural innovation" that embodies the transformative pathway that Apple Inc. did with its iTunes to get all these music companies to agree to a new digital rights management system. Finally at the top of pyramid, we have "management innovation" (Figure 2.4). Hamel (2006; 2008) and Birkinshaw and Goddard (2009) accordingly pointed out that all of the latest investigative research suggests that management innovation has built the majority of sustainable performance growth.

Figure 2.4: Hierarchical type of innovation

TYPE	MANAGEMENT	STRATEGIC OR BUSINESS MODEL	PRODUCT/SERVICE/MARKET	OPERATIONAL
				
DEFINITION	<ul style="list-style-type: none"> • An induced managerial capacity to search for novel ways to create value. 	<ul style="list-style-type: none"> • Innovation in the structure and/or financial model of the business. 	<ul style="list-style-type: none"> • Innovation applied to products or services or “go-to-market” activities. 	<ul style="list-style-type: none"> • Innovation that improves effectiveness and efficiency of core processes and functions.
KEY EXAMPLES	<ul style="list-style-type: none"> • OPG’s Services Centralisation and Decentralised Controllershship • Enbridge’s Business Process Outsourcing • Toronto Hydro’s Smart Meters Programme • Direct Energy’s Ambidextrous Organisation 	<ul style="list-style-type: none"> • Organisational structure changes • Major strategic partnership • Shared services • Alternative financing/ investment vehicle • Divestiture/Spin-offs 	<ul style="list-style-type: none"> • Greater penetration of current markets • Improvements to current products/services • Direct sales force • Electronic channels • New geographic markets 	<ul style="list-style-type: none"> • Improved operations responsiveness to customers • Applied new science or technology to core processes • Applied new IT to automate processes • Reduced cycle time or complexity

Sources: Re-conceptualised from Hamel (2006), Birkinshaw and Mol (2007), Author

2.7 Innovative Management Techniques and Tools

Demands of increasing competition are driving the accelerated experimentation for management innovation, while lower-cost delivery systems for novel ideas, innovative management practices has enabled it. For ingenious managers, they should get hold of on the time-tested management devices, fundamental to enhancing their organisational performance and leverage such techniques and navigational tools resourcefully to help stimulate superior business judgments. The following Table 2.8 outlines various navigational tools for augmenting the innovation-related performance.

Table 2.8: Innovative management techniques and tools

<u>GENERAL INNOVATION TOOLS</u> <ul style="list-style-type: none">• Benchmarking• Brainstorming• Business Process Reengineering• Change Management• Technology Audit• Technology Forecast• Value Analyses• Decision Rights Tools• M&As• Mission and Vision Statements• Collaborative Commerce• (Business Process) Outsourcing• Crowdsourcing• Offshoring• Groupthink• Simulation Models• Real-Options Analysis• Strategic Alliances• Virtual Organisations• Corporate Venturing	<u>MANAGEMENT INNOVATION TOOLS</u> <ul style="list-style-type: none">• Enterprise Risk Management• Knowledge Management• Value Chain Analysis• Conservation Demand Management• Smart Metering (and its web apps.)• Failure Mode and Effect Analysis• Balance Scorecard• Peer Evaluation• Team Building• ISO 9000• Customer Relationship Management• Net Promoter Scores• Portfolio Management• Customer Segmentation• Downsizing• Strategic Partnerships• Value-Managed Relationships• Strategic Planning• Time-Driven ABC• Economic Value Added
<u>PRODUCT INNOVATION TOOLS</u> <ul style="list-style-type: none">• Design for X• Quality Function Deployment• Price Optimisation Models• Open Innovation• New Product Development• Rapid Prototyping (Product)• Design Thinking• Total Quality Management• Discovery-Driven Innovation	<u>PROCESS INNOVATION TOOLS</u> <ul style="list-style-type: none">• Design for Manufacture and Assembly• Lean Thinking• Continuous Improvement• Concurrent Engineering• Crisis Management/Disaster Recovery• Supply Chain Management• Critical Path Analysis• Just-In-Time• Kaizen

Source: Author

2.8 Conclusion of Chapter Two

Chapter Two reviewed the theories and literatures of the research study. The next chapter will examine the research methodology that is inclusive of the multi-case research process and its operationalisation.

Chapter 3: Methodology

The Research Strategy And Its Operationalisation

Rationalising the dimensions of content, context, process and stakeholder

The case study method reiterates empirical evidence of causal relationship being covarational in nature. The absence of such covarational is taken as disconfirming evidence

3.1 Introduction

Chapter two has reviewed the existent literatures that included published academic journals and reports, mainstream business media, whitepapers, and other documentation related to management innovation, in particular, the generative managerial processes that derive at clarifying the main research problem. To address the research question, a comprehensive research methodology, which is inclusive of research environment, reliability, consideration of research ethics, data collection, and data analysis, was devised and will be herein discussed in this chapter.

This chapter three has eight inter-related sections. It begins with an introductory remark. At section 3.2, the philosophy and epistemological stances in the field of innovative management of management innovation will be analysed and justified. Section 3.3 conceptualises the research framework of this doctoral study. Section 3.4 provides the fundamental linkage of my conceptual research framework to management theories. Section 3.5 describes the operationalisation of my field-based research study. Data collection and analysis are then described in section 3.6. Next, section 3.7 will highlight the ethical considerations to ensure a sound and proper conducts of the intended research protocols. The last section, section 3.8 summarises the chapter.

3.2 Philosophy and Epistemological Orientation

The philosophy of my empirical study is a conviction about the path of which field-collected insights about an emerging phenomenon of the innovative management of management innovation is assembled, cross-perused and synthesised for understanding its implications to the applied practice of management.

The expression of epistemology necessitates what is acknowledged to be factual, rather than the doxology that infers what is deemed to be factual. The motivation of my

research, according to various philosophical approach, will simply be the progression of converting the inventive managerial practices of deeming into acknowledged.

In the Western tradition of science, qualitative research can be grouped into three fundamental postulations about what composes an effective field-derived research study and the specific research methodologies are apt, namely positivism (empirico-analytical), interpretivism (anti-positivist) (Galliers, 1991), and critical theory (post-modernism). Appendix 5 (p.254) details out the three major paradigms.

This research capitalises on the methodology of interpretivism. It is concerned principally with comprehending for the interpretative connotation of individual practices and deeds, as opposed to measurement. In this interpretive methodology, my thought is premised on the belief that the complexity of social process cannot be satisfactorily confined in both theoretical inferences and co-variances. To understand the social process, one must gain entry to and work inside-out from the sphere of those engendering it (Orlikowski and Baroudi, 1989). Central here is the focus on meaning formation or sense-making via language, symbols, myths, rituals, ideology and social dramas. Typically, management researchers are never able to completely suspend all the theory, cultural knowledge and expectations they bring with them into the field. Some interpretive methods (particularly those of the phenomenological and "grounded theory" schools) insist that the researchers must deliberately attempt to expunge any a priori knowledge, so they can adopt a tabula rasa perspective and hence arrive at the pure data-generated essence of a phenomenon (Orlikowski and Baroudi, 1989). Most of the other interpretive methods however, propose that an explicit, substantive perspective (albeit a flexible and dynamic one) accompany the researchers' engagement in the field, such that the interviews, archival research, observations and the like, are "accompanied by an overlay of social theoretical ideas ... (that provide) the foundation from which an interpretive, social constructionist analysis may be conducted" (Orlikowski and Baroudi, 1989; Rosen, 1986: p.15).

3.2.1 Qualitative Case Study Research

Qualitative research methodology was transpired from varied disciplines which are inclusive of sociology, anthropology and psychology. Whatever the focal point, qualitative case study research involves the construal of narrow denotation and depiction of communal circumstance (Popay et al., 1998).

The qualitative case study offers navigational approach for the business scholars and doctoral researchers to examine a contemporaneous phenomenon of multi-faceted managership in structural, processual and boundary-crossing networks. In explicating

what the qualitative case study means, Yin (1989; 1999; 2003) asserts that the case study defines as an empirical investigation of the complex phenomena within its real-life applications derived from multi evidentiary sources. Similarly, Benbasat et al. (1987) suggests that the qualitative case study can only be practical for the following rationales:

- A phenomenon must be examined in its organic context.
- The research study should aim to divulge the reality disposition and intricacy of management practices using explicit questions of "which", "what", "how" and "why".
- The research should only be explored and advanced within a particular domain of interests with no similar prior undertaking.

In order to understand and examine the managerial processes of Canadian energy and utility companies, the qualitative multi-case study was proceeded. This research methodology helps facilitate the black-box of the IMMI that has been progressing at four case participating organisations.

3.2.2 Type of Qualitative Case Study

According to Yin (2003), a qualitative case study allows for an in-depth understanding of the processuality and longitudinal aspects of the object of inquiry. Typically once the doctoral researcher has assessed that his/her research question may be best addressed employing the qualitative case study, then s/he will determine the research environment for the purpose of weighing the pros and cons of the specific type of case study to be adopted.

As in the case of DBA programme where the emphasis is on the field-testable management application, the researcher or scholar must well-understand and align his/her research goal to whether s/he seeks to explain a phenomenon, investigate a phenomenon, or cross-evaluation of in-between phenomena. Yin (2003) and Stake (1995) draw on separate idioms to describe an assortment of case study. Yin categorically clusters the case studies into three distinct groups, which are (1) explanatory, (2) exploratory, and (3) descriptive. While Stake (1995) classifies the case study as intrinsic, instrumental, or collective (Appendix 6: p.255), Yin (2003) distinguishes between single, holistic, and multi-case studies (Table 3.1).

Further the connotation of unit of analysis possibilities is subject to a particular case study type. Ying (2003) stresses that Type II and IV are uniquely dissimilar to Type I

and III in their application where the unit of analysis and type of case study can be comparable.

Table 3.1: Designs and rationales of case study

TYPE	DESIGNS	CHARACTERISTICS	RATIONALE
I	Holistic (Single unit of Analysis)	One case, holistic, one unit of analysis, case and unit of analysis is indistinguishable	<ul style="list-style-type: none"> • Critical case • Unique case • Typical case • Revelatory case • Longitudinal case
II	Embedded (Multiple Unit of Analysis)	One case, embedded units of analysis, not holistic, but still context depended, case and unit of analysis is distinguishable	<ul style="list-style-type: none"> • Extensive analysis • More focused analysis
III	Holistic (Single unit of Analysis)	More cases, holistic, case and unit of analysis is Indistinguishable	<ul style="list-style-type: none"> • More robust findings • Replication logic (literal/theoretical) • Extern validity
IV	Embedded (Multiple Unit of Analysis)	More cases, embedded unit of analysis, not holistic, yet context depended, case and unit of analysis is distinguishable	<ul style="list-style-type: none"> • More robust findings • Replication logic (literal/theoretical) • Extern validity • Extensive analysis • Focused analysis

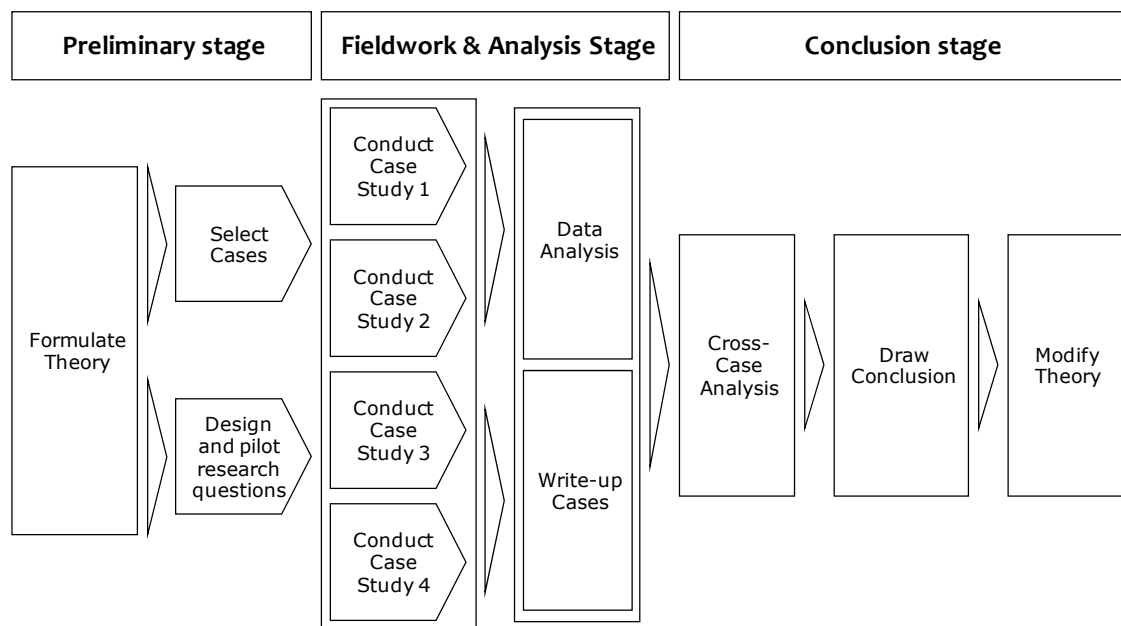
Source: Yin (1994)

As a doctoral researcher I was primarily interested in exploring the various experimentation of MI at four case companies, but evolvingly were captivated to understand the innovative management of MIs in the tailored creation of, for instance centre of excellence or an ambidexterity type of organisation. In this case, a holistic case study with embedded units is the best path to rationalise the innovative managerial processes through which ingenious managers at four case companies sustain their managerial performance. Understood collectively, the managerial propensity to observe subordinate units (sub-units), which is usually placed inside a bigger case may be influential when I reflect on collected insights for the perusal of within-case, between-case or across-case. My capacity as a doctoral researcher and business scholar in this study, is to employ and embed such rigorous examinations for superior elucidation of cross-case comparative study. Alternatively if my research study aims to focus on more than one corporate case study, then a multi-case study is needed as it is always associated with multi-experimentation. It is important to note that there is a contextual disparity involving the multi-case study and holistic one with embedded units of analysis. On one hand, the multi-case study consents to the researcher to analyse within- and across-cases of companies' situations. On the other hand, the holistic (with embedded units of analysis) merely enables the researcher to

peruse a solitary case regardless of its inherent situations. In the multi-case study, I purposively examine four cases to comprehend the comparative challenges and solutions among cases. Yin (1993; 2003) explicates how multi-case study is employed to either, (a) predicts similar outcomes (a literal replication) or (b) predicts contrasting outcomes but for predictable rationales (a theoretical replication). Obviously, each designed type has pros and cons, the evidentiary findings assembled from this research study is highly considered to be vigorous and dependable, albeit protracted (due to the need for reciprocal trust and time-honoured relationship) and high-cost.

In my research study, I have selected multi-case study type with orientation towards descriptive inquiries where my field-based examinations were performed in four different companies. The selection for this multi-case study is apt considering the observable field-derived facts, according to Yin (1993) that multi-case study must follow a replication (comparable outcomes) or pattern matching that is in preference to sampling logics. This reinforces that two or more case studies must be inclusive of the parallel studies only due to the researcher's predictive orientation that comparable findings will be discovered. When such similarities are, in fact discovered in several case studies, then one can be reassured of such a very high-quality findings. Elongating this justification, investigating multi-case studies should augment the qualities of findings in areas such as data integrity (accuracy and validity) by confining an integrated fundamentals of the very topic under-studied. The holistic stages to multi-case studies are exhibited in Figure 3.1.

Figure 3.1: Stages to multi-case studies



Source: Re-adapted from Yin (1994)

3.3 Conceptualising the Research Framework

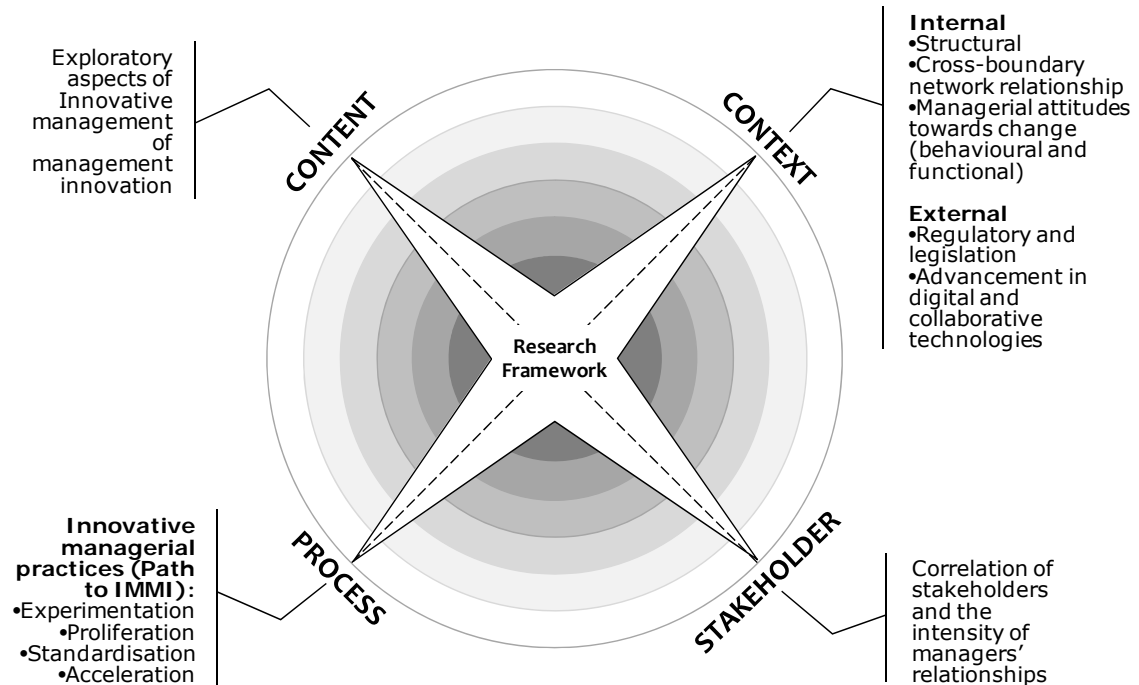
Organisations are paradoxical entities (Kawalek, 2007; p.188) where business research requires a conceptual framework as a guide for gathering data collection, performing analytical synthesis and concluding sets of actionable recommendations. The research framework, in this study is conceptualised as a theoretical thought utilised to clarify the research question and objective. Popper (1994) presents a vital re-evaluation on the requirement for a conceptual framework as a starting point for argumentation. He posits that "the doctrine that truth is relative to our intellectual background, which is supposed to establish the framework within which we are able to think; that truth may change from one framework to another" (Popper, 1994: p.33). Consequently for this study, building a research framework necessitates contemplation of the pertinent theoretical models of investigative theme and on the research methods associated with the IMMI. These suggest the connotation of initiating exhaustive discussions on the assumptive preconditions, and the elemental standards of strategic management theories about methodology, through which a conceptualised research framework may therefore be exploited.

In this study, theoretical inquiries in the academic literatures were thoroughly examined as an preliminary model, were progressed in the prior chapter. Considering that the IMMI is a comprehensive practice, it may be hard to expand a working framework centred around one of these types. The management innovators or innovation specialists essentially do not create an innovative management of management innovation framework, instead they counsel a recommendation for their companies to take action, with the notion providing prolific results after a period of experimentation, proliferation, standardisation and acceleration of management innovation. In view of the research questions of which and how managerial processes induce the acceleration of MI, this study considers the four dimensions. These dimensions correlate with one another which ensues in the chronological method of structuring as proposed by Barley (1986).

Taken these dimensions, the envisaged context and content are intently correlated with considerable occurrences and circumstances that catalytically affect the other dimensions of process and stakeholder. The MI implementation intends to generate the prolific results through incessant experimentation, proliferation and standardisation of management innovation in the organisation, invasive efficiency, customer, networked partners and end-users satisfaction as feedback to a decision for further acceleration of management innovation. Accepting this caveat, Figure 3.2 presents the conceptualised framework for rationalising the line of reasoning materialised in this thesis. A contextual perspective framework is used, examining the research subject from the vantage points of context, content, process, and stakeholder. This provides

an integrated perspectives to investigate the disposition of IMMI and profoundly peruse the vigorous relationships among the processes of managership.

Figure 3.2: Conceptualised research framework



Source: Author

3.3.1 Context

The context refers to the components and triggers, which are expected to influence the subsequent content, process and stakeholder of adaptive change efforts (Pichault, 2007). In other words, it may be defined as the antecedents of clouds within an enterprise's operational setting, either internal or external ones.

These environments are pivotal in ascertaining the likelihood of being successful of an enterprise transformation effort, and this is caused by the conception that contextual situation serve well as a true shaper of adaptive transformation or in some cases, act as an impediment that limits transitory change to the needed managerial deeds within the organisation. Context is comprised of internal and external factors. Internal context is inclusive of structure, boundary-crossing networks and managers attitudes toward adaptive change, behavioural change, and functions of managership. On the other hand, the external is the one that companies do not have much power and authority and typically consist of competitive pressure (Meyer et al., 1990),

governmental deregulation (Kelly and Amburgey, 1991), or legislative and technological changes (Haveman, 1992). Of equally important, the company's quest to embark on adaptive change efforts help shape the internal context (Armenakis and Bedeian, 1999). This context serves as a foundational block to better understand the content, process and stakeholder issues.

3.3.2 Content

The content refers to the in-progress transformation that is explicit to the operating circumstance of an enterprise and can be either fundamental or incremental. When transformation is incremental (or derivative or intermittent innovation), it is around the managerial efforts to highly impinge on environmental pressures such as new legislative or regulatory initiatives within the Ontario's natural gas market or incessant waves of consolidation in local power distribution companies. As for the incremental, it is an intermittent, oftenly episodic and deliberate improvement towards addressing the misalignment between the as-is operations of the enterprise to its future state. This corresponds to Clayton Christensen's (2012) assertion that for sustaining (incremental innovation) situations, being deliberate, analytical and problem-focused represents the best way to innovate. In contrast, for situations requiring disruption (radical innovation), being experimental is important.

3.3.3 Process

This refers to managerial process of MI experimentation, particularly describing the extent of the MI transformation as it is performed through managerial life cycle (comprehension, adoption, implementation and assimilation) towards an expectation (e.g. innovative management of management innovation). The main substance in this transformation includes the paths to IMMI, which includes experimentation, proliferation, standardisation and acceleration. This process is useful in generating the content but the content disciplines process.

3.3.4 Stakeholder

This is the correlation of stakeholders and the intensity of manager's relationship in accelerating the management innovation. An organisation comprises of different actors of whom have diverse behavioural traits that are influential to shape the executable actions of an organisation.

During adaptive transformations, these actors' divergence could be the reactionary factor to shifts in managership and their dedication to committed transformation. For

instance, actors highly tolerant of uncertainty (Budner, 1962) must be better prepared to handle the ambiguity related to adaptive change efforts (Judge et al., 1999). Similarly actors high in openness to practical experience (McCrae and Costa, 1986) and high self-monitors (Snyder, 1974) must act in response to more positively to enterprise transformation. Therefore an inclusive framework of transformation must respond to, not only wide-ranging dynamism such as context, content, and processual aspects, but also, narrow-oriented vitality such as managerial disparities in actions.

3.4 Linking the Conceptual Framework to Theories

Whereas the academic literatures of management and economics are stuffed with referential captions of the evolutionary theory of the firm (proposed by Nelson and Winter, 1982), the relevant information contained under that caption in reality, is more of the evolutionary market theory where organisations are actors, as opposed to be the evolutionary theory of the firm. Key theories such as the behavioural theory of the firm (March and Simon, 1958) and knowledge-based theory of the firm (Conner and Prahalad, 1996) disclose to what extent the companies provide strategic linkages between individual accomplishments to shared organisational results.

Assessment of the pertinent theories about the managerial relationships in experimenting the MIs is valuable in delineating the managerial correlation amongst their convoluting aspects of IMMI. These are inclusive of the theory of competence-based management and complexity theory, which are imperatives for conceptualising the research model for the innovative management of management innovation.

3.4.1 Theory of Competence-Based Management

The theory of competence-based management may be considered a novel path to envisioning about to what extent an organisation gains sustainable competitive advantage. This theoretical viewpoint has shed the light on the natural augmentations of a theory of process thought and significant practical benefits to contemporary management thinking. Competency-based management refers to the functional knowledge and behavioural skills essential for sound managerial performance. Sanchez and Heene (2004) posits that the theory of competence-based management is an integrative strategy theory that incorporates economic, organisational and behavioural concerns in a framework that is dynamic, systemic, cognitive and holistic. This theory describes competence-based management as the aptitude to protract the synchronised rollout of assets, capabilities and knowledge of the company to attain its strategic

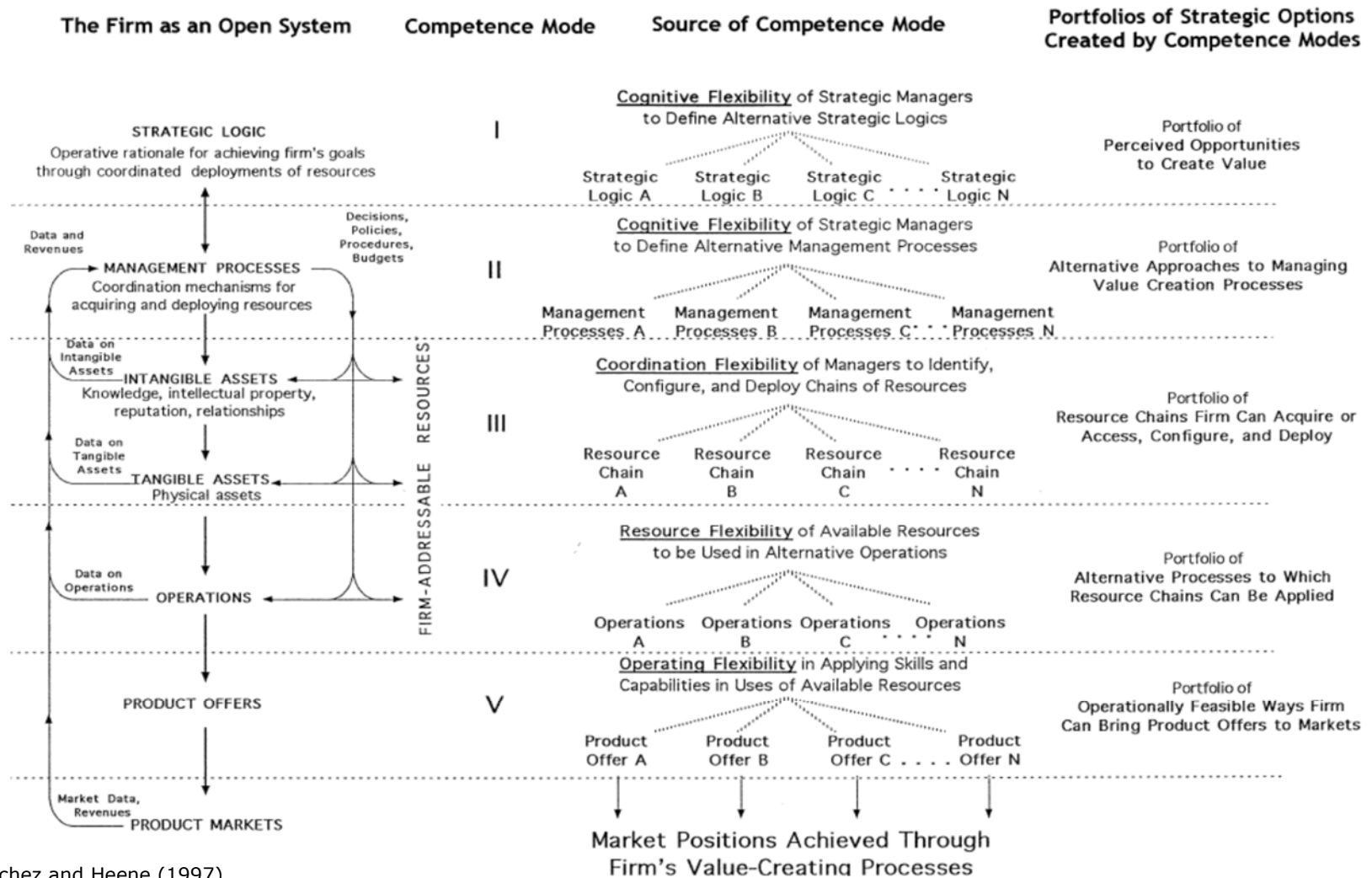
objectives. As Rumelt (1994) has reiterated, the notion of competency resonates with a great number of practising managers, leaders and scholar-researchers who have construed that perusing the configurations of industries and the resource foundations of enterprises may not effectively explicate the attainment of resilient growth. Vernhout (2007) purports that an organisation from the perspective of this theory of competence-based management is encouraged to be an open, social system.

For managers collaborating to recognise and administer enterprise-wide competences, this advocates that enhancing organisational competences hinge on increasing the resource bases of a company—for instance, boosting the proficiency of employees and the managerial capacity of collaborative teamwork.

Augmenting competency of the extended enterprises also needs enhancing managers' personal cognitive flexibilities to envisage novel strategic reasons for building and grasping emerging offerings and new paths of overseeing progressions for constructing and recognising the extant and emerging offerings. Bove et al., (2000) adds that organisational competence does not bank plainly on reaching executional excellence in solitary aspects, instead it rests on establishing an interconnected and impartial array of success dynamics throughout the extended enterprises. As illustrated in Figure 3.3, this diagrammatic framework as illustrated in the left side overleaf, offers a hierarchical sequencing of the managerial aspects of enterprise-wide competencies. Inherently the strategic rationale of any organisation for delivering value-creation can be systematised through effective managerial processes for executing and synchronising core assets (either tangible or intangible) within the infrastructure and operations of a company. Sanchez and Heene (1996; 1997) proposed an open systems that further integrates: (i) the strategic logic of a company for building value in markets, which is held to be the vital activity through which an organisation can attain its objectives; and (ii) an organisation's managerial processes for synchronising assets (inclusive of skills and capabilities) in the managerial actions it follows in an attempt to accomplish its objectives.

It is undoubtedly that the "open social system" of a company recognise decisive streams of solutions, guiding principle, actions and financial plans stemming from the company's managerial processes, steams of resources between its own company-specific resources and company-addressable resources outside the firm (Sanchez and Heene, 1997), and reactive response steams of facts and proceeds from product/service marketplaces and from the company's overseeing of its assets in infrastructure and operations. Consequently this system also integrates some fundamental actions among the company's core assets, its managerial processes and its strategic rationale for leveraging core assets in search of its performance objectives.

Figure 3.3: Five modes of competence



Source: Sanchez and Heene (1997)

3.4.2 Complexity Theory

The complexity theory (also known as the complex adaptive system) offers novel paradigm for comprehending the dynamics of innovative management of management innovation in a progressively vigorous setting within the Canadian energy and utilities industry. While the utility of this theory in innovation framework is in its infancy, academic scholars such as Brown and Eisenhardt (1997) or Cunha and Gomes (2003) have tried to apply the complex adaptive system to provide shared understanding of diffusion of innovation paradigms within organisations. In a computer industry where technology innovation compounds rapidly, Brown and Eisenhardt (1997) applied the complexity theory to explicate the convoluted phenomena of incremental transformation and innovation in enterprises. These phenomena are inclusive of important conceptions that managerial configurations and its processes are either not structured that transformation can take place nor that they are well-structured that chaos arises. Living beings in organisations need to evolve in novel ways in order to survive and thrive and if these strands of complexity science reveal anything about life in organisations it will mean that many of the current ways of rationalising of life in organisations are completely antithetical to this need. Managers may be struggling to change their organisations in ways that ensure that they stay the same. Thus complexity theories within the framework of transformative causality can serve as the basis to move from system thinking of surroundings to an emerging paradigm of individuality disparity.

Under this theory, an innovation gets incubated and piloted due to the fundamental requirement that people need to articulate their characteristics and in so doing their divergences. When these transpire, turning into their very existence by means of innovative grounds of self-adapting organisation that reinforces managerial correlations. The innovation become apparent from these correlations of its teamwork and groups instead of being agreed on by the preference of people. Similarly Dooley and Van de Ven (1999) adopt findings from complexity research to explain the processes of innovation through stages of incompetent managerial occurrences and actions at the commencement of collective initiative is proceeded to rollout a specific innovation.

The complexity theory can generally amplify our awareness of organisational dynamics and the nested systems of change that constitute life and change. The focus of complexity theory is on how microstates events whether individual or companies, self-organise into evolving summative configuration (Frenken, 2005). The theory offers an appealing metaphor for analysing organisational behaviour and management innovation. The metaphor accords with experience because it suggests that the essence of the contemporaneous company is what employees deliver, instead of what the

executives set up (Lewin and Phelan, 2000), on how competition happens, and top-down management change will not work in the new creative-based economy.

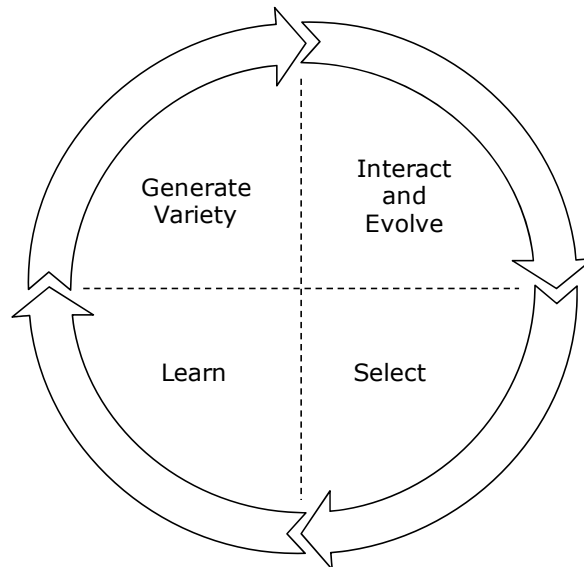
The plot of complex adaptive system is that condition which the arrangement lies in-between chaos and order. A foremost influence on companies pertaining the notions of theory of complex adaptive system may be the path in which managership is observed and the requirement for adaptive transformation. Following his groundbreaking research, a well-known management complexity theorist, Ralph Stacey (1993; 1996) concluded that (1) companies do not acclimatise to their specific operating circumstances, but assist in materialising them; (2) the company's accomplishment is stem from disagreement as well as reliability; (3) continual attainment may be caused by being fraction of a self-perpetuating sequence, as opposed to a particular strategic intent; (4) radical and continuous transformation and innovations are grounded as the pathways to enterprise success. Underlying to this is the manifestation of advanced sequence from the low-level managerial relationships among diverse, self-sufficient actors, individually directed by clear-cut operating protocols. Its implications for organisations are many—specifically in understanding management change. Managers need to keep their organisations in the complexity zone where learning takes place, rather than stability or chaos.

In relation to management innovation, Stacey (1993) proposed a difference between the ordinary and extraordinary managership. Ordinary managership in a legacy company, is needed to perform habitual convergent-thinking to realise the company's intended goals. It makes use of a rational yet methodical process that includes data perusal, objective-setting, reviewing issues and alternatives against the company's strategic purposes and logical selection. This is arrangement and managership centred around a mutual compromise of philosophy, with stewarding process at its focal points. The ordinary managership is essential if the company intends to maintain competitive advantage. Extraordinary managership, in contradiction, is what is needed if the company pursue adaptive change of open-ended transformation. The problems and practices of ordinary management within a bureaucratically traditional organisation have been repeatedly addressed earlier. What is revolutionary is the notion of extraordinary managership to sustain growth of innovative managership, in this creative economy.

Extraordinary managership needs the establishment of tacit knowledge and ingenuity accessible enterprise-wide. This dictates the reinforcement of informal configurations, for instance, preparatory guidance about rigorous managerial challenges or progressions, with membership enticed from varied operating units, functions and managerial levels.

Development of these groups must be in effect spur-of-the-moment, triggered by contradictions, variances and disagreements created in the concerted progression of customary managership. They should be adaptively self-organising, equipped to demarcate or expand their remit in preference to being fixated by strategic frame of orientation. Under these states, collaborative teamwork may happen, and its outcomes fuelled as disagreements to the wide-ranging managerial processes. Holland (1992) illustrated a complex adaptive system as any progression whereby a configuration is adjusted to provide improved performance in its operating circumstance. Axelrod and Cohen (2000) posited an outline for exploiting the complexity theory to the enterprise configuration. The components of their model, encapsulated, are variation, interaction and selection. Concerning innovation, variation may be construed as the disparity of methods fetched to a difference of opinion. Interaction ignites the inventive progression as ideas traverse, amalgamate, conflict, and advance. It also steers the selection process, the way by which improved ideas or practices are promoted and flaw ones abandoned. Selection entails the main aspect of learning from both accomplishment and cessation. Figure 3.4 highlights these fundamentals of innovation.

Figure 3.4: Fundamentals of innovation



Source: Re-adapted from Axelrod and Cohen (2000)

A finer grained summary of Axelrod and Cohen's (2000) framework, adapted to innovation, is tabled in Appendix 7 (p.256), where columns have been purposively added, bridging the application of managerial processes to innovation and the role of managers.

3.5 Operationalising the Field-based Research Study

In previous section, I have presented a conceptual framework that links the goal of my study as the main research questions to the field-derived research within the Canadian energy and utilities industry. It is of significant importance before starting the field research with an intent to build multi-case study, I hereby intend to verify: (i) the selected object of examination as a unit of analysis, (ii) to what extent and magnitude are the available primary data, (iii) scheme of data collection, and (iv) methodology of data perusal. Case selection is determined by the research purpose, question, theoretical context, and other constraints such as accessibility, resources, and time available (Rowley, 2002). Moreover, using well-known, established Canadian companies with good performance records will provide representative information and hence it is worthwhile for an investigation (Stuart et al., 2002). I purposively conducted this doctoral research with an intention to shed the light on the phenomenon of accelerating the management innovation.

A number of possible contacts among leading Canadian energy and utility companies were considered. The organisations and senior leaders selected for analysis in these case studies were individually approached through formal contacts by sending request of voluntary participation. Choosing appropriate cases with their willingness to collaborate with research and accessibility are important for theory building to allow innovative managerial processes to be investigated. Ontario Power Generation (OPG) and Toronto Hydro Corporation (TH) are the Crown Corporations and largest players in their respective industries' value chains. Enbridge Gas Distribution (EGD) is a private subsidiary of a larger Canadian public company and local distribution utility company with a long history of adoption of managerial process-focused change programme in the attempt to turn into a top-notch organisation. DE (Direct Energy Marketing Limited) is a private subsidiary of UK-based integrated utility, Centrica Plc., does not only have significant history in the province of Ontario, Canada, but the company has been the industry pioneer and a series of innovator in the deregulated energy retailing market. This enables analytical comparisons of corporate case studies with respect to their structural, processual, and cross-boundary network relationships.

The four companies, in their collective efforts to solidify their leadership position, strive to persistently optimise in-house competency of enterprise-wide managership. They have embedded, to some extent, models of innovative management of management innovation in both their operations and infrastructure. Attaining an influential quality endorsement from the internationally accredited association, for instance, the Ontario Power Generation Inc. (was awarded a prestigious Hackett Award 2009 for transforming OPG Finance function into top-notch performance) is evidently a reason in

sustaining industry leadership, but the authority of pursuing a described model is also vital to overseeing the enterprise towards a shared value.

Using a multi-case design, I follow analytical "pattern-matching or replication logics" that assessed outlines made from gathered field-insights with the envisaged one expanded in prior section of research problems. There seem to be copious instances where observable facts have been investigated prolifically using inductive type of case-study (Eisenhardt and Bourgeois, 1988; Gersick, 1988). The research undertaking employs a Type IV embedded, multi-case design (Yin, 1994). As for the unit of analysis in this doctoral thesis, the primary one is experimentation of management innovation (MI), and the embedded units are the sponsoring case organisation itself.

3.6 Data Collection and Analysis

For my research study, the following data sources were acted upon: (1) web-based survey, (2) in-depth interviews, (3) archival documentaries, (4) publicly-accessed record information. Yin (1994: p.92) argues that "with triangulation, the potential problems of construct validity also can be addressed because the multiple sources of evidence essentially provide multiple measures of the same phenomenon."

3.6.1 Web-based survey

In its simplest form, survey may be defined as an effective methodology to gather insights from a large number of respondents through the utility of questionnaires. Online or web-based survey questionnaire can be advanced to accumulate and assemble subjective data through online communication media. The web-based survey used in this doctoral research was a thirteen questions posted on the SurveyMonkey® website (www.surveymonkey.com) to assess the advanced understanding and management intensity in experimenting the management innovation (MI). A template of web-based survey is enclosed in Appendix 8.1 (p.257).

The survey was conducted from January 5, 2011 to April 13, 2011. The survey sample includes senior leaders (c-suite executives and senior managers) whose responsibility for mobilising MI resources in the past fifteen years demonstrates expertise in this issue area. I initially compiled a list of twenty-five senior leaders across four case organisations who have repeatedly diffused MI in their respective functional work. If this web-based survey were to be distributed among the many managers with little or no experience in MI, results would likely be skewed by responder bias—only those with

the solid experience and strongest opinions would answer. By only inviting those with firm expertise on experimenting MI, and thanks to the high response rate (92%), results are thus more statistically valid and less sensitive to error.

3.6.2 In-depth Interviews

In this research, a technique known as "social labelling" (Shanteau, 1988; Sternberg, 1994) was used to select the referral sources, who were seasoned energy consultants and leaders of professional organisations. These referrals were then requested to name at least one person of whom they had a previous working relationship, particularly to those whose profiles fit the explicit term of a management innovator. The selection of the survey participant was considered of primary importance to the success of the study. From a pool of twenty-five senior leaders, twenty-three were voluntarily selected to participate in. The individuals were either c-suite executives and/or senior managers and are knowledgeable representatives from case companies generally regarded as key leaders in the practice of management innovation with budgetary responsibilities (Appendix 9.1: p.263).

The interview was conducted from January 14, 2011 to December 23, 2011 (Appendix 9.2: p.263). The instrument (i.e.: semi-structured interview questionnaire) was constructed from the findings of the literature review. The questionnaire was distributed at least two weeks in advance of the scheduled in-depth, face-to-face interview for the purpose of validating a shared understanding of the innovative management of management innovation. Throughout the sessions, a set of web-based survey templates and semi-structured interview questionnaires were discussed to reinforce key challenges such as how do the managers disseminate the vision and strategy for management innovation, what organisational design do the managers have to encourage improvement in ways they can innovate in structural, processual and cross-boundary networks, what examples can they provide for understanding how his/her organisational hierarchy and protocol allow the rapid escalation and consideration of innovative management practices, etc.

Throughout the study, attempts were advanced to triangulate various data sources, employing cross-examination and multi-informants (industry SMEs-subject matters experts) to shun conservative predisposition during the sessions of on-site interviews. I have also conducted follow-up interviews to learn of the progresses that they were experimenting, commercialising, and accelerating in their management innovation initiatives. The semi-structured interviews were digitally audio-taped (Appendix 9.3: p.264). and transcribed and the resulting 115 pages of primary data were thoroughly analysed and synthesised (Appendix 9.4: p.264). Numerous steps helped ensure the

trustworthiness of this study, including research epoche, an enduring appointment with the interviewees, iterative verification and triangulation of data, respondent check and the establishment of an audit-like trail (Lincoln and Guba, 1985).

3.6.3 Internal Archival Documentaries

It is increasingly cited as the best medium for cross-examination against survey and interview results, internal archival documentaries, used advisedly, is intended to triangulate data. Over twenty-four archival documentaries were obtained from various interviewees mostly after the interview sessions. These include online business plans, annual strategic planning documents, strategy proposals and various internal memos. Most helpful were the various business plans and strategic planning documents, covering the business strategies from a decade long that evidently showed how mobilisation of resources (either investment in value-creative initiatives or divestment in value-destroy strategies) in every level of managership and leaderships at case companies materialised.

3.6.4 Public Record Information

I also perused over 200 public record information and documents, including press releases, white papers, annual reports, MD&A (management discussion and analysis), regulatory/legislative filings to the Ontario Energy Board (OEB), equity analyst reports, and articles of energy and utilities industry. This publicly-accessible data can also be a direct source of affirming the pervasive implementations of MI and as a pragmatic source of comparisons to what management innovation was being perennially experimented.

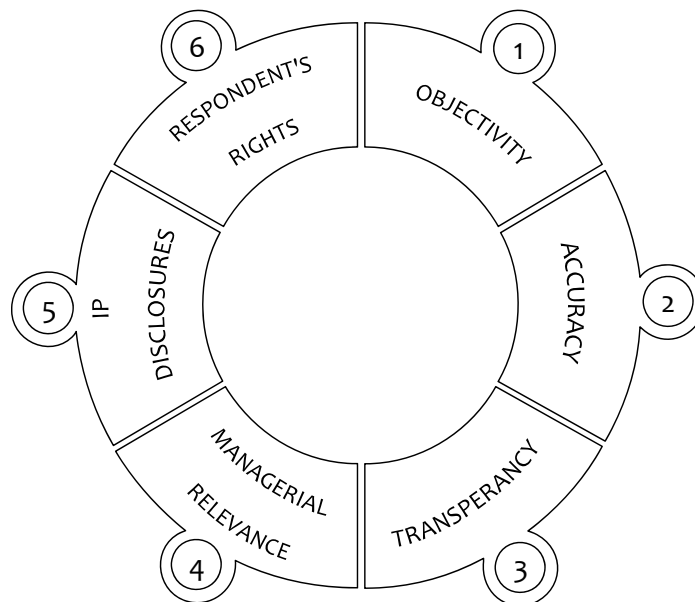
3.6.5 Data Perusal

Beginning with data collection (Eisenhardt, 1989), this empirical study constructs from comparative facts and academic literatures. Nevertheless while attempts must be warranted not to converge onto a prearranged conjecture, exploiting the current theoretical premise may hone a line of inquiry and state an array of concepts probed during the fieldwork (Eisenhardt, 1989). As per my extant study, I purposively extracted the innovation management and management innovation literatures to assist in synthesising the central concepts and associated strategies.

3.7 Considerations of Research Ethics

The research ethics serve as a fundamental factor in the reconfiguration and operationalisation of field-based research. The quality standards essential to research ethics not only wrestle with topical themes such as breach of copyright and data integrity, but also supplementary challenges such as deference of individual privileges stem from any research studies that orient towards human interactions. In general business research, considerations of research ethics are also concerned with safeguarding the privileges and responsibilities of the individual interviewees or survey respondents and/or topic under-studied. The interviewees privileges are inclusive of data confidentiality and to offer candid responses and collaboration and the individual rights to the protected.

Figure 3.5: Research ethics



Source: Author

As portrayed in Figure 3.5 above, I am, as a doctoral researcher and business scholar, required to clearly act in accordance with The University of Manchester's code of research ethics:

1. Adhering to the research objective.
2. Preserving high standards to warrant data accuracy via objectivity and qualitative multi-case study exploration.

3. Never misrepresenting the interpretative data accuracy, nor overstating the significance of both the web-based survey and interview outcomes by amending the findings. I am obliged to peruse all data candidly and to report accurately the actual data collection methods.
4. Reporting accurate findings throughout the production of DBA thesis.
5. A clear acknowledgement must be given in the thesis for each and every books, articles, or documents used. Quotations must always be aptly identified, and the references and bibliography must include every book, articles or archived documentaries used in any way in various research papers, dissertations, and theses.
6. Safeguarding the right to confidentiality and/or privacy of both the interviewees and survey respondents.

3.8 Conclusion of Chapter Three

As shown in Table 3.2 below, a detailed research methodology was portrayed alongside its respondents selections and measurement processes.

Table 3.2: Summary of research method

LEVEL OF DECISION	SELECTION
Orientation (of Epistemology)	Interpretivism
Type	Exploratory
Design	Type IV embedded multi-case design (Appendix 14: p.269)
Data collection	Web-based survey, semi-structured Interviews, public record information (annual reports, white papers, regulatory/legislative filings to the Ontario Energy Board), internal archival documentaries (business plans, strategic planning documents)
Analytic techniques	Pattern matching (based on analytical replication logic)
Context	Canadian Energy and Utilities Industry
Unit of analysis	Innovative management of management innovation at case researched companies - OPG, EGD, TH, and DE.

Chapter 4: Multi-Case Study

Managing The Dynamics Of Adaptive Transformation-Based MIs

Parsing the strategic priorities of companies while unlocking their IMMI capability

*In an uncertain world of exponential change, the
innovative management of management
innovation is a certainty*

4.1 Introduction

An exhaustive discussion on the research methodology applied in this study was presented in prior chapter. Consistent with other exploratory case studies, in-depth interviews were advanced. The principal goal of the multi-case studies was to obtain evidence and to document the management practices and human capital factors that each company uses to translating corporate strategy to MI acceleration process. I carried out both the web-based survey and in-depth interviews with senior leaders from the businesses of each of the participating companies.

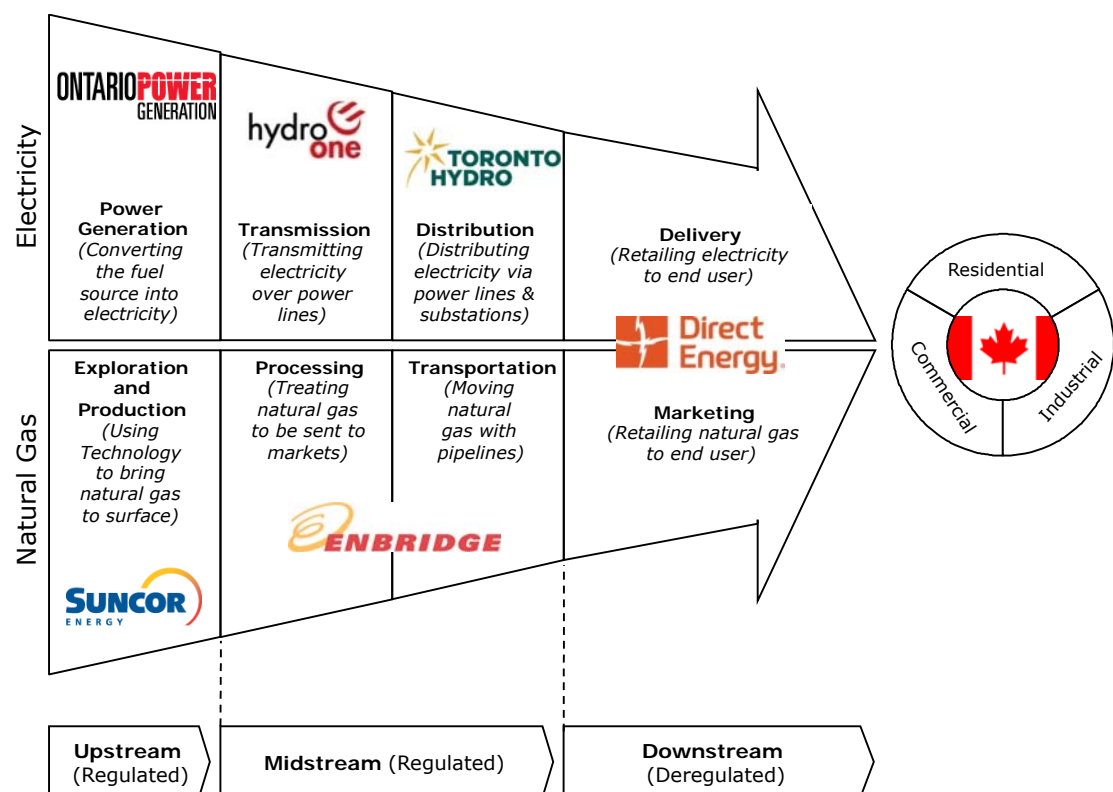
All survey responses (Appendix 8.3: p.262) and interviews (Appendix 9.4: p.264) were digitally recorded and transcribed. Detailed notes of survey, interviews, archival documentaries and public record information were analytically synthesised and used to compile case study reports. The production of case studies' summaries were returned to all interviewees with respect to gaining validation and ensuring accuracy. It is intended to also maintain goodwill and continuing agreement for the primary data to be utilised in the study findings. In every cases below, the within and cross-case analyses (Eisenhardt, 1989) were attempted by classifying key emerging themes and/or pain points and then categorically clustering or contrasting them.

This chapter discusses four corporate case studies in the Canadian energy and utilities industry. The primary data is qualitative in nature and was collated from the web-based survey, in-depth interviews, archival documentaries and public record information as identified in Chapter three. This is elaborated in eight sections. Section 4.1 commences by highlighting the chapter's structure. Section 4.2 conveys the situational background of the Canadian energy and utilities value chain. Next, section 4.3 presents a high level overview of the participating case researched companies. In the subsequent sections 4.4, 4.5, 4.6, and 4.7, the strategic positioning of case companies with respect to their IMMI practices will be analytically explored and conversed in four distinct corporate case studies. Finally section 4.8 concludes the chapter.

4.2 Canadian Energy and Utilities' Value Chain

Once exceptionally stable and predictable, today's Canadian energy and utilities companies confronts an assortment of operational issues and possibilities along with rapidly shifting strategic circumstances. (Figure 4.1). On top of their conventional objectives of public safety, organisational efficiency and system reliability, these companies must address structural changes and environmental concerns such as asset modernisation, lackluster performance in innovation management and an ever increasing aspiration by end-users to be in a better self-control over their choice and consumption of energy in pursuit of lowering carbon footprint.

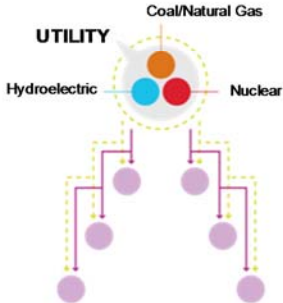
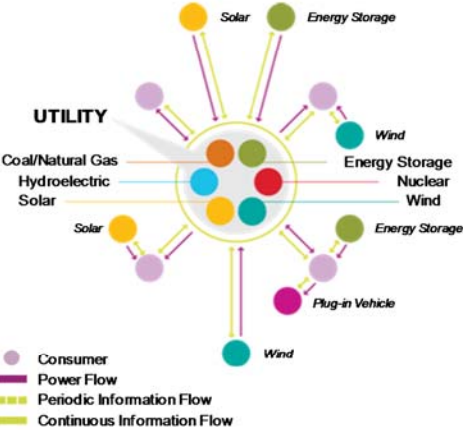
Figure 4.1: Canadian energy and utilities' value chain



Source: Author

The Canadian energy and utilities market forces are creating the need for an evolution in the energy value chain. Meeting the end-users' requests to convert these issues onto possibilities entails co-creation, collaborations cross-boundaries and scalable transformation from traditional to transformed utility business model (Table 4.1). New innovative management approaches to providing end-users with reliable energy and with the rapid emergence of digital technologies are occurring in parallel to business-as-usual models that have turned out to be more expensive, complicated, tactically risky and less strategically relevance.

Table 4.1: Transformation in energy and utilities' business models

FACTOR	20TH CENTURY	21ST CENTURY
Business Model	<p>Simple, based on steadily increasing electricity sales typically from an expanding asset base of centralised generation and traditional¹ delivery infrastructure.</p> 	<p>Complex, integrated energy services serving diverse and evolving customer needs with an information-enabled infrastructure.</p> 
Electricity Demand	Increasing	Flattening with potential decline, exception being the deployment of new electric vehicles ²
Capacity Cost	Average cost of new capacity stable or declining	Average cost of new capacity increasing ³
Cost of Carbon	None	Moderate and increasing
Utility Objectives	Reliability, Customer Service, Affordability (low rates), Returns to Shareholders ⁴	Reliability, Environmental Quality, Service Quality, Affordability (low bills), Returns to Shareholders
Role of the Customer	Passive	More active, equipped with the smart technologies and incentives to manage energy consumption and generate energy

¹Although new technologies have been introduced, long equipment lifecycles, standardisation and utilities' aversion to risk have tended to limit the implementation of innovative T&D system technology.

²New energy services such as powering electric vehicles may increase demand, but the net impact is currently unclear.

³The cost of new capacity will be offset as low carbon generating resources become commercially mature.

⁴Investor-owned utilities, in addition to managing costs, have the goal of earning market-based returns for shareholders, while publicly owned utilities have the goal of minimising cost for members.

Sources: Ceres/Navigant (2010), IBM (2010)

4.2.1 Smart Transformation: From Smart Grid to Smart Services

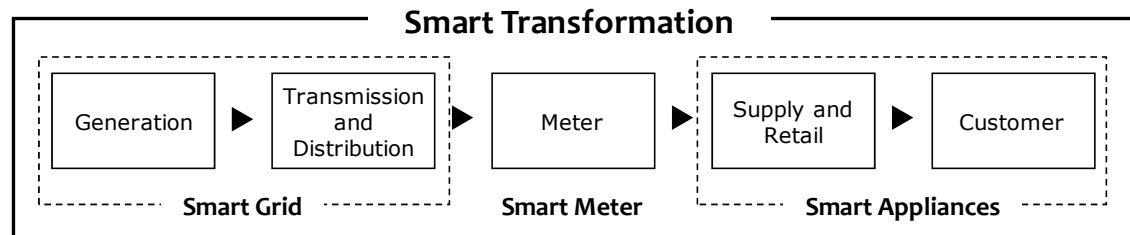
As depicted in Figure 4.2, Canadian energy and utilities organisations understand that their engineering prowess in energy generation and delivery are no longer sufficient.

Energy consumers and prosumers are swiftly becoming more active and engaging bi-directionally based upon the smart services. The smart transformation is now beginning to change the global energy landscape and even shake up the Canadian energy and utilities' value chain. The vast majority of contemporary grids in Ontario were devised and installed decades ago. Digital infrastructure and collaborative technologies have insofar accelerated, and smart simply make available these emergent infrastructures and technologies to all-pervading managership. The proliferation of technology options in recent years has inundated end-users and consumers with choice.

The Smart Energy Systems have three main components: Smart Grid, Smart Meter and Smart Appliances. By making better use of information and communications technology (ICT) and actively involving end-users, the new smart systems is poised to alter the way we:

- *Generate Energy:* Smart Grids facilitate alterations in power generation, integrating diverse fuel inputs from energy renewables (e.g., solar and wind) and decentralised generation (e.g., micro generation).
- *Deliver Energy:* Smart Grids send energy and information bi-directionally, giving utilities more flexibility to manage supply and demand. Both Smart Meters and Smart Grids offer local utilities with adjacent opportunity to fetch new revenue stream from consumerisation of electric vehicles as well as abilities to minimise overhead by better monitoring of power generation to end-user's requirement.
- *Consume energy:* Smart Meters and Smart Appliances show end-users how much energy they use. It is essentially about how they chart to use an intersection of new technology and behavioural economics to lower energy use. Hence the typical consumers is being transformed into becoming prosumers. They could self-generate, resell unused energy back to the utilities' systems and importantly, participate into an engaging responsibility for their owned energy consumption and managership.

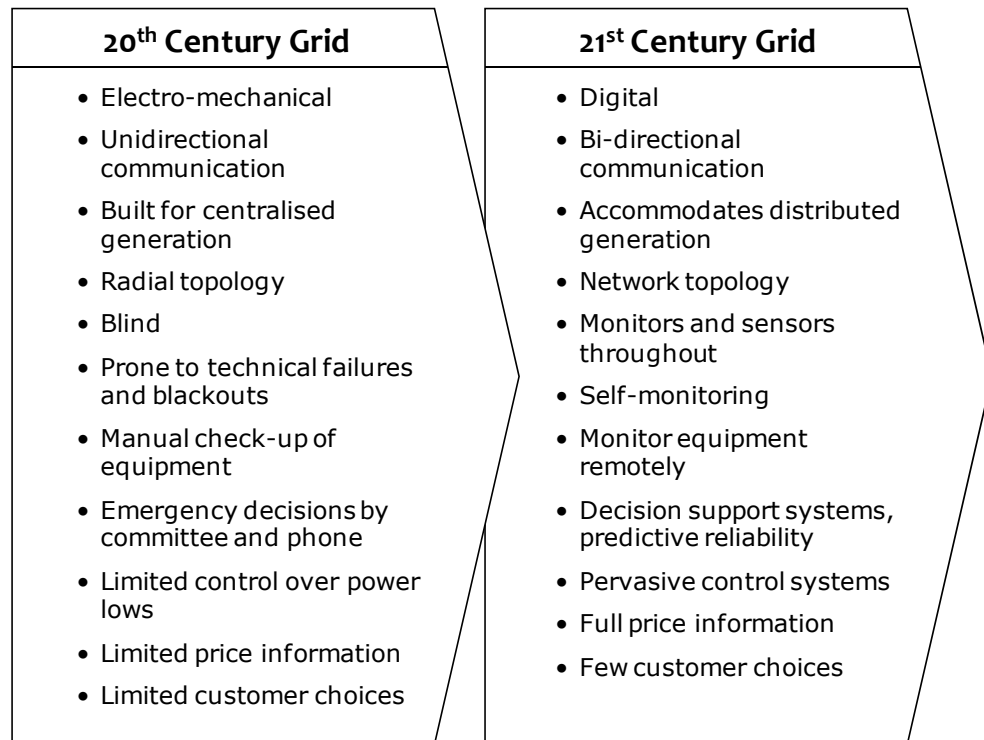
Figure 4.2: Smart energy systems



Source: Re-adapted from IBM (2010)

The smart transformation (Figure 4.2) above requires a change to business-as-usual. A critical skill will be the ability to managerially execute new strategies in the face of evolving markets, new opportunities and threats. There will be unprecedented pressure to adapt utility organisations, systems, managerial processes and people capabilities. As portrayed in the following Figure 4.3, the concept of the Smart Grid is to leverage advancement in IT (e.g.: digital sensors), to assist local utilities and end-users (i.e.: consumers and prosumers) to proceed with intelligent decisions about their energy usage. Utilities can then raise the cost of keeping on the end-user's lights or running the washing machine during peak hours, as well as better manage the grid to incorporate renewable sources such as solar energy or wind power.

Figure 4.3: Grid scenario

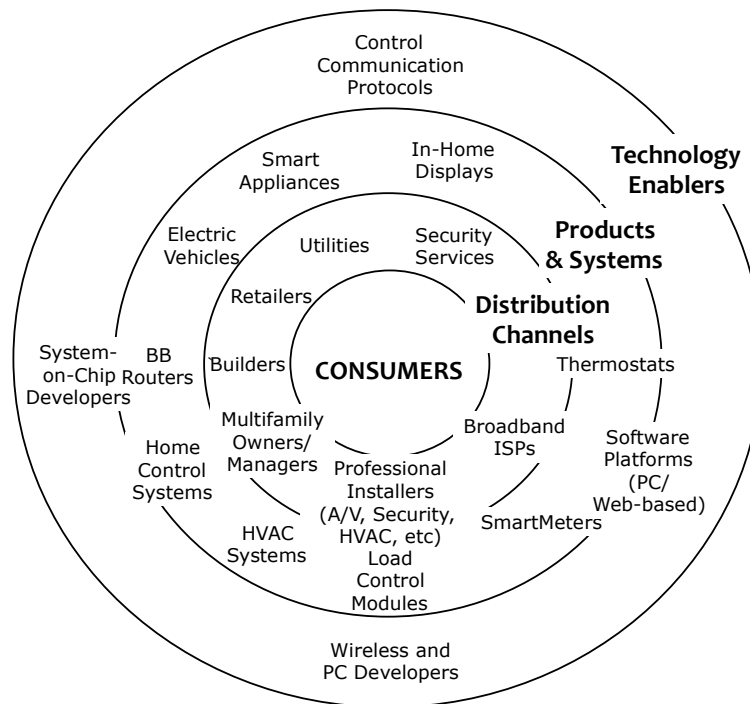


Source: Author

The resulting implication should lead to a changed behaviour, decreased costs, fewer power outages, and lower environmental impact (allowing local utilities to build fewer power plants, and help spread green technologies). For instance, the current electric dumb-meter at home can only provide the homeowner and local utility rudimentary information. The local utilities simply would never know if power blackout happens unless homeowners call in. However with Smart Meters and ubiquitous internet, all information are relayed instantaneously providing local utilities and end-users a synchronised understanding of how much power is being consumed. In the next several

years, the mass rollout of smart new appliances will be electronically networked into Smart Meters, end-users can then programme their smart appliances to run efficiently at specific given times of low power demand (Figure 4.4). Thus by balancing the power demand, Smart Meters assist local utilities exploit the installed capacity of existing power plants while avoid constructing more, thereby reducing carbon emissions.

Figure 4.4: Consumer smartgrid ecosystem



Source: Lovejoy (2011)

4.3 Overview of the Participating Researched Companies

This section portrays the multi-case studies conducted in four Canadian energy and utility companies (Appendix 14: p.269). The web-based survey was carried out from January 5, 2011 to April 13, 2011. This is followed by in-depth interviews that were executed from January 14, 2013 to December 23, 2011. Corporate information for each of the four case participating companies is provided in the Table 4.2 overleaf. In Canada, energy and utility companies are mammoth in size and employ sizable workforce. Most of these companies are headquartered within the province of Ontario. Ontario is the second largest Canadian province (after Quebec) and home to the nation's most populous city of Toronto and Ottawa (Canada's capital). All four companies are the largest and considered to be reverential market leader of its respective sectors. Apart from deregulated industry in which Direct Energy remains an

independent, non-incumbent utility's retail arm, all other case companies are fully regulated by the Ontario Energy Board (OEB), an energy governing authority of the province of Ontario, Canada.

Table 4.2: Case researched companies

DESCRIPTION	ONTARIO POWER GENERATION INC.	ENBRIDGE GAS DISTRIBUTION INC.	TORONTO HYDRO CORPORATION	DIRECT ENERGY MARKETING LIMITED
Description/ Legal Structure	GenCo (Generation Company)	Natural gas distribution company	Electric distribution company	Competitive Energy Retailer (Electricity and Natural Gas)
Type	Public Company (Government of Ontario)	Public Company (TSX/NYSE: ENB)	Crown Corporation	Private Subsidiary (Centrica PLC) (LSE: CNA)
Regulation	Regulated	Regulated	Regulated	Deregulated
Gross Revenue (C\$)	\$5.6 Billion (2012)	\$1.9 Billion (2012)	\$2.9 Billion (2012)	\$9.5 Billion (2012)
Full-Time Equivalent (FTEs)	12,000	2,105	1,703	5,042
Revenue/FTEs	\$0.5M	\$1.5M	\$1.6M	\$1.9M
<u>Note:</u> Revenues and FTE count, as of EOY 2011/2012, were sourced from both the annual reports and equity research reports for respective companies.				

The elaboration of each case organisation commences with introductory background and outline of enterprise's operations. This is inclusive of legal structure, contemporary regulation and legislation, strategic intent, mission statement, corporate values, core products and services, energy production, commercial market, organisation, and variables in human capital. The configuration in portraying the case study analysis begins by conversing the contextual facets, tracked by the prolific experimentations of management innovations, and descriptions of the content.

The next section provides the details from survey and the case study interviews and the topical themes that analytically emerged from the creation of multi-case studies.

4.4 Case 1: Ontario Power Generation Inc.

Ontario Power Generation (OPG) was incorporated on April 1, 1999 as the custodians and stewards of the legacy of publicly-owned power generation. The company's strategic intent is to be a premier North American leader in low-cost and clean energy generation. This vision is pursued through three corporate strategies: (1) Performance Excellence; (2) Project Excellence; and (3) Financial Sustainability (OPG Annual Report, 2012). OPG's core mission is to produce electrical energy from its diversified assets of nuclear power generation, whilst at the same time managing in a secure, transparent, and environmentally accountable manner.

Today with \$27 Billion in generating assets, the province of Ontario wholly owns the company. Whereas Ontario Hydro in the past, had an contractual responsibility to supply electricity irrespective of the underlying economics, OPG's current mission is inherently similar to those of any private-sector companies to produce electricity to help meet Ontario's electricity needs, to commercially compete cost-efficiently and to create shareholder value by making sound decisions. As at December 31, 2012 (OPG Annual Report, 2012), OPG's electricity generating portfolio had an in-service capacity of 19,051 megawatts. The company manages and operates three nuclear-power plants, five thermal generating stations, sixty-five hydro-electric generating stations, and two wind power turbines. OPG also leased out two of its owned nuclear generating stations, to Bruce Power L.P.

OPG is well-known throughout his operation in reinforcing the importance of exploiting a continuing perspective. Since 2011 under Tom Mitchell's leadership, OPG has spearheaded a major initiative to re-transform OPG into an agile and leaner organisation. This entails a relentless focus on scalable efficiency, a streamlined positional configuration of senior leaders and a much abridged composition of business corporation by synergistically merging its previously separated hydroelectric and thermal businesses.

4.4.1 Corporate Profile

Ontario Power Generation Inc. (OPG) was established from the break-up of Ontario Hydro Inc. (originally conceived as the Hydro-Electric Power Commission of Ontario in 1906). In April 1999, Ontario Hydro Inc., a Canadian Crown corporation, pseudo-government monopoly and fully-integrated utility in the Canadian province of Ontario was split up into five successor companies. The first company is OPG where it serves as a GenCo (generation company). Secondly, Hydro One Inc. (was previously known as Ontario Hydro Services Company) assumed the operations of power transmission and distribution as well as the ancillary energy-related services. Thirdly, Electrical Safety

Authority (ESA) is a provincial agency responsible for safety inspection. Fourthly, the IESO-Independent Electric System Operator takes on the accountability for assuring reliability of power system dispatch. Finally, the OEFC-Ontario Electricity Financial Corporation retains the administrative management of retirement of Ontario Hydro's outstanding debt.

Upon successfully transitioned its business from Ontario Hydro, William (Bill) A. Farlinger was appointed as OPG's Chairman, Wayne M. Bingham as CFO, Gene Preston as Chief Nuclear Officer, and Ronald (Ron) W. Osborne as President and CEO. In his transformative role, Ron immediately laid the groundwork for accelerative growth with innovative management in the performance excellence in company's power generation mix, a commercially based marketing/sales infrastructure and outstanding stewardship of ecological conservation. He was adamant to make OPG a more customer-focused company with a strong commercial wholesale orientation in North American energy market. Starting off with OPG's two strategic audits that were done in mid 1997 and 2001 (Appendix 10: p.265). These audits critically revealed the managerial performance of OPG's nuclear plants as "Below Standard" or "Minimally Acceptable" in five different attributes. After a report blamed OPG senior leaders for lack of nuclear experience and insidious mismanagement of its Pickering Nuclear Generating Station, this resulted in the total cost spiralled out of control and deadlines to restore the plant changed 13 times. In April 2003, the Ontario's new Liberal government moved swiftly to take control of OPG, firing and replacing its c-suite executives, boards and few key senior managers. Accordingly, ongoing strategic projects were sequestered and the new ones got postponed indefinitely, project reporting structures amended, and compensatory reward system to senior managements were reconfigured. This transformation costs the company C\$1.25 billion to reorganise, nearly three times of the initial estimation of \$475 million. This had forcefully then driven up electricity prices in Ontario and shaken public faith in the province's power supply. The then Energy Minister, John Baird, appointed Jake Epp in May 2003 to become the Chairman. Epp then immediately appointed a long-time bureaucrat and OPG vice-president, Richard Dicerri as an OPG's Acting President and CEO, Donn W. J Hanbridge was installed to be the CFO and Pierre Charlebois became an Acting Chief Nuclear Officer. In the ensuing two years, Epp and Dicerri investigated the damages and gradually rolled out remedial plans to restore the chronically troubled reactor in Pickering, Ontario.

Throughout 2004, Epp and Dicerri deployed initiatives to improve its corporate culture, employee morale, and cost competitiveness. Dicerri enhanced its review and control process over operating and capital expenditures, resulting in significant savings during the year. In May 2005, Richard Dicerri ended his tenure as OPG's Acting President and CEO to become the Deputy Minister of Industry Canada. Upon inheriting OPG with

deep-rooted organisational conditions and inertia, James F. Hankinson, was appointed by the Board in May 13, 2005 to become the new President and CEO. His immediate priorities were first to stabilise the company; then to focus it on operational performance improvement; and along the way, improve the company's reputation. He led the transformation by reverting the company's poor managership and governance as well as its lagging financial performance. OPG was at that time under significant financial stress, due in part to a rebate mechanism that drained about \$1 Billion annually from the company's bottom line and cash flow and the stakeholders' concerns over company's overall governance. The perception was that OPG's functional leaders and project engineers were considered poor project managers whom were categorically under-skilled in nuclear management. OPG was also severely criticised for having a loosely managed organisation with little discipline, no supporting infrastructure and limited consistency in policies across nuclear power plants. Hankinson then undertook a systematic effort to implement comprehensive organisational restructuring. He embarked on revitalising OPG as a performance-driven company and focused on key strategic goals – reliable and efficient generation, asset improvement, capacity expansion, financial sustainability and responsible corporate governance environmental stewardship and corporate citizenship.

While his predecessors historically is concerned with immediate cost reduction and capital expenditure (CapEx) investment, Henderson championed a captivating turnaround strategy by rewiring all constituents of an enduring fiscally-prudent operating model at OPG. At the core of his business new business management process was a set of leading indicators for the businesses, the so-called "value drivers." Managing the organisation according to the value drivers meant defining forward-looking measures for all activities, forecasting them, and explaining the variance between the forecast and the actual results. These value drivers were cascaded down in actionable and measurable items in the organisation, to determine if employees and managers were performing in line with their commitments. His early action provides a model of effective change leadership. In his initial few weeks, he immediately sought counsels from reputable consulting and advisory companies.

As part of addressing the situation, they recommended that OPG should set more specific rules and guidelines to systematise the management innovation (MI) process, foster cross-functional MI deployment task force, and reengineer a new performance evaluation system, of which a hallmark is that managers and employees would be rewarded for success but not penalised for taking calculated risks that may lead to intelligent failure. Hankinson then reenergised the business with a series of symbolic and substantive moves: adapting "enabling" bureaucracy (as opposed to coercive) to foster MI, breaking down cross-boundary walls, reprioritising project funds, shifting key

managers around and responding attentively to the concerns of key nuclear staff in each of the three disparate nuclear plants in Pickering A, Pickering B, and Darlington. In addition to leveraging his prior experience, Hankinson understood that the more centralised formation OPG had previously embedded to manage its hydroelectric generation assets and commercial business had resulted in a suffocating bureaucracy. He flattened the company's hierarchical composition and severely minimised the role of the centre. Most decisions are kept as close to the customer or IT as possible; the headquarter is responsible for ensuring accelerative functions. The functional managers have only the expertise that the field operators at nuclear stations require. Reward systems are specific to the business units' operations and emphasise actionable outcomes and intelligently navigating risks.

In his strategic transformation efforts, Hankinson's management strategy can be summarised as follow:

- Management innovation fosters shared resources, but the decentralisation management of three nuclear stations ascertains that the managerial processes of the new unit will not become just another part of the company.
- Managing evolutionary change and leading revolutionary change.
- Embracing an enterprise culture that promotes continuous innovation and reliability.
- Institutionalising management succession planning.

However after several months of rolling out decentralised management to OPG, several managers echoed that OPG's decentralised management approach, particularly OPG high performance culture and its practice of linking compensation to divisional financial results, made it increasingly more difficult to pursue interdivisional initiatives because collective synergy is difficult to attain. Employees are accustomed to tough negotiations and independence when accomplished their deliverables. In May 2009, Tom Mitchell (was previously Chief Nuclear Officer) was appointed the President and CEO. Under his charismatic leadership, OPG has been thriving and sustaining high performance culture in today's challenging economic climate. He championed the preservation and incessant optimisation of OPG's hydro-nuclear generating assets. He spearheaded the largest hydro-electric development projects ever carried out in Canada and helped spur job creation for the people of Southern Ontario. Some of the high-profile projects include (1) Niagara Tunnel Project is \$1.6B employing 450 FTEs-full-time equivalents; (2) LMP- Lower Mattagami Project is \$2.6B supplying more than 800 FTEs; (3) Upper Mattagami and Hound Chute Project was a \$300M that created 500 FTEs.

4.4.1.1 OPG's Awards and Recognition

- Environmental Earth Angels Environmental Achievement Award (Dec-2012).
- 2012 CEA Sustainability Company of the Year (Jun-2012).
- Corporate Knights Best 50 Corporate Citizens in Canada (Jun-2011).
- Environmental Earth Angels Environmental Achievement Award (Apr-2011).
- Organisation of CANDU Industries Chairman's Award (Apr-2010).
- Canada's Top 100 Employers (Oct-2009).
- Hackett Group Award for OPG's Finance Organisation (Sep-2008).
- OPG had 4 of the top 5 performing CANDU worldwide in 2008.
- Darlington and Pickering B: In 2009 achieved 4 and 5 million hours with no LTI-Lost Time Injury.
- Pickering B: 3 of 4 reactors operating above 94% capability (2009).

4.4.2 Managerial Processes at Ontario Power Generation Inc.

OPG requires managerial processes in place for its efficient functioning, which help them implement their vision for the future of the organisation. In general, the managerial process can be divided into two categories, albeit their structural and strategic relationships are reinforcingly intertwined: (1) Operations, and (2) Infrastructure. While "infrastructure" refers to the management of essential operations' components (Table 4.3), the "operations" are management courses of action related to the day-to-day operation of infrastructure components and applications (Table 4.4). Using a combination of web-based survey, in-depth interview, internal archival documentaries (companies' annual strategic plans, operating business plans and internal memos) and external public record information (OEB regulatory submissions, company's annual reports, MD&A, equity research reports), I have collated and summarised below the key managerial processes and subordinate processes at OPG. Extensive attempts were completed to triangulate across fact-based data points, utilising internal archival documentaries and cross-perusing against other public record information to circumvent retrograde predisposition in the web-based survey and in-depth interview.

Table 4.3: Managerial processes in OPG operations

PROCESSES	SUB-PROCESSES	ACTIVITIES
Direct	Acquire energy	<ul style="list-style-type: none">• Generation Strategy• ISO bidding• Transaction execution• Transportation and scheduling• Risk management
Engage	Perform contract management	<ul style="list-style-type: none">• Develop joint venture agreements• Develop revenue sharing agreements
	Manage power	<ul style="list-style-type: none">• Monitor production

	production	<ul style="list-style-type: none"> • Manage site operations • Manage support services • Coordinate transport activity • Capture month-end sales/production • Manage field abandonment
Methodise	Manage nuclear facilities	<ul style="list-style-type: none"> • Determine field facility maintenance strategy • Identify maintenance structure • Acquire physical assets • Monitor/manage physical assets • Maintain work order historical documentation • Identify and plan field equipment maintenance • Schedule location/plant maintenance • Execute plant maintenance • Perform root cause analysis • Manager workovers • Manage fleet • Manage owner property
	Manage sales	<ul style="list-style-type: none"> • Purchaser contract administration • Plan/schedule/nominate product movement • Manage first purchaser credit exposure • Process electronic funds transfer • Process customer receipts • Manage customer collections
	Manage warehousing	<ul style="list-style-type: none"> • Develop inventory and materials management strategy • Receive stock on-site materials • Manage material warehousing • Manage stock transfers • Manage material disposal and waste
Orchestrate	Procure materials and services	<ul style="list-style-type: none"> • Develop and implement procurement strategy • Establish and cultivate procuring guidelines • Manage 3rd party vendor data and oversee contract performance • Administer contractors and Request-for-quotes • Devise and control procuring requisitions • Procure raw components and other service-related to in-house fabrication • Administer contractors management • Enable payment

Source: OPG internal archival documentaries, Interview transcripts

Table 4.4: Managerial processes in OPG infrastructure

PROCESSES	SUB-PROCESSES	ACTIVITIES
Direct	Manage accounting	<ul style="list-style-type: none"> • Perform transaction processing • Manage cash accounts • Administer ledgers • Carry out account closures • Manage book-keeping (fixed asset schedules) • Manage project finance and book-keeping/accounting • Administer taxes (corporate, payroll, personal, capital gains taxes) • Manage excise severance, and sales and use taxes • Manage property taxes
	Provide decision support	<ul style="list-style-type: none"> • Perform overhead accounting and allocation • Support product costing • Perform customer and product profitability analysis • Report and analyse business performance
Engage	Manage HR	<ul style="list-style-type: none"> • Establish and implement HR programme/policies • Manage employee recruitment • Manage new hire integration • Train workforce

		<ul style="list-style-type: none"> • Manage career development process • Perform employee data administration • Manage career development process • Manage compensation • Manage organisation and positions • Manage employee rewards system • Manage employee satisfaction • Monitor employee health and safety • Manage labour and employee relations • Manage employee separation • Perform life event/open enrolment benefits administration • Administer disability claims • Administer FSA (flexible spending accounts) • Administer consolidated omnibus budget reconciliation act (COBRA) • Process payroll
	Manage Information Technology (IT)	<ul style="list-style-type: none"> • Establish and evolve IT strategic plan • Develop IT architectural blueprints • Administer IT-specific contractors management • Establish IT-related goods and services • Proliferate IT-related goods and services • Administer the operations of various IT platforms • Provide IT learning absorptions • Establish and administer ecosystems of consumers • Strategise year-over-year IT capital expenditures, operations and maintenance and operational expenses for keeping the lights on. • Engage and coach IT business units or working teams throughout the extended enterprise
	Perform joint venture accounting (JVA)	<ul style="list-style-type: none"> • Maintain JVA master data and coding • Process cash call transactions • Process JVA transactions • Process JVA month end transactions • Prepare JIB (outbound) • Monitor joint ventures • Process JIB invoices (inbound) • JV analysis
	Plan and manage business	<ul style="list-style-type: none"> • Oversee competitive landscape • Devise corporate strategies (participation strategy and competitive strategy) • Manage corporate governance • Manage regulatory relationships • Define the business plan • Plan the business • Prepare the budgets • Plan and manage quality performance • Manage and improve business performance • Assess opportunities for strategic alliances, acquisitions, and divestitures
Methodise	Manage projects	<ul style="list-style-type: none"> • Determine programme • Determine projects • Develop initial project plan • Prioritise projects • Analyse project requirements • Develop detailed project plan • Analyse project feasibility • Obtain project approval • Manage project budgets and funding • Prepare and schedule project for execution • Execute project • Manage start-up and commissioning • Track and close project
	Manage capital and risk	<ul style="list-style-type: none"> • Manage liquidity • Manage capital structure • Manage financial risk

		<ul style="list-style-type: none"> • Manage corporate risk • Administer finance-accounting related matters such as depreciation policies and amortisation procedures • Operationalise the annual auditing exercises for the production of annual reports, MD&A, and other disclosures
Orchestrate	Perform production and revenue accounting (PRA)	<ul style="list-style-type: none"> • Maintain PRA master data and coding • Process shut-in • Manage transfer of ownerships • Process production and revenue transaction processing • Process revenue distribution • Perform PRA reporting and analysis • Perform PRA reconciliation • Receive revenue distribution
	Manage support services	<ul style="list-style-type: none"> • Conduct the administrative services • Oversee internal communiqué • Manage staff communiqué • Manage corporate law and legal-related workflows • Formulate, perform and report the carbon emission and staff-related safety metrics • Mitigate risk • Retain securities to critical infrastructures and operations

Source: OPG internal archival documentaries, Interview transcripts

In evaluating OPG's effectiveness in innovatively managing the management innovation, I have summarised the interview responses under nine factors, particularly using the responses from both the web-based survey and in-depth interview. These nine factors were then grouped under two categories: (1) Vision and Strategy; and (2) Innovative Management of Management Innovation. First category has two factors and the second has seven factors. Each factor topically explicates the management practices that reinforce OPG's innovative management capacity.

4.4.3 Vision and Strategy

In November 30th, 2011, Tom Mitchell (CEO) presented to the Toronto Board of Trade, entitled "Delivering Value in Today's Electricity Market" (OPG, 2011). In his speech, he stated his vision that OPG's key role is to create value by generating reliable electricity. He was also apparent on the requirement for a strategic perspective, particularly when referring to sustaining the legacy that Jim Hankinson, his predecessor, on transforming OPG into a value-driven enterprise. The other parts of his vision reinforced delivering value-creative strategies through MI, so that OPG remains a viable company to all Ontarians.

Mitchell's strategic intents can be aptly exemplified in two most recent cases of how OPG managers have executed several tailored management practices, which the company can start commercialising. First, OPG is the first nuclear generator to use the

customised BodyWave® Technology¹ (a smartphone-sized device that picks up the electrical activity generated when various brain waves occur) that enables nuclear maintenance staff to distantly perform instructions utilising specific brain waves. An OPG field technician at Pickering nuclear power plant completed a training drill, opening and closing nuclear generator valves, using only the power of his mind.

Secondly, OPG's Treasury department has recently won the 2011 Corporate Finance and Capital Award and the Pinnacle Grand Prize from the Association of Financial Professionals (the first Canadian company to win both prestigious awards) for an innovative finance structure for the Lower Mattagami Project (LMR). This \$2.6 billion initiative is the largest hydro construction project Canada in 40 years and saves Ontarians more than C\$40 million through innovation excellence in fiscal responsibility. What makes LMR innovative as it incorporates novel technical financing features through the integration of corporate financing elements in a construction project-financing environment. The financing structure secured approval from institutional lenders and credit-rating agencies as a unique entity, allowing episodic flexible and lower-cost financing over the construction period, versus pre-financing the entire project².

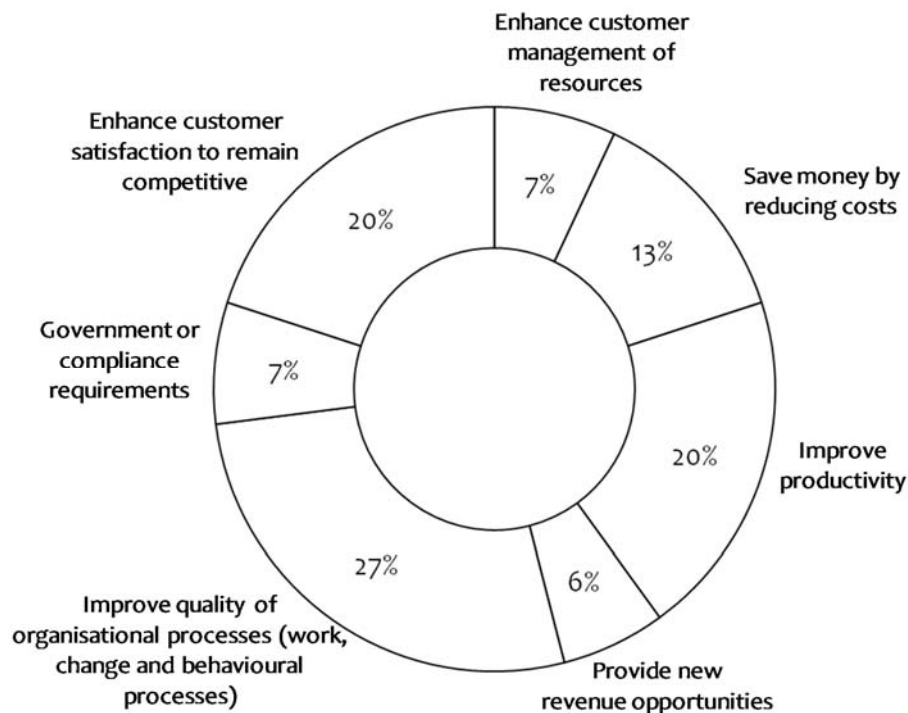
OPG senior leaders also face strategic challenges during their MI-building journey. One business driver common to all senior leaders is the managerial need to "improve quality of organisational processes."

The proportion of respondents who considered OPG's relentless focus on MI was driven by (1) improve productivity; and (2) enhance customer satisfaction to remain competitive. Sustaining nuclear industry leadership in innovation and reliability could be reasons and key determinant of success that the OPG senior leaders were able to reiterate MI strategic relevance. This compares to thirteen percent of respondents who only mentioned that the business driver was to "save money by reducing cost" (Figure 4.5).

¹ BodyWave® Technology is patented by Peter A. Freer of Freer Logic LLC (www.freerlogic.com).

² The Lower Mattagami Project (LMP) has some of the novel financing aspects include: (1) innovative legal arrangement; (2) broad capital markets platform; (3) reconfiguring the financing scheme from conventional project finance to corp. finance (as per the going-concern). This lowers initial outlay and right of entry into Canadian commercial paper; (4) synthetic amortising bond configuration that avails the admittance to much larger institutional investors and augments OPG's liquidity and minimal WACC spreads.

Figure 4.5: Key drivers triggering OPG to focus on MI



4.4.3.1 Dissemination of vision and strategy to management innovation

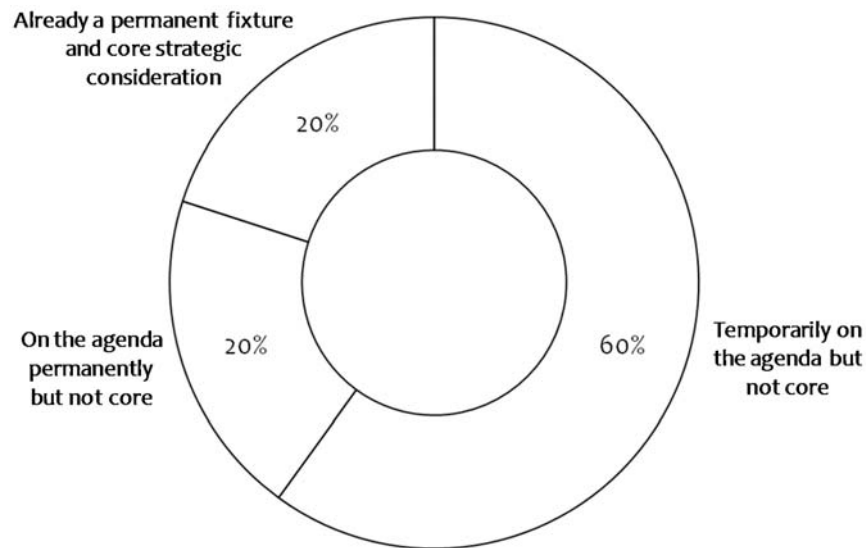
The shared vision and effective dissemination of management innovation strategy was emphasised by five senior leaders of OPG during the interviews. An in-depth interview conducted with a senior leader of OPG established the following starting point:

"management innovation (MI) has been a requirement to achieve the corporate objective and almost an obligatory survival strategy for OPG in maintaining its Hydroelectric power assets."

As illustrated in Figure 4.6, this assertion is congruent with the web-based survey conducted on the status of MI on OPG's corporate agenda. The vast majority of online respondents (sixty percent) confirmed that MI is "temporarily on the agenda but not core."

Of the remaining respondents were equally split on the status of MI as being "already a permanent fixture and core strategic consideration" or "on the agenda but not core", respectively. This suggests that there is a considerable scope for optimising managership in the diffusion of MI.

Figure 4.6: Status of MI on OPG's corporate agenda



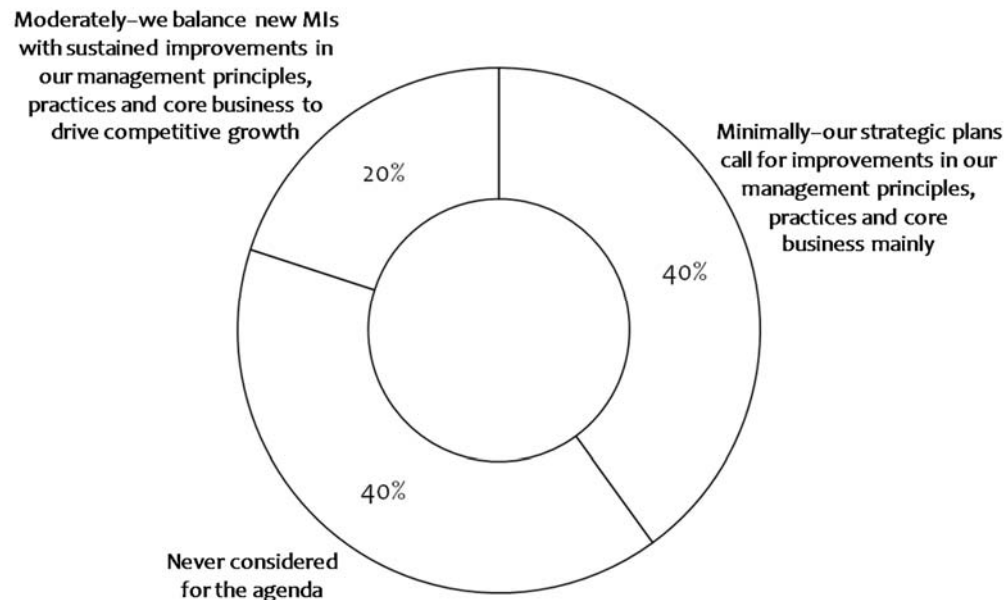
His profound participation in strategy content was feasible because OPG had an intently focused operational strategies in nuclear-power generation, which allowed Mitchell to accumulate multi-layered intuition for the extensive innovative management approach in the core business. Mitchell's leadership involvement, however, was at the outset anchored in strategic acknowledgment rather than planning. Most managers echoed the same sentiment:

"OPG explicitly disseminated their vision and strategy of management innovations using the internal and external mechanisms based on top-down hierarchical structure due to the size of corporate headcounts (of 12,000 employees)."

As depicted in Figure 4.7, when asked if the extent of OPG's corporate strategy is dependent on MI, the senior leaders respondents demonstrated an acute awareness of both (1) Minimally—our strategic plans call for improvements in our management principles, practices and core business mainly; and (2) Never considered for the agenda. Evidently this is a reinforcement of senior leaders' views on the status of MI on their corporate agenda highlighted above. Conversely, all senior leaders at OPG indicated that there was no awareness to maintain, balance new MIs with sustained improvements, or transform the company's management principles, practices and core business in the next 3-5 years.

Nevertheless, all indication points out to the fact that IMMI provides a foundation of MI discipline at OPG and a dynamic framework for its organisational growth.

Figure 4.7: Extent of OPG' strategy depend on MI



He later added that:

"The internal forums being leveraged are through (1) the use of collaborative workshops (brainstorm MI opportunities, prioritise strategic options, discuss strategic needs, and embrace intelligent failures) and break-out strategy meetings for the executives/top management through middle management; and (2) corporate intranet for the front-line management and supervisors of field technicians and staffs."

As shared by another manager, his view is centred on the importance of agile implementation:

"it was a shared believe that managers can become managerially agile and sustainable in everything we do. We do these by experimenting with novel ways of collaborating and innovating over an increasing number of path-breaking IT-enabled ideas, novel processes and agile structures."

He further amplified:

"what we ask our employees and managers to do is to continually focus on our operating mandate, which is to leverage the best-in-class management practices in nuclear generation and maintenance to: (1) operate as efficiently and cost effectively as possible; (2) strive to achieve safety excellence of zero injury; (3) become good corporate citizen; and (4) reduce environmental footprint."

He contended that:

"we tactically disseminated our vision and strategies using internal mechanism being used has been the corporate intranet. In respect to the external one, we have been actively participating in various nuclear industry and government regulatory conferences to keep abreast to the latest best management practices."

4.4.3.2 Leveraging collective intelligence

Most OPG managers make extensive reference to gathering collective intelligence through the effective internal collaboration of innovative ideas and management practices and bottom-up processes. The residual output is the TIPS programme that is closely tied to incentive-based compensation. The TIPS programme acts as a centralised repository of new ideas/practices that are relatively new to OPG. Successful novel ideas/new management practices will be advanced further by getting the appropriate executives/senior manager's sponsors and the submitting employee will be compensated accordingly (e.g.: paid leave, cash reward, exclusive membership to a certain group, preferred acceptance onto a desired course, etc). The more original or innovative an idea or practice, the more important it is for it to have an energetic champion to seek its promotion. A manager noted during the interview:

"as usual, rewards are allocated to all anyone who submits a new idea or practice; they should be given to a limited number of "potential high-value" submissions; to ensure their "value" is maintained."

This could be a compensatory reward for the best idea on a monthly basis, or simply a reward for the ideas/practices that have the most impact on OPG. The management team allows this greater flexibility, freedom and transparencies for all employees to exercise their talents and creativity for the advancement of best management principles and practices in OPG nuclear maintenance. There is also a culture at OPG, which reinforces managers' accountability to ensure that new ideas, innovative practices spawn throughout the organisations, quickly get hold of their way and receive impartially balanced deliberation. In other words, ideas/practices and feedback are lucidly encouraged enterprise-wide. The company's manager told:

"once these new novel ideas or innovative practices are either crowd-sourced or filtered for experimentation by the mid-level managers, then the OPG's principle-based approach, called "DASL" (direction, alignment, system, and learning) is used to assimilate the velocity of internal user absorption."

Reacting to a recurrent theme, another senior manager reinforced:

"one of the most intriguing aspects of this is that it enables OPG managers to become more practically intelligent with lots of cognitive-driven tasks which

include problem-rationalising, comprehension of novel ideas, crowd-reasoning, operational planning, efficient learning and the speed to adaptation for innovative ways of doing the same."

Externally, OPG has adopted the knowledge brokering into their current management practices. This emerging phenomenon was driven by replicating, not necessarily invent, the word-class solutions to OPG specific problems, pertaining to best practices implementations in nuclear facilities. A senior leader recognised that:

"This is a quite new and systematic approach to seeking external novel ideas from the industries' SMEs (subject matters experts) within the global nuclear generation industries, disciplines, and contexts."

4.4.4 Innovative Management of Management Innovation

OPG strives to deliver value by being the economical producer of reliable power generator to Ontarians. The company also proud on preserving a productive relationship with its employees that had led to OPG fruitfully renegotiated its existing collective agreements (following the employee cutback that are associated with the decommissioning of the two thermal generating assets in 2011/12) with Power Workers' Unions (PWUs) representatives.

OPG has also been actively using varied approaches and navigational tools to enable the IMMI enterprise-wide (Table 4.5).

Table 4.5: OPG's top ten management innovations

1	Nuclear Contractor Management Practice	OPG's Contractor Management was previously decentralised as 175 staffs managed 510 contracts worth of \$215 Million, with nine organisations providing this service to three nuclear power plants. It was conceived in Fall 2007, the new innovative contractor management practice capitalised on the implementation of six structural changes initiatives that integrated the contractor management organisations in three nuclear power stations: (1) planning & coordination function, (2) role clarification, (3) contractor management guide, (4) performance management and benefits tracking, (5) training, and (6) change management and communication.
2	DSM (Demand-Side Management)	DSM enables consumers to become prosumers by acting as virtual power plants. Prosumers (e.g: business organisations) are incentivised for participating in the reduction of their energy consumption during peak demand. This demand-side management capacity is preferred by the Utilities due to its inexpensive procurement costs than the traditional generation.
3	Business Process Reengineering (BPR)	An analytical approach in the reconfiguration of business processes within the extended enterprises.
4	Shared Services	An approach of systematising the shared administrative roles and

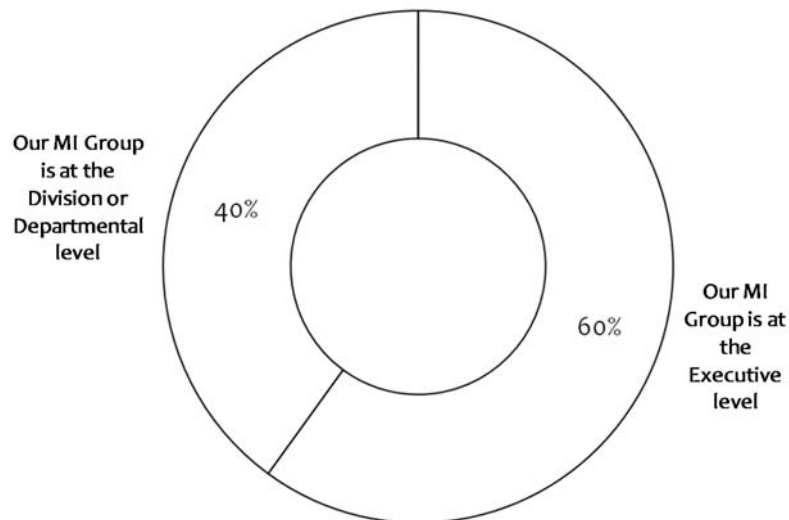
	Centres (SSCs)	functions (e.g.: IT, HR, legal, facilities, or customer service) to maximise the attainment of cost-efficient and reliably-managed services through clear SLA-service level agreements.
5	Benchmarking (in business management)	It refers to a comparison process of establishing who is the best-in-class performer by comparing its competitive position in relation to industry rivals or other adjacent industries.
6	Energy Conservation Management	Conservation of energy through curtailing energy consumption. Of note, this is not the same as efficient energy consumption, which alludes to consuming less energy for a continuous period.
7	IT/Knowledge Management	It is a systematic IT-enabled mechanism through which companies generate value-creation from their core assets, leveraging various knowledge-driven assets and IPs.
8	Balanced Scorecard	An approach to corporate performance management that cascades strategic objectives into measurable targets. The scorecard translates the vision and strategy into a tool that communicates the strategic intent, and then tracks performance against the established goals.
9	Six-Sigma Quality	A pragmatic process that assist companies to establish and materialise almost-perfect goods or services.
10	Centre of Excellence (Decentralised and Centralised)	A group of specialised individual that is deliberately formed to embrace shared value-creation, collaborative teamwork and applicability of industry's best (or next) practices.

Sources: OPG strategic planning/annual reports/OEB filings.

4.4.4.1 Organisational design for improving manager's innovative capacity

The organisational design at OPG has been progressive. As portrayed in Figure 4.8 below, sixty percent of online respondents cited that the MI group is at the Executive level, while the remaining forty percent of respondents found that the MI activities are premised at either divisional or departmental level. The result is not unexpected as OPG executives are primarily the shaper of MI resource mobilisation.

Figure 4.8: Responsible prime for MI at OPG



OPG is celebrated for its pioneering routine but it is an organisation where its industry leadership and management standing have been attained as a creative-follower, as opposed to be an original-developer, of the many established innovative management of management innovations:

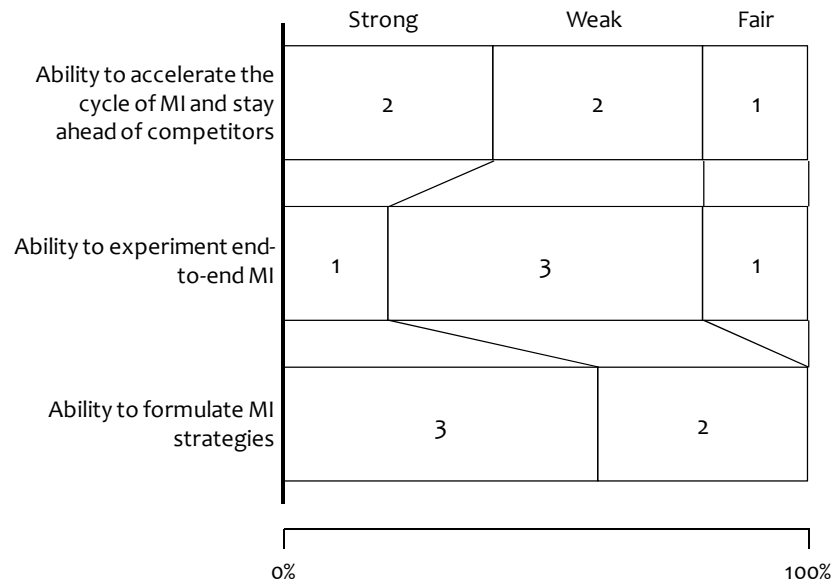
- Natural hierarchy and minimal bureaucracy (six levels from top to bottom).
- Centralised (Transactional) Services and Decentralised (Finance) Controllership.
- Multi-Channel Service Delivery in Self-Service, Business Partners, Nuclear Contractor Management, Shared Services Centres and Corporate Divisions.
- Autonomy at three nuclear power generating stations (Pickering A; Pickering B; and Darlington power plants).
- Centralisation of Nuclear Contractor Management practice (was decentralised as nine organisations providing this service to three nuclear power plants; comprised of 175 staffs managed 510 contracts worth of \$215 Million).
- Pay-for-Performance (was previously under a dominant model of pay-for-attendance at Ontario Hydro) with the c-suite executives having the uppermost component of compensatory reward at risk.
- An extensive practice of promoting equality and diversity in the workplace, uncommon practice within the power generation/nuclear-power sectors as well as many others Canadian organisations.
- OPG Treasury Department championing the innovative project financing at Lower Mattagami Project, saving \$40 million of Ontario's ratepayer.

In ensuring effective resource mobilisation, an OPG senior manager described the structure as hierarchical with a focus on singular leadership and autonomy in each disparate nuclear power station:

"natural hierarchy and minimal bureaucracy remain the most effective structure while at the same time, foster non-transparency at some levels."

As described in Figure 4.9, online respondents were rated on OPG's ability to deliver MI initiatives using a scale of Strong, Fair to Weak. The vast majority of OPG respondents divulged that the senior leaders' abilities to formulate the MI strategies are "strong", while their ability to experiment end-to-end MI is considered to be only "fair." Given that many attribute their MI strategy formulation success to prior knowledge of MI deliveries that they obtained through nuclear industry leadership and experience, this result is ultimately surprising. It is likely that the MI only gets implemented on ad-hoc or need-based, innovative managerial skills absorbed, the characteristics honed and the knowledge acquired through their corporate experience of nuclear best practices were the underlying factor that contributed to their MI strategy formulation successes.

Figure 4.9: Rating of OPG's ability to deliver MI initiatives



The nature and scope of these organisational systemic issues are echoed in an interview with an OPG manager of whom he reflected his managerial concerns:

"spurred on by technological advancement and social trends, too much focus on optimisation can result in an impairing attachment to the status quo. At OPG, managers make their organisational design as the heart of corporate strategy."

In its stated organising objectives to stewarding the company's diverse generating portfolios, either through modernisation or hands-on O&M-Operating and maintenance, Mitchell (2011) reiterates a great emphasis on innovative management of management innovation. This is largely a part of systemic processes of human resources mobilisation and their interactions according to the innovative ways of how the work/deliverables are organised for greater efficiency. Further, there has been an evolutionary change at OPG's management practice. These are the processual changes to innovatively manage the management innovations. As pointed out by an OGP senior manager:

"Project committees were established to govern the acceleration process. From the conventional managerial process - POLC (planning, organising, leading and controlling), we are shifting towards an emerging solution-thinking approach, called "DEMO" (direct, engage, methodise and orchestrate). The committee chair and senior leader are responsible for guiding how the resources are allocated."

Interestingly bureaucracy remains manifested enterprise-wide. As elaborated by one of the senior manager, he explained that contrasting strategies in organisational design were evidenced:

"divisional managers internally strive to promote agility and transparency in virtually all areas. Similarly, many functional managers maintain bureaucratic control in order to facilitate effective decision making hierarchically, especially across the sizeable number of unionised staffs. The company's organisational process of systemically controlling and sustaining power further thrives on non-transparency. This explicitly works well in OPG although some may deduce the conventional wisdom in a regulated industry that agile only flourishes on transparency."

In cross-boundary networks, OPG also places an emphasis on cultivating the ecosystem of 3rd party business partners and nuclear contractors, as suggested by two senior managers:

"Executives and senior managers of OPG has constantly redefined its corporate culture of openness to construct a dynamic environment where individuals can feel comfortable challenging the perpetuation of status quo, voicing out their novel ideas, harnessing the power of collaborative team to pursue innovative practices and seeking ground-breaking pathways to manage the management innovation."

Thus this provides a clear indication of the importance placed on input from internal sources. Trust (as within the organisation) is part of the OPG's culture and trust is recognised as ultimately fostering management innovation enterprise-wide.

4.4.4.2 Management tolerance for mavericks

Executives and senior management exhibit a high tolerance for mavericks with unorthodox practices to influence organisational change. However, they must be objective and constructive to the advancement of management best practices and attain corporate goals. In practice, they usually set expectations early so as to shun unnecessary frictions. One manager stated that:

"there are uncommonly active and complimentary trade of novel practices/ideas and innovative practices and sustainable solutions across OPG divisions, functional boundaries and nuclear power plants."

It is not surprising that they always value the innovative contributions of those who are trying to capture the gems of novel ideas. An OPG senior leader construed that:

"in my professional experience of 30-years plus with Ontario Hydro/Hydro One/OPG, we are always open-minded with new management practices and frequently field-tested them only in smaller scale. They then proceed in adopting and experimenting them enterprise-wide only when those innovative

practices become documented, adhered to OPG process-compliance and approved by our executive management committee."

However given its status of being a crown corporation (or provincially-owned company), OPG is a regulated entity and its organisational activities are governed by the Ontario Energy Board, an energy governing authority in the province of Ontario. As a result, OPG managers are careful in using untested new management principles or practices for mission-critical activities in nuclear power plants, as briefly clarified by a senior leader:

"unless those management practices have been known to produce quantifiable results, managers would not adopt them."

4.4.4.3 Hierarchy enables rapid escalation of innovative practices

The importance which OPG asserts on embedding organic, natural hierarchy, is unswervingly associated with the requirement for improving on the multi-directional dialogues within the organisation. A senior manager comment:

"With natural hierarchy, OPG has a strong cultural belief that everyone matters equally. The standard operating procedures (i.e.: TIPS programme) exist for facilitating the promotion of new ideas or innovative practices upwardly. Managers are accountable for making certain the "idea-funnelling" system work."

Mitchell (2011) reiterated that his management philosophy is not that much different from that of Jim Hankinson. In fact, it is similar to Hankinson's in a way that he was a staunch advocate in collaboration and embraced diversity as two driving forces for sustaining expansion at OPG. Mitchell focused on long-term strategic issues. Most managers interviewed, shared their similar beliefs:

"in effective empowerment, enabling autonomy and decentralisation in the way OPG management should function agilely."

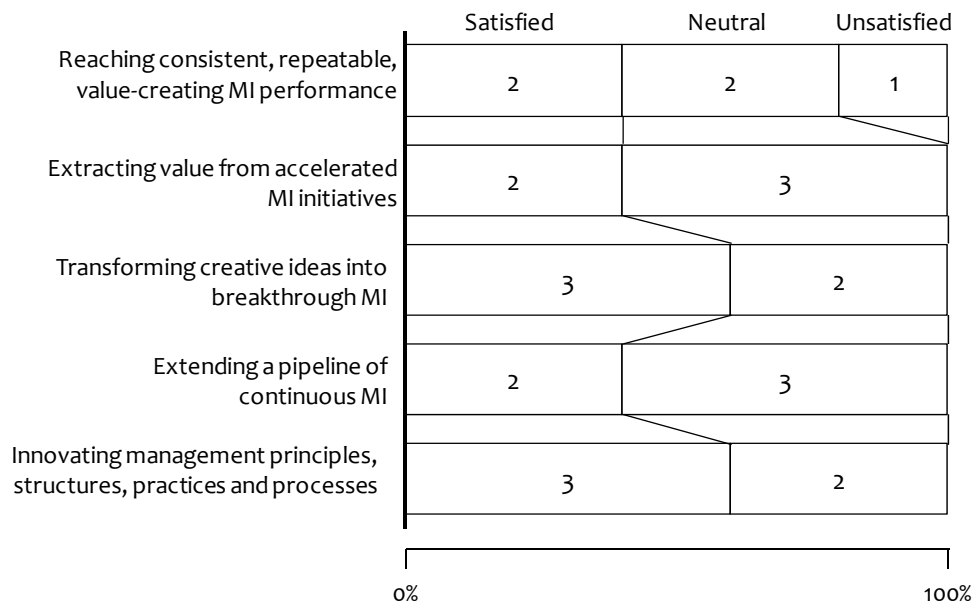
During the course of 2010-1, OPG has gotten underway a strategic transformation that rationalised its hierarchical managerial structures and operating model. The later involved an amalgamation of the company's hydro and thermal businesses (Mitchell, 2011). One manager explained the rationales and impact of such ongoing transformation:

"disrupting legacy management principles/practices of command-and-control, adopting web technology-led management innovations, decentralising finance controllership, and adoption of innovative managerial processes while promoting collaborative dialogues on all decision-making, OPG has been undergoing radical changes as the company transitions to new innovative management of

management innovation. Instead of using the command-and-control model, OPG has been very successful in using the new management paradigm of engage-and-coach."

As revealed in Figure 4.10, online respondents were asked to choose the satisfaction level using a scale of very satisfied, satisfied, neutral, unsatisfied, and very unsatisfied. Of all respondents, senior leaders' abilities to consistently make MI-driven decisions effectively, often with limited or incomplete information, is evidenced by the significance of "very satisfied" responses that a sizeable number of survey respondents place on the two following elements of their performance in various MI areas: (1) Innovating management principles, structures, practices and processes; and (2) Transforming creative ideas into breakthrough management innovation. These corporate mentalities, although not explicitly mandated, are extraordinarily stimulating for senior leaders, as it is these individuals who effectively mobilise the MI resources and continually thrive on MI in a challenging situation of the Canadian nuclear industry, none of which were absent with any abundance in the OPG's extant IMMI performance.

Figure 4.10: Satisfaction of OPG's performance in the MI areas



Further with the continual de-layering of management levels at OPG, the company now has only six levels, from the c-suite executive to staff. Advocating sound decision-making right to the least possible work level is one of the precepts of OPG, as agreed by one manager of whom echoed his sentiment:

"it is under the state of management transformation, centred around managerial principle of having one cascades down MI-driven decision, s/he actually enables other staffs to be extra productive. Converting all staffs into more empowered decision-maker is fundamentally imperative."

At OPG there seems to be a growing conviction, based on the interviews with two managers, they rationalised the specifics:

"new ideas or innovative practices, no matter from what level they come about, will move ahead, be given impartial review and if applicable, monetarily rewarded. The clear consequence is that such a compensatory arrangement can support the speedy rollout of novel developments to existing managerial processes and hence operating yield were instantaneously observed in performance-related enhancement and staff's stipends. Likewise, criticisms are managed professionally and there seems to be a devoted resource for overcoming staff grievances/criticisms."

Most OPG managers pride themselves on their action orientation. Most managers acknowledge that when employees identify problems, they are motivated to work on the solution before being problematic in the long-run. As with the operating mandates, the company's objectives are progressively simplified. Mitchell (2011) shared his prior experiences that in different organisations, strategising/planning approaches seem to be routinely exercised, leading to budgetary plans that may be unsuitable and impractical. OPG operationalises both strategic and tactical objectives. Yet they are managed in a different way than at many organisations. Tactical, short-range plans concentrate on resources (finance, materials and labour) and construction for the extant and new operating year. Reacting to this issue, an OPG senior leader offered his detailed view:

"the plans are blank sheet or zero-based, plainly created using the assessed figures derived from given projects or portfolios' estimations, as opposed to using the last year's budget as a starting point for the current year budget's amendment. Strategic (longer-range) plans are an amalgamation of the plans of different business units, functional departments and nuclear power plants, a non-pyramidal or bottom-up reasoning to planning (direction setting). The strategic plans are seen merely as manual, instead of a testament. The strategic plan factors in long-term objectives as opposed to particular targets that the company foresees their senior managers to arrive at."

4.4.4.4 Ways to inspire, empower and energise individuals

OPG has a strong track record of accelerating the cycle of management innovation internally. Even at the periods before or after Mitchell as a CEO, there seems to be a

logical consensus among senior leaders and staffs. When adjoining prospects can be well-defined, OPG is willing to innovatively manage the experimentation, proliferation, standardisation, and acceleration of management innovations. The company, under both Hankinson and Mitchell, have expanded the company's competences and capabilities dramatically. A manager summarised the situation insofar:

"from the beginning with the risk mitigation and adoptive implementation of emerging web-derived technologies for collaboration, and in recent times via the nuclear new built. One assumes that the recognition of emerging collaborative technologies and the ongoing adoption of management best practices in new nuclear build-up is the preview of OPG innovation and the actions which top and middle management are most concerned."

"another example, OPG's financial (centralised services and decentralised controllership) and operating performance track record also provide the indication that there is no shortage of innovative individuals and intellectual capitals for becoming the management innovators."

Further by reengineering OPG's management model, breaking down rigid hierarchies, idea democratisation of bottom-up consensus, transitioning from silos to swarming behaviour, and changing to more dynamic function through a web online environment with external access (corporate extranet for ecosystem of 3rd party vendors) and participatory contribution enabled, OPG has been operating in more managerially innovative and sustainable ways. An example was noted by a manager:

"for instance, for new innovative ideas/practices and tactical innovation in supply chain/procurement, MS SharePoint/SAP is leveraged for in-house crowdsourcing. For management innovations to be experimented, an internal management blog is used on an ongoing basis."

"Most managers do recognise the fact that they need to rollout a mechanism to capture staff/management ideas and bubble up the good ones after series of prolific experimentations. This is mostly effectively done through the middle management. In OPG, middle management is seen as the pillar to sustaining the IMMI."

In accelerating management innovation either formally or informally, it is important that OPG has in-place the right "thinking" culture (as opposed to the complaining workforce culture). A manager emphasise:

"this culture must nurture employees to think and find better innovative ways to manage better, including continuous improvements to safeguard nuclear waste and service offerings."

Of importantly significance, OPG management has implemented multi-systems for capturing the collective suggestions or new intelligence, as commented by a senior manager:

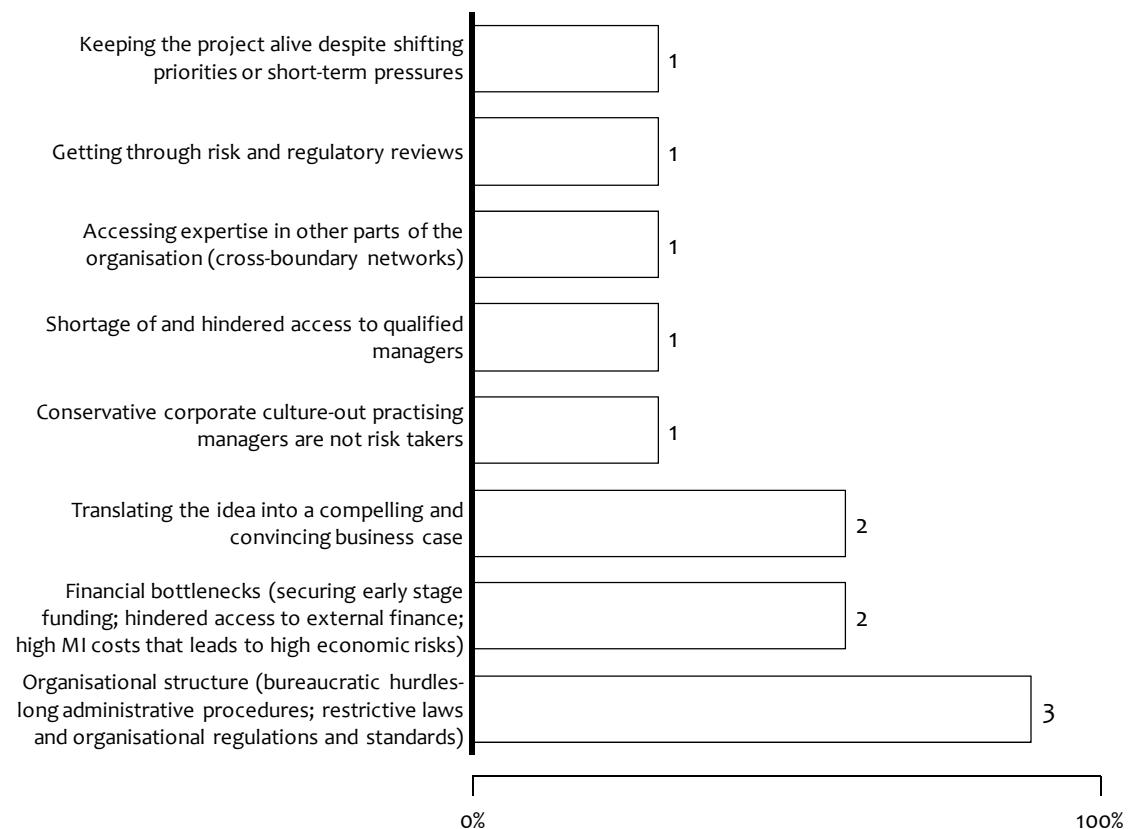
"things such as internal flyers to promote innovative ideas, on-the-job training for new recruits, disseminating monthly performance metrics by functional department, and full participation of the innovation day (announcing the results and presenting awards to individuals, groups and departments for contributing innovative suggestions)."

4.4.4.5 Coordination and management of organisational assets

Like any other large organisation, OPG creates most of its shareholder value through effective project management. The web-based survey respondents provided insight into the managerial roles progressed with regard to their various impediments faced in practising innovative management of MI (Figure 4.11).

The primary response was that there was a major impediment in organisational structure, inherently explicit in bureaucratic hurdles. Other impediments included lack of excellence in business case development and being constrained by the financial bottlenecks (i.e.: securing early stage funding).

Figure 4.11: Impediments that hindered or derailed MI at OPG



Of notes from anecdotal documents prior to year 2004, the previous management team tended to think that if you had the right processes and tools, it would not matter who was implementing. The notion that with the right management processes and tools, OPG could have anyone (internal or external) implementing the project and it would come out exactly the same turned out to be true, but the project managed in this way was not very sustainable. In his conclusion, an OPG senior manager explained that a lack of effective managerial processes hinders collaborative efforts:

"back then in 2004 under the leadership of Hankinson, a big shift forward in project management was rolled out to realise that OPG project management and how they dynamically interacted with each other mattered more than following some business or organisational processes. Hankinson then declared that OPG individuals and interactions were supposed to be valued more than processes and tools. Whilst sustaining the fact that the company does not an in-house R&D department, he reassures that OPG still remains one of the foremost industry leaders in innovation within the North American power generation industry. Hankinson consistently preserves that every OPG staff is the essence of OPG-centric R&D."

A senior leader later added his supporting perspective:

"OPG has always pioneering by integrating innovative managerial processes, mainly through their proprietary DEMO approach (direction setting, engagement, methodology roll-out and resource orchestration), which were at variance with the practical customary within the Canadian power generation industry. OPG is well-known regionally for accelerative adaptation and implementation of cutting-edge technologies in digital collaboration, incubated, and field-tested via pilot programme in a different organisation but verified for enterprise utilisation at OPG."

Today under Tom Mitchell's leadership, he encouraged the creations of Centres of Excellence (CoE) to cultivate a stronger partnership with the power workers unions (PWUs) and management teams with mutually agreed objectives in all areas of work.

A manager shared:

"nowadays OPG has an internal, enterprise content management (ECM). This ECM is based on our customised SAP system (an ERP) and MS SharePoint (business intelligence, content management, search, and searching for intranet and internet sites). Thus, all valuable information on management best practices or next practices on innovation-related projects are shared across the enterprises, avoiding the reinvention of wheel, employee's practical learning by doing, retention of business knowledge in case employee change, and most importantly, reduction of duplicated work."

Mitchell has been embarking on ingraining a sustained corporate attitude about accelerating the management innovation. An OPG's tradition of such unconventional way to managerially innovate is something, which has been established over many years. This reputation is gained through years of innovative management work and creative experimentations. A manager describes:

"put simply, Tom Mitchell makes management innovation a part of the philosophy of the company and way of working to sustain improvement in cost reduction and efficiency in the face of both successes and intelligent failures reinforce strategic relevance."

4.4.4.6 Active and Passive Collaborations

OPG has been investing in proprietary methodologies and novel best (and next) practices to hasten the knowledge accruals around nuclear new build, nuclear project modifications, power plants maintenance, nuclear waste management, and centralised contractor management, etc.

Given its operating status as a public entity in Ontario, OPG is poised to deliver shareholder value creation by being nimble, flexible, and responsive to the today's economic and market realities. To enable an innovative team-oriented operating model, there needs to be an organisational shift, with a mindset change starting at the top and supported by the corporate governing committee and project sponsors. Top management/leadership must be redefined, starting with the minimising the traditional hierarchy, and moving to a concept of shared management/leadership. Through active collaboration mechanism, OPG managers proactively enable through the adoption, adaptation, revolution and change towards an innovative culture. A manager observes:

"many managers tend to pay detailed attention to end-to-end process of promoting management innovation enterprise-wide. The use of TIPS programme and the additional simple suggestion box for individuals at disparate nuclear power plants, if not handled properly can be a dis-incentive to OPG employees at large if the suggestions provided by employees are not managed with care."

As another OPG manager noted:

"If the suggestion is ignored or there is not proper feedback as to the reasons for rejection—handling the successful novel ideas or innovative management practices is more obvious—employees become quickly discouraged and will not likely participate in. The accumulation of small steps, both positive and negative, contribute to a sense of having a continuous innovative tradition within OPG."

Further by creating self-managing project teams, hierarchical barriers are minimally apparent in OPG. Self-managing teams are enabled to self-monitor, self-lead, and operate autonomously, planning the way they operate as a team. As one manager contend that:

"autonomy, flexibility, shared leadership and assisting each other to reach shared outcomes enables successful interdependence, cohesion, and greater creativity and innovation by employees; more so than in traditional hierarchical workplaces where creativity and free-thought has often been hindered."

Whenever OPG has identified operating gaps in their skills and collaboration, the company extensively seek external contractors (i.e.: consultants or SMEs-Subject Matters Experts). As an OPG manager suggested that:

"this external resources provide specific expertise particularly for nuclear waste management and nuclear new build that are currently ongoing, to help retool the OPG's internal management at each disparate nuclear power plants with time-tested innovative practices for management innovations."

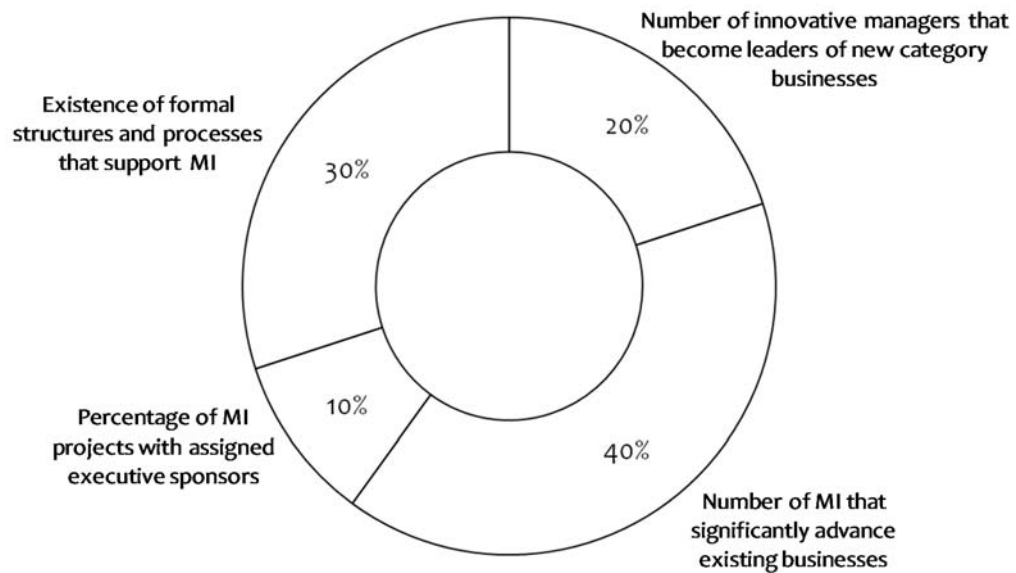
4.4.4.7 Sustaining benefits from lessons-learned

In recent years at OPG, our top management has come to realise the importance of creating an internal business partnering of highly competent mid-level managers who are continually nurtured to spawn fresh novel ideas or practices, more measurable experimentations of innovations and innovative management practices. In essence, OPG derives more value from an innovation effort when they apply creative discipline and dynamic structure to it. As an OPG senior leader identified a vantage point of causes that might come into play and contribute to this problem:

"Through their collective experiences, most middle managers make clear the company is adamant to fetch value-creations as well as c-suite executives directives through project-driven management innovations. OPG's managerial approach to integrated performance reporting has produced optimised decision-making over time, recruit better human capital, and have a stronger innovative corporate culture to date. Employees (unions and non-unions) are responsible to share innovative management approaches. Of equally importance, the c-suite executives are committed to prop up and steer the pathway on how to attain sustainable competitive success by encouraging practising managers to allocate 10% of their utilisation rate and budget to spur MI experimentations ."

As conveyed in Figure 4.12, the most prevailing response from the senior leaders' respondents about the key measurements used to gauge performance was through the number of MI that significantly advance existing businesses (forty percent) and the existence of formal structures and processes that support MI (thirty percent).

Figure 4.12: Key metrics used to monitor MI at OPG



Most managers highlighted the following key lessons-learnt, as follow:

- Embrace management innovation as a top priority to sustain performance.
- Empower cross-disciplinary collaboration teams to make recommendations and decisions swiftly.
- Turn high-performing mid-level managers into management innovator/leader.
- Engage with the ecosystem of business partners, customers and regulatory stakeholders.
- Create opportunities for better-managed experimentation of management innovation.
- Launch project governance and a competency centre, but allow project autonomy to spawn, scale and thrive with natural hierarchies.
- Establish the management innovation platform and toolset (web-driven), which are critical success factors to internally share the wisdom of crowd.

As one manager stated that:

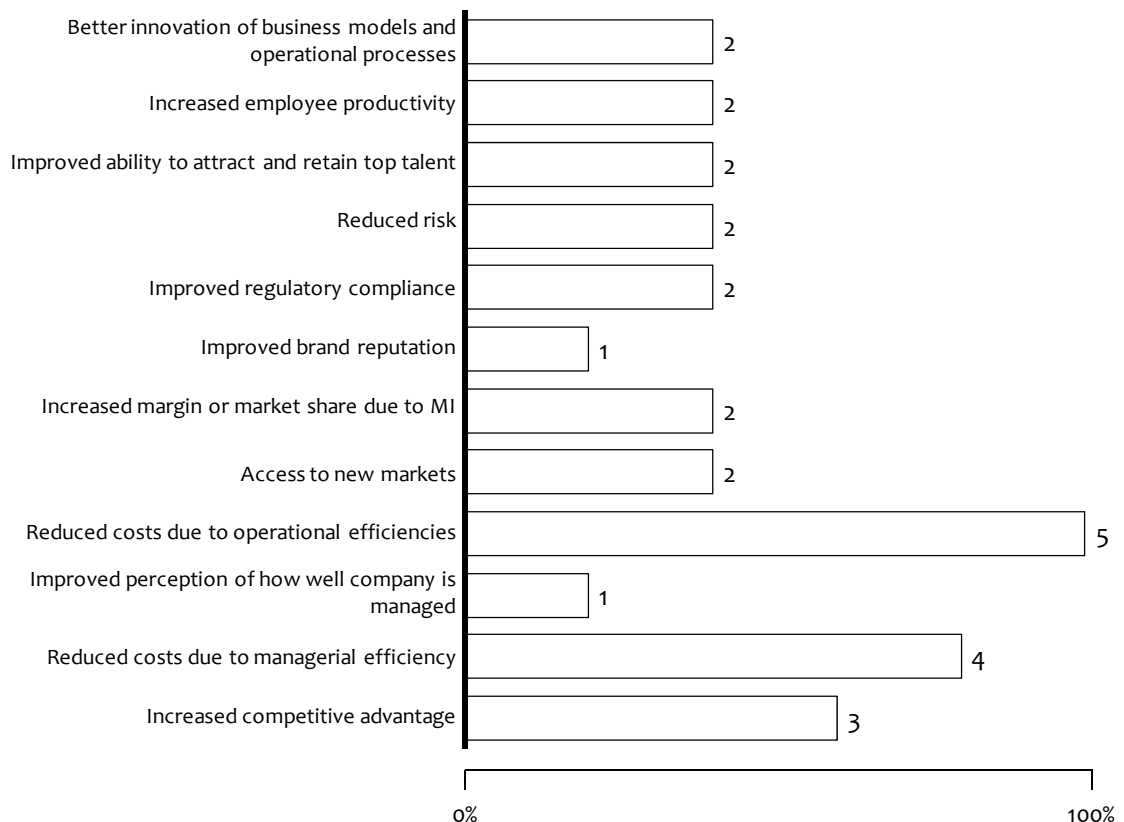
"establishing clear criteria (scope, timeline, financial, environmental and market) to minimise the overrun risk of the project. It is critical that there is an expansive understanding of the agreeable criteria, which forms the basis of the project audit implementation review."

"It is thus important to set all the criteria at the outset. Potential deviations from the criteria could bring in the project stakeholder to come together and review and advise on the project."

As illustrated in Figure 4.13, "reduced cost due to operational efficiency" and "reduced cost due to operational efficiency" were cited as the most frequent benefit for OPG in accelerating management innovation.

Of all respondents, no senior leaders considered both "enhanced stakeholder or investor relations" and "better innovation of product or service offerings" had beneficially contributed to their accelerative MI successes.

Figure 4.13: Benefits in accelerating the MI at OPG



4.5 Case 2: Enbridge Gas Distribution Inc.



Enbridge Gas Distribution (EGD) is Canada's leading franchise of natural gas distribution and has been in continuous undertaking for over one-and-half centuries. The company prospered over the next 165 years and grew rapidly to distribute natural gas and supply and service retail products in the province of Ontario to more than two million Ontario residents and businesses. Deregulation of natural gas started on October 31, 1985. At first both the industrial and very large commercial end-users were allowed to directly source their energy needs from deregulated energy retailer instead of the incumbent utility. By 1992, the Ontario Energy Board (OEB), the provincial governing authority, extended the deregulation to have included small volume users, in this case, residential and small commercial customers.

From 1999 to 2007, though, EGD ran into severe operational challenges as consumer switching for natural gas declined precipitously, increased voluntary churns, and as per the new Ontario government regulation EGD was then forced to separate natural gas retailing, services and repair functions from EGD core distribution business. It then became apparent that EGD was undergoing an internal management calamity. C-suite executives and mid-level management were found to be deficient in consistency and strategic management. Nearly all EGD administrative functions were operationally based on tactical "quick" project thinking and patching-up mentality. Its management structure further set it impractical to contend with innovation successfully and deficient reflection has been primarily rendered to rationalisation of executional excellence.

4.5.1 Corporate Profile

EGD (Enbridge Gas Distribution) was established in 1848 as "The Consumers Gas Company" with the aspiration to acquire a cleaner and economical source of natural gas in Canada (Appendix 11: p.266). The company is a wholly-owned subsidiary of Enbridge Inc., an investor-owned utility and currently traded in North America as "ENB" at both NYSE-New York Stock Exchange and TSX-Toronto Stock Exchange.

The company's strategic intent remains the foremost natural gas distribution organisation in North America. While EGD may be viewed as having achieved elements of this vision, enhancing and sustaining this position remains a continuing long-term pursuit. Its operating goal is to fetch sustainable total shareholder return through an inclusive investment in natural gas infrastructure-related businesses (including natural gas storage facilities) that generate reliable earnings year-over-year and free cash flow. Persistently harnessed, such managership is supposed to persist to produce greater ROCE-return on capital employed and, in sequence, present for consistent and

growing dividend distributions and related capital appreciation to its shareholders. EGD is regulated to not profit from the fluctuating commodity price of natural gas. So the price an end-user pays for the supplied natural gas is exactly the same as it costs EGD to buy it from the company's natural gas suppliers. However, EGD do earn a profit on the actual delivery of natural gas to the end-users' residences or businesses, but only at a rate that is approved by the Ontario Energy Board, a governing energy regulator.

The company has over 35,000 km of pipeline and annually delivers natural gas to more than 400 billion cubic feet to over 1.9 million residential, commercial, industrial, and transportation customers. Its distribution area includes Ontario, Quebec, New Brunswick, Vermont and New York State. Every year, EGD adds in between 30,000 to 50,000 of new end-users. The company's utility delivery businesses are regulated by the OEB-Ontario Energy Board and NYSPSC-New York State Public Service Commission. As of December 31, 2012, EGD generates approximately C\$1.9 Billion in annual revenues. The company employs approximately 2,105 full-time equivalents. As part of the company's pledge on CSR-Corporate Social Responsibility, EGD considers continuous innovation as the company's core responsibility. The company is in position to distribute natural gas in the most secure, reliable and dependable approaches. And, as a company that delivers such an important commodity—natural gas—the company continually searches for innovative ideas and new approaches, both for our existing pipeline business, through innovative approaches to leak detection and prevention, and for the business EGD is building for the future (Enbridge CSR Report, 2012: p.22).

Janet A. Holder became the President of Enbridge Gas Distribution Inc. on January 2008 (and re-assigned to top executive role within Enbridge Inc., as of September 2011). During Holder's charismatic leadership, the company has given back more than C\$44 million to its end-users via incentive-based, regulation-sharing model. This reciprocally-beneficial accord has advantaged end-users and enhanced shareholder value. Holder has been with Enbridge Inc. since 1992 and held progressive managership and leaderships roles to-date. Her most recent positions with the Enbridge Inc., have been inclusive of VP of Support Services at Enbridge Pipelines Inc. (2006-2008); VP of Marketing Services at Enbridge Inc. (2004-2006); VP of Operations at Enbridge Gas Distribution Inc. (2001-2004); and VP of Market Development and Gas Supply at Enbridge Gas Distribution Inc. (2000-2001). Under Holder's leadership, she has initiated the enactment of six transformational change elements:

1. Manage the change agenda and its objectives (a realistic approach and timetable).
2. Define the value proposition (reiterate customer care as paramount importance).

3. Strive for a culture of high performance (performance-based compensation model).
4. Organise for success (remove organisational barriers to success and clearly define roles and responsibilities; cascade the message down and across the front lines).
5. Improve core delivery capability (establish portfolio management and manage/measure process).
6. Collaborate and innovate with strategic partners.

4.5.1.1 *Enbridge's Industry Awards and Recognitions*

For the past years, Enbridge has been consistently recognised for diverse awards. Decisive factors such as fiscal vigour, HSE-health, safety and environment, corporate citizenship, and the disclosure as a public company, were deemed in the following accomplishments of managership (Enbridge Annual Reports, 2010-12):

- Corporate Knights Global 100 Most Sustainable Large Corporations in the World 2010, 2011, 2012 and 2013 (for consistently being practical in environmental, social and governance).
- FTSE 4Good Index 2010, 2012, 2013 (as gauged by the FT and LSE in highlighting the outstanding performance of environmental, social and governance-related managership).
- Dow Jones Sustainability Index (World) 2012/2013.
- Dow Jones Sustainability Index (North America) 2012/2013.
- Canada's Greenest Employers 2010, 2011, 2012.
- Canada's Top 100 Employers 2010, 2011, 2012.
- Global 500 Carbon Disclosure Leadership List (Carbon Disclosure Project) 2010, 2011, 2012 (highlighted Enbridge's approach to information disclosure and management regarding GHG emissions).
- Canada's Top Employers for Young People 2011.

4.5.2 Managerial Processes at Enbridge Gas Distribution

The managerial processes at EGD may be decomposed into two distinguishing categories – Operations (Table 4.6) and Infrastructure (Table 4.7). These categories are considered separate but related in ways that they are reciprocally reinforcing each other's constituents and functions.

Infrastructure may simply be defined as management of operations. Similarly, the operations are sets of managerial actions to prop up the day-to-day operation of infrastructure component and applications.

Table 4.6: Key managerial processes in EGD operations

PROCESSES	SUB-PROCESSES	ACTIVITIES
Plan and research	Establish adjacent goods and services	<ul style="list-style-type: none"> • Formulate and administer the establishment process in natural gas maintenance and storage • Foresee, analyse and define customer requirements • Develop new product • Refine existing product • Conduct pilot/prototype and market tests • Develop master components • Plan release and rollout new products • Develop actionable plans to current offerings
	Administer and oversee the plant, equipment and facilities	<ul style="list-style-type: none"> • Determine maintenance strategy • Identify maintenance structure • Acquire physical assets • Monitor/manage physical assets • Maintain work order historical documentation • Maintain and manage master maintenance records • Identify and plan plant maintenance • Schedule plant maintenance • Execute plant maintenance • Perform root cause analysis • Manage shutdowns/turnarounds • Manage fleet
Assess and recommend	Market products and services	<ul style="list-style-type: none"> • Plan and conduct research • Conduct market analysis • Conduct competitor analysis • Identify customer or market segments • Perform internal assessment • Develop marketing strategy and plan • Plan and implement advertising • Plan and implement promotional campaigns • Develop product/service forecast • Manage retail channels • Manage pricing • Manage retail business development • Manage commercial channels • Build and maintain relationship with customer and intermediary • Provide customer service and support • Provide marketing support • Sell products and services • Provide marketing and sales analytics
	Manage warehousing	<ul style="list-style-type: none"> • Develop inventory and materials management • Receive and put away warehouse materials • Manage material warehousing • Manage stock transfers • Manage material disposal and waste
	Refine and produce products	<ul style="list-style-type: none"> • Define production strategy • Perform production planning • Schedule production • Perform process operations (refining) • Conduct and comply with quality-related standards • Oversee natural gas offerings and storage facilities' dispositions • Control and cultivate data on natural gas related offerings • Oversee and control data on gas production • Manage natural gas productions and operations • Administer process reliability • Control contract manufacturing
Make decision	Perform order management	<ul style="list-style-type: none"> • Develop order fulfilment strategy • Contract administration (non-supply)

		<ul style="list-style-type: none"> • Capture order • Plan/schedule truck and rail deliveries • Allocation processing (retail and bulk) • Manage and track orders • Automated truck and rail deliveries • Non-automated truck and rail deliveries • Manage rent receivables • Process product returns and order correction • Manage customer credit exposure • Manage security funds • Bill revenue • Process receipts • Process electronic funds transfer • Securitisation • Manage collections • Manage customer claims and rebates • Loans and cash advances • Maintain customer/order data
	Procure materials and services	<ul style="list-style-type: none"> • Develop and implement procurement strategy • Establish and cultivate procuring guidelines • Manage 3rd party vendor data and oversee contract performance • Administer contractors and Request-for-quotes • Devise and control procuring requisitions • Procure raw components and other service-related to in-house fabrication • Administer contractors management • Enable payment • Manage rents payable
Approve	Service station (and natural gas storage) retailing	<ul style="list-style-type: none"> • Manage convenience retailing business performance • Manage consumer marketing and promotions • Develop and source private label products • Manage inventory • Distribute merchandise and manage logistics • Create multi-channel operations • Operate stores • Purchase, allocate and replenish merchandise • Develop periodic and long-range plans • Develop retail business strategy • Manage goods presentation and store lay-out
	Manage supply and trading	<ul style="list-style-type: none"> • Develop and optimise supply plan • Manage supply acquisition contracts • Manage supply sales contract • Manage paper trades • Manage exchanges and buy/sells • Manage throughput agreements • Manage supply inventory • Manage supply pricing • Manage risk • Schedule pipeline or marine movements • Actualise pipeline or marine movements

Source: EGD internal archival documentaries, Interview transcripts

Table 4.7: Key managerial processes in EGD infrastructure

PROCESSES	SUB-PROCESSES	ACTIVITIES
Plan and research	Manage accounting and control data	<ul style="list-style-type: none"> • Manage transaction processing • Administer ledgers • Carry out account closures • Manage book-keeping (fixed asset schedules) • Manage project finance and book-

		<ul style="list-style-type: none"> keeping/accounting Administer taxes (corporate, payroll, personal, capital gains taxes) Manage excise and sales and use taxes Manage property taxes
	Provide decision support	<ul style="list-style-type: none"> Perform overhead accounting and allocation Support product costing Perform customer and product profitability per customer (PPC) analysis Report and analyse business performance
Assess and recommend	Manage HR	<ul style="list-style-type: none"> Establish and implement human resources programme and/or policies Manage employee recruitment Manage new hire integration Train workforce Manage career development process Perform employee data administration Manage career development process Manage compensation Manage organisation and positions Manage employee rewards system Manage employee satisfaction Monitor employee health and safety Manage labour and employee relations Manage employee separation Perform life event/open enrolment benefits administration Administer disability claims Administer FSA (flexible spending accounts) Administer consolidated omnibus budget reconciliation act (COBRA) Process payroll
	Manage Information Technology (IT)	<ul style="list-style-type: none"> Establish and evolve IT strategic plan Develop IT architectural blueprints Administer IT-specific contractors management Establish IT-related goods and services Proliferate IT-related goods and services Administer the operations of various IT platforms Provide IT learning absorptions Establish and administer ecosystems of consumers Strategise year-over-year IT capital expenditures, operations and maintenance and operational expenses for keeping the lights on. Engage and coach IT business units or working teams throughout the extended enterprise
	Plan and manage business	<ul style="list-style-type: none"> Oversee competitive landscape Devise corporate strategies (participation strategy and competitive strategy) Manage corporate governance Manage regulatory relationships Define the business plan Plan the business Prepare the budgets Plan and manage quality performance Manage and improve business performance Assess opportunities for strategic alliances, acquisitions, and divestitures
Make decision	Manage programme	<ul style="list-style-type: none"> Determine programme Determine projects Develop initial project plan Prioritise projects Analyse project requirements Develop detailed project plan Analyse project feasibility Obtain project approval Manage project budgets and funding

		<ul style="list-style-type: none"> • Prepare and schedule project for execution • Execute project • Manage start-up and commissioning • Tract and close project
	Manage capital and risk	<ul style="list-style-type: none"> • Manage liquidity • Manage capital structure • Manage financial risk • Manage corporate risk • Administer finance-accounting related matters such as depreciation policies and amortisation procedures • Operationalise the annual auditing exercises for the production of annual reports, MD&A, and other disclosures
Approve	Administer and control decision support services	<ul style="list-style-type: none"> • Conduct the administrative services • Oversee internal communiqué • Manage staff communiqué • Manage corporate law and legal-related workflows • Formulate, perform and report the carbon emission and staff-related safety metrics • Mitigate risk • Retain securities to critical infrastructures and operations

Source: EGD internal archival documentaries, Interview transcripts

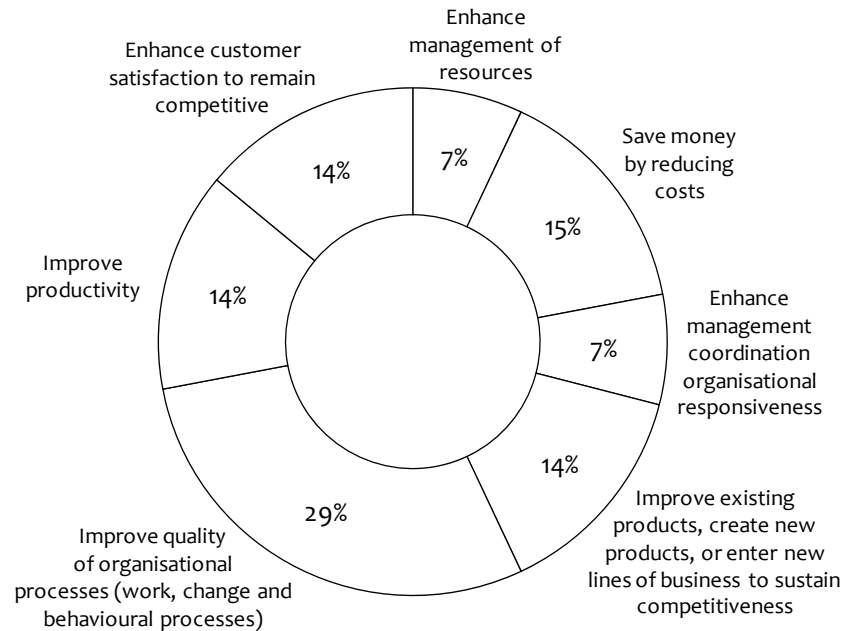
In assessing the progressive management principles and practices at EGD, I have encapsulated the interview responses under nine factors, which are then categorically sorted under two groupings. These retrace the pathways EGD has taken over the past decade to turn into managerially innovative. Their practical methodology was to craft dynamic mechanisms to accelerate the management innovation. The nine factors explicate EGD's innovative management capacity that is profoundly rooted sequentially as engineering first and foremost, continuous improvement second and finally, a culturally reliance on EGD own resources to solve operational challenges.

4.5.3 Vision and Strategy

As collective performance of MI enhances, managers are better equipped with effective tools and methods to outperform their individual objectives. Most managers herein have experimented with a variety of ways to collectively speed up the cycle of management innovation.

As divulged in Figure 4.14, improve quality of organisational processes (work, change and behavioural processes) was reported to be the most recited by online respondents. This finding seems to reflect the overall indication that organisational processes (work process, behaviour process, and change process) have a reciprocal influence on effective performance of EGD's managerial processes.

Figure 4.14: Key drivers triggering EGD to focus on MI



4.5.3.1 Dissemination of vision and strategy to management innovation

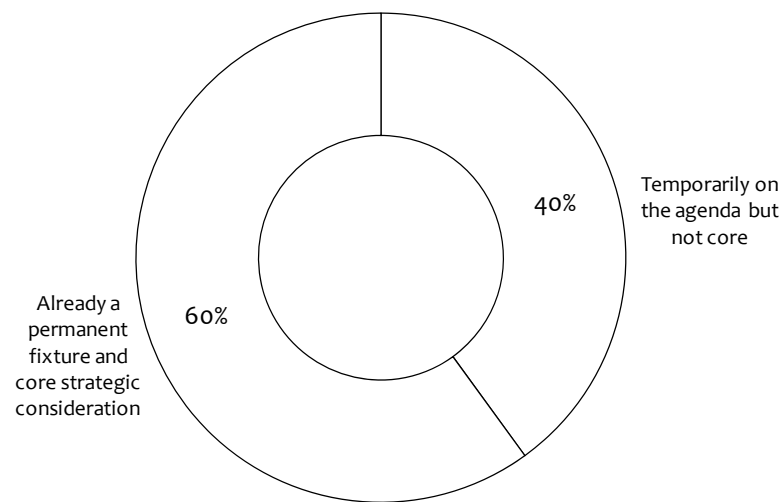
Under the incentive-based regulation in Canadian natural gas industry, EGD takes a long-term strategic view with regard to achieving profitable growth. Although the company is fiscally conservative, most of the resulting management innovations have been evolving to be egalitarian, typically offering simplified managerial processual solutions to sustain incentive-based regulation. As one manager noted:

"this is explicitly done by challenging all EGD employees and organising an innovation game competition to collect incremental/breakthrough management ideas, processes, practices or principles."

"The middle managers usually ask employees to voluntarily participate across shared services businesses and divisional locations and the activities are fully supported by the executives or senior management. The winning management innovation will then be sanctioned for experimentation."

At EGD enterprise-wide, managers formulate the MI experimentation at either exclusively individual or collectively at group levels. The vast majority (sixty-four percent) of online respondents perceived the status of MI on EGD's corporate agenda as being "temporarily on the agenda but not core." Furthermore, it is not a status that they perceive to be diminishing as forty percent of senior leaders respondents believe the MI is already a permanent fixture and core strategic consideration throughout the EGD enterprise (Figure 4.15).

Figure 4.15: Status of MI on EGD's corporate agenda



From its establishment, EGD emphasis has been on management innovation. Subsequent CEO leadership has continued to focus on "continuous improvement" and making cost reductions while maintaining, at the same time, that customer safety and system reliability were the top priority. In an interview, one manager contends:

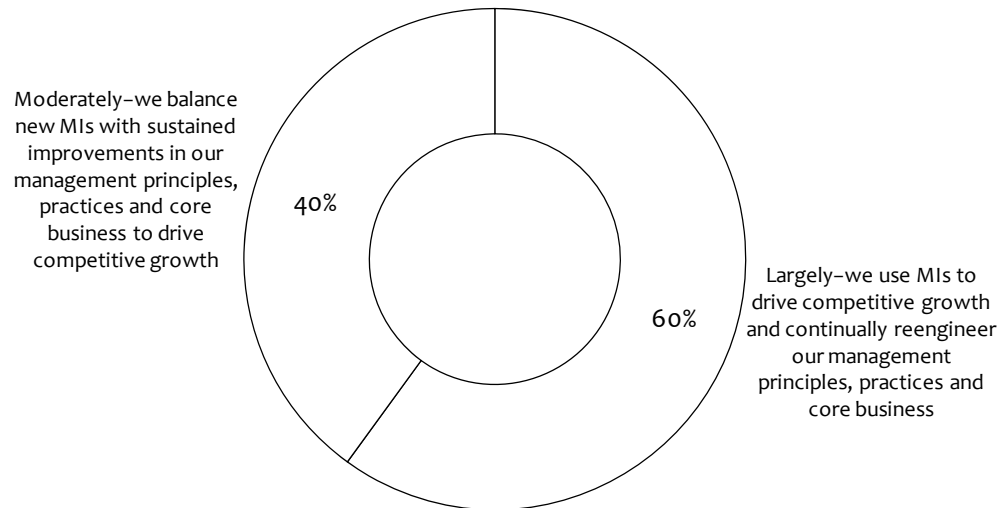
"In each situation, the CEO and a team of executive management decided on the appropriate mix of incremental or radical management innovation based on their need for short- and long-term results. They then assiduously forecasted, measured and refined progresses at the operational mid-level management."

"EGD places a heavy emphasis on making the management innovation as part of the middle managers' core competencies. These managers are required to "manage up" (i.e.: propose novel ideas to be co-opted, leverage/support critical decisions), "manage down" and "manage across" for short-term organisational improvements due to incremental innovation that happens at intra-divisional, interdivisional and across teams/working groups."

While most respondents indicated that they were evaluating the extent of EGD corporate strategy dependent upon the MI, it appears that there is room for enterprise improvement (Figure 4.16).

Most respondents (sixty percent) reported that they use MI to drive competitive growth and continually reengineer their management principles, practices and core business. Of significance, few senior leaders respondent (forty percent) indicated that they balance new MIs with sustained improvements in their management principles, practices, and core business to drive competitive growth.

Figure 4.16: The extent of EGD's strategy depend on MI



As EGD manager commented:

"for the radical innovation, it usually takes considerably more managerial thought and warrants extensive conversation and cross-analysis by executives and middle management. This is customarily performed when EGD is going through organisational or business transformations or when the company is restructured to restore trust amongst stakeholders."

In respect to the dissemination of strategy of MI across the organisation, EGD maintains top-down structure in experimenting initiatives on management innovations.

As EGD manager pertinently described:

"most EGD managers execute work not necessarily because of their managerial authority but because of the level of influence, although authority remains existence due to reporting chain of command especially when dealing with complex multi-disciplinary and multi-functional issues."

4.5.3.2 Leveraging collective intelligence

Upon appointment of Janet Holder as EGD's President and CEO, EGD goes about looking for and capitalising the management innovation opportunities more than seeking capital rationing (Capital expenditures or Operating expenses) or staff redeployment measures. As confirmed by EGD manager during the interview:

"Holder understands that in today's competitive climate, staffs' intelligence should be centralised to enable knowledge cross-fertilisation. Specifically, her leadership mandates were: implementing a shared strategic intent; cultivate employee's self-sufficiency; improve managerial ingenuity and originality through crowdsourcing (middle-down-up); cascade everyone's ideas dynamically;

obtain c-suite executives' support following transformation; bring about progressive change of corporate culture."

For the past decade, EGD has been leveraging these by mobilising the collective intelligence of teams fostering intellectual diversity enterprise-wide. For about a week long, management attendees are robustly collaborate to brainstorm and pilot new novel ideas/practices and craft executable plans on management innovation or strategic challenges. As a EGD manager explains:

"the simulation is designed in active collaboration with internal business partnering from various divisions/departments, not in accordance with siloed approval mechanism as prevalent in some and is usually practiced through: (i) socio-cultural and cognitive disclosure the working teams together encounters throughout the c-suite executives or senior managements stopovers/breaks, lunch gatherings with SME-subject matters experts, and internal social and cultural initiatives; (ii) regular daily assemblies purposively collaborating as a formalised group or project-based task force; and (iii) reinforced business partnering rapports and reliance.

According to an EGD manager:

"as a result, the organisational structure has then been adapted to allow more engaged employees to be more open, creative and willing to democratically accept innovative ideas/practices from others."

As EGD manager further amplified:

"at the same time, since most creative thinking is done in formalised groups or project team/task force, where a person is engaged to exploit his/her ingenious cognition, and that of functional peers. This is I refer to a very definition of synergy at our company, in actuality, stands for."

Most recently, EGD received an approval for a \$600 million natural gas pipeline expansion. This aims to meet the demands of future customer growth in the greater Toronto areas, while at the same time there has been a consolidation of concerted efforts by investing even more in innovation quality and engineering excellence. As a result, the company actively seeks solutions from web-based or custom-tailored collaborative technologies (including cloud computing) to solve their current operations' bottlenecks, contemporary management practices and business challenges. As an EGD manager noted during the interview:

"EGD promotes dynamic partnership via a tradition of open managership and corporate intranet based upon collaboration. Management innovation can then happen when novel information/practices are translated into practical and

actionable insights and shared to everyone within Enbridge. So for individuals with novel ideas, EGD makes available the mind-maps in which employees can offer and share their emerging concepts/insightful ideas or experimentative failures. This approach is inclusive of a training hub (emphasising practicality) with mutually cultivated substance of MI and an engaging-and-coaching element, which facilitates the middle management to collaborate on specific management innovation one initiates."

Few of notable traditions that EGD managers employ in order to mobilise wisdom of crowd include:

- Collaboratively generate decision. This relates to a standard operating procedure that constitutes the brainstorming session to spawn novel ideas, measure them accordingly, aptly arrange and make justifiable decisions.
- Creative criticism. It becomes mandatory that at least two managers should make formalised commentaries on each and every subject under discussion, starting with the strong gist followed by specific domains for inclusive advancement.
- Embracing relationship and interaction. By fostering oratory (face-to-face dialogues, teleconference) to electronic communication (webinar, documents, email, etc.), one-on-one interaction.
- Practical incubation. In sustaining co-creative esprit de corps and reciprocal reliance, it is imperative to warrant that all employees have the same cognitive behaviour and espouse the committed EGD corporate values.

4.5.4 Innovative Management of Management Innovation

Appointed as EGD's new President in January 2008, Janet A. Holder decided that EGD languishing operational excellence performance in natural gas storage and distribution was a problem that needed immediate attention. She also felt that she required mobilising her company toward fairly radical change by creating a sense of urgency among EGD's employees and managers. Her method of choice for sounding a wake-up call was to declare, at her first meeting with shareholders and government/regulatory stakeholders that she would put her personal commitment behind the goal of achieving operational excellence in three years. Given EGD's uninspiring performance in the previous four years, especially against Union Gas and her previous orientation as a senior executives in corporate affairs to performance-oriented goals, this statement was bold. More to the point it was a clear signal to Holder's own organisation that things about to change. Her attention to energise the managerial resources and generate a swell of momentum would soon be vindicated. To follow up on her commitment to achieve operational excellence, Holder decided to launch a massive managerial and change processes (supported by diverse MI techniques and tools, as

listed out in Table 4.8 overleaf) in response to fundamental shifts in the environment. These shifts ranged from conservation and demand management (CDM) to risk management to growing customer defections to technological upheavals. Yet, despite these differences, she implemented an integrated strategy with a heavy emphasis on re-organising the operations, strengthening management innovation capacity, modifying reporting relationships, retaining core skills in-house, business process outsourcing (BPO), selective shared services, and streamlining operations. She also challenged the prevailing corporate culture and norms recognising that a process approach required primarily different ways of thinking, collaborating and innovating. The result was considerable turnover, as well pronounced changes in innovative managerial team' composition and balance.

Table 4.8: EGD's top ten management innovations

1	Change Management Programme (as per the Incentive-based Regulation)	An approach that systemically deliver a practical organisational structure and people capabilities for enterprise's execution of a new strategy, business model, cultural change efforts and/or scalable cost-efficiencies.
2	Enterprise Resource Planning (SAP Implementation)	An IT-driven tool for integrating applications for customer relationship management, business intelligence and warehouse management aimed at standardising information capture and exchange and enhancing the effectiveness of decision making.
3	DSM-Demand-Side Management	DSM enables consumers to become prosumers by acting as virtual power plants. Prosumers (e.g.: business organisations) are incentivised for participating in the reduction of their energy consumption during peak demand. This demand-side management capacity is preferred by the Utilities due to its inexpensive procurement costs than the traditional generation.
4	BPO-Business Process Outsourcing	A sub-type of outsourcing agreement that contract out the infrastructure and operations of function-specific processes to the 3rd party vendors.
5	Shared Services Centre	An approach of systematising the shared administrative roles and functions (e.g.: IT, HR, legal, facilities, or customer service) to maximise the attainment of cost-efficient and reliably-managed services through clear SLA-service level agreements.
6	Balanced Scorecard	An approach to corporate performance management that cascades strategic objectives into measurable targets. The scorecard translates the vision and strategy into a tool that communicates the strategic intent, and then tracks performance against the established goals.
7	Enterprise Risk Management	ERP facilitates managers to resourcefully handle ambiguity and related threat and adjacent prospect, augmenting the managerial capacity to improve deployment of resources for shareholder value creation.
8	Scenario-building and contingency-planning	These refer to systematic approaches to scan the disruptive effects on company's operations and foresee the appropriate strategic frames of references for adaptive transformation.

9	IT/Knowledge Management	It is a systematic IT-enabled mechanism through which companies generate value-creation from their core assets, leveraging various knowledge-driven assets and IPs.
10	Six-Sigma Quality Methodology	A pragmatic process that assist companies to establish and materialise almost-perfect goods or services.

Sources: EGD strategic planning/annual reports/OEB filings.

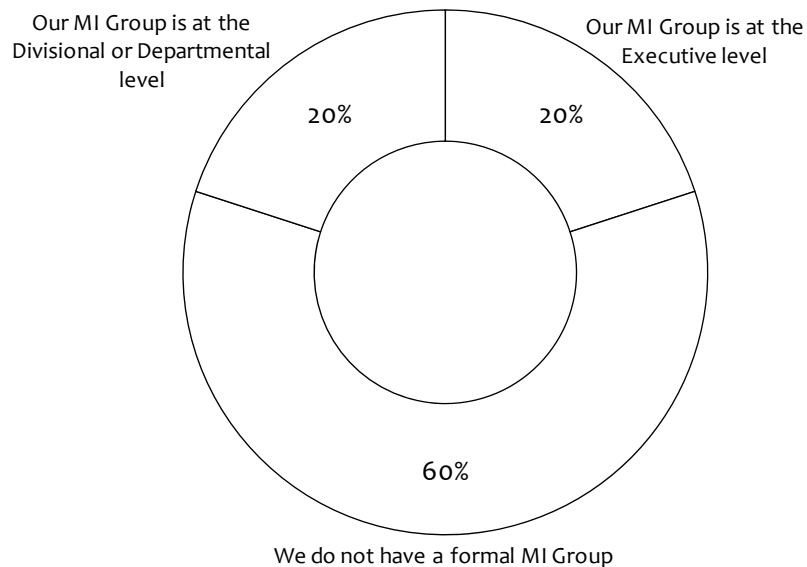
4.5.4.1 Organisational design for improving manager's innovative capacity

EGD has gone to great lengths to redesign its organisation structure so that decisions can be made expeditiously.

"to sustain and evolve, the company's executives and management team have adopted an organic form (from pay-for-attendance to pay-for-result) that not only co-exists but also "co-evolves" with nature of the EGD enterprise. That prompts the executives, managers and employees challenge status quo, to engage in a cross-boundary/network dialogues, unfettered by corporate walls."

As outlined in Figure 4.17, the vast majority of respondents cited that EGD does not have a formal MI group. Whereas the remaining respondents are equally split in their perceptions that a formalised MI group resides at either the Executive or Divisional/Departmental levels in their organisation.

Figure 4.17: Responsible prime for MI at EGD



Built on a pedestal of mutual trust and respect, EGD adopts a matrix approach to organising, an innovative stewarding concept of managerially distributing decision making based on established standards, and the clear identification of a functional team leader. As EGD manager shared his view:

"decision making is usually done without reference to higher levels of management or consulting with support technical groups. The notion is clear and the procedures are internally explicit. Further, the company makes clear reference to the use of teams who follow the company's philosophy. There are also numerous references to the role played by special groups, teams, formed for specific tasks."

The natural gas distribution business environment has increasingly moved into a level of complexity that is defying out-dated industrial age solutions. Still, EGD managers widely use the top-down resource mobilisation structure and processes for ensuring effectiveness.

For the management, there are four mechanisms which have been working very effectively enterprise-wide. First, selection and training of human capitals to improve knowledge and staff competences. Secondly, the rapid implementation of new organisational structures (such as effective empowerment, that is the provision of more accountabilities to employees) to change and optimise technical and managerial systems. Thirdly, mobilising the best practices of collective intelligence. Finally, establishing corporate values and norms such as initiative, openness and innovative thinking, and implementing technical and managerial systems (HR training and incentives to innovative performance) to support them.

With respect to empowerment ideally being an effective manager, one should be a high-performing leader. Effective leaders have aptitudes to sanction their empowered staffs to maximise their leadership and managership. This is in contrast with the view of an EGD middle-level manager that I had interviewed. He concluded:

"the issue EGD managers confront is ascertaining the most effective course to apportion the sufficient degree of accountability to empowered staffs. Executives started this by creating a collegial surroundings of reciprocal admiration amongst practising managers, executives and staffs. We make effective empowerment a way of life at Enbridge."

"as a middle manager, we consistently empower our collective teams. which nourishing inter-reliance, transparency, and let them control their own destinies. Thus, in my view, an effective empowerment cannot be standardised across the organisations or business units but must be reinforcingly adapted to local contexts (for example, business units' sub-cultures)."

EGD managerial style, functions and decision-making mechanisms emphasise the stream of factbased data and MI-driven plots using the bottom-up, thereby giving rise

to c-suite executives as legitimate catalyst as opposed to the root of power. Similarly, this promotes mid-level management to serve as both the enforcer for and the strategic influencer of corporate policy. As an EGD manager elucidates:

"the company has a culture which seeks to draw on ideas from both customers and internal employees. The company emphasises going to the source. It has a mandated suggestion system to identify and cause improvements to be made. Consensus is highlighted as a means to make sound decisions, and careful consideration is rendered to staffs' welfare."

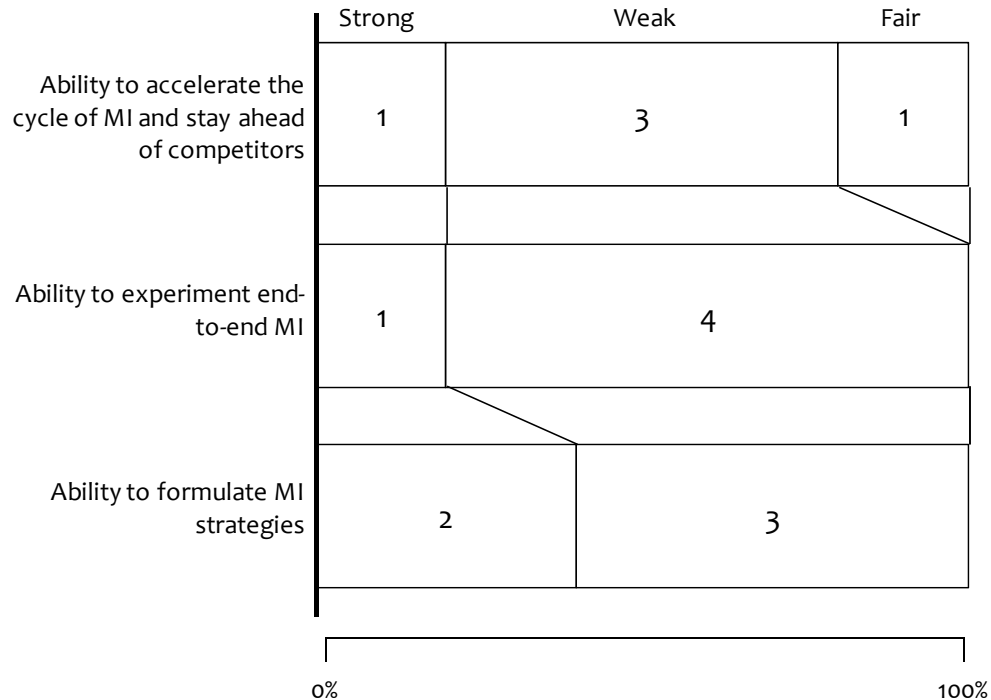
"instead of being the source of sound decision-making, the c-suite executives or in parallel, top management should have the accountabilities of preserving work-related synchronisation so that staffs are able to collaborate in concert. Janet Holder, the CEO, is a consensus builder."

Although EGD has done many things to boost creativity and innovation of its employees. According to an EGD manager, most of his management peers *"have continually tried and tested different ideas in the past and the only performance gaps that have been repeatedly identified have to improve the management innovation skill-sets and cooperation of every employees."*

However, there are notably many factors that stymie cooperation to optimise the acceleration of management innovation. First, the corporate culture that is oriented toward power, seniority and positional status as opposed to shared responsibility and sustainability. Secondly, hierarchical, bureaucratic and top-down structure that compartmentalise EGD functional divisions into uncollaborative warring fiefdoms. Thirdly, the perpetuation to status quo, which relates to trepidation of the unidentified and the contentment and safekeeping of legacy routines. Lastly technological outlay in the legacy systems; socio-cultural defiance to collaborative teamwork.

Of note, online respondents were rated on EGD's ability to deliver MI initiatives using a scale of Strong, Fair to Weak (Figure 4.18). The vast majority of respondents reported having a "fair" rating on EGD's ability to experiment end-to-end management innovation. The company's ability to formulate MI strategies is considered moderately "strong." It is congruent to the perceived MI performance at EGD that leverages a strong ecosystem of business vendors, as exemplified in the SAP implementation or demand-side management or business process outsourcing. Irrespective of the number of actual MI practices insofar, it is evident from the responses that the company's delivery of MI was perceived to be relatively modest overall.

Figure 4.18: Rating of EGD's ability to deliver MI initiatives



4.5.4.2 Management tolerance for mavericks

At EGD, it is part of the company's culture of collective intelligence to encourage every employee to purposefully induce disruption in managerial/organisational processes. The company reiterates teamwork or group activities, consensus building, and shared values and, is not seen as an organisation, which encourages, let alone tolerates destructive mavericks. As a manager remarked:

"group effort and team success are ubiquitously reinforced and individual excellence less so."

However, the corporate culture remains somewhat bureaucratic ever since EGD was established. There are in-place layers of managements only because the senior management needed to control the mobilisation of resources under the incentive-based regulation. Most recently, the company has been leaning towards a more agile and intelligent enterprise. As an EGD manager suggested:

"they embrace this by introducing an incentive scheme for mavericks with applied novel ideas or innovative practices mainly through generous monetary rewards and possible promotion."

At EGD, most managers understand that nothing crushes leadership like a fear of failure. That's why this is something that management team has been doing to create a climate that empowers people, allows risk-taking and encourages shared management innovation.

"from the top management, firstly, we recognise the risk-takers and reward them for discretionary failure as long as the lessons can be learnt. The middle management also set the management innovation goals by using sets of metrics and include them in a balance scorecard. The metrics include the number of novel ideas generated, the number of management innovation in trial. Secondly, we heavily invest in innovative leadership and managerial talents, especially in our middle management tier."

He later added that: *"in the last year, the framework has remained unchanged and greater focus was spent on fine-tuning the key performance metrics used to measure projects and changes to the balance scorecard template used to assist staff when entering their respective projects for assessment."*

Executives recurrently encourage most managers to take leadership and innovation courses for generating, evaluating and implementing novel ideas. Thirdly, we implement the best management practices, which have been tested at other similar companies or adjacent industries. We do this by establishing a policy for sourcing innovations outside our corporate walls - be it universities, 3rd party vendors, consulting companies, competitors and business networks.

4.5.4.3 Hierarchy enables rapid escalation of innovative practices

EGD has been executing various MI-enabled initiatives to maintain a flow of communication within the organisation. The company has a reputation of seeking non-confirming technical and management ideas in order to move ahead with innovation. The communications protocols are well articulated. Even "bad news" is encouraged and seldom kept from employees.

"this openness is a reflection of the view of a large partnership at all levels and including supplier organisations and the full range of "stakeholders". Face-to-face meetings are highly valued. The company places a heavy emphasis on its employees by way of broad range of innovative management techniques and tools."

However, EGD strives for a relatively flat organisation but has a flexible organising concept, which allows for task-based groups to be formed in such a way to enable problem solving by the group itself. As an EGD manager proposes:

"the concept, as one might expect, eases the flow of information in both directions. Traditional hierarchy and bureaucratic impediment that are inherent at EGD are being revamped to facilitate higher quality management innovations."

"the contemporaneous traditions search for an organisational stability that they identify as participative managership. Most managers think the middle management recognise the need to do this swiftly but required the top management/executives supports which, at this point in time, is difficult."

In addition, several EGD managers explain that there are several ongoing developments in this regard:

"First, by empowering staffs and project teams throughout the organisation to challenge the practice of management status quo will not organically get absorbed by each functional leaders/managers. This process requires executives/managers with discipline, courage and resilience. Cognitive supports and encouragements for leaders/managers who struggle with the prudent transition are therefore fundamental. Secondly, we need to infuse clear professional accountability for management innovation enterprise-wide. Finally, Leaders/managers have enabled the development of managerial skill-sets in balancing both the requirements of staff empowerment to exploit their tacit knowledge, intelligence, imagination and creativity, and restraining these front-line employees to effectively coordinate/harness their collective aspiration, energy and imagination."

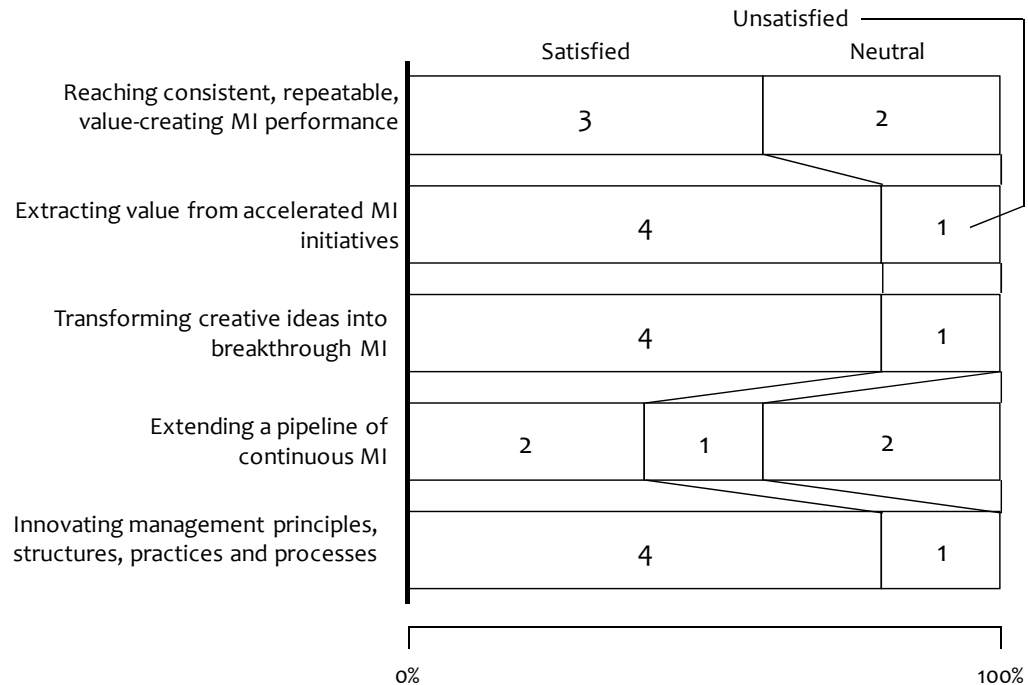
4.5.4.4 Ways to inspire, empower and energise individuals MI

At a time of rapid technological change, new collaborative technologies are emerging dramatically. At EGD, it seems as if this kind of digital technologies are primarily accountable for such advancement in enabling empowered employee to managerially innovative, but this is not the case. Rather, it is people, collaborating and collectively cooperating, who arrive at the outside of corporate walls to materialise novel ideas. As an EGD manager notes:

"setting in motion the suggestions, and one will start to practice the influence of staffs' ingenuities, for now through leveraging the existing silos mentality due to outsourcing control, albeit it is diminishing to a more intelligent swarm."

Figure 4.19 highlights the level of satisfaction of EGD organisational performance in MI areas using a scale of very satisfied, satisfied, neutral, unsatisfied, and very unsatisfied. Most online respondents reported that they are "very satisfied" in: (1) Innovating management principles, structures, practices and processes; and (2) Extracting value from accelerated MI initiatives. They are also "satisfied" with the company's ability to transform creative ideas into breakthrough MI. However, few indicated that they are unsatisfied with both (1) reaching consistent, repeatable, value-creating MI performance; and (2) extending a pipeline of continuous MI, amid increasing satisfaction that MI propels business growth.

Figure 4.19: Satisfaction of EGD's organisation's performance in MI areas



Most managers point out that by encouraging a more idea-receptive environment for continuous management innovation, that is the re-engineering of the company's managerial processes, EGD do this in five interrelated ways. First, to create corporate intranet for sharing new thinking on management innovation. This includes new management practices or principles which may not be feasible or even sensible for the current management model for EGD. Secondly, to enable enterprise cross-pollination of new novel management models. Idyllically EGD project groups in their managerial efforts, to infuse a renewed growth to complex management innovation must be composed of SMEs-subject matters experts and process specialists in the innovation management domain being examined. Thirdly, to support all staffs for keeping up for the innovative managerial processes. It is vital to be aware of managerial actions of those who participate in producing and incubating new novel ideas/practices, although no pertinent resolution is created. Aptly supported, these people tend to undertake the innovation management process, possibly emerging with sizeable leap forward. Lastly, in order to encourage a follow-through. When a team has radically new ideas/practices, the company faces inherent failure prospect only if no measureable initiatives are proceeded to overcome the inertia. As an EGD manager comments:

"a good rationale for an executable plan (for promoting new novel ideas/practices) is that it may be transitorily utilised for coping with the continual development of non-silos functioning and ingenious thinking. The project teams tend to concretise their shared actions to reinforce their managerial attempts although their premeditated concepts that were, in the beginning, foreseeing, may not be technically materialised for the time being."

4.5.4.5 Coordination and management of organisational assets

Senior leaders have been actively boasting a strong collective intelligence culture and an engaging working environment for all employees. Although the company embraces the incentive-based regulation (i.e.: rewards/penalties as drivers to sustain operational performance), EGD is proud to be a transparent, determined and responsible. An EGD manager conveys his perspectives:

"the company strives to create value by implementing value-enhancing projects to shareholders. EGD managers routinely offer opportunities for their individual staffs to realise their innovative potential and never compromise on quality and business ethics. As a result, EGD has a unique collection of managerial innovation capabilities. Their collective intellectual properties in this natural gas industry have been exemplary within the North American natural gas industry to-date. The company has become pioneers in so many commercialisation or technical explorations of novel management innovations. Concurrently, EGD is reaching gaugeable yardsticks for corporate social responsibility while reducing carbon footprint in Canada."

EGD managers try to bust open their organisational hindrances to accelerate management innovation. An EGD manager described during the interview:

"we minimise our risk of failure for the million dollar idea to get stopped without full consideration by the middle management before it gets off the ground. From our collective experience, I think the key to successful innovative practice may be to offer each staff a means of transport to virtually advance novel ideas and practices. An example can be the utilisation of a web-based application may fetch a profound impact on MI. With the emerging arrays of collaborative and social technologies, managers have been testing and adopting software to capture best practices and novel ideas. These technologies have also embedded in them web-derived management principles such as collaboration, openness, serendipity and autonomy. All these are proven to be more conducive to the acceleration of management innovation than functional compartmentalisation, predictability and pyramidal control."

EGD also leverages external management capabilities through selective outsourcing provided that critical know-how and change control is retained in-house. Most notable outsourcing are as follows:

- BPO-Business Process Outsourcing services. EGD has selected Accenture Business Services for Utilities to become the provider of outsourcing services as associated with customer billing and collections and managership of call centre. The BPO allows EGD to augment its operations

and concentrate on end-users, and present it with better assurance of operating costs throughout the contract.

- The SAP Customer Information System (CIS). Sapient/SAP Canada and Siemens IT Solutions and Services have been retained to become affiliated partners to help implement the new EGD's CIS. The expected benefits from SAP deployment is an improved productivity and cost-efficiency in OPG enterprise-wide and make certain that the newly reconfigured CIS system arrive at its utmost capability, from formal commissioning through fragmentary O&M-operations and maintenance.
- Active Risk Management. Strategic Thought Inc. was awarded to provide an external support through a cloud-based software on the ERM-enterprise risk management. This helps EGD to be agile, nimble and flexible and the management capability to steward and synchronise the software to support EGD's new innovative best practices in ERM.

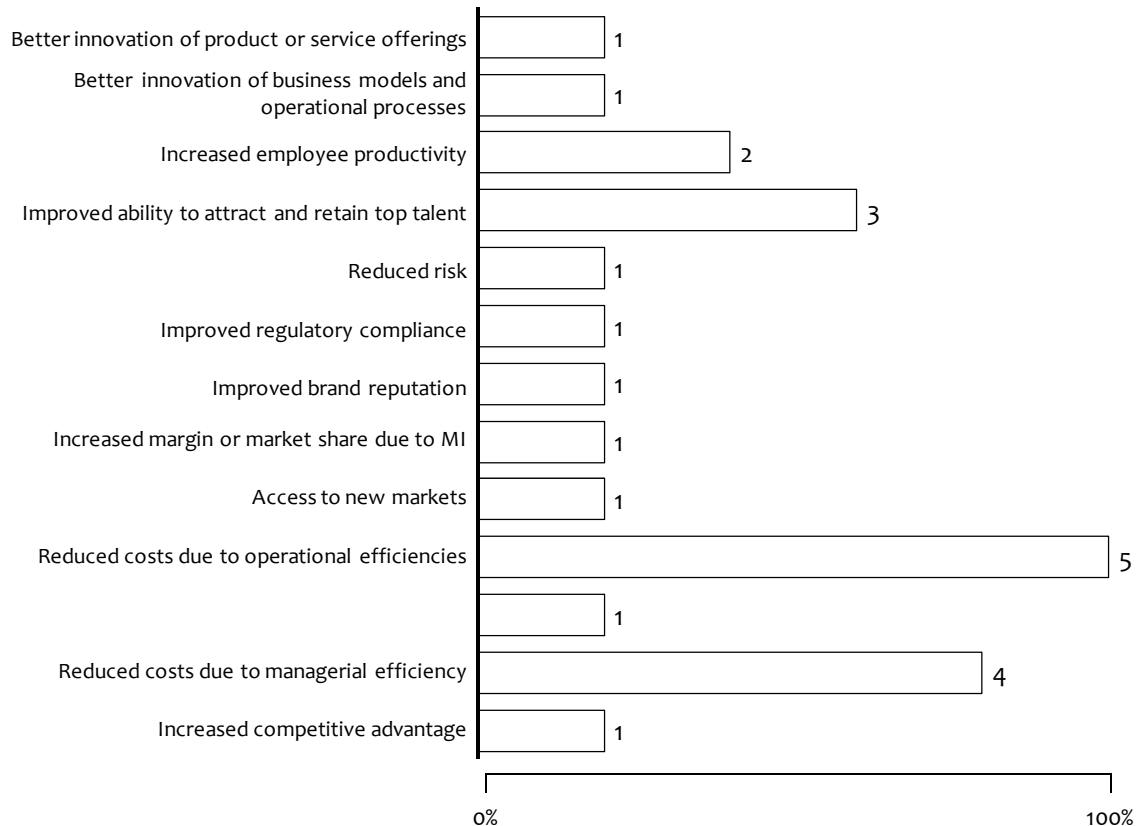
4.5.4.6 Active and Passive Collaborations

Under Janet Holder's leadership, she reinforces a thriving organisation in which EGD should continuously adapt. According to the EGD managers, they share their collectives' views as follow:

"the impact of effective collaboration at EGD is explained by the positional nature of top management. Of importance, when the addition of managerial plans and subsequent judgments of MI-driven initiatives tend to be multifaceted and collective intelligence turns to be imperative. However it is at most cases, the front-line staff, for instance, that the IMMI is practiced only due to the fact that the teams are sufficiently nimble for the methodology to be pragmatic (consultative processes amongst team members)."

As indicated in Figure 4.20, the EGD respondents clearly flagged that human capital is paramount in MI resource mobilisation. Twenty-two percent of the online respondents stated that the greatest benefit in accelerating MI is the "reduced costs due to operational efficiencies." Similarly, eighteen percent of respondents reported that their perceptual benefit was "reduced costs due to managerial efficiencies." Of significantly important, thirteen percent of respondents also cited EGD's perceived benefit could be the improved ability to attract and retain top talent. This speaks to the corresponding findings from the in-depth interview with a seasoned manager that "it is exemplary that EGD expenditure on innovation-related project amount to upwards of 10% of annual allocation. This is a substantial commitment to innovation largely due to its perceived benefits."

Figure 4.20: Benefits in accelerating the MI at EGD



To enable collaborative MIs, Holder constantly encourages the middle management team and employees to tap into diverse perspectives (inside and business partners) and human talents (union and non-unionised) to solve management challenges quicker, more cost-effectively and with minimal risk, ultimately resulting in accelerated management innovations and enhanced business performance. An EGD manager mentioned that:

"the company does these by integrated all front-end capabilities (effectiveness and efficiency), building regional competence networks and centers of excellence, measuring (and augmenting our management innovation productivity) and actively leveraging broader networks of external innovation sources."

In respect to ensuring a steady stream of unorthodox ideas or novel capabilities, Holder further institutionalises an informal rule in innovation-related discussion enterprise-wide.

"each and every employee must support innovative ideas or suggestively come up with better ones (as opposed to attacking or killing the original ideas). For stakeholders (3rd party suppliers) outside our corporate wall, EGD try to enable them to share through corporate extranet portal."

Through the use of "active collaboration", EGD embraces diversity. Amalgamating different and yet unique expertises/experiences/practices generate more innovations. An EGD manager offers:

"this is a key creative thinking that must be ingrained within the company. EGD runs an extensive web-based apps where novel ideas and/or practices can be electronically proposed by each and every employee. Novel ideas suggested are then managed via a process by a team of impartial innovation steering committee for overseeing. The resultant outcome is that credibly no novel idea /practice is dismissively abandoned with no thorough consideration. Typically, all new novel ideas or innovative practices should be incubated and piloted in a enterprise-wide open system, which is cross-analysed by all staffs and as a result, documented as lessons-learnt, managed by the same oversight team."

For "Passive collaboration", once the company identifies performance gaps in their dynamic capabilities/core competences to enable collaborative MIs, managers can then source these gaps in skills and competencies across our eco-systems of business networks (including the management consultants who can help us test and instil new management best practices). Also, the company engages in recruiting reputable consultant. As exemplified by an EGD manager:

"we recently do this by outsourcing most of our shared services, including the implementation of our ERP system, SAP."

4.5.4.7 Sustaining benefits from lessons-learned

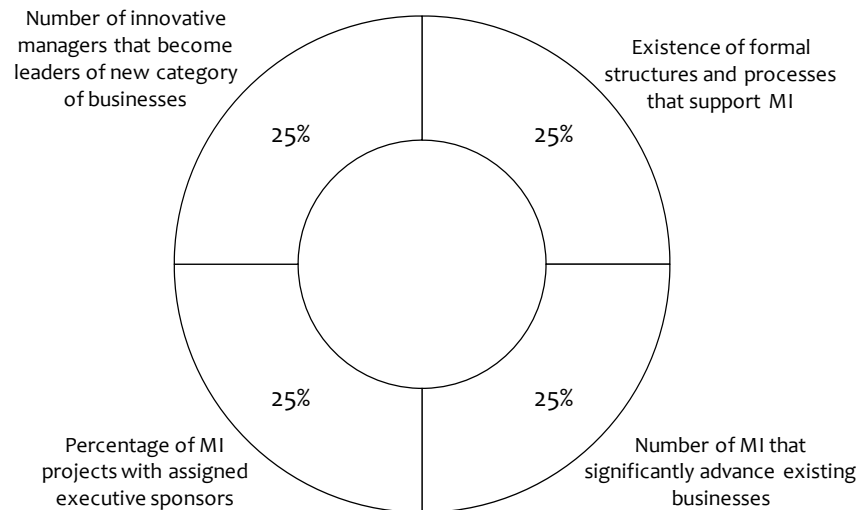
With all the ongoing innovations inside EGD, there has been a feeling of momentum, i.e. that change is always underway, and is expected especially under incentive-based regulation in natural gas industry, whereas in other energy companies change is often greeted with resistance and concern. At EGD's management levels, the company's tolerance for failure is seen as moderate. An EGD manager notes that:

"for them, without embracing failures there is no evidence of experimentation, nor the assumption of risk, nor the likelihood of progress."

Excelling in managing the experimentation of MI requires a nuanced approach of its performance measurement. As revealed in Figure 4.21, the high risk of MI failure of commercialisation or eventual abandonment is partly reflective of the absence of inclusive measures to better control their MI experimentation. The vast majority of EGD online respondents are equally split on the following common measures and pointed out that EGD employed, albeit non-systemically throughout their enterprises: (1) Existence of formal structures and processes that support MI; (2) Number of MI that significantly advance existing businesses; (3) Percentage of MI projects with assigned executive sponsors; and (4) Number of innovative managers that become

leaders of new category businesses—yet this predominantly internal management dilemma is not sufficiently addressed.

Figure 4.21: Key metrics used to monitor MI at EGD



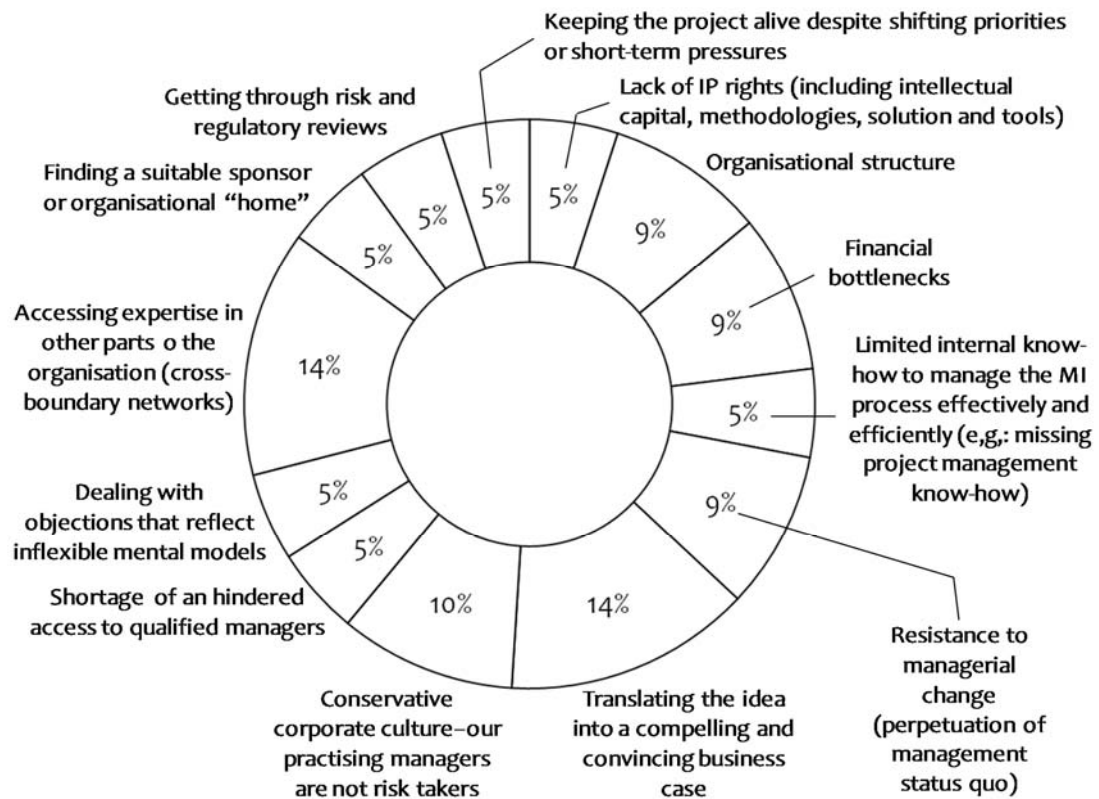
There has been a support to encourage the exchange of best practices across the gas utilities in North America. There is a specific member-only forum in which EGD managers participate in the constructive dialogues around solving the management challenges in natural gas distribution, both technically and non-technically. As a result, EGD innovation tradition, both technical (distribution systems) and management, is on the leading edge in the North American natural gas industry. While exhaustive change may become a management challenge, EGD thrives on evolutionary change and, when change slows down, or even may stop or pause, there is a feeling of unease that brings business concern about the future.

"there is a natural pulse rate for most organisations and management needs to be sensitive to its pace. Having said this, many managers think the pace and scale of management change increases, the difference in the real world between an innovative manager and a foresight leader becomes clearer. An innovative manager is a problem solver. While this is an important business function, the reactionary skill sets of the traditional manager cannot be expected to solve the new challenges brought about by such forces as collaborative technology and idea democratisation. That's why EGD understand the need to cultivate more innovative leaders and managers than ever."

A strong majority of respondents (an aggregate of twenty-eight percent) agreed that two major impediments that derailed MI are firstly translating expertise in other parts of the organisation (cross boundary networks) at fourteen percent; and secondly,

translating the idea into a compelling and convincing business case at fourteen percent. These findings are unexpected due to contrasting view with the rating that the same online respondents have reported on their ability to deliver MI initiatives. This suggests that bi-directional flow of new knowledge or novel practices from either inside-out or outside-in perspectives, does not balance. There is a possibility EGD capitalised new intelligence outside-in in order to edge the competitors out and position themselves better in the market. However, the company is protective in cross-sharing their MI strategy or knowledge or practices inside out or a subject of corporate espionage on EGD's intellectual property. This is also reinforced by the online respondent surveyed did not agree on "too little collaboration with outside parties," as evidenced by zero response (Figure 4.22).

Figure 4.22: Impediments that hindered or derailed MI at EGD



In addition, EGD managers increasingly leverage analytics-enabled insights on innovative practices and novel ideas, mainly to eliminate the noteworthy from the not-worthy. Given the company's market clout, existing customer relationships and their volume of data on project management's best practices, manager can focus making better fact-based decisions, that is the value-creative outcomes in which analytics can be modelled and embedded in our innovative management practices. As a result, this becomes core competency to accelerate their adoption to variety of MI initiatives.

4.6 Case 3: Toronto Hydro Corporation

Toronto Hydro Corporation (TH) is the largest Canadian public utility that engages in T&D-transmission and distribution of electricity in the city of Toronto, Ontario. As of December 31, 2012, the company manages an electricity T&D system that serves to approximately 719,000 customers. As the organisation grows, some changes resulted from internal dynamics, regulatory policies and industry forces, are inevitable. At that time, the organisation was atomised and fragmented. Corporate policies were dispersedly nonexistent. TH strategy was weak and poorly defined: the organisation was little more than a loose collection of unproductive, independent fiefdoms; political infighting was rife; and financial losses were mounting rapidly because of misguided integration and growing customer defections.

In July 2005, Clare Copeland, the Chairman and David O'Brien, the CEO and President, appointed a former COO of Hydro Ottawa Limited, Anthony M. Haines, to become the Chief Administrative Officer (COA). Haines immediately devoted unusual attention to crafting his initial meetings with all direct reports, devoting five full days to discussing the challenges TH faced, soliciting managers' views, incorporating their suggestions and securing buys-in and commitment. He then asked the senior team to devise a new vision; once it was developed, he used it to steer direction. Haines recognised and envisioned that dramatic changes in corporate culture and managerial approaches were the drivers to successful transformation at TH. He was committed to innovative managerial process as a tool for eliminating inefficiencies, excesses and changing the way the work was developed and deployed enterprise-wide. Then in October 1, 2009, Anthony was promoted to become the CEO and President following the retirement of David O'Brien. Despite this, it is significant that the current culture of corporate innovativeness is due to the efforts of an executive (along with his management team) with 25 years experience in the company, the last 10 of which were as CEO and latterly both CEO and Executive Chairman. The new organisation and structure of management innovation has taken almost a decade to optimally achieve. The primary focus of this case is on the changes, which have taken place since 2005, the year in which Anthony Haines took charge as Chief Administrator Officer and later in 2006 as President.

4.6.1 Corporate Profile and Industry Overview

On January 1, 1998, seven municipalities of Metropolitan Toronto, Toronto, East York, Etobicoke, North York, Scarborough and York were amalgamated for the formation of the city of Toronto. In unison, the electric commissions of each former municipalities were accordingly merged to create Toronto Hydro-Electric Commission—a predecessor of Toronto Hydro-Electric System Limited.

The city of Toronto legally owns Toronto Hydro Corporation where it holds and controls 100% of the shares of the principal subsidiaries listed below (Figure 4.23), each of which was incorporated under the Ontario Business Corporations Act:

Figure 4.23: Toronto Hydro's organisational design



Source: Re-adapted from TH's 2012 Annual Report

By June 23, 1999, Toronto Hydro Corporation, a holding company, was incorporated under the Business Corporations Act (Canadian province of Ontario). The incorporation was required in accordance with the provincial government's Electricity Act, 1998 (Ontario) ("Electricity Act"). The Corporation manages the operations and infrastructure of two legally-distinct organisations:

- (1) Toronto Hydro-Electric System Limited (LDC-local distribution company) – serves as an LDC capitalising on the present and up-and-coming infrastructure of poles and wires to distribute electricity to Torontonians located in the City and is subject to rate regulation. LDC is also engaged in the delivery of CDM-Conservation and Demand Management activities.
- (2) Toronto Hydro Energy Services Inc. – operates as a monopoly to supply street lighting services.

The corporation's vision is to maximise customer and stakeholder satisfaction by providing safe and reliable service in an environmentally responsible way. Toronto Hydro Corporation's (TH) business strategy is based on this vision and is focused on the following five pillars:

1. *Health and Safety* – To conduct business with a skilled, safe and productive workforce.
2. *Asset Modernisation* – Augment energy mix and reliability.
3. *Infrastructure Rebuild* – Leverage on the emerging digital technologies.
4. *Customer Service* – Strive to be the best LDC in customer service.
5. *Financial Strength* – Achieve consistent financial performance.

4.6.1.1 Toronto Hydro-Electric System Limited

The primary business of Toronto Hydro-Electric Systems Limited (TH) is the T&D-Transmission and Distribution of reliable power by the Local Distribution Company (LDC). Toronto Hydro manages more than \$1.9 billion of Capital Assets that contained the T&D systems that serves 719,000 customers (was 637,910 residential customers as of December 31, 2012) in the City of Toronto. The company distributes approximately 19% of the power used up in the province of Ontario, most of which is generated at generation facilities outside the city that are owned by the Ontario Power Generation Inc. TH also has some generating capacity from photovoltaic systems and a wind turbine.

In its simple illustration, when power gets produced, it is transmitted along electricity transmission lines supervised by Hydro One Inc. to terminal power stations whereupon the voltage must hence be stepped down to voltages of distribution-level. Distribution voltages are then distributed across LDC's distribution system to distribution class transformers upon which the power voltage is further reduced for supply to end-users. Power routinely goes by through a meter prior to arriving at a distribution service panel which then directs the power to specific circuits of end-users.

As reported on the 2012 Annual Report, TH's distribution system is serviced from 35 terminal stations and is comprised of approximately 60,650 transformers, 20,400 switches, 169 sub-stations, 15,100 Kms of overhead wires infrastructurally-backed by 174,700 poles, 10,800 Kms of underground wires, 1 control center and 7 operations centers. The net revenue for 2012 was \$577.3 Million (was \$586.9 Million in 2011), operating expenses for 2012 was 245.2 Million (was \$262.2 Million in 2011) and the capital expenditure for 2012 was \$290.4 Million (was \$437.1 Million in 2011). At December 31, 2012, the utility delivered 24,562 GWh (was 24,708 GWh in 2011) and had 637,910 residential service and 80,699 commercial and 52 industrial customers, and had a total of 1,540 employees.

4.6.1.2 Toronto Hydro Energy Services Inc.

Toronto Hydro Energy Services Inc. is a Toronto-based power services company with 54 employees as at December 31, 2012. TH Energy owns and operates street lighting and highway lighting assets situated in the city of Toronto and monopolises the provision of street lighting services. TH Energy's Capital Assets amounted to \$70.8 million. TH Energy has the sole right to provide maintenance and capital improvements to the street-lighting and highway lighting systems throughout the city of Toronto until 2035. Effective January 1, 2010, TH Energy transferred, for no consideration, its energy management services and generation activities and all employees to LDC. A

restructuring of THESI and its Street lighting and Expressway Lighting assets is subject to an application with the OEB.

4.6.1.3 Toronto Hydro's Awards and Recognition

TH is recognised by varied organisations for its business and management achievements, corporate citizenship and staff-related initiatives. Below are some of the recognitions and awards that reinforce the devotion and pledge of TH being operationally excellent.

- 2013; 2012 Canada's Top 100 Employers.
- Greater Toronto's Top Employers 2013; 2012.
- 2013; 2012 Canada's Greenest Employers.
- Canada's Top Family-Friendly Employers 2013; 2012.
- Received an honourable mention in Canada's Outstanding Employers by The Learning Partnership for its participation in the Take Our Kids to Work™ programme.
- Recognised by Green Living Enterprises for Excellence in Corporate Responsibility for the company's dedication towards creating sustainable and ethical practices within a business framework.
- Recognised by PR News for Corporate Social Responsibility and Stakeholder Engagement efforts.
- Achieved savings of 116,900 MWh in its conservation portfolio in 2012, for a total cumulative savings of 462,700 MWh since 2011.
- Recognised by the Infrastructure Health and Safety Association for attaining 3M hours without a lost time injury.
- Certified for ISO 14001 (Environmental Management System) and OHSAS 18001 (Occupational Health and Safety Management System).

4.6.2 Managerial Processes at Toronto Hydro Corporation

The congruent categories of managerial processes (and subordinate processes) of operations and infrastructures characterise the application of operability standards at Toronto Hydro. The Infrastructure-related managerial processes are essentially the actions in managing operations, which have a reciprocal effect on the others. The operations, on the other hand, are managerial processes that are correlated to daily operational routines to sustain the components of infrastructure.

Four main sources of data were collected to identify key managerial processes and sub-processes as individually assembled in both Table 4.9 and Table 4.10 below: (1) web-based survey, (2) in-depth interviews; (3) internal archival documentaries; and (4) public information records.

Table 4.9: Managerial processes in TH operations

PROCESSES	SUB-PROCESSES	ACTIVITIES
Plan	Acquire energy	<ul style="list-style-type: none"> • Generation Strategy • ISO bidding • Transaction execution • Transportation and scheduling • Risk management
Prioritise	Bill for products and services	<ul style="list-style-type: none"> • Manage customer usage data capture • Record usage • Perform data collection and validation (revenue assurance) • Perform bill computation • Receive payments • Manage accounts receivable portfolio • Manage collections • Manage overdue customers • Maintain customer account • Develop and administer fraud policy
Deploy resources	Construct facilities	<ul style="list-style-type: none"> • Develop and maintain construction project standards • Plan facilities and expansion and improvement • Design construction project • Schedule construction project • Execute construction project
	Market and manage products and services	<ul style="list-style-type: none"> • Perform market analysis • Assess markets and customers • Develop marketing strategy • Develop product and services strategy • Develop new products and services • Manage product/service launch • Enhance existing electricity-related offerings • Withdraw/migrate services-related offerings
Execute	Maintain facilities	<ul style="list-style-type: none"> • Develop and maintain maintenance stands and procedures • Identify and plan maintenance and inspections • Schedule maintenance and inspections
	Manage logistics	<ul style="list-style-type: none"> • Determine supply chain strategy • Receive and store goods • Process kit material • Manage materials and inventory • Fulfil material and inventory orders • Manage returns from customers • Manage material and asset disposition • Manage fleet • Formulate and manage fleet support for field-crews • Plan, conduct and oversee fleet O&Ms-operations and maintenance • Manage transportation operations • Perform vehicle refuelling • Maintain vehicle maintenance data • Manage ancillary services • Manage facilities equipment and labour
Control	Sell products and services	<ul style="list-style-type: none"> • Develop marketing and sales plan • Develop sales distribution channels • Execute sales strategy • Forecast load • Manage pricing • Plan and implement advertising • Plan and implement promotional campaigns
	Perform order management	<ul style="list-style-type: none"> • Create and maintain customer profile • Capture order information • Perform credit analysis • Support service installation requests • Schedule service installations

		<ul style="list-style-type: none"> • Install service • Perform disconnect/reconnect
	Procure materials and services	<ul style="list-style-type: none"> • Develop supply chain strategy • Develop and maintain procurement policies • Forecast demand • Select supplier • Establish supplier/outsourcing relationships • Manage suppliers • Manage outsourcing relationships • Manage purchase requisitions and orders • Procure custom equipment • Manage payables
Monitor	Manage customer relationships	<ul style="list-style-type: none"> • Determine customer retention policy • Manage affinity programme • Establish call centre facilities/ hours/ staffing • Receive and handle customer inquiries
	Service customers	<ul style="list-style-type: none"> • Receive and handle trouble order • Schedule work order • Carry out maintenance and inspection work orders • Maintain maintenance data
	Operate systems	<ul style="list-style-type: none"> • Develop and maintain operations standards and procedures • Identify and plan system operations • Maintain operations data • Schedule system operations • Execute system operations

Source: TH internal archival documentaries, Interview transcripts

Table 4.10: Managerial processes in TH infrastructure

PROCESSES	SUB-PROCESSES	ACTIVITIES
Plan	Manage capital programme	<ul style="list-style-type: none"> • Determine capital and expense programme • Determine capital and expense projects • Prioritise projects • Analyse project feasibility • Obtain project approval
Prioritise	Manage accounting and control data	<ul style="list-style-type: none"> • Manage transaction processing • Administer ledgers • Carry out account closures • Manage book-keeping (fixed asset schedules) • Manage project finance and book-keeping/accounting • Administer taxes (corporate, payroll, personal, capital gains taxes)
Deploy resources	Provide decision support	<ul style="list-style-type: none"> • Perform overhead accounting and allocation • Support product costing • Perform customer and product profitability analysis • Report and analyse business performance
	Manage human resources	<ul style="list-style-type: none"> • Establish and implement HR programme/policies • Manage employee recruitment • Manage new hire integration • Train workforce • Manage career development process • Perform employee data administration • Manage career development process • Manage compensation • Manage organisation and positions • Manage employee rewards system • Manage employee satisfaction • Monitor employee health and safety • Manage labour and employee relations • Manage employee separation • Perform life event/open enrolment benefits

		<ul style="list-style-type: none"> administration Administer disability claims Administer FSA (flexible spending accounts) Administer consolidated omnibus budget reconciliation act (COBRA) Process payroll
Execute	Manage Information Technology (IT)	<ul style="list-style-type: none"> Establish and evolve IT strategic plan Develop IT architectural blueprints Administer IT-specific contractors management Establish IT-related goods and services Proliferate IT-related goods and services Administer the operations of various IT platforms Provide IT learning absorptions Establish and administer ecosystems of consumers Strategise year-over-year IT capital expenditures, operations and maintenance and operational expenses for keeping the lights on. Engage and coach IT business units or working teams throughout the extended enterprise
	Plan and administer business	<ul style="list-style-type: none"> Oversee competitive landscape Devise corporate strategies (participation strategy and competitive strategy) Manage corporate governance Manage regulatory relationships Define the business plan Plan the business Prepare the budgets Plan and manage quality performance Manage and improve business performance Assess opportunities for strategic alliances, acquisitions, and divestitures
Control	Manage capital and risk	<ul style="list-style-type: none"> Manage liquidity Manage capital structure Manage financial risk Manage corporate risk Administer finance-accounting related matters such as depreciation policies and amortisation procedures Operationalise the annual auditing exercises for the production of annual reports, MD&A, and other disclosures
Monitor	Administer and control decision support services	<ul style="list-style-type: none"> Conduct the administrative services Oversee internal communiqué Manage staff communiqué Manage corporate law and legal-related workflows Formulate, perform and report the carbon emission and staff-related safety metrics Mitigate risk Retain securities to critical infrastructures and operations

Source: TH internal archival documentaries, Interview transcripts

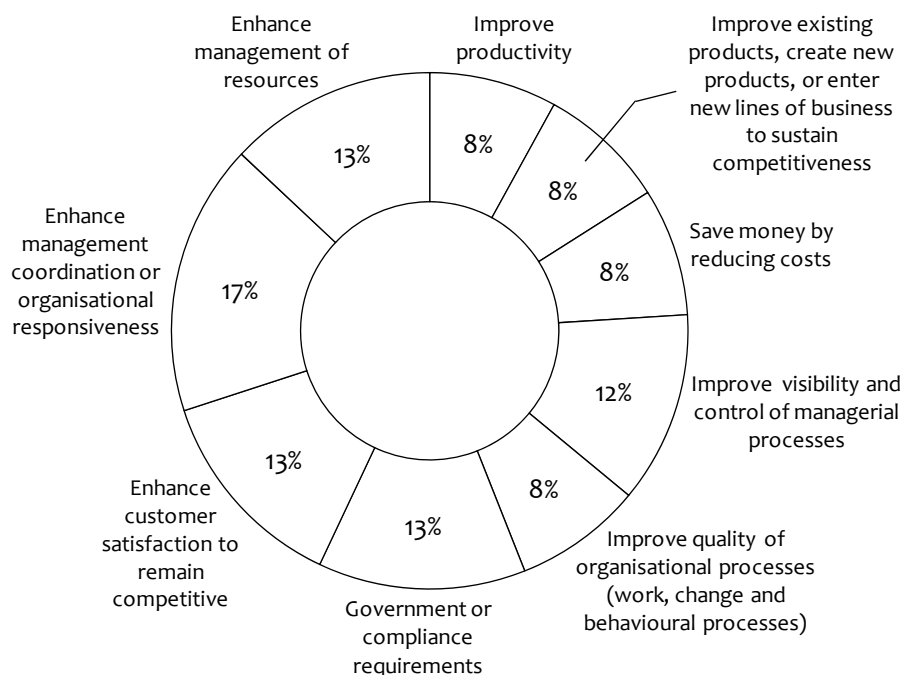
4.6.3 Vision and Strategy

The summative assessment of nine factors below leads to a shared understanding of organisational routines of TH in respect to the innovative management of management innovation. For more than 100 years history, TH has not overtly shared information about its successful practices with the corporate community or power industry at large.

Executives and senior managers were intensely guarded in making comments; secret, even to the point where secrecy may have seemed to be a matter of pride within the corporation. When asked about the business drivers, of all online respondents, seventeen percent recited that TH's most popular driver is to "enhance management coordination or organisational responsiveness."

As disclosed in Figure 4.24, the survey pointed out the subsequent respondents' shared beliefs to: (1) enhance management of resources–13%; (2) enhance customer satisfaction to remain competitive–13%; and (3) government or compliance requirements–13%. In addition, Furthermore, key drivers such as cost reduction or productivity improvement or foray into adjacent businesses to sustain competitiveness, were all influential but to a lesser degree (each was individually cited at eight percent).

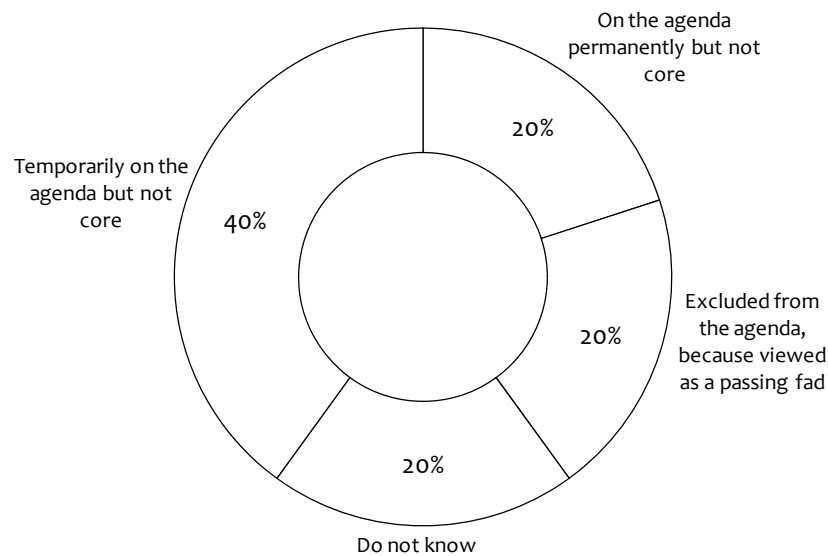
Figure 4.24: Key drivers triggering TH to focus on MI



4.6.3.1 Dissemination of vision and strategy to management innovation

The vision for management innovation is omnipresent at TH enterprise-wide. As illustrated in Figure 4.25, forty percent of online respondents indicated that their organisations consider TH' status of MI to be "temporarily on the agenda but not core." The remaining twenty percent did not know the status of MI.

Figure 4.25: Status of MI on TH's corporate agenda



The strategy to management innovation is implicitly translated as managing project through short-term, incremental innovation. Both are shared using the top-down mechanism across the enterprise. According to my interviews with practising managers, they clearly signify that:

"Toronto Hydro has, traditionally, taken a shorter-term view in system performance (reliability, safety, utilisation, failure trends and age profiles), and is not driven by an over-emphasis on long-term management innovation."

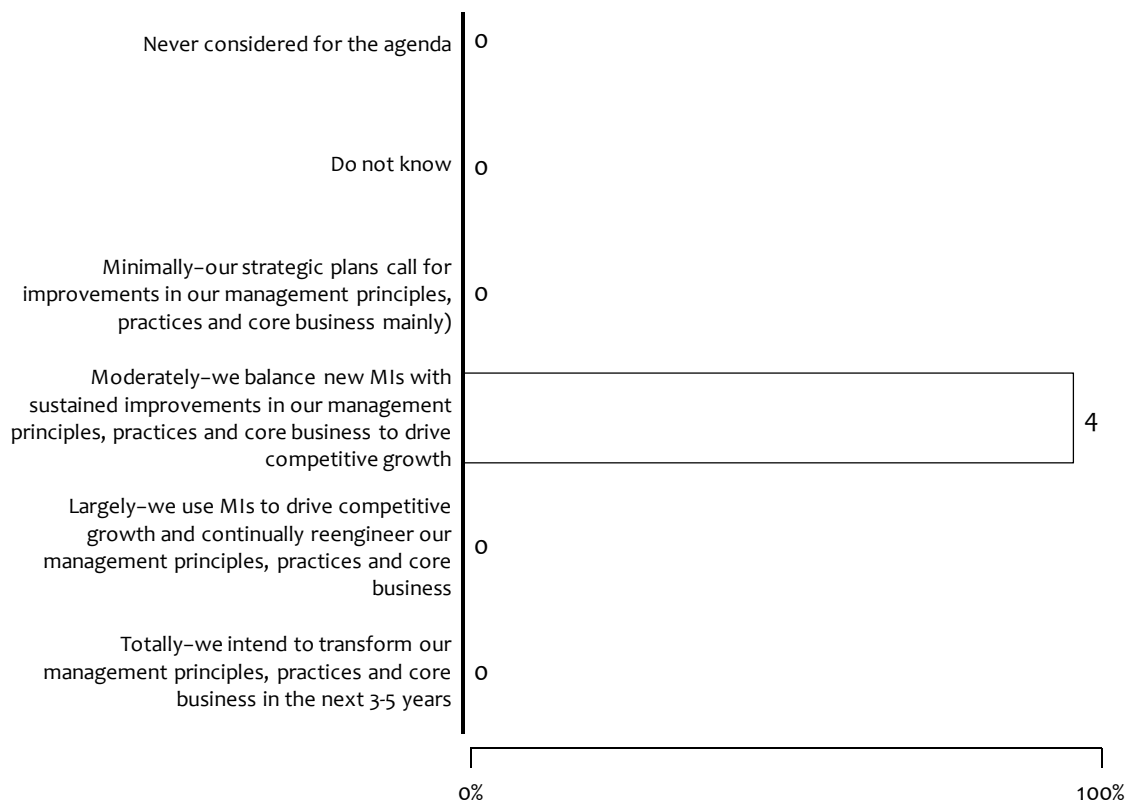
Also as a TH senior manager recaps:

"Toronto Hydro still has an embedded culture which has been too entrenched to status quo. The company sees itself as different from its utility peers because of its consistent approach to investments in physical asset management, for instance in TH's ability to invest in distribution system, to maximise the value provided to its stakeholders along the four corporate pillars of employee and public safety, customer service, asset renewal and consistent financial performance. The asset management vision at TH is to become a world-class investment planning organisation."

Since its inception in 1910 as a public corporation, TH was known to adopt the command-and-control paradigm. This mechanism served the company well to provide power to the city of Toronto's construction boom right after the world war II. Then in 1998, following the amalgamation of the Toronto area's six municipal electric utilities, under the CEO leadership of Jim Black, TH had institutionalised the "coordination-and-cultivation" model to synergistically exploit the economies of scale (on legacy systems

and organisational processes). For example, an aggressive enterprise resource planning system implementation was deployed to provide valuable information to help managers make fact-based decisions that are essential for managing their increasingly complex businesses. As presented in Figure 4.26, there was unanimity that the extent of Toronto Hydro's corporate strategy is dependent on the management innovation. These respondents asserted that they moderately balance new MIs with sustained improvements in their management principles, practices and core business to drive competitive growth.

Figure 4.26: Extent of TH's strategy depend on MI



As a TH manager remarked:

"understanding the value of a Management Control and Reporting System (MCRS) and using it properly is a priority for the company. This is the closed-loop cycle that managers ensure that the resource allocation gets monitored. The preliminary results are very positive. An essential element in ERP's success was attributable to the coordination with our re-engineering processes and cultivation of structural change management."

Most of these decisions represent a significant change from practices prior to 2005. However in 2006 when Anthony Haines was appointed to be the President, he

immediately embraced the "engaging-and-coaching" paradigm as the company's management model. The systematic structure was accordingly put in place to enable the facts-driven discussions throughout the organisation. It now seems clear that TH has achieved its current stellar success in management performance, and made a step-change in the culture for management innovation, by making the following major decisions:

- Exapting communication devices (leveraging smartphone as the technology of the future) through consumerisation of smart technologies (smart electricity meters, automation distribution)
- Exploiting its intellectual assets
- Executing project in smaller cross-functional collaborative teams
- Continuing its policy of strategic investment in assets modernisation
- Cultivating home-grown talents

In addition, there is an inference that the majority of TH managers has an inward-looking culture internally, that is they are not incentivised to become innovative in structural, processual, and cross-boundary networks. In other words, management innovation is not considered to be a discipline and seen as a random or disordered event. A senior manager shares his perspective that:

"he does have the culture of incentives for innovation in his division. The competition is at best, minimal. Another compelling evidence on the middle management level, many are good high-performing managers but they are not being utilised as they should have. The only reason, they are overly concerned about their own professional agenda and security. That is why they are less innovative in managing management innovations."

Some of these managers resist cooperating with either internal and external business partners, simply due to their inward looking attitude. At TH, vertical integration, while ensuring quality and system reliability, also leads into non-core areas where work could be better done by others companies. As a TH manager describes:

"the innovative management of management innovation, as practiced prior to 2006, was seen explicitly to be the domain of the TH engineers. Engineers were highly valued by the organisation and were provided with well-defined career opportunities but the emerging issue was the opposite and that is whether non-technical people held as much sway within TH and were equally well recognised."

However since 2006, Haines clearly makes management innovation central to his all management team and businesses. For TH, management innovation is a centralised organising principle that each and every employee leverage as the basis for making

better decisions, unclogging operational bottlenecks, and creating transformational opportunities. What has shifted in the last seven years is the definition and systematic organisational approach applied to management innovation. There is a much broader definition of innovative management of innovation. Organisation and process changes have been put in place to inexorably innovate management innovation. In an official Toronto Hydro's report to the City of Toronto Executive Committee (dated: November 5th, 2012), TH performance has been increasingly outstanding:

- Reduced staff levels by 42% (from 2,688 in 1996 to 1,562 in 2012).
- Reduced executive staff levels by 50% (from 20 in 2005 to 10 in 2012).
- Achieved accolades in safety performance (IHSA President's Award for 3M hours worked with no injury).
- Led Canada nation-wide in the deployment of Smart Meters and Time-of-Use billing.
- Maintained a high standard of reliability for ratepayers and users of electricity in Toronto.
- Increasing capital investments by 190% (from \$132M in 2005 to \$380M in 2011).

4.6.3.2 *Leveraging collective intelligence*

Toronto Hydro does not make any reference that there formally exist a dedicated group or structure or system to leverage collective intelligence. The company also does little to manage their intellectual assets in knowledge management. One manager echoed his concern by stating that:

"they don't do or have enough incentives to be innovative in sharing of information, best practices and knowledge across the organisation. However, crowdsourcing of intelligence is very limited but when that happens it usually goes through the middle management who act as a catalyst and information processor, aggregating the novel ideas via bottom-up."

This systemic organisational problem was attributed to the amalgamation of six different power utilities in 1998. At that time, everyone at TH is organised and works around the concept of individual functions or divisions. This manifestation of silo phenomenon breeds insular thinking, redundancy, and suboptimal decision-making. A TH manager explains:

"communication exists only at the higher levels (e.g., division manager to department manager). Executives, managers and individuals focus on guarding turf (and pursuing their own agenda) rather than on engaging colleagues outside their functional department. Instead of reaching across the organisation, individuals primarily move information and decisions vertically. When people are culturally inhibited from interacting across divisions and

functional departments, they avoid sharing data and information outside of their silos. This costs TH in agility, productivity, and responsiveness."

However TH recognise the importance of collaborative teams. In my interview with Robert King, the COO, he recognised that:

"by adopting collective influence, collaborative culture, adaptive processes, and web-based tools, the company can keep the self-governing swarming (and in some case, silos) in check and create greater value. The creation of Centre of Excellence (CoE) in project management, elimination of unnecessary formality, and adoption of common processes and systems, show that TH has been making strenuous efforts in breaking down silos mentality enterprise-wide."

"They started putting together all the best management practices and lessons-learned from previous projects and manuals and procedures and processes onto this CoE. Individuals begin eliminating the need to "go through channels" and minimise cultural requirements of going through needless bureaucratic maze before finally engaging to the executives/top management. The IT department is implementing the wiki-type-intranet for any knowledge management/exchange."

4.6.4 Innovative Management of Management Innovation

Through my web-based survey and interviews, senior leaders provide considerable insight into TH enterprise when it comes to the prevailing culture and their IMMI:

- Management innovation is not just about managing differently. Instead, it encompasses a range of associated logistical and sensory ideas and business decisions.
- During growth spurs it is even more important to ensure that management innovation occurs in operations areas such as cost reduction and quality improvement. Intelligent asset management, integration, and enterprise growth have insofar become TH adaptive strategy as opposed to the tactics.
- Toronto Hydro's deep knowledge about electric distribution and enabling smart technologies is at the root of their enduring success.
- TH experiments a number of IT-enabled management innovation initiatives (Table 4.11).

Table 4.11: TH's top ten management innovations

1	ERM-Enterprise Risk Management	ERP facilitates managers to resourcefully handle ambiguity and related threat and adjacent prospect, augmenting the managerial capacity to improve deployment of resources for shareholder value creation.
2	Smart Meters Implementation Programme	It refers to a smart wireless apparatus that leverages the RF-radio frequencies to transmit consumption profile of end-users, allowing Toronto Hydro to economically watch power usage during peak and non-peak periods.
3	Six-Sigma Quality Methodology	A pragmatic process that assist companies to establish and materialise almost-perfect goods or services.
4	Shared Services Centre	An approach of systematising the shared administrative roles and functions (e.g.: IT, HR, legal, facilities, or customer service) to maximise the attainment of cost-efficient and reliably-managed services through clear SLA-service level agreements.
5	Centre of Excellence (Decentralised; Fragmented)	A group of specialised individual that is deliberately formed to embrace shared value-creation, collaborative teamwork and applicability of industry's best (or next) practices.
6	Customer Relationship Management	A, IT-enabled management model that TH uses to understand their customer groups and respond quickly. This Customer Information System (CIS) initiative costs approximately \$19 Million and is a joint-implementation between Enersource Hydro Mississauga and Toronto Hydro.
7	Enterprise Intelligence	Capitalises on the development of TH enterprise applications/ platforms for enabling a thriving enterprise intelligence: <ul style="list-style-type: none"> • ERP-Enterprise Resource Planning • GIS-Geographical Information system • DMS-Distribution management Systems • OMS-Outage Management System • ODS-Operational Data Storage • BI-Business Intelligence • SOA-Service-Oriented Architecture
8	Energy Conservation Management	Conservation of energy through curtailing energy consumption. Of note, this is not the same as efficient energy consumption, which alludes to consuming less energy for a continuous period.
9	Scenario-building and Contingency-planning	These refer to systematic approaches to scan the disruptive effects on company's operations and foresee the appropriate strategic frames of references for adaptive transformation.
10	Balanced Scorecard	An approach to corporate performance management that cascades strategic objectives into measurable targets. The scorecard translates the vision and strategy into a tool that communicates the strategic intent, and then tracks performance against the established goals.

Sources: TH strategic planning/annual reports/OEB regulatory filings.

4.6.4.1 Organisational design for improving manager's innovative capacity

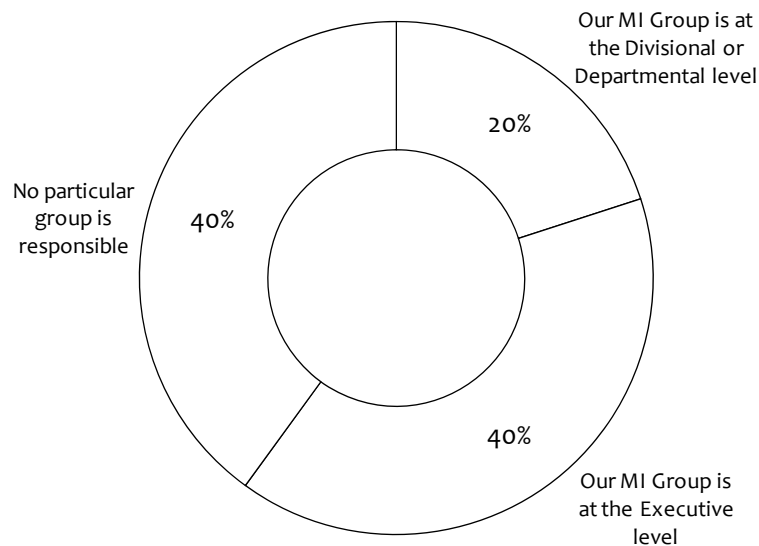
Under Haines' leadership, TH has recently introduced a number of significant enabling mechanisms to improve manager's capacity. He recognises the gradual demise of the hierarchical structure and less significance attached to hierarchy and more towards

connections (compensatory encouraged by the pay-for-performance as a replacement of the pay-for-attendance pre-amalgamation). A manager of TH said during the interview:

"from the corporate top-down, many functional managers organise hierarchically to motivate their teamwork to achieve collective consensus. However from the project management vantage point, the matrix structure is effectively used. Staffs function with minimal hierarchy and close supervisory from managers and senior leaders. These managers in this matrix-type organising structure must constantly nurture collaborative teamwork throughout TH divisions and departmental areas, and to synchronise and inspire other members horizontally, over who may not have the level of mutual influence, to accomplish a shared purpose that may not be evident to all team members."

Notably forty percent of the online respondent indicated that their MI group was at the Executive Level while twenty percent recited that their MI group was either at the divisional or departmental level (Figure 4.27). Conversely, another forty percent of respondents claimed that no particular group was formally responsible for managing the MI experimentation at Toronto Hydro. Not unexpectedly, perhaps opinions tended to vary depending on the particular MI-driven initiatives.

Figure 4.27: Responsible prime for MI at Toronto Hydro



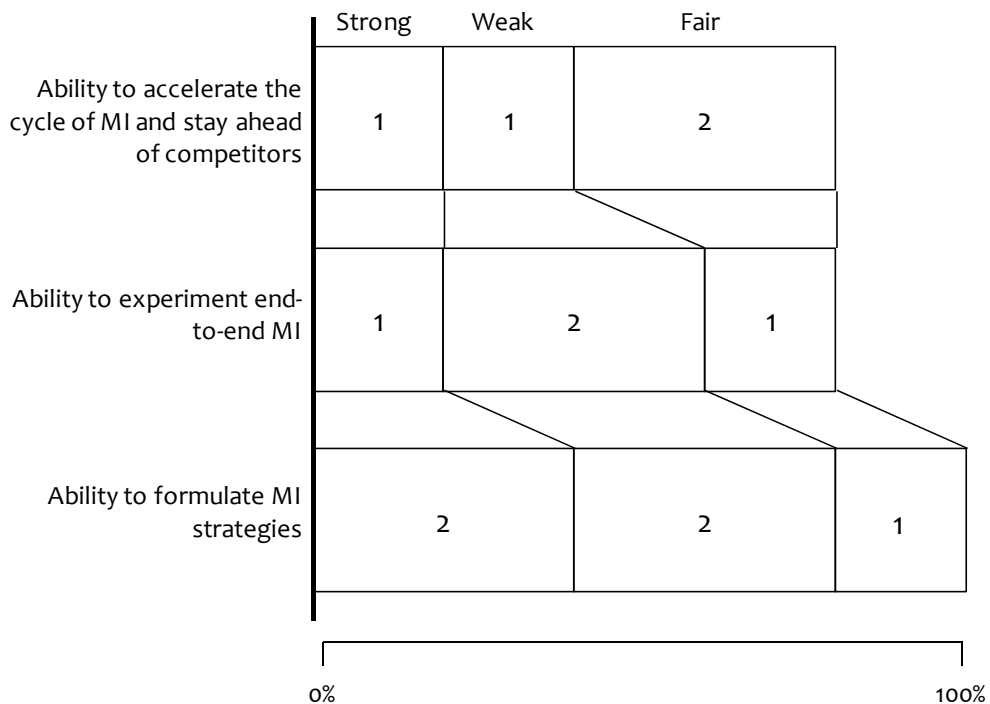
Similarly TH managers have been championing the process simplification since amalgamation. Particularly in the enterprise project management, core processes have

been simplified by removing unnecessary waste and empower individuals to perform more productive work innovatively. Another manager confirmed the situation:

"there was a sense, back in 2006 and perhaps before, that the management's trust deficits were diminishing and required to be revived. This lack of trust among management teams hinders the experimentation of management innovation throughout the organisation. Lower morale, decreased loyalty to the organisation and less delegation of authority. Haines has been vigorously working on stressing the importance of ensuring that "transparency, honesty, communication, consistency and predictability are present" in everything TH managers now do."

As revealed in Figure 4.28, online respondents were rated on TH's ability to deliver MI initiatives using a scale of Strong, Fair to Weak. As indicated, there was a high level of correlation between Toronto Hydro's ability to formulate MI strategies and its ability to experiment end-to-end MI. Henceforth as reported, most respondents stated that their managerial abilities in both spectrums are strong. However, this is in contrast to TH senior leaders' perceived "weak" ability in accelerating the cycle of MI and staying ahead of competitors.

Figure 4.28: Rating of TH's ability to deliver MI initiatives



The external collaborative network is presently not apparent at TH. As exemplified by a TH senior manager:

"the utility engineering division at TH is a very guarded group. The engineers have their views on what are the appropriate standards. Nothing gets through the doors until the engineers bless so."

"there are many innovative products and processes that come to TH, which could help improve the performance (i.e.: systems/productivity in the field). Because of lots of governance and secret mechanisms, it is becoming culturally difficult to engage with network suppliers. The suppliers coming with novel tools and ideas and practices eventually give up collaborating with TH as a result."

4.6.4.2 Management tolerance for mavericks

TH mentioned about two types of mavericks, which encourage multi-disciplinary exchanges. One is maverick with innovation and novel ideas who challenges the perpetuation of status quo. The other maverick is viewed as disruptive in nature.

Given the traditional structure of TH (government monopoly) and its inwardly looking culture (based on fostering culture of asset modernisation), unless mavericks (those ones who are different from the norm) are sitting on the higher-level management, then no one below can practically dictate down. A TH manager contended that:

"most mavericks are not incentivised enough for advancing their innovative ways of improving TH' operational excellence."

"as a result, there is really not a vehicle to encourage innovation and from the reward system, innovation is typically disruptive at first. It will have negative impact on TH operations and we always try to avoid it. There is, however, significant mention of collaboration on the portfolio/project managers who are evidently receptive to novel ideas from very different disciplines."

In spite of this historic norm being so ingrained in TH culture, programme manager at the enterprise strategic project division, is disruptive in managing work innovatively and whenever they see better practices which could be inventive or innovative, they usually shake things up to some extents. A TH manager offered an example as follow:

"Occasionally when they run high-profile or missions-critical projects, they do not look for any vertical consensus by engaging horizontally as long as they can bring greater efficiencies along the project gates."

"thus, it is really the engagement process, making that determination and sitting down with project members and pertinent stakeholders and trying to discuss with them of how they channel their energies managerially innovative."

4.6.4.3 *Hierarchy enables rapid escalation of innovative practices*

Managers see solid hierarchy as an effective internal mechanism to organise well and allow pre-adaptation (consideration and/or escalation) and adaptation of various innovative management principles and practices. What differentiates TH managers from others is their utter commitment to embrace innovative management of management innovation initiatives.

The result is an invasive managerial effort on the part of the company to capture value-creating opportunities. This commentary excerpt following my interview with a TH manager identifies the persistent process of adaptation that can be accelerated if there is a strong "change agent" on the executive management level.

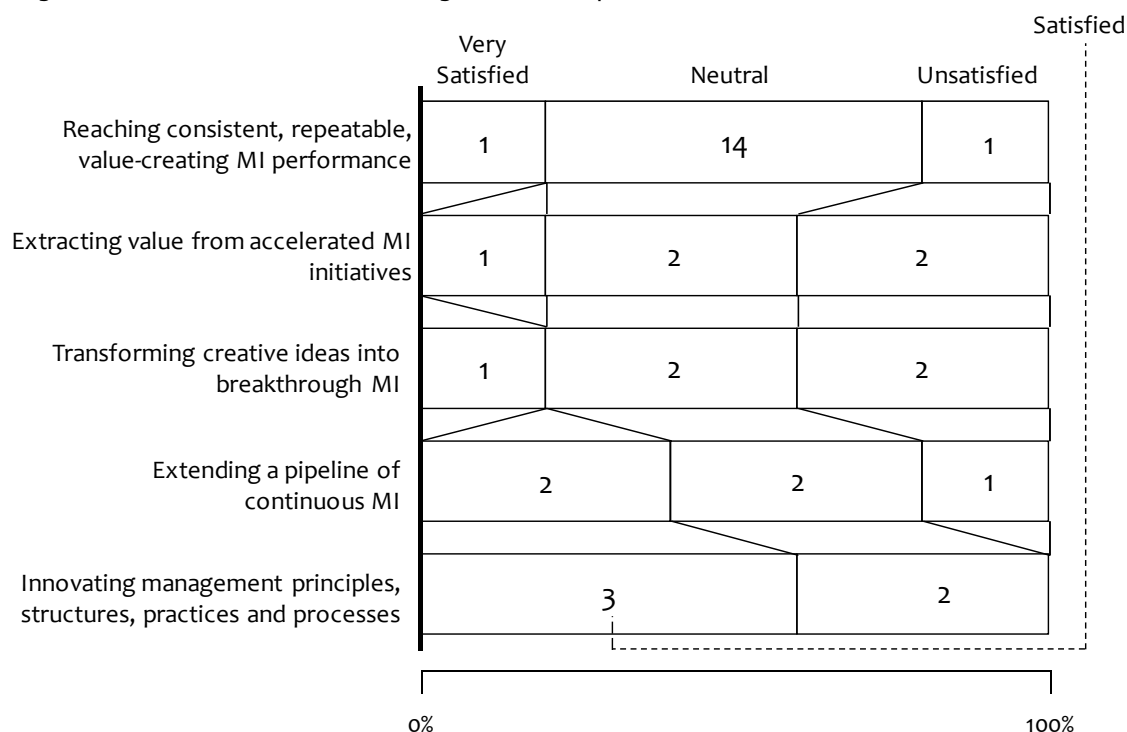
"in Information Technology and Services (IT&S Division), the CIO, Eduardo Bresani when he joined the company, he championed various management innovation practices, that is the COBIT-Control Objectives for Information and Related Technology as IT&S governing principle. He was successfully rolled out the programme and achieved the desired level of performance maturity within three operating years."

"for example, the creation of Centre of Excellence (CoE) on the enterprise level within the IT&S was to include gathering the business requirements and development of standards. The CoE was functionally quiescent for several years due to resource constraint resulted from missions-critical projects/programme. Since then, the CoE was reinvigorating by designating a dedicated full-time person (project lead level) to manage the CoE on a full-time basis and become the prime go-to-person and subject matters expert for TH. The management team, in turn, will consult to this prime for any shared best practices, process maturity assessment and performance gap analysis."

As unveiled in Figure 4.29, online respondents were asked to choose the satisfaction level using a scale of very satisfied, satisfied, neutral, unsatisfied, and very unsatisfied. Despite the apparent satisfaction of overall TH organisation's performance in MI areas, the vast majority of respondents garnered their collective thoughts that they were "very satisfied" with innovating management principles, structures, practices and processes. Similarly TH senior leaders claimed that they were also "satisfied" with reaching consistent, repeatable, value-creative MI performance.

Only a few reported "very unsatisfied" with their performance in transforming creative ideas into breakthrough MI. The later was attributable to the company's focus on incremental MI in their infrastructure and operations' processes.

Figure 4.29: Satisfaction of TH organisation's performance in MI areas



Another TH manager's example as alluded to:

"the "in-take" process that is used for IT&S resource pooling. In the past, if one has a programme management where there is multiple projects for year 1, year 2 and year 3. The standard procedure is to get the service request for pooling the internal resources from different departments or divisions. This usually takes time and get into very political between the hierarchical management levels."

"the IT&S department then proposed and implemented an innovative managerial process called "in-take" process. This is the process where you organise by securing available individuals to be dedicatedly working with portfolio management team. So the in-take process committee will intelligently in-source the mobilisation of resources from the infrastructure department, utility engineering groups, security department and business units and try to collaborate for the advancement of multi-year projects' deliverables."

4.6.4.4 Ways to inspire, empower and energise individuals

Toronto Hydro believes that being a large, mature organisation gives them an advantage over seemingly more nimble smaller power utilities. These advantages build on: economies of scale, robust management capability, and the resources to take risks. For senior leaders, micro-management is mismanagement on the project level. Many commented:

"the reason that individuals have a visceral reaction to being micro-managed and tend to cite it as one of the worst management dysfunctions."

Most TH employees produce and thrive on their deliverables only when there are open communication, culture of open-mindedness, mutual trust and an effective management model of engaging-and-coaching, which was pioneered by the current CEO, Anthony Haines. Most senior leaders I did interviewed, now pride themselves on:

"their ability to prioritise, delegate and to know when and how to provide appropriate guidance and insight to keep projects and tasks on track. Similarly, managers consistently learn to get comfortable with uncertainty in project management. They learn to become more open-minded, to co-create the solutions collaboratively, and to be receptive to new novel ideas from different business units and functions."

TH has programme for uniquely rewarding and recognising individuals for managing innovatively by incentivising through non-monetary compensation. These rewards are given to individuals that bring innovation to the market in a way that provides TH great value. A TH manager recognised that

"it differentiates between traditional process innovations and those more closely associated with other functional activities." Alternatively, a non-monetary reward is widely used. A senior project manager explained that "he provides organisational-wide recognition, a sense of managerial excellence and success, a sense of work ownership and a sense of professional responsibility. His project teams are not afraid of taking bigger responsibilities, for instance, project leaders deliver project management works or vice versa. Project team are accountable for their deliveries because there is a positive psychology that is the benefit of professional and personal confidence. In most cases, individuals show personal excellence and intellectual maturity in project execution. At TH, best management practices were leapfrogged and adapted from other industries. The current cost structure of a typical utility company in Canada that emphasises system reliability has been less supportive of innovation. However, managers at TH have been smartly embracing cutting-edge management tools and practices to help improve their tactical and operating performance. Better business practices were infused to ensure strategic alignment and corporate innovativeness-the capacity to innovate."

4.6.4.5 Coordination and management of organisational assets

At THES, there has been ups and downs in corporate success but seldom has the company been far away from a culture with continual support for system reliability and

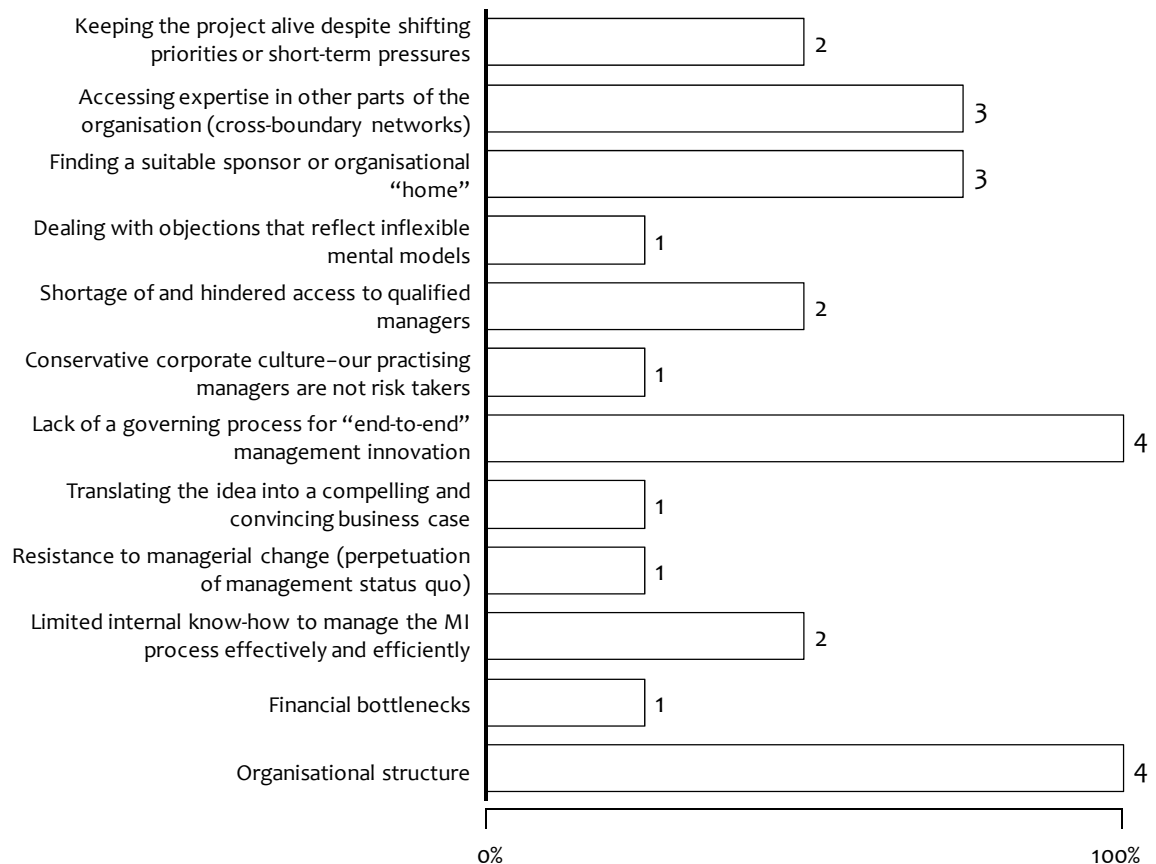
management innovation, however, it has been insistently re-defined by Haines (CEO), the COO, Robert King reinforced:

"Haines reinforce management innovation by exploiting new novel ideas from wide-ranging development of smart-meters related applications through to incremental improvement in innovative management practices."

"the challenge for TH has always been to maintain an entrepreneurial spirit within the organisation and not become complacent with success."

Figure 4.30 illuminates the response rate for understanding the major impediments that hindered or derailed MI at Toronto Hydro. Both the organisational structure and the absence of a governing process for "end-to-end" management innovation were identified with moderate frequency as the main impediments. Evidently, accessing know-how beyond boundary-crossing and finding a suitable sponsor or organisational home are also considered second major obstacles that hamper the MI experimentation at Toronto Hydro. The differences among these notable TH-centric impediments could be based on senior leaders' perspectives or may be based on lack of intellectual maturity in accelerating MI insofar.

Figure 4.30: Impediments that hindered or derailed MI at TH



For TH facing rapid advances in IT and consolidation, the integration of technology into strategic thinking and decision-making is essential for growth. In the passion for enterprise growth at TH, operating within the Canadian regulated power industry, the pressing issues of cost-reduction, legacy systems/ faulty equipments and supporting IT technologies had put to one side.

- Missed the technology revolution in terms of the adoption of advanced enterprise resource planning system (SAP) and collaborative technologies.
- Asset management had not matured with the growth of the company.

Further, TH make extensive use of the union and non-union employees to regularly perform and shift their regular maintenance works to capital projects, which are usually the result of resource rationing.

"the balance use of contractors, consultants and FTEs to capital constructions' projects are therefore imperative. One manager stated that as more experienced you are in executing the project, the better you are in innovating the very practices and agile solutions (being mindful to the MI process)."

"most managers are very capable in implementing projects and they would not call them innovative managers. They call themselves proudly call them "creative" only because of their collective experiences in different project leaderships. Said differently, most managers became great at managing innovative projects because of their specific experience and not necessarily being innovative."

4.6.4.6 Active and Passive Collaborations

A balanced approach to the use of internal full-time employees (FTEs) and external contractors (e.g.: consultants) has been adopted by TH. For internal FTEs, they must constantly learn by practical, hands-on collaboration. A TH manager asserted that:

"what has been routinely in the past is that THES project team gets very tactically innovative and each members absorbs their learning quickly by hands-on collaborations with other groups and consultants."

"therefore, adaptive linkages and strategic alignment are the drivers and active learning and collaboration prove to be more efficient than passive collaboration."

For instance, the deployment of centre of excellence (CoE). At Toronto Hydro, each makes the CoE part of everyone's job to maintain it. Most employees recognise the

importance of CoE and contribute to the advancement and maturity of CoE. An executive at Toronto Hydro elucidated that:

"that's how you gather and disseminate the best behaviour of employees/managers. If you give you people high marks to be innovative, it is more likely that they continue become more innovative. If you become destructive and disruptive, then your managers/employees would tend to become so."

"similarly, another manager explained that for the passive collaboration, the company hires high-performing consultants to jumpstart or add-value to TH's deficiency in knowledge, tools or project leadership skills. He reinforced that in his IT&S/engineering group, active collaboration is more useful and widely used due to tacit knowledge and best practices that are inherently proprietary to TH."

4.6.4.7 Sustaining benefits from lessons-learned

Although TH recognises the importance of having a structured way of capturing and sharing the project lessons-learned via corporate intranet, most senior leaders made no specific reference on sustaining the benefits from lessons-learned due to the project non-transparency during the post project implementation review. A TH manager echoed his sentiment:

"for many TH managers there is no point of having the review session when transparency is the problem. For small capital projects, they are delivered very well."

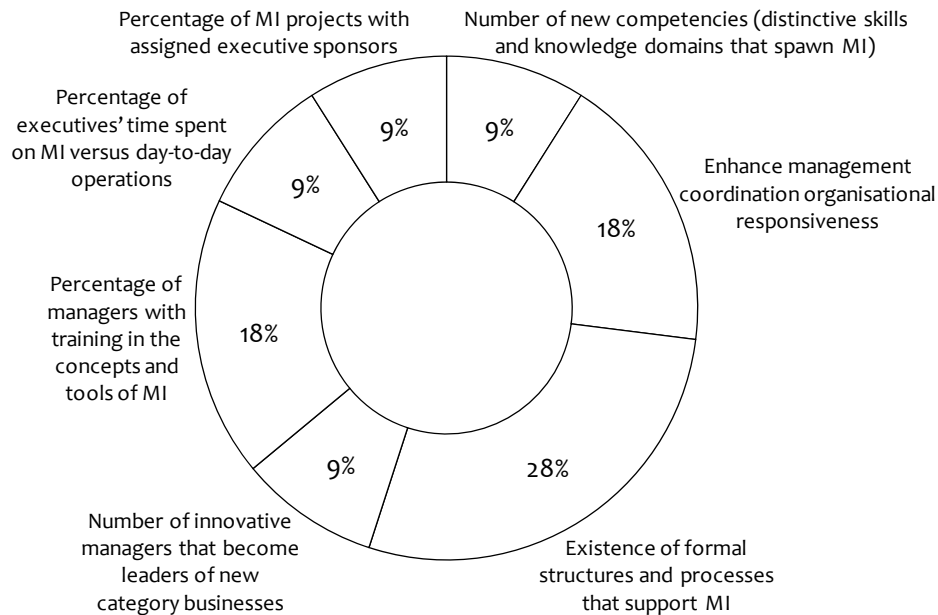
"large capital project that have some external components (custom applications that are co-developed by 3rd party vendor), Toronto Hydro does very poorly. As a result, TH project management capability gets hindered on managerial ability to collaborate dynamically with external vendors."

As displayed in Figure 4.31, twenty-eight percent of online respondents manifested their analytical utility in the "existence of formal structures and processes that support MI" metric, in view of stewarding the MI acceleration enterprise-wide. Excluding this outlier, the second most used MI metrics, identically each at 18 percent were percentage of capital invested in MI and percentage of those managers who have the requisite training of MI techniques/tools.

The remaining MI metrics were somewhat equitably distributed (nine percent) across senior leaders who have tailored innovative practices of MI in their respective organisations. This is inclusive of metrics such as percentage of MI projects with

assigned executive sponsors and presence quantity of new skills and/or knowledge that offspring MI.

Figure 4.31: Key metrics used to monitor MI at TH



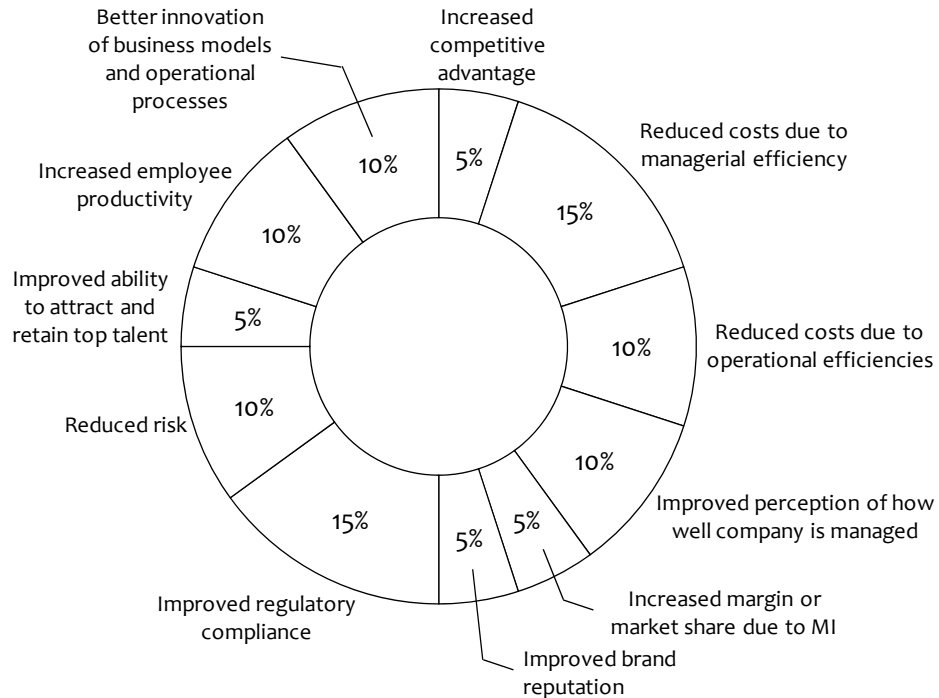
At Toronto Hydro, managerial processes are generally very siloed, fragmented and everything has been compartmentalised. For example, the deployment of Smart Meter and Time-of-Use billing, in its simplest form, is the convergence from the electrical and computer control system. The custom development of smart-phone application enables a two way, bi-directional way of communicating on a real-time basis. As a result, the smartphone exactly evolves from its natural intent of connecting people over distance to intelligent controlling devices for power consumption. A TH manager explicates:

"for TH managers, it is more about the speed of managerial adaptation that can be deployed in a very innovative way to keep up with changing pace of power distribution business."

As demonstrated in Figure 4.32, the distribution of online responses for MI benefits did not differ significantly by TH senior leaders. The most frequently cited benefit were firstly, to "improve regulatory compliance" (fifteen percent). This drives good corporate governance at Toronto Hydro, through a strengthened internal control over the company's regulatory filings to the OEB—Ontario Energy Board. Secondly, "reduced cost due to managerial efficiency" was a frequent cite at fifteen percent. The least cited benefits were "improved ability to attract and retain top talent", "increased

margin or market share due to management innovation", "increased competitive advantage, and improved brand reputation."

Figure 4.32: Benefits in accelerating the MI at TH



In addition, there have been no specific managerial processes of coordinating the lessons-learn that are really sustaining at TH.

"managers deliver value-creating projects and once completed, they are then falling back to the old days of managing what they do. There is no way of tracking the lessons learnt at TH as if things were on the past 100 years."

"a few managers has kept record on project-driven lessons-learnt but when there is an organisational change such as management succession or change of work responsibility then the lessons learnt may become lost."

"however, there has been an ongoing collaborative effort by IT&S enterprise strategic project management team to allocate 10% of their committed time for MI and create a corporate intranet in such a way that all project managers and their teams can benefit from the exchanged knowledge and best practices and improve their professional development and project management skills."

4.7 Case 4: Direct Energy Marketing Limited

Founded in 1985, Direct Energy Marketing Limited (DE) is North America's largest integrated retailer of natural gas, electricity and energy-related services. The company is a private subsidiary of Centrica plc, the globally-integrated energy company, publicly-traded in London Stock Exchange (LSE: CNA). DE and its affiliates operate their own physical energy assets in 10 provinces in Canada and 46 states plus the District of Columbia in the United States. This case study herein covers only business operations in Canada.

In just a decade after Centrica's acquisition in 2000, DE had soared from obscurity, plagued with poor coordination, unfocused management, a lack of clarity of the performance of key functions, inefficiencies and lax controls, to being the global phenomenon of the vertically integrated energy retailer. By mid 2009, the company has become C\$11 Billion enterprise in North America (USA and Canada). Such unprecedented and astonishing growth had pressurised DE on its heavily-decentralised structures and the need to innovate the management innovation

Wasted no time after Centrica's DE acquisition, Deryk King, the newly appointed President and CEO, immediately tightened controls, slashed costs, reined in spending, shrank the third party/supplier network, rewired DE's insular corporate culture, infused innovative managerial processes, systems and procedures and refocused on executable growth through adjacency strategies. Series of fact-based dialogues with top management were held to strategise on how to effectively reorganise for the future. Deryk approached the re-engineering by asking about how to benefit from greater diversity and cultivate a thriving corporate culture that is centered around the core DE brand values and underlying customer value propositions. He further pronounced the importance of embracing the centrality of distributed managerial knowledge (embedded in geographically dispersed subsidiaries of Centrica Plc) by building adaptive infrastructure that offers platforms to all managers and strategic partners to co-innovate. Further although the company presides over a treasure trove of home services-related businesses and technology and use sophisticated systems for planning and capital budgeting, the corporate performance was stagnant at best. On July 1, 2009, Chris Weston, an energy veteran from Centrica was appointed to the Chairman and CEO following the retirement of Deryk King. Even if MI learning is commonly the force that drives the corporate culture, apparently Weston does not believe in the promote-from-within is a means of ensuring that the culture is carried forward from one generation of leadership to the next. Both leaders see the competition for talents as the only path to sustainable competitive performance. Shared knowledge gained along the way made them far less valuable to the company than the hiring of someone

without that advantage. With the objective of making the company even more innovative, Weston (since 2009) has made the following key decisions, which impact the culture for management innovation.

- Emphasised organisational arrangements that result in cross-fertilisation of new and novel management ideas.
- Committed to organic growth and less emphasis on acquisitive growth.
- Turned the culture from a push people (top-down to outperform managerial expectation) to a coax-out-of people value.

DE, while a different company today than it was under King, is a company, which continues to highly value its innovative culture; i.e. being at the forefront of management innovations where it unremittingly serves its strategic business interests.

4.7.1 Company Profile

Direct Energy Marketing Limited (DE) is the Canada's principal retailer of deregulated energy and energy-related services, including natural gas, electricity and assortment of energy management and automation, HVAC (heating, ventilation and air conditioning) and plumbing insurance plans. With approximately 5,042 employees, DE is active in upstream production (electricity and natural gas) and downstream delivery. Although DE is not publicly traded, Centrica plc-the parent company, reports the financial performance of its North American subsidiary. Centrica, which trades on the London Stock Exchange (LSE: CNA), reported full-year 2012 revenue of £13.9 Billion³.

DE when acquired by Centrica Plc in Summer 2000, Deryk Irving King, a farsighted executive, was appointed as the Chairman and CEO to lead the turnaround of DE into North America's largest integrated energy retailer. Deryk commenced an extensive review of the potential growth platforms to understand fully the value opportunities, risks and resource requirements of each. He is keen to re-build the company through acquisitive growth on the platforms created by the DE brand. His immediate task was to turn around DE's stagnant performance due to high customer churns and demoralised employees. This included infusing DE with distinctive combination of energy management skills (British Gas management model), brand development, customer focus and complementary services capability. Specifically, King's corporate strategy was to transform DE into the Value Enterprise of a size and capability to sustain

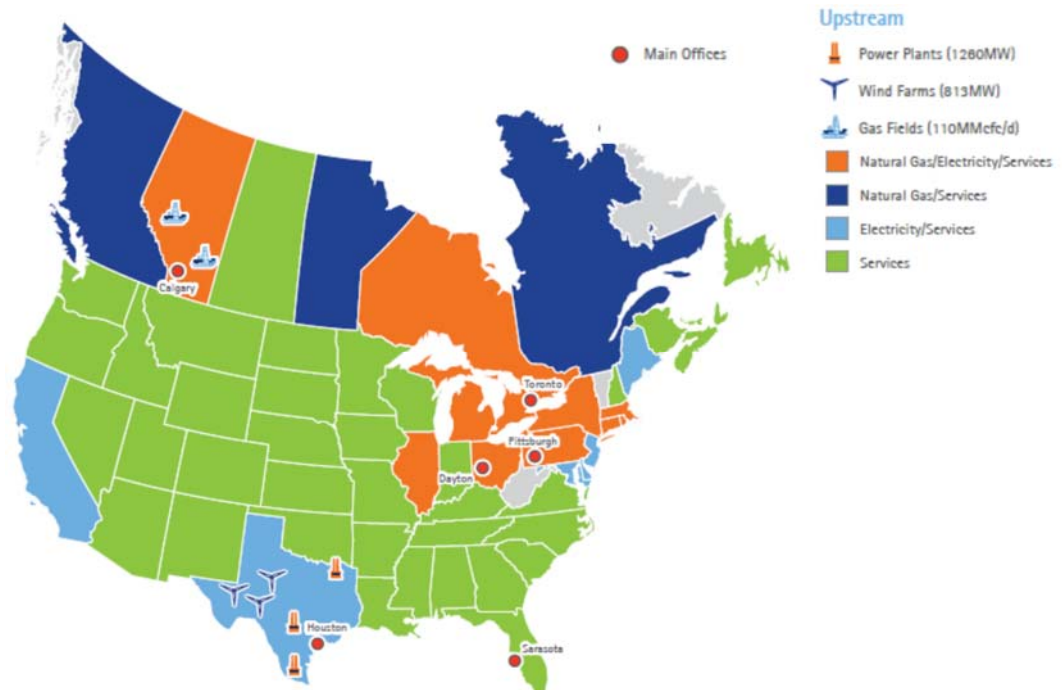
³ FY2012 KPIs (www.centrica.com/index.asp?pageid=1159).

profitable growth in North America. He then swiftly implemented a management strategy and processes, which included:

- Build front-level managers' recruits into a high performing team (instilling a coaching/development mentality into top management; and augmenting and developing middle management)
- Mobilise core resources (people and finance) to incremental innovation
- Incentivise people in ways that encourage superior performance rather than demotivate superior performers.

Under King's leadership for nine years, he had successfully built DE into a C\$11 Billion organisation with lucrative operations across Canada and USA (Figure 4.33). Through series of bolt-on acquisitions, DE has further solidified its business footprints to incorporate a mixture of energy-related products and services, such as water and air quality systems, appliances, heating, ventilation and air-conditioning (HVAC) services and energy management.

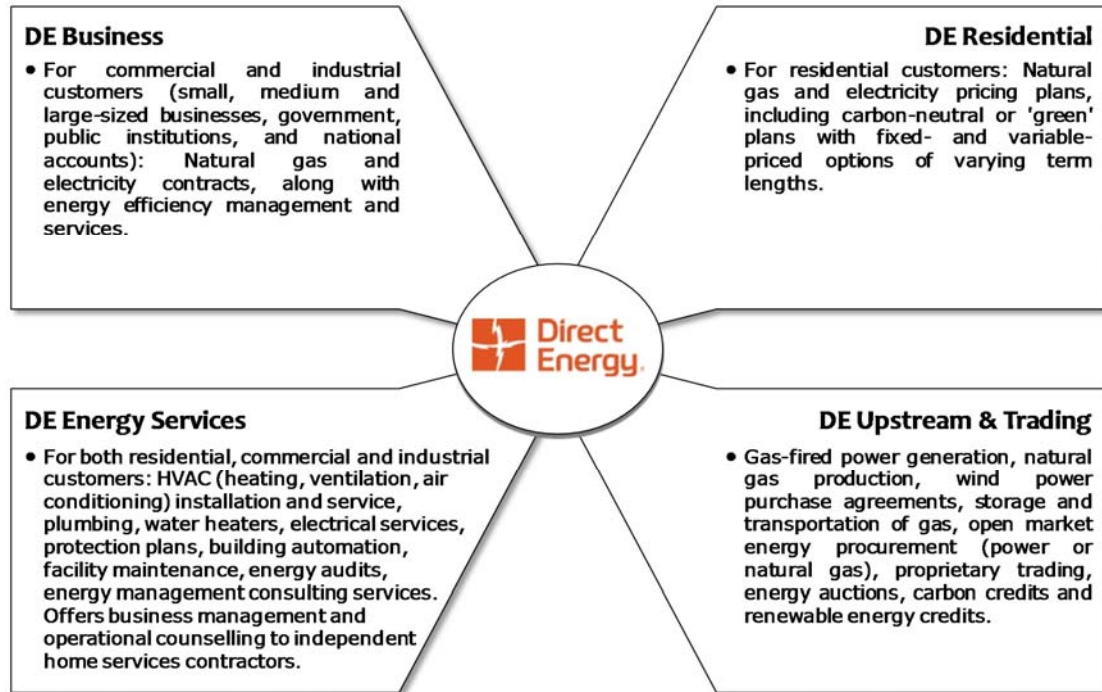
Figure 4.33: DE current business footprint In North America



Source: DE Corporate Factsheet, 2012

The company's revenue in FY2012 was estimated to be C\$9.48 Billion and its underlying operation is inclusive of four core retail businesses (Figure 4.34).

Figure 4.34: DE Core Businesses



Source: Re-adapted from DE Corporate Factsheet, 2012

4.7.1.1 Direct Energy's Awards

DE's managership have been outstanding for the past years. The company's achievements are true testament to the collective performance within the Canadian competitive energy retailing.

- Corporate Knights Magazine - A Best Corporate Citizen in Canada (2008). DE was recognised for efforts to consider the environmental, social and economic impact of its operations.
- Disaster Recover Institute (DRI) Award of Excellence (2008). DRI recognised DE 's planning and preparedness in continuity management, technology recovery and crisis management.
- North American Frost & Sullivan Award (2008). DE was recognised for Green Excellence in Building Management Technology.
- Financial Post 500 (2008). Financial Post Business magazine ranked DE as Canada's 44th largest corporation by revenue.
- Computerworld's Premier 100 IT Leaders (2008 & 2007). DE's CIO was recognised for exceptional technology leadership.

- Ontario Water Works Associations (2007). The Water Efficiency Private Sector Award was provided to DE for its work on Canadian Forces Base Kingston's water distribution system.
- Best Multinational Company in North America (2007). The Stevie Awards recognised Direct Energy as part of its International Business Awards programme.
- Best Employer for 50-Plus Canadians (2006 & 2005) Canada's Association for the Fifty Plus (CARP), recognised Direct Energy for the value it places upon and opportunities it creates for mature employees.

4.7.2 Managerial Processes at Direct Energy Marketing Limited

At Direct Energy, key managerial processes can be drilled down into two interdependent, combinatorial and yet distinctive categories. First, the operations management underpins most of infrastructure work-related activities and shapes the management behaviour in terms of robustness and resilience of DE infrastructure. Second, the infrastructure refers to ubiquitous management of fundamental operations' development and applications. The following Table 4.12 and 4.13 are compiled based upon the data assembled from (1) web-based survey; (2) in-depth interview with senior leaders; (3) internal archival documentaries; and (4) public record information. Timely efforts were advanced to cross-reference the utility of each grouping of the managerial processes as to reduce potential biases from web-based survey and in-depth interviews.

Table 4.12: Managerial processes in DE operations

PROCESSES	SUB-PROCESSES	ACTIVITIES
Develop fact-based	Manage business performance	<ul style="list-style-type: none"> • Manage merchandise performance • Manage vendor/brand performance • Manage store performance • Manage logistics performance • Monitor inventory performance • Conduct regular merchandise and operations performance review sessions • Execute action plans
	Manage marketing and consumer promotions	<ul style="list-style-type: none"> • Conduct market and promotions testing • Determine promotion media • Create and approve promotion/advertisement • Control promotion execution
	Develop and source private label products	<ul style="list-style-type: none"> • Develop product/lines • Research sourcing, pricing and select vendor(s) • Manage pre-production • Manage production
	Control inventory	<ul style="list-style-type: none"> • Perform inventory count • Value inventory • Develop and execute loss prevention security programme • Maintain data integrity

Evaluate issues and alternatives	Distribute merchandise and manage logistics	<ul style="list-style-type: none"> • Schedule and manage facility • Manage transportation • Receive and put away merchandise • Perform value-added services • Pick, pack and ship product • Manage reverse logistics • Control warehouse inventory
	Operate stores	<ul style="list-style-type: none"> • Manage cash office • Manage customer services • Manage store HRs • Manage facility • Schedule labour • Order merchandise • Receive and process merchandise • Prepare selling floor • Manage backroom inventory • Sell merchandise • Perform cashiering functions • Process customer returns • Manage layaway • Conduct and execute price changes • Perform transfers/special orders • Perform RTVs • Plan and execute new store opening
	Purchase, allocate and replenish merchandise	<ul style="list-style-type: none"> • Select vendors and merchandise • Test new merchandise • Negotiate terms with vendors • Purchase merchandise • Maintain purchase orders • Manage forecasting • Allocate merchandise • Set up and execute replenishment
Review	Develop periodic and long-range plans	<ul style="list-style-type: none"> • Develop financial operating plans • Develop promotion calendar • Develop marketing programme and budget • Develop merchandise plans • Develop location merchandise plans • Develop store operating plans • Develop key item plans • Develop vendor/brand plans • Develop assortment plans • Develop category plans • Develop logistics operating plan
	Develop strategies	<ul style="list-style-type: none"> • Develop understanding of the customer • Develop understanding of the industry • Develop understanding of the retail offering • Develop value proposition and corporate strategy • Develop global growth strategy • Develop merchandising strategy • Develop private label brand strategies • Develop vendor and sourcing strategies • Develop customer management strategy • Develop merchandise presentation and store layout strategy • Develop pricing and promotion strategies • Develop real estate strategy • Develop organisational strategy • Develop logistics strategy • Develop technology strategy • Develop financial strategy
Approval	Manage merchandise presentation and store layout	<ul style="list-style-type: none"> • Develop space allocation or layout plans • Create planograms • Create in-store selling environment

Source: DE internal archival documentaries, Interview transcripts

Table 4.13: Managerial processes in DE infrastructure

PROCESSES	SUB-PROCESSES	ACTIVITIES
Develop fact-based	Manage capital projects	<ul style="list-style-type: none"> • Develop project alternatives and analyse feasibility • Prioritise capital projects • Plan project and maintain planned costs • Obtain project approval • Tract capital projects
	Manage in-house credit	<ul style="list-style-type: none"> • Define credit programme • Open new accounts/grant credit • Provide authorisation • Provide customer service • Process payments • Process billing adjustment • Manage collections • Develop credit marketing and promotion programme
	Manage accounting and control data	<ul style="list-style-type: none"> • Perform transaction processing • Administer ledgers • Carry out account closures • Manage book-keeping (fixed asset schedules) • Manage project finance and book-keeping/accounting • Administer taxes (corporate, payroll, personal, capital gains taxes)
Evaluate issues and alternatives	Manage HRs	<ul style="list-style-type: none"> • Establish and implement HR programme/policies • Manage employee recruitment • Manage new hire integration • Train workforce • Manage career development process • Perform employee data administration • Manage career development process • Manage compensation • Manage organisation and positions • Manage employee rewards system • Manage employee satisfaction • Monitor employee health and safety • Manage labour and employee relations • Manage employee separation • Perform life event/open enrolment benefits administration • Administer disability claims • Administer FSA (flexible spending accounts) • Administer consolidated omnibus budget reconciliation act (COBRA) • Process payroll
	Manage Information Technology (IT)	<ul style="list-style-type: none"> • Establish and evolve IT strategic plan • Develop IT architectural blueprints • Administer IT-specific contractors management • Establish IT-related goods and services • Proliferate IT-related goods and services • Administer the operations of various IT platforms • Provide IT learning absorptions • Establish and administer ecosystems of consumers • Strategise year-over-year IT capital expenditures, operations and maintenance and operational expenses for keeping the lights on. • Engage and coach IT business units or working teams throughout the extended enterprise
Review	Plan and manage the business	<ul style="list-style-type: none"> • Oversee competitive landscape • Devise corporate strategies (participation strategy and competitive strategy) • Manage corporate governance • Manage regulatory relationships • Define the business plan

		<ul style="list-style-type: none"> • Plan the business • Prepare the budgets • Plan and manage quality performance • Manage and improve business performance • Assess opportunities for strategic alliances, acquisitions, and divestitures
	Manage capital and risk	<ul style="list-style-type: none"> • Manage liquidity • Manage capital structure • Manage financial risk • Manage corporate risk • Administer finance-accounting related matters such as depreciation policies and amortisation procedures • Operationalise the annual auditing exercises for the production of annual reports, MD&A, and other disclosures
	Manage payable and receivables	<ul style="list-style-type: none"> • Manage payables • Manage gift certificates, layaways and customer deposits • Manage coupons
Approval	Administer and control decision support services	<ul style="list-style-type: none"> • Conduct the administrative services • Oversee internal communiqué • Manage staff communiqué • Manage corporate law and legal-related workflows • Formulate, perform and report the carbon emission and staff-related safety metrics • Mitigate risk • Retain securities to critical infrastructures and operations

Source: DE internal archival documentaries, Interview transcripts

4.7.3 Vision and Strategy

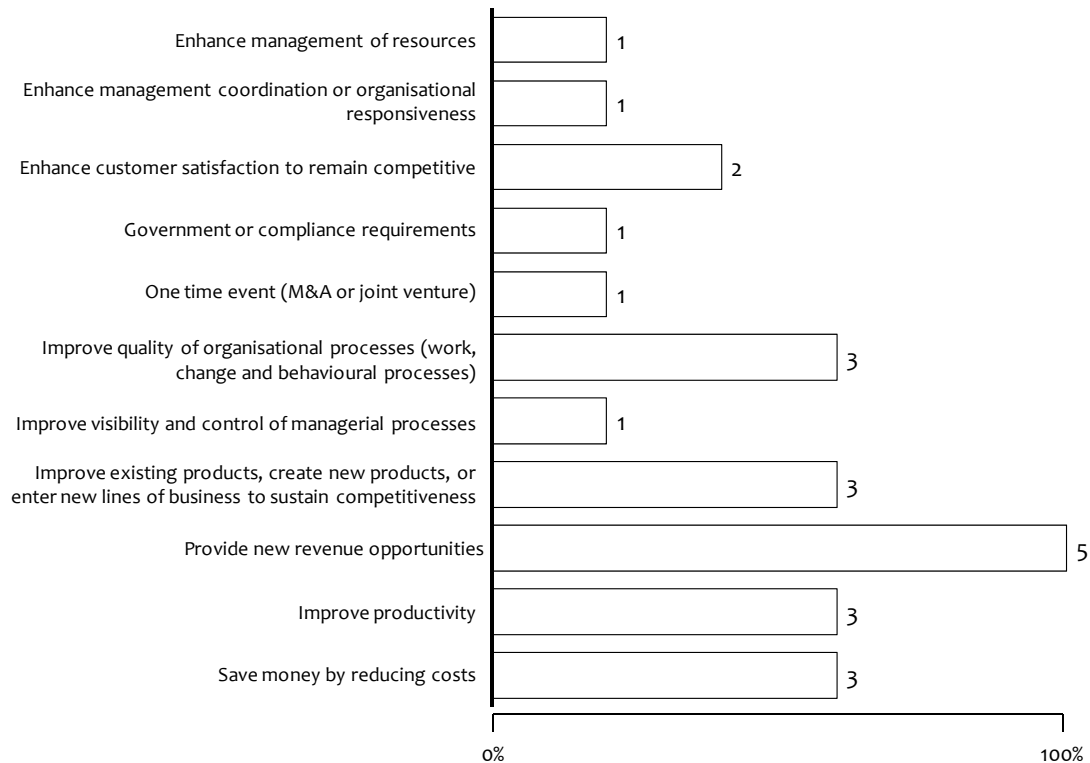
A summary of my web-based survey and in-depth interview with DE executives and senior management has been pooled and accordingly clustered into nine factors. Each factor highlights the extant managerial processes through which the executives and managers have been practicing at DE. Further attribution to the source of the reference is provided by the addition of footnotes.

4.7.3.1 *Dissemination of vision and strategy to management innovation*

At DE, agile leadership and management innovation are catalysts to value creation. Most senior leaders collaboratively shape DE to be a highly analytical company with decentralised management and operations in order to become, and remain, globally integrated entities within Centrica Plc.

Survey respondents were asked to name as many business drivers as they are aware that primarily cause Direct Energy to focus on MI. As divulged in Figure 4.35 overleaf, the vast majority of online respondents indicated "provide new revenue opportunities" as the top driver. Followed by few respondents who also reported key drivers that precipitate the MI-driven activities at DE such as to improve quality of organisational processes (work, change and behavioural processes), to sustain competitiveness, improve productivity, and to save money by reducing costs.

Figure 4.35: Key drivers triggering DE to focus on MI



A DE manager articulates his view:

"the rationales for focusing on experimenting management innovations (MIs) is predominantly through adopting measurable best practices from other companies or industries. This is a safer way for us to leverage the proven best practices. By doing so year over year, we have been able to: (a) provide new opportunistic revenue stream; (b) enhance our energy products' offerings; and (c) improve customer/end-user satisfaction as evidenced from the improved product per customer."

Another DE manager expresses

"although we do not currently have the formalised MI group, our strategic intent/vision for MIs remains on a permanent agenda in which senior executives and managers are mandated to deliver in order to remain competitive."

With respect to dissemination of MIs, corporate intranet is widely used. Top-down communication is also adopted on the management level. In his perspective, a DE manager remarks:

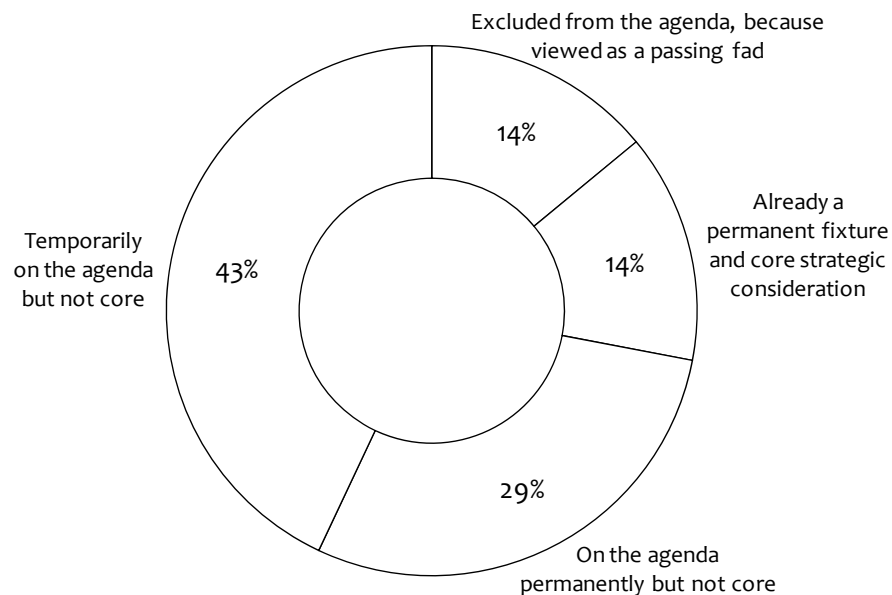
"explicitly DE managers view MI as especially key, as they typically challenge large scale incumbents in their core areas."

Although it is not part of the core activity, DE's vision and executable strategy to management innovation is on the annual corporate agenda. A DE manager describes the situation:

"at DE, knowing that certain innovative managerial processes are likely to be adopted for bringing greater effectiveness (and reducing operational slacks), will save a lot of time in having to come up with a new "change or work processes" for each major innovation initiative. Knowing ahead of time that at certain stages, a different BU structures could be brought into play, that innovation funding will arrive in a prescribed manner, and that innovation compensation will follow, etc. will certainly encourage those to stick to making the innovation a success rather than worrying about how the pie is to be decomposed."

The status of MI on DE's corporate agenda is disclosed in Figure 4.36. Forty-three percent of respondents verified the company's status of MI as "temporarily on the agenda but not core", while the status of "on the agenda permanently but not core" was accounted for an additional twenty-nine percent of respondents.

Figure 4.36: Status of MI on DE's corporate agenda



DE management internally reorient their corporate values by enhancing lateral communications about management innovation. The development and dissemination of a widely shared vision of management innovation across the enterprise reinforces the stated corporate attention (and top/middle management teams) to MI by offering

rewards, recognition, and career advancement to innovators or innovative groups that have been successful in implementing new innovation initiatives. A DE manager asserted:

"specifically, MI at DE is not a one-off event but an ongoing, one of the four organisational processes that requires top management involvement and benefits from built in mechanisms to react to business change. Moreover, ensuring MIs are filled with strategically aligned investments plays a key role in helping executives and managers impact their organisations."

To accomplish this task, the DE manager further explained:

"DE imposes a MI prioritisation methodology, as part of the overall project management, that reflects the DE's strategic goals and monitors changing circumstances throughout the MI lifecycle. However, there are some challenges that we face with respect to MI: (1) understand MI value and create consensus; (2) keep pace with evolving energy retailing business requirements; and (3) align the MI project and portfolio with business' priorities"

The organisation strategises the prolific experimentations of MIs based on the stage-gated deployment of customised managerial processes (development of fact-based dialogues, evaluation of issues and alternatives assessment, review, and approval finalisation). A DE manager pointed out:

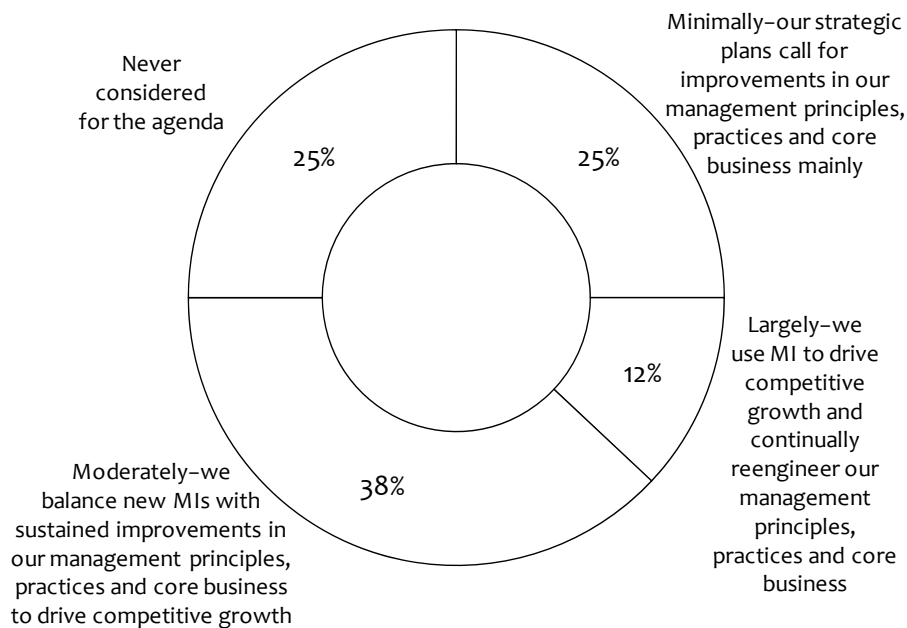
"it is a systemic process enterprise-wide with bi-directional sub-processes in which executives and managers at all levels reinforce sustainable collaboration, flexibility and meritocracy and proactively challenge the status quo using both corporate/innovation management events and the web-based technologies (i.e.: intranet portal). These have changed the ways practising managers work. For instance, apart from notable MIs such as the balance scorecard, creation of centres of excellence, globally integrated enterprise, etc., there are some of the smaller but incremental MIs that have been identified as mission-critical for DE currently such as developing new sales channels, embracing the NPS (net promoter score) and leveraging new market opportunities with Smart Metering. These provide opportunistic streams of how DE are prepared to exploit, given the changing competitive landscape in energy retailing."

The extent to which respondents think that DE's strategy depends on the MI is recapitulated in Figure 4.37. The managers surveyed presented insight into the strategic role that DE employed with regard to their distinctive MI capability. The primary response was that thirty-eight percent of online respondents revealed that they moderately balanced new MIs with sustained improvements in their management principles, practices and core business to drive competitive growth. While twelve

percent divulged that they have "largely used MI to drive competitive growth and continually reengineered their management principles, practices and core business", another twenty-five percents of online respondents reported that their "strategic plans call for improvements in their management principles, practices and core business mainly."

This is congruent with the proposition surrounding DE recurrently catalyses agile leadership and management innovation to create shareholder value. In contrast, the most prevailing pain-point for the proportion of DE respondents who cited that they have never considered MI for the agenda (twenty-five percent).

Figure 4.37: Extent of DE's strategy depend on MI



In times of disruption and rapid change, DE senior leaders give all indications that *"they coordinated the collaborative efforts of mid and front-level managers to be innovative by using a combination of command-and-control hierarchies (top-down communication and empowered control) and agile processes to ensure stability and predictability."* As a result, this enables DE to augment the flow of information within and across the company's corporate walls to optimise collaborative learning, adaptability, and management innovations. Said differently, DE managers direct and control the subordinates. As additional cited, *"work remains being governed by bureaucracy, that is coordinated by action plans, organisational processes, procedures, rules, tasks and KPI reports."*

Most managers make an extensive reference that since DE's establishment in mid 1990s, management innovation has been incrementally occurring. DE has been successfully retailing the same energy products with much more focused customer service oftenly aided with analytical software, innovative sales channels and affinity relationships, and internet technologies, as key enablers. A DE manager rationalised the circumstance as:

"so it is not so much a new offering in energy competitive retailing. Thus, it is really about analytically understanding the decision-making process for the customer, and the right way to show the value creative to them."

Nevertheless, DE management is often reluctant to create opportunities for employees to get together, preferring to organise around the matrix organisation and have a scalable efficient process of management. A DE senior manager commented:

"establishing executive committees, project task forces, special intra-project groups, can be seen as simply slowing the management process down and inviting too much discussions. On the other hand, the fringe benefits derived by such grouping actions can be significant in the development of new, novel, or collaborative ideas and their ultimate acceptance within Centrica North America/DE."

"in the end the added meetings etc. can pay dividends as those in the organisation self-align themselves with the pronounced direction for the company. There is a need for balance. That's why for DE the best way is to alter the way in which people are organised hierarchically and how they laterally communicate with a view to creating a more organising dynamic without introducing needless time-wasting meetings."

Therefore the management innovation at DE is concerned with obtaining diverse viewpoints to respond to the pressing issues or progress on adjacent business-related opportunities. MI is generally useful to initiate cross-functional, yet collaborative teamwork who can deliver projects or portfolios on-time and on-budget. A DE manager told me how MI was being implemented through collective efforts of innovative managers:

"having individuals from cross-divisions jointly coalesce enables for cross-pollination of new novel ideas and/or practices and supports them for creative thinking. It is hence important for senior leaders of any organisation to be surrounded by folks who are passionate about their collective works. When this occurs, innovation flourishes. So, it is equally essential that the devotion to management innovation is evident throughout the extended enterprises. Technology always breeds management innovation."

"calibrating determined yet attainable MI objectives habitually enhances teamwork efficiencies and improves staffs' morale as soon as they attain their planned goal. In this way, they will continually crop up with more variety and testable innovative ideas or practices."

A DE manager also commented:

"we also infuse a sub-culture of acknowledgment that spurs collective intelligence for shared innovation. All members of project/portfolios groups must be promoted to co-evolve their strategic reflections."

"at some occasions although novel ideas or innovative practices and methodological innovations are proven mediocre in their applications, management must remain approachable and support them to pilot MI."

"this is considered vital since organisations tend to mobilise CapEx to provide leadership and managership developments or talent cultivation programmes for innovation thinking--mainly via tailored live projects to work upon, in parallel of their committed core deliverables. This seems to be fulfilling in ways that staffs and managers who are self-driven to excel in management innovations as evidenced in the deployment of emerging technologies (i.e.: Smart Grid infrastructure, shale gas, etc) to sustain competitive growth."

4.7.3.2 Leveraging collective intelligence

DE uses MI to drive competitive growth by increasing the practising managers' speed of reengineering their managerial processes and business model. The company like other innovative companies emphasise on management transparency and the knowledge sharing enterprise-wide. A DE manager suggested:

"managing a "participative-style management policy" remained a useful path to promote transparency. These days, similar ideas (through the utility of crowdsourcing) are improved via: corporate intranet, corporate extranet, blogs, and webinar (assembling people to interact face-to-face)."

"for instance within DE Corporate Marketing, a weekly team meeting is critical to input creative ideas about innovative ways of managing sales channels, marketing projects, or marketing campaigns on marketing intranet portal. These ideas are available to everyone within CNA to leverage on, if necessary."

Another DE manager commented on how the collaborative is encouraged to deliberately induce disruption in how they manage their work deliverables:

"the biggest impediment to management innovation is that people tend to wait. Executives or leaders or managers wait for employees to innovate and employees, in return, wait for permission to innovate."

"the dilemma is not the creative ideas but actions. Thus, there is an effort underway to break-out progresses over mere consensus, stewarding over strategic planning, and collaborative connection over winning."

Since DE has been growing through acquisition since 2000, the challenge for the company is to retain Centrica/British Gas-specific corporate culture but at the same time recognise that, with size, comes hierarchy, more internal controls, more transparency of information, greater governance, and all the procedures necessary in today's complex corporate environment. A senior manager at DE cited that:

"within reason, managers also recognise that the smaller the business, as in the case of separating the regional profit centres, the more entrepreneurial the culture of ours can possibly be."

"with this decentralised structure, they make this an annual iterative managerial process, wherein the top management sets up the broad goals of DE and the criteria, which are expected to be attained. This enables smaller business units or profit centres to plan and bring forth their best novel ideas or innovative practices."

At DE, no longer it is sufficient to confine management innovation to the realm of a select few executives/middle level managers or skunk work type clusters. A DE manager noted that:

"while the importance of holistic management innovation is well understood across the top and middle management levels, innovation utopia across DE has proved to be a challenging task, as many front line managers have tried with few succeeding."

Inspired to be highly innovative, a successful organisation must tap into the innovative potential that exists within its front line management (mainly through crowd-sourcing of idea) and look to build an enthusiastic organisational culture that perpetuates holistically endemic management innovation. A DE manager reinforced:

"the crowdsourcing data from disparate customer points and internal employees have been DE managers' routines, that is the smart utility idea using distributed data collection for intelligent decision-making. Collecting customer data together through ICT (information, communication and technology),

rationalising the usefulness of data and then making a good decision with the data."

Another DE manager hinted on:

"an example, the fleet management process we had. We had fleet, home services, procurement/purchasing and finance managers and we had the climate change executive committee involved in this opportunity. Because this is the biggest opportunity and easy to implement and business case was ready with favourable ROI. It was very easy to integrate all the stakeholders requirements. We did these well among the overlapped business units. We did not have that issue and deal with that very effectively. We were stone-walled by the procurement. Hence the business procurement makes the decision on the operations side. So the operations in innovation technology."

"so the procurement does not necessarily understand the requirements. They are overly weighted on the two years payback period, which was not sufficient and non-accepted by the corporate strategy. Not to mention that there was no workable forum for innovation exchanges within DE."

"of equally important, I think there was a power struggles in every functional areas within DE and there are numerous from business services to DE consulting."

There are processes within the organisation (apart from managerial processes) that are categorically important in our newly redesigned DE's effectiveness back in 2000. These organisational processes such as work and change processes, and at some degree, behavioural processes as well. A DE senior manager mentioned:

"particularly for managerial processes, we have been adopting a value-based management as our overarching corporate governance. This governing method allows every manager to become nimble and innovative."

"all employees are monetarily incentivised to measurably produce novel ideas and innovative management practices of successfully implementing projects/portfolio."

4.7.4 Innovative Management of Management Innovation

DE's culture for innovation has evolved over the full history of the firm. Centrica Plc, the parent company who acquired DE in 1999, introduced innovative management practices, which fostered a culture for innovation. While, by most measures, DE's innovative performance has experienced both good and difficult periods, influenced by

each successive leader, there is no doubt that the company has a solid reputation for innovation. Table 4.14 describes top ten management innovations.

Table 4.14: DE's top ten management innovations

1	A globally-integrated enterprise (GIE)	This emerging business model is managed by an array of shared core organisational processes that leverage integrated production and delivery of products/services and dispersed decision-making through globally-operated executives and managers.
2	Value-Based Management	An approach that ensures corporations are run and managed consistently on maximising shareholder value.
3	Ambidextrous Organisation	Ambidextrous organisation consists of independent entities that encompass distinctive structures, processes and corporate cultures.
4	Net Promoter Score	NPS (% of promoters – % of detractors) is an effective management approach to gauge, recognise, and augment end-user's experience.
5	Benchmarking (in Business Management)	It refers to a comparison process of establishing who is the best-in-class performer by comparing its competitive position in relation to industry rivals or other adjacent industries.
6	Centre of Excellence (Decentralised)	A group of specialised individual that is deliberately formed to embrace shared value-creation, collaborative teamwork and applicability of industry's best (or next) practices.
7	Time-Driven ABC/Balance Scorecard	Time-driven ABC (activity-based costing) is used by managers to measure the resource utilisation employed by each and every transactions, product usage, services rendered and/or end-user engagement. The Balanced Scorecard is an approach to corporate performance management that cascades strategic objectives into measurable targets. The scorecard translates the vision and strategy into a tool that communicates the strategic intent, and then tracks performance against the established goals.
8	Strategic Alliances	A synergistic correlation of more than two entities to collaboratively pursue shared goals and cooperatively meet vital business requirements.
9	Big Data Analytics	Leverage predictive analytics (and advanced data mining) to uncover executable insights with previously-unidentified correlations/patterns from high volume of transactional data.
10	Six-Sigma Quality Methodology	Six-Sigma quality methodology was firstly conceived by Motorola Inc. in 1980s. It is a statistically-led approach for lowering variation in the manufacturing procedure in order to achieve a near-perfection in products and services. To attain Six Sigma, a process must spawn fewer than 3.4 defects per million opportunities (or 99.99966 % accuracy).

Sources: DE strategic planning/annual reports/OEB regulatory filings.

Over the most recent decade, DE has experienced two leadership regimes in North America: Deryk Irving King, from early 1999 to 2009 and since mid 2009, Chris Weston. DE has, over its history, always stressed the need for management innovation but the degree of emphasis has varied, particularly in the last five years. Weston

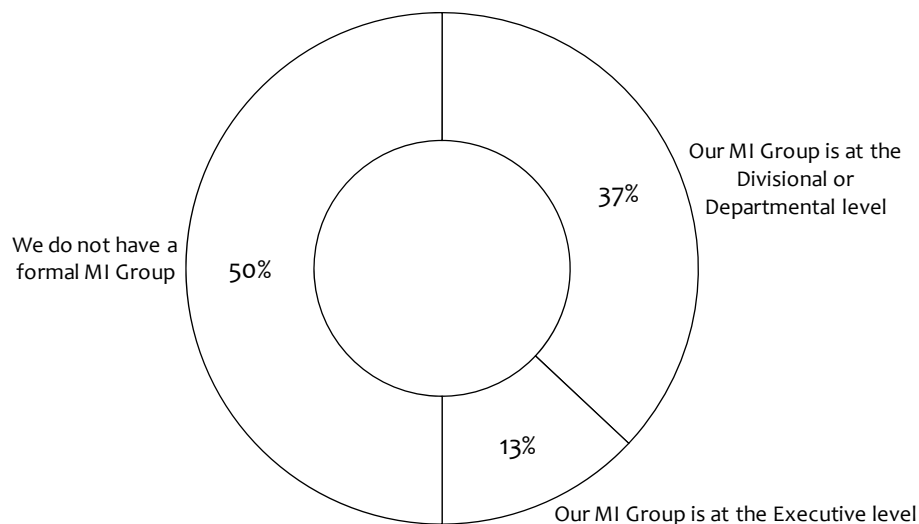
(current CEO) is looking for radical management innovation and stronger balance sheets in its regional profit centres as top priorities whereas King (previous CEO) was exclusively focused on the need for continual management innovation, acquisitive growth and product per customer counts in its strategic sectors.

By all accounts DE's culture for management innovation is currently undergoing a reinvigoration and reinvention. Weston emerges to be taking steps to swing the emphasis back somewhat towards traditional radical innovation – i.e. with the emphasis on new novel ideas and not so much on the achievement of long-term financial results. It remains to be seen what impact recent changes will have on the culture for management innovation, innovative results, and financial performance over the medium and longer term.

4.7.4.1 *Organisational design for improving manager's innovative capacity*

As displayed in Figure 4.38, when asked if DE has a formalised group accountable for implementing the MI, half of online respondents (fifty percent) expressed an opinion that "we do not have a formal MI group." The remaining respondents however claimed that "our MI resides at either the divisional/department or c-suite executive levels", at thirteen percent and thirty-seven percent, respectively.

Figure 4.38: Responsible prime for MI at Direct Energy



After initially circumventing the bottom-up approach in 2001, King subsequently dismantled and supplanted it with a pyramidal, top-down management model. At that time, King exerted his influence on reversing DE's inability to grow revenues between 2001 and 2004. However, the pyramidal structure was short-lived and failed to

capture the specific knowledge possessed by veteran managers lower in the acquired organisations (Natural Gas Wholesalers Inc. and Enbridge Home Services) about the competencies that could spur future growth.

At that time, King emphasised strengthening the bottom line which is inclusive of financial statements (P&L and B/S), keeping upright between strategic and tactical priorities and restoring DE to profitability rather than growth in customer count and revenues as the key metrics of success. King reorganised the marketing, sales/customer acquisition and finance departments to improve critical mass in sales and obtain better analytics on his quest to become the Value Enterprise.

He immediately rolled out the value-based management discipline (MfV—Managing for Value) in DE enterprise investment process. For King, he obstinately believed it was an approach to DE management that could replicate and align Centrica North America's strategic aims, MI tools and approaches, and novel processes to reinforce MI on value performance. He then replaced key senior leaders hired from outside the company and replaced the CFO three times in as many years until he found one whom he considered adequately forceful in diffusing the MfV discipline enterprise-wide.

The consolidation of the organisational processes (work, change, and behavioural processes) in one person left DE's managerial process vulnerable to the cognitive frames of the individual setting the management innovation context. King maintained the company's strategic focus on the energy retailing, but believed strongly that DE-owned physical retail stores (commercially rebranded following the acquisition of Enbridge Home Services, a private entity of Enbridge Gas Distribution, the utility's affiliated natural gas retailer in 2002) provided an opportunity for sustainable profitable growth. King apparently developed this frame based on his experiences at PowerGen Plc (an E.ON company) and ICI before joining Centrica.

Several senior leaders at that time argued against the investment in acquiring Enbridge Home Services' retail stores, alluding to its historically sub-optimal returns despite favourable transfer prices. DE's sizeable investment in physical retail stores and outlets came to an end after earning an unacceptable return and all DE stores were forced to shut down in 2004. This is also attributable to the fact that those senior leaders accelerated the failure by not directly intercede the pyramidal management model but rather helped shape DE managerial process indirectly by manipulating the organisational context, often retrospectively, after major paradigm shifts have already occurred. As a result, a bottom-up model had proved to be prone to failure in promoting disinvestment in DE retail stores.

Empowered trust is considered to be one of the building blocks of management innovation at DE. It is built through a behavioural process of getting to know each manager across large-scale enterprise within Centrica/Centrica North America and emphasising the importance of dynamic communication, collaboration and relationship architectures. A DE manager claimed that:

"much could be done, with and without modern digital and collaborative technologies, to encourage the sharing of new novel ideas both vertically and horizontally within the organisation with the idea of building empowered trust amongst management."

Inherently most managers are shifting away from the extreme subordinate-type bureaucracy that was once endemic at DE. This type of bureaucracy subtly hampers management creativity at all levels, collaborating against innovation and disrupting attempts to tap into a pool of individual (with innate innovative talents) and collective innovation potential. Of equal importance, although this does not happen ubiquitously, that there is in-place an innovation training programme enterprise-wide for management and ordinary employees, environmental, incentive structure (from pay-for-performance to pay-for-results) and empowerment activities will be necessary to make the innovative management process sustainable. A DE manager prescribed the pertinent situation as follows:

"DE do this by appointing key individuals as innovation specialist or innovation champions to promote the implementation of new novel ideas or innovative management practices."

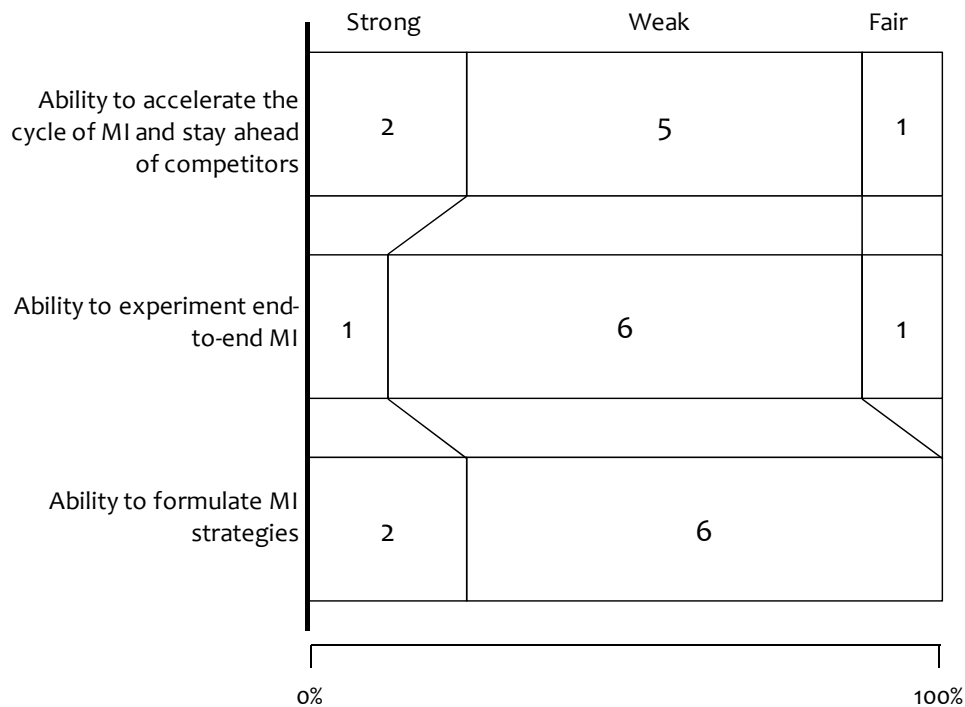
"the company has networks of technical, business and executive management committee that work effectively to distribute innovative culture and encourage innovative experimentation of management innovation."

"often these individuals volunteer to assume this role and some even work without official sanction and support. Another organisational initiative that we have implemented is to establish task or project groups in order to focus effort on the innovative issue, practice or idea in sight."

"consider using FTE appointees resting on the level of management effort required and technical human resources available. Generally, task groups should have a limited life—a sunset provision is advisable—and ideally be appointed from different functional levels within Centrica North America. Reporting arrangements for the task group can influence its power and therefore its effectiveness."

Online respondents were rated on DE's ability to deliver MI initiatives using a scale of Strong, Fair to Weak (Figure 4.39). Regarding the two top ratings of DE's ability to deliver MI initiatives, there was a fair level consensus among web-based survey respondents in the company's ability to both formulate MI strategies and stage experimentation of end-to-end MI.

Figure 4.39: Rating of DE's ability to deliver MI initiatives



To facilitate (rather than inhibit) collaborative interactions and innovative relationships, DE is purposely designed to firstly, the organisational structure (hierarchical layers, authority, reporting lines, business units, systems). A DE manager explicated the prevailing management model:

"the so-called "shallow" management layer (with naturally flattened hierarchy) is currently used. This structure helps articulate our MI vision from the top management to the front line employees based on the managerial talent and skills in achieving that vision."

"over the years DE businesses have incrementally ingrained an innovative culture of transparency, minimising bureaucracy of excellence and provide long lasting trust to every employee. "at marketing group, managers have firstly adopted web-based innovation, that is social networking, in how managers orchestrate viral marketing campaigns or improve customer stickiness. These allow open and collaborative approaches for the management innovation

process to take place. Social networking has been harnessed to get faster and true customer feedback."

Secondly in processual, managers recurrently provide easy coordination by synergistically integrating emerging technologies in energy conservation (Smart Grid, automation, energy storage) globally. This allows for sharing the best practices to mobilise managerial talent and skills to achieve DE vision with a higher probability of success. With respect to the corporate integration/organisational coordination, the management of DE nowadays emphasise on long-term multilevel interactions to solve management challenges, which can be easily overcome through simple feedback, communication and transparency of collaborative team. A DE manager commented that:

"for us, it is the ingredient to minimising pressure on in-house management innovators to further develop the captured idea and provide well-tested solutions to the problem."

Thirdly in boundary-crossing, the way we organise has been very effectively productive. A DE manager reiterated his shared beliefs:

"we aim to become a globally integrated enterprise where we can share all our unique practices, processes, procedures by leveraging our strength in diversity. To lead and manage effectively, we have established an open structure for exchanging or sharing or managing knowledge and information throughout DE enterprise-wide. The advancement in collaborative and digital technologies, the utilisation of corporate intranet as instruments of knowledge exchange has developed exponentially and now become the standard practice at DE. For instance, managers deployed the tailored digital communiqué that is based upon interactive query-able Q&As. This also enables the creation of specific reference groups with similar interests so that knowledge exchanges are cultivated within the confined corporate walls. The company's internal blogging is of a supplementary channel for cross-promoting knowledge exchange, which is codified and documented (as opposed to pure tacit knowledge) is accessible to all staffs enterprise-wide."

4.7.4.2 Management tolerance for mavericks

Prior to Centrica's acquisition, DE management innovation failed to transpire in four domains. First, our MI strategy (inclusive of risk tolerance, diversity, creativity, openness and collaboration) was not aligned with corporate strategy at all. All these affected coordination and collaboration significantly. A DE manager contended:

"our capital expenditure in innovation-related projects failed to improve our bottom line. Secondly, our best managerial efforts (legacy management

practices and principles) were no longer distinguished by the successful commercialisation of new novel ideas in shaping the deregulated Ontario energy market. However, today (post Centrica's acquisition under Deryk King's and Chris Weston's leaderships), DE has been winning by generating more novel managerial ideas that are quite practical and deploying our resources faster than our Canadian-based competitors' such as Just Energy (TSX:JE, NYSE:JE) and Superior Energy Management. Innovative managers at DE deliver this by optimally reorganising their management structure, they recruit serious expertise and provide performance-based reward systems. This is a system of rewards, focused on attaining sustainable performance: monetary reward by results, 360-degree performance appraisal in determining the level of salary and in determining the compensation emphasising the individual's contribution more than job title or seniority."

Another DE manager supported the prevailing view as:

"DE corporate culture is an ongoing evolution in which all practising managers at DE strive to infuse systematic innovation culture from the aggregation of discrete and self-reinforcing managerial choices available. In addition, corporate culture at DE can be a positive, when it reinforces innovative activities (mostly in energy retailing due to market openings, etc) and new novel thinking that matter DE in order to achieve greater economic profit. Therefore, DE does have in-place an exemplary innovation culture, based on prolific experimentation of many MIs with numerous novel ideas/insights or innovative practices that originated outside DE corporate boundaries."

There is a significant reference of corporate mavericks in the innovative process of managing the MI. According to the interviews with all managers, most agreed and described the role of mavericks at DE.

"at DE, most employees aspire to be innovative. Their existing corporate culture (self-reinforcing logics of ingenious assessment of MI), supports their MI and thus corporate strategy."

"since DE has been growing in recent years through value-creative M&A, these are the things that DE executives and senior management team have been mobilising resources to support the creativity of mavericks. First, they built a corporate culture, which supports pervasive experimentation that enables or even welcomes intelligent failures (mainly as an investment in lessons-learnt). Secondly, they personally engaged in innovation projects to show top-level commitment. Thirdly, they recognised mavericks and their contributions in meetings, conferences, retreats, and other communications. Fourthly, they

provided effective coaching and mentoring for mavericks, listening and helping them when they encounter roadblocks. Finally, they consistently empowered self-governing "skunk-works", that is the deployment of small, autonomous, cross-functional groups, trained and empowered with the resources and authority to stage prolific new MIs."

At DE Corporate Marketing Group, an internal sub-culture of "challenger" has been ingrained. As a result, most employees are expected to share open data and access to revolutionise the way employees effectively manage creative marketing campaigns and as a consequence innovate their core managerial processes. In my interviews with senior managers, these are practiced in five ways. First, senior management team enabled and supported the spin-offs that make available the opportunities for corporate mavericks. A DE manager mentioned that:

"the provision of support to a spin-off which has involved one or more mavericks might provide a signal to other personnel that being a maverick is a good thing and that the corporation is prepared to reward this mindset."

Secondly, they institutionalised spin-ins that provides opportunities for in-sourcing fresh novel ideas or new management practices. A DE manager elucidated:

"a spin-in is an integration within DE of a previously external start-up operation/business and is often found where the start-up may have received financial or other support from the parent-to-be. A spin-in often results from a situation where an entrepreneur or entrepreneurial team has been hired to manage the venture temporarily until past the start-up, with the full intention of integrating the operations once it is better able to satisfy corporate acquisition criteria."

Thirdly, management developed a tolerance for new novel ideas from both mavericks and others innovation specialist with innovative and creative geniuses.

Fourthly, front-level management championed the modification of DE marketing recruitment policies to spice up their innovation knowledge mix that include more diversity in skills, genders, characters, collective experiences. Recruitment policies, and HR management practices may have become moribund over time and need a refresh. A DE manager remarked that:

"we collaborated with the HR to assess our recruitment process to ensure that those doing the interviews are not just attempting to clone themselves but are reaching out to recruit folks with diverse backgrounds."

Fourthly, with respect to the consensus decision-making that is inherent within DE. Adding to DE's difficulties is King's preference for consensual decision-making. In the interviews with senior leaders of DE, they illustrated the event as a managerial process of fetching swift compromises amongst senior leaders. While getting shared agreement over business investments may thrive in small companies, DE is apparently growing too large in size and the businesses are becoming much more complex that multiple executives of whom are now responsible for their own profit centres, are involved. As a result, gathering multiple consents to act upon conflicting business priorities had proved to be an utterly daunting task, if not, impracticable. This is a process that stalls innovation in reverse especially when faced with the need for innovatively managing the management innovation. As described in the company's internal practice, King would propose a high-level management concept or model or new novel idea that he deemed a value-creating initiative. However, the intent to attain conformity created bewilderment. No senior leaders are willing to take up the responsibility in the event when the concept is sub-scaled or failed. There was no sufficient clarity around accountability and as a result, key managers are mostly reluctant to experiment untested management innovation or leapfrogged innovative management practices from other industry. It was a widely perceived that King preferred such an approach merely due to his command-and-control mindset. According to a DE manager I interviewed, he cited:

"since senior leaders knew shared conformity was imperative, and because clear accountability was not presence, no one is unlikely to make decisions without the official go-ahead from King."

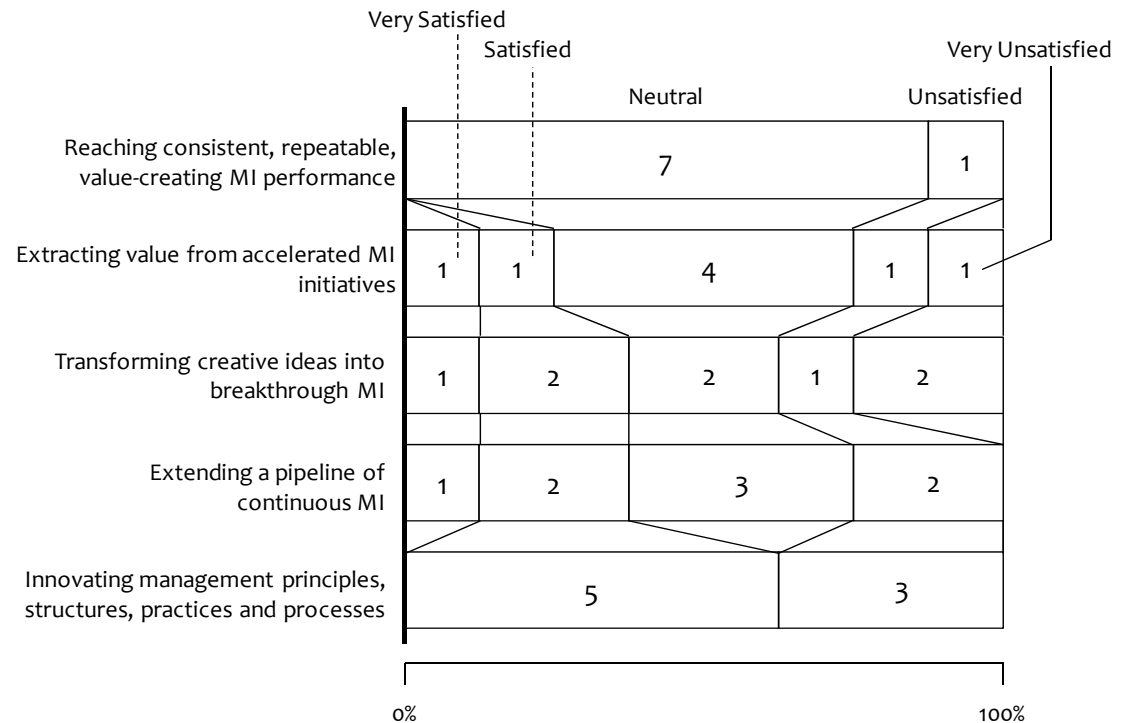
4.7.4.3 *Hierarchy enables rapid escalation of innovative practices*

As presented in Figure 4.40, online respondents were asked to choose the satisfaction level using a scale of very satisfied, satisfied, neutral, unsatisfied, and very unsatisfied. The online respondents are somewhat ambivalent towards their satisfaction of DE's performance in MI areas. The vast majority of respondents indicated that they only "satisfied" in "reaching consistent, repeatable, value-creating MI performance", followed by the second MI area where few thought that they have been "extracting value from accelerated MI initiatives" in their operations. This is not unexpected given a history of successful acquisitions at Centrica North America that sets a pattern for creating an open management style, DE has consistently produced a successful track record of innovative managerial accomplishment in bolt-on integrations.

In addition, "innovating management principles, structures, practices and processes" was cited as being "very satisfied." This suggests the DE implicitly place MI

performance management as a top priority where pervasive experimentation of MI is encouraged to get hold of economically cheaper and speedier MIs enterprise-wide.

Figure 4.40: Satisfaction of DE's organisation's performance in MI areas



Accomplishment in this case being judged favorably by the impact on the parent staff and the innovation culture of the organisation. Staff, having gone through one or more acquisitions, gains an understanding of how management handles the acquired organisation and will understand the impact, both favorable and unfavorable, on the enlarged management structure. A good track accomplishment record is the main driver. Therefore effectively managing the acquisition is continuously important. Although DE has been trying to become flatter and open, the company's organisational hierarchy remains pyramidal, that is top-down, especially the management layers from C-suite executives to the middle management. A DE manager provided an example:

"our exemplary top-down, managerial decision making in spinning-off or selling off the underperforming divisions or business units represents an opportunity for management to demonstrate their openness (in terms of fluid communication across the hierarchies). Of equally important, managers realise that as an organisation, they must stay agile and slim and as a result from the acquisition, they need to deliberate a divestiture for non-performing assets after careful consideration."

However, their innovative ways of managing things have been consistently refreshed over the past ten years, under two leadership regimes. For example under Deryk King's leadership from 1999 to 2009, DE's customer relationships grew 310 percent. Senior Leaders have embraced a culture of adaptive management innovation for becoming an agile extended enterprise. They extensively encourage leadership development learning and management innovation training through a framework of critical dialogue and innovative management practices. Each managers and employees and project teams are constantly empowered to fearlessly challenge conventional management thinking and practices. A DE manager indicated that:

"for several years project/programme/portfolio leaders and/or managers have tried to deploy an innovative programme, that is a leadership development programme focusing on adaptive management innovation. Since this was only applicable to the middle managers, most managers participated by putting together, among other things, a list of intelligent failures, detailing out their challenges and what they have specifically learnt from them."

In addition, DE has made available internally a performance-based reward system for those who successfully managed and deployed projects that are centred around new and novel management ideas/practices (after developing the relevant business case with careful targeting and pilot projects), and a demerit mechanism for those who may act as an hindrance. A DE manager offered his view:

"an instance could be the senior management who has not made it clear to all employees and to other stakeholders, either by their action or inaction or by not communicating effectively, just how important management innovation (MI) is to the DE."

"effective solutions may lie in demonstrating the importance of MI by making new appointments of management innovators or mavericks, improving lateral communications and making use of other fully transparent means of recognising the importance of MIs."

Nevertheless, there has been some resistance to managerial change mainly at the functional shared services department. As DE manager reiterated:

"senior executives have been progressively building our top and front-level management teams with strong bent toward accelerative management innovation. As previously mentioned, DE has shallow management layer where it encompasses the strategic imperatives of an empowered organisation supported by innovative processes, leading performance metrics, web-based management tools, and IT system integration. These enable managers to continually reduce costs in a structured manner."

For DE, this is ultimately pivotal for creation and sharing knowledge which is quite vital for innovative managerial process for accelerating management innovation."

4.7.4.4 *Ways to inspire, empower and energise individuals*

DE managers pervasively institutionalise the performance metrics for management innovation. If project managers and team leaders deliver the projects 100% of the time (on scope, on budget, on-delivery time), then it is clear that they are not taking sufficient risks and do not tolerate failures. Rationally, to become innovative managers (as opposed to be ordinary managers) one must dare to fail and learnt for it. Once managers have these in mind then they can unleash their creativity mindset in ways that are more productive for sustain an innovative culture. A DE manager stated that:

"for the past five years, I have encouraged my direct reports of managers and project leaders to put in mind that 100% delivery is a sign of failure in managing the innovation. Ideally, they should aim for 60% of the time. That's why it is very important to have stretched goals, strategies and tactics to become innovative in managing the work deliverables/projects."

"in return, these managers focus on the managerial efforts (resources and action plans) on the positive side of collaborative learning experience, moving away from silos mentality and embracing lessons-learnt from experimentative or intelligent failures."

There are several ways in which senior leaders are revamping the managerial processes in this area - that is to empower employees to unleash their value-enhancing creativity. First, managers continually reengineer relationship infrastructures between and among enterprise managers to be more aligned with DE corporate strategy and innovative culture. This included the provision of performance management systems rewarding the rapid and effective implementation of novel ideas or new management practices. Secondly, it becomes a mandate to all practising managers and employees to be innovative by constantly questioning the conventional assumptions (relentlessly challenging the status quo), presenting new novel ideas and making suggestions to improve current managerial practices. Thirdly, sub-culture of how importance the staff-manager relationship is made as a top priority. Fourthly, management innovation is encouraged throughout. As a result, well-defined career paths for management innovators have been created for those who do not want to become part of being on the management. Job titles such as innovation analyst, innovation specialist, innovation leader is used throughout with a separate incentives structure for them. In addition, at DE it is important to recognise that not all innovators want to climb the "corporate ladder"; rather their interest may well be to

carry on innovating—but they do want the recognition. For example within the corporate strategy group, managers are innovating by making several progresses on this area. First, managers make transparent the risk associated with introducing a novel idea or management practices that are new to all DE employees. Secondly, managers clarify if the risk and innovation are indeed exclusive or complimentary to DE. Innovation involves risk, but the opposite is also true. If one does not innovate, there is every likelihood of experiencing a gradual decline in our retail business ending up in total oblivion. A DE manager weighed his perspectives as follow:

"from our collective experiences, the choice for us has been clear; one has to choose the level of risk that is appropriate given the energy market dynamics associated with the business and the energy industry segments we are presently participating in such as Ontario, Ohio, Texas. Let me give you an example of Texas electricity market. DE has never been the insurgent market leader (as an independent retail electricity provider)."

Due to the combined slow customer switching and low customer stickiness within the Ontario electricity deregulated market, for instance, managers have relentlessly refocused to become the follower behind the incumbents. Thirdly, managers intelligently factor in (and measure) the risk component into our fact-based development process. A DE manager divulged that:

"try using a multi-dimensional approach to measuring risk in the fact-based development process and be circumspect in so doing. When considering a new idea look such factors as; managements' current competence, the company's competitive position, is the idea likely to be a small leap or a total restructuring, is the industry volatile or predictable in terms of its reaction to the new idea, how realistic are the assumptions about the future, and most importantly, has management demonstrated its capability to undertake similar new initiatives"

"only when the new initiative crosses a threshold when considered in this multi-dimensional way, should it be considered for integration into the subsequent issues and alternatives review process. The risks are assessed and known and to this extent the uncertainty has been delineated and minimised."

A DE manager described the circumstance as follow:

"I think with the encouraging a transparent dialogue with emphases placed on applying positives learning experiences from failures, practicing managers at DE can be more tolerant of embracing intelligent failures which ultimately nurture innovative aptitudes. For instance, "web-based enterprise management tools" (e.g.: BSM-Business Service Management) is used to improve reliability, performance and incident resolution time."

This promotes managerial learning/absorption and creates an atmosphere of shared knowledge, which supports an accelerated management innovation. Having this web-based enterprise management tool literally enable DE managers and regional workforce, allowing management teams from UK, USA, Europe, Caribbean, and Canada to effectively collaborate on their work in any time zone and from any locally hosted web based platform. A DE manager said:

"all these will improve visibility of business services and processes flows for its IT support staff, management team and client-facing staff through web-based dashboards."

4.7.4.5 Coordination and management of organisational assets

In terms of MI governance at DE, managers ensure, with their dynamic corporate governance, adopt a tiered structure when it comes to formalise the steering committees for MIs with varying executive/top management, middle management, and front-level management involved to do three things:

- Strategising MI. This is to establish the MI budget, validate asset distribution, and confirm the MI plan, a committee of senior leaders convenes annually.
- Managing MI. This is to oversee the MI prioritisation and approval of MI project proposals, a midlevel body comprised of senior leaders and BU sponsors meets quarterly.
- Staging MI. This is to oversee MI project execution (resource mobilisation, project scope changes, change management, etc.) a front-level management oversight body meets regularly.

The objectives are threefold:

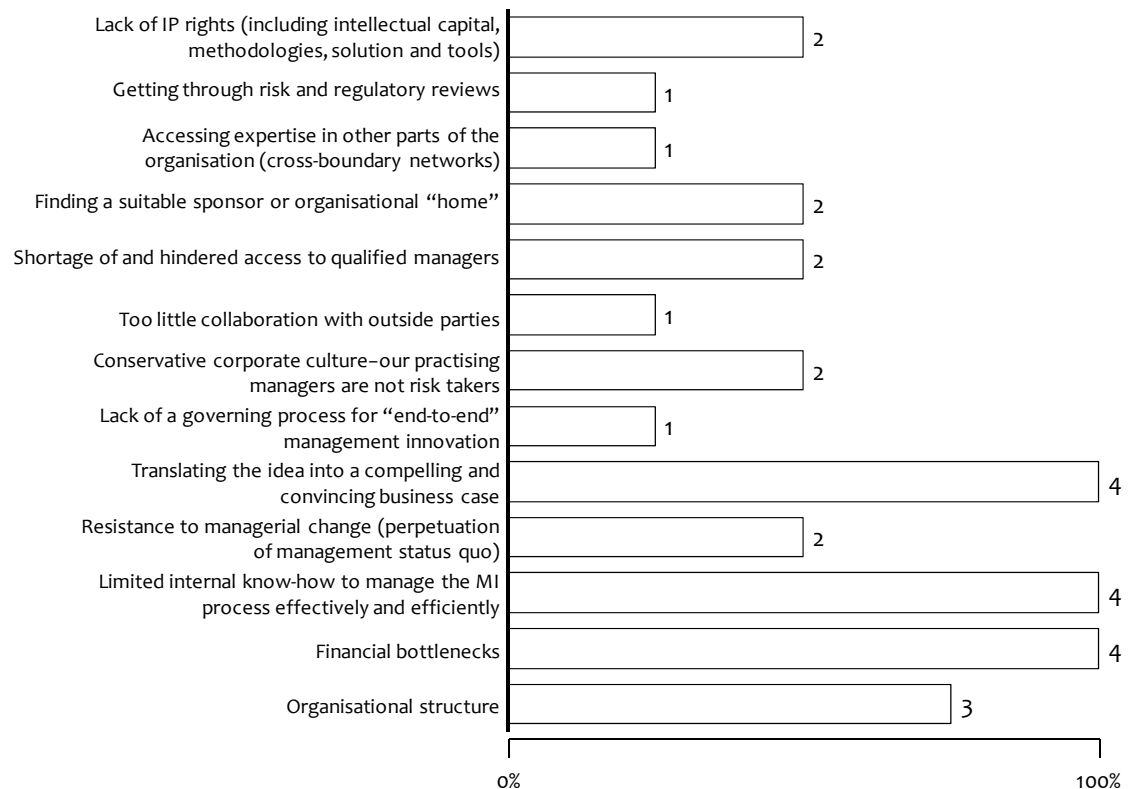
- Focuses Executives' attention on high-level strategic decisions impacting the management innovation enterprise-wide.
- Engages the middle management in the prioritisation of MI projects.
- Largely removes top management/executives from the day-to-day oversight of MI projects (avoiding micro-management).

Further by fostering (and creating) a culture of collaborative experimentation, most executives and senior managers believe that they need to adapt to changing competitive landscape and not settle for simply protecting the turf that is currently generating most of the profit and growth in the organisation. A DE manager explained:

"most understand the need to become an innovative-driven organisation. In so doing, DE must instill both experimental (embracing intelligent failures) and collaborative cultures that lead the organisation down paths that comparable peers might consider unorthodox."

The following Figure 4.41 confirms the major impediments cited by online respondents resulted from their experiential learning towards accelerating the MI. The vast majority of respondents provided a shared understanding they have faced a major impediment in DE organisational structure explicitly in going through the bureaucratic hurdles and organisational regulations and standards.

Figure 4.41: Impediments that hindered or derailed MI at Direct Energy



With respect to disaggregation of the traditional communication channels, most management team organise rank-and-file employees to have one-on-one meeting with the c-suite executives and/or top management to discuss about specific innovations. A DE manager pointed out:

"standard surveys of staff" mind-set concerning the experimentation of MI is thought to be a way to produce actionable dialogue in team-groups. Alternatively, at DE, the sudden presence of c-suite executives (with an intent to flatten siloed attitudes) is innovatively materialised through socialising with ordinary staffs at in-house cafeterias."

"of additionally important, DE has internally deployed and used a system of dynamic, collaborative teamwork. This is closely related to effective adoption of SharePoint (knowledge management system) enterprise-wide."

4.7.4.6 Active and Passive Collaborations

DE managers take advantage of the availability of novel information or innovative practice by prolifically pushing the limits on traditional sources. A DE manager noted:

"we do these both by making a better use of our FTEs (internal FTEs and outside FTE contractors) in the annual fact-based development/planning process. With the advancement in collaborative technologies (and internet), IT-driven corporate arrangements and innovative regulatory team shaping the energy retail markets, innovative management practices and information continuously emerge and can be tapped to bring greater economic profits (while minimising value-at-stake risks) to our fact-based development/planning process. The majority of DE's internal FTEs (managers/staffs) are normally participating in the fact-based development process as part of their job responsibilities."

Since DE establishment, active collaboration is encouraged on a continuous basis. Executives have progressively de-layered the structure of management and supervisory levels to enable more internal collaborations. Apart from minimising operating cost, streamlined management will induce more effective communication as the quality and speed of information are improved significantly. Most managers encourage full participation of all employees to share best practices in managing work and human capital. In this case, transparency is considered to be a part of the DE's corporation's value system, assisted or required by its transatlantic codes of good governance practice. According to my interviews with few managers, the following are the emergent conclusions:

"specifically, managers at DE has been doing these in several ways. First, we clarify that adhering to normative managership is critically essential, as is management innovation. Performance contract for full-time employees (FTEs) and objective/target setting for working groups within DE are the medium by which top/middle managers can articulate the significance of MI. Secondly, we need to adapt to the managerial pragmatism."

"As evident, managers given their great deliverables and performance can at some point, be promoted to higher level of managership and leaderships. When this happens, their experience in MI pilot may get lost despite their strenuous attempts, may not be pertinent to the MI experimentations in progress. Thus, it is relevant to be aware that a reasonable understanding of previous experience may not be applied to new managerial pragmatism."

"at DE, the newly-groomed managers evolve to the his/her new positions and authorities must be adaptive enough to the new pragmatism or s/he will be

redeployed to capital projects. Typical managership and leadership of these normative scenarios must be derived from the top management or c-suite executives or the DE's executive committee as they are well placed to formally influence the emerging path forward."

"as markedly oriented to be aware of, top executive committee may alter and/or preside over the mechanistic processes of how DE managers work. Thirdly, we formalise a tolerance for new novel ideas/practices from the internal crowd. What I mean by this is that we tolerate new things from our internal employees. I think an organisation aiming to enhance its management innovativeness should institute a corporate tradition of transparency to novel practices and/or ideas and not a prevailing culture that diminishes black-box of promising ideas/practices made known by quintessential innovators. I do realise as we increase in employee size, it is more important that we should sustain the MI-driven tradition/custom that was available at the commencement of their MI-intensification successes."

"supporting MI advocates for incubating or piloting novel ideas and/or practices, can prove beneficial to cultivate strategic innovations."

As for the passive collaboration, DE leverages outside contractors (industry SMEs and management consultants) as facilitator or SMEs (subject matters experts) of the innovative managerial processes because of his/her style and management knowledge bring objectivity to the process that would not otherwise be in place. A DE manager portrayed the occurrence as follows:

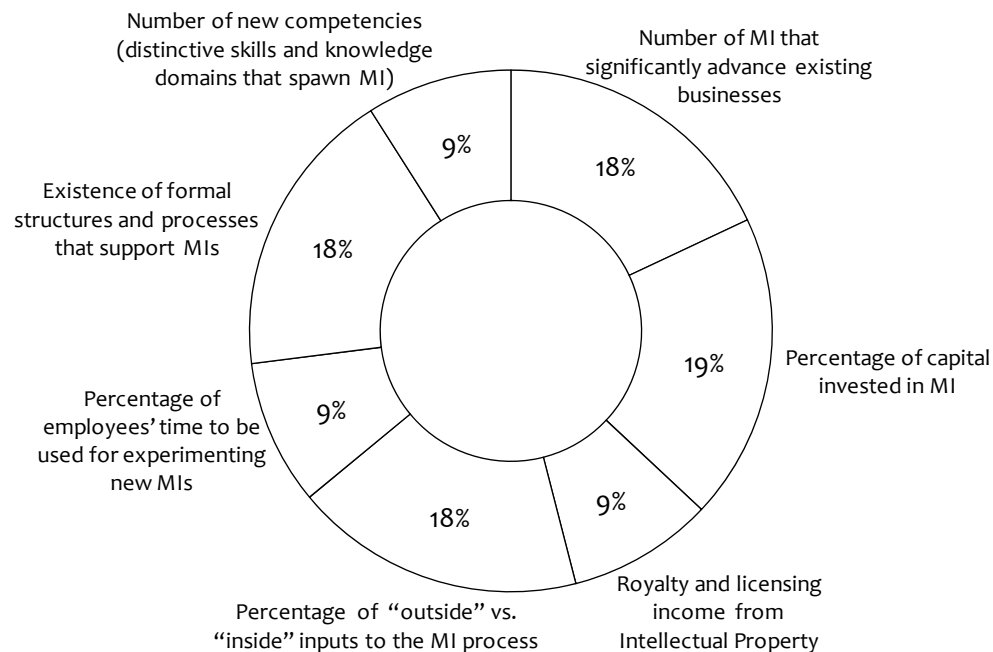
"these contractors are explicitly required to implement and knowledge-transfer the management best practices to accelerate the cycle of management innovations internally within DE. Alternatively, some portfolio managers take advantage of the power of skunk-works enterprise-wide. In our specific case, a skunkworks is a highly isolated innovative team. They are highly isolated to experiment different types of innovations that could be useful for DE."

"most of the members of skunk-works are tapped from each department with combinations of strong technical skills and management/business acumen. They are deliberately kept away from the business main stream, and most often formed to deal with vexing problems, unproven technologies, or ideas that are in need of the most out-of-the-box thinking that exists in the corporation."

4.7.4.7 Sustaining benefits from lessons-learned

Of the online respondents who indicated they have a unified utility of key metrics for MI (Figure 4.42), nineteen percent of respondents used "percentage of capital invested in MI." The senior leaders' ability to aptly formulate MI-driven initiatives swiftly is evidenced by the cumulative significance that the respondents place on the following metrics: (1) number of MI that significantly advance existing businesses; (2) existence of formal structures and processes that support MI; and (3) percentage of "outside" versus "inside" inputs to the MI process.

Figure 4.42: Key metrics used to monitor MI at DE



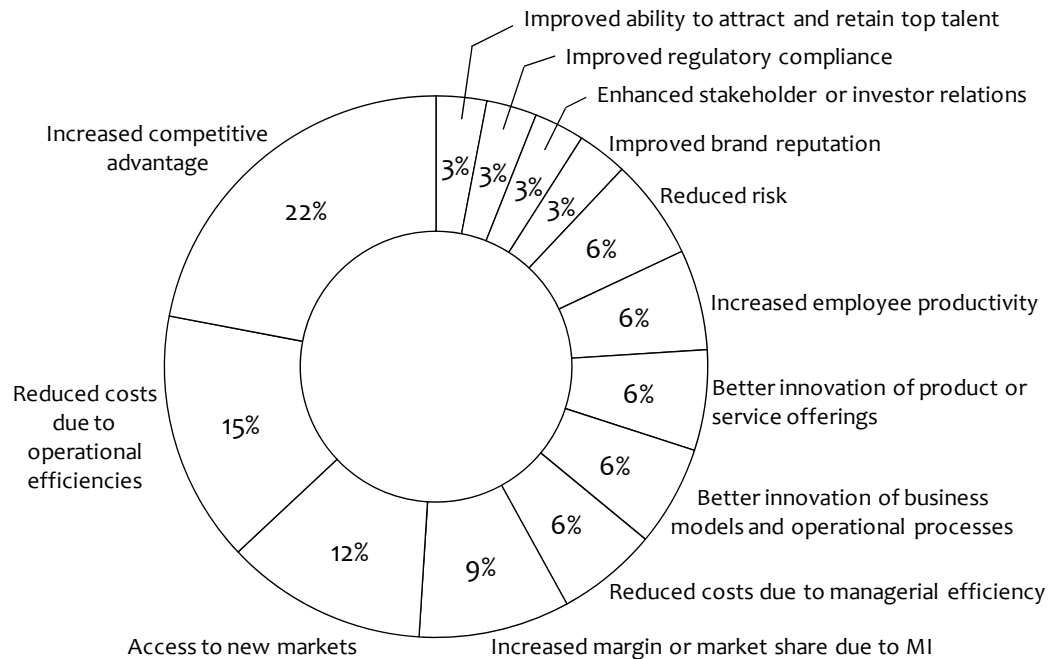
Most employees at DE recognise the growing importance of knowledge management and project sharing of best practices as key drivers to competitive advantage. Post integration with Centrica, DE has been establishing the new sub-group in key functional areas. This new sub-group acts as a decentralised centre of excellence in managing the knowledge management. In other words, it serves as a permanent nursing ground for new novel ideas and/or innovative management practices. A DE manager asserted that:

"it has the status of an operating division but with different performance expectations more consistent with innovation pipelines."

As disclosed in Figure 4.43, twenty-two percent of online respondents described the greatest benefit in accelerating MI was "increased competitive advantage." Over fifteen

percent reported that "reduced cost due to operational efficiencies" has been beneficial in DE's operations at times. Further, twelve percent indicated "access to new markets" has been greatly advantageous particularly when capitalising the MI for cross-boundary networking. The least benefits are copious that include: (1) enhanced stakeholder or investor relations; (2) improved regulatory compliance; (3) improved brand reputation; and (4) improved ability to attract and retain top talent.

Figure 4.43: Benefits in accelerating the MI at DE



It has always been an important for DE to ensure efficiencies over time and development of best managerial practices, it is essential to capture lessons learned on your projects (i.e.: should have had better work breakdown structure, or improved budgeting, or more communications, spent more time on requirements, times needed for testing, etc).

4.8 Conclusion of Chapter Four

This chapter has presented a vital building block of exploratory facts following my in-depth interviews with four case organisations. All indications converge to the fact that these leading Canadian energy and utilities companies are increasingly pivoting on the IMMI for sustaining performance edge in managership. Chapter 5 will thematically cross-peruse the inclusive practice of IMMI at intra-organisational levels.

Chapter 5: Findings And Discussion

Capitalising On The IMMI As Both Strategic Resource And Catalyst

Thematic analysis within- and across-case of four researched companies

*Innovative management of management innovation
is not just about delivering something new but
it's more about managers doing what
they do collectively better*

5.1 Introduction

Prior chapter has provided a rich qualitative context in which to explore how the four leading companies do to accelerate the cycle of MIs in their respective organisations. A within- and cross-analyses of topical findings from four case studies were embarked on to segregate the similarities, differences and challenges between the four sets of findings and to reflect on what the converging outcomes point out to the innovative management of management innovation. Careful caution on interpreting and generalising the core findings has been exercised in light of the small sample population of web-based survey and in-depth interview, and interpretation of questionnaires and real-life practices by those responded.

This chapter five provides the primary data collated from the web-based survey, in-depth interviews, archival documentaries, and public record information and presents a thematic analysis within and across cases. This is composed in four separate sections. The section 5.1 introduces the chapter structure and details of this chapter. Followed by section 5.2 where web-based survey findings will be cross-examined and analytically discussed. Next, section 5.3 illuminates key emerging themes ensuing the synthesis of multi-case findings. Last, Section 5.4 will conclude the chapter.

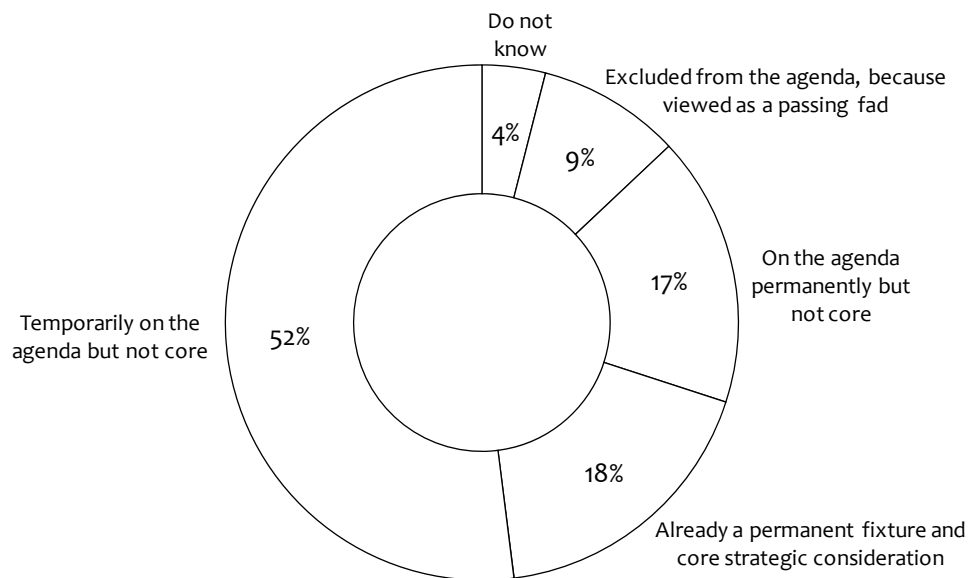
5.2 Discussion of Results

A total of twenty-three respondents from four case companies completed the web-based survey (92% of targeted sample). Managers' responses from four case companies were aggregated and synthesised to pinpoint contributing factors that may promote or encumber the IMMI process. The intra-company comparative analysis of this research presents contextual events on how diverse competence-based functions as internal corporate settings to spawn a diverse IMMI patterns and to shape

evolutionary dynamics among challenging and mission-critical priorities. This serves as one of the critical ingredients for growth-oriented enterprises. Conducted from January 5, 2011 to April 13, 2011 (Appendix 8: p.257), the pooled survey found a plurality of online respondents. Most senior leaders have vastly different missions and priorities for accelerating the cycle of MI at their respective organisations.

Parallel to the thesis' main research question, web-based survey respondents were asked about the key drivers triggering OPG to focus on MI. More than fifty percent of web-based survey respondents indicated that management innovation (MI) was temporarily on the corporate agenda but not as a core initiative, as presented in Figure 5.1 below. This is followed by senior leaders who believed that (1) MI was somewhat on the agenda permanently but not as a core (seventeen percent); and (2) MI was already a permanent fixture and core strategic consideration (eighteen percent). The finding appears to be consistent with the view that the IMMI can be exploited as a strategic resource, corporate management at each case companies divulges the underlying MI propositions to effective mobilisation of innovative managerial capacities.

Figure 5.1: Status of MI on corporate agenda at four case companies

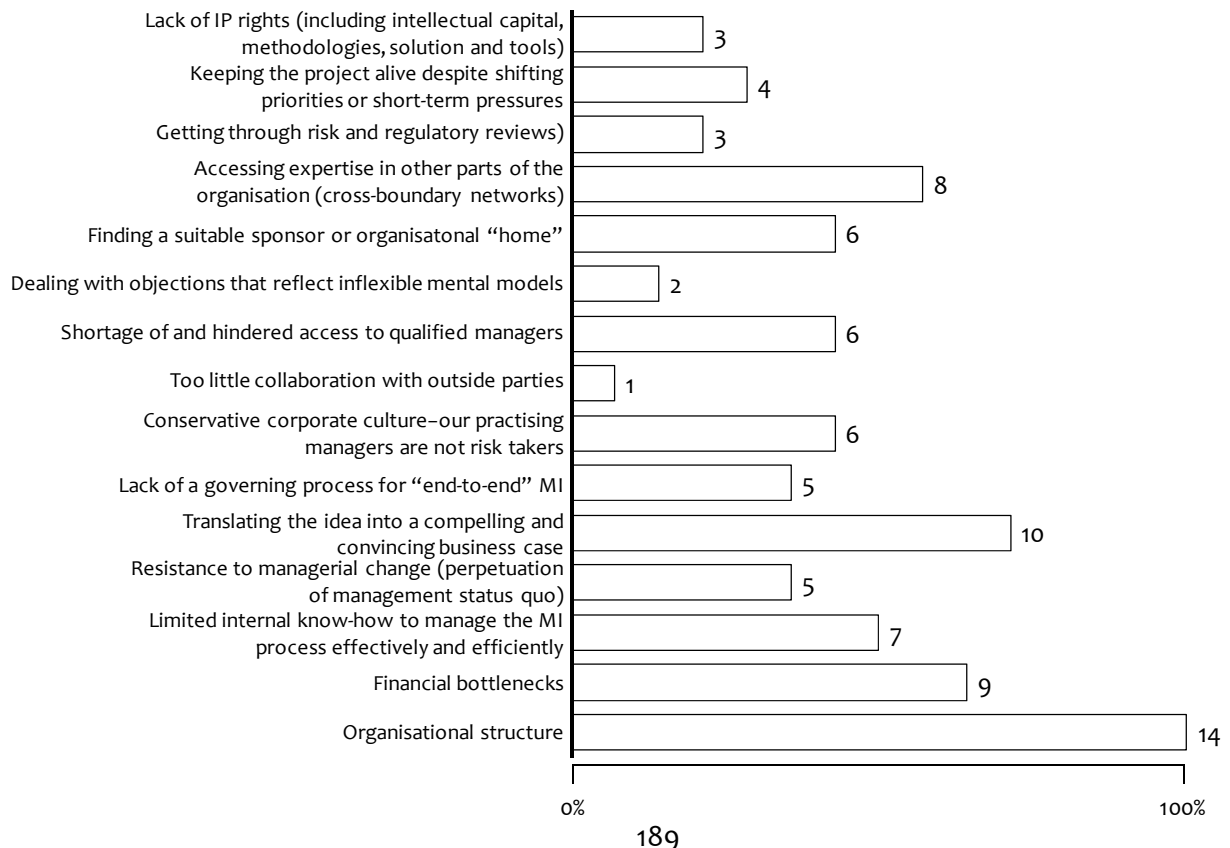


However only nine percent of respondents noted that the MI is excluded from the agenda because it is viewed as a passing fad. This is a well understandable that most managers at case companies are predominantly engineers with deep technical expertises. However with no formal training in management, these managers are poorly equipped to manage MI-driven projects, let alone human capital. Effectively

supporting and leading a team literally requires a different skill-sets than merely supporting a system. In essence, good engineers need management training in how to become "the empowering manager", as opposed to run the risk of becoming either the hands-off manager or even the micromanager.

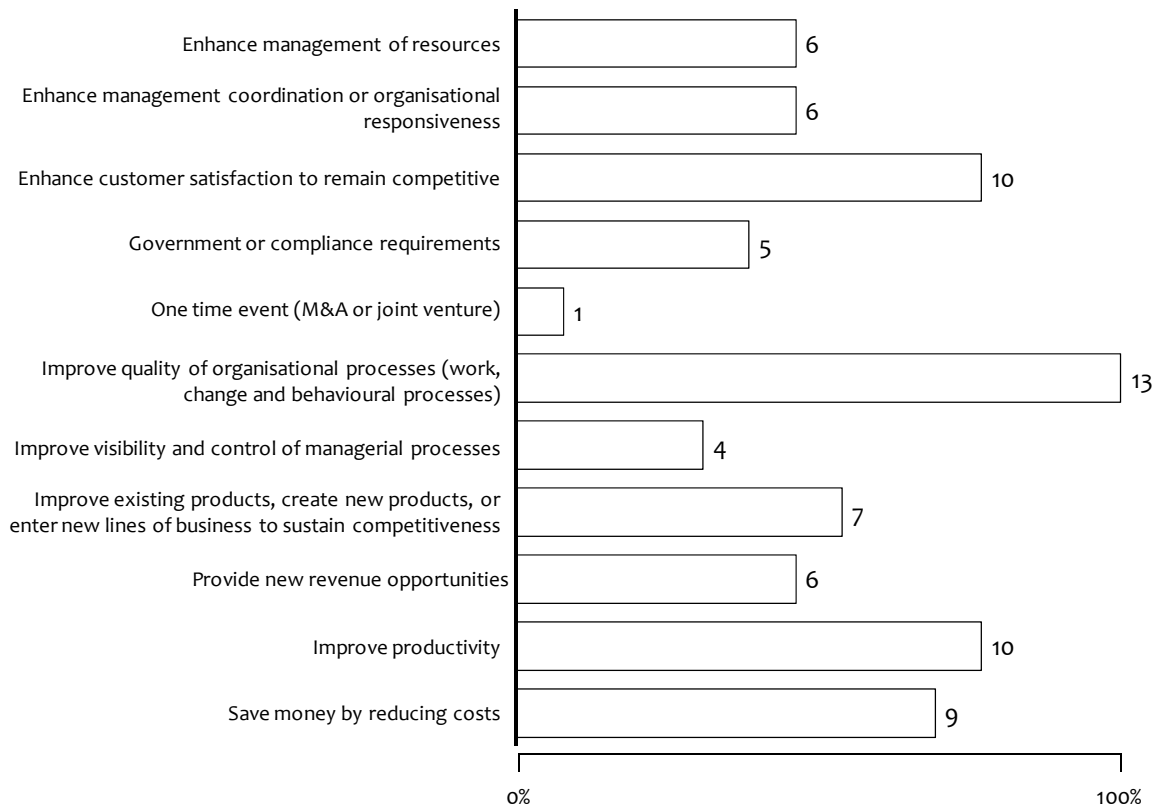
Most of survey's respondents identified the major impediments their companies experienced when experimenting the MIs (Figure 5.2). The most striking result was the organisational structure where it was cited as the most frequent obstacle that impacts organisational performance in MI. This is inclusive of the bureaucratic hurdles. The vast majority of respondents, through their survey responses, hinted on the lack of middle management' effectiveness in collaborative problem solving, fostering MI and energising change. This translates into lower productivity, decreased MI, and slower response to adaptive change for growth-focused case companies. The second impediment comes as no surprise by the need to translate the MI practice or novel idea into an executable business case. This is followed by the financial bottlenecks (i.e.: securing early stage funding) that appeared as third major obstacle. Most of the Canadian c-suite executives and senior managers suggested that the need to have a combination of highly effective leader and ingenious middle managers (with strong competitive instincts) could dramatically augment their chances of long-term expansive success.

Figure 5.2: Impediments that hindered or derailed MI at four case companies



The Figure 5.3 below explicates the outcomes of the companies' business drivers of focusing on the MIs. Of note, the web-based survey questionnaire allows respondents to choose more than one that applies. It has been identified that the following drivers have enabled the four case companies to sustain competitive growth in their respective industries. Of all respondents across the four case companies, improving the quality of organisational processes (work, change and behavioural processes) is at the forefront for case companies' managers to stage prolific experimentation of management innovation. Improved productivity and enhanced customer satisfaction to remain competitive are second most cited, followed by save money by reducing costs. By understanding a shared strategic intent, employees' participation can be included from the beginning, which tend to be supportive throughout the entire experimentation of MI. When it becomes ingrained as their vision, it then becomes a focal point of the corporate culture. This serves as a strategic necessity for case companies to drive renewed growth.

Figure 5.3: Key drivers triggering the four case companies focus on MI

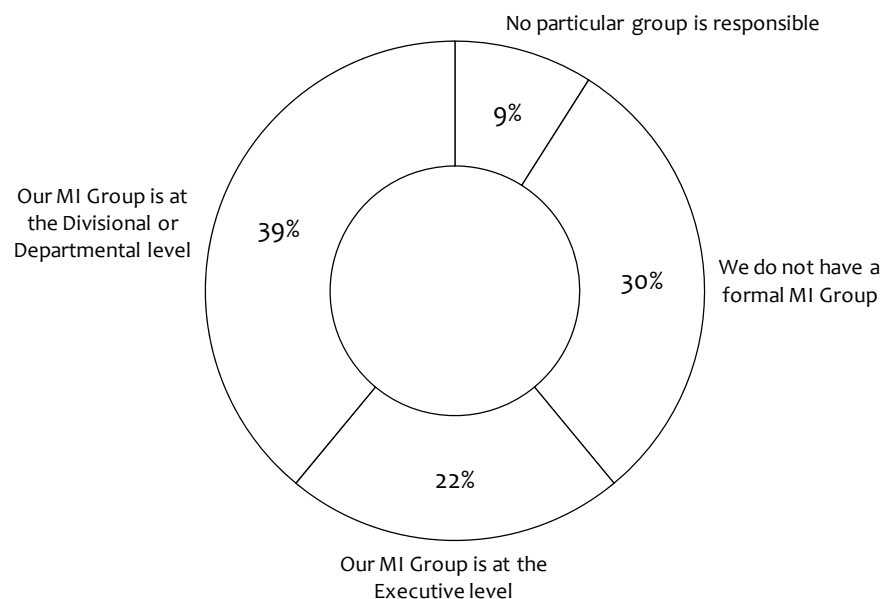


The one-time event (M&A or Joint venture) was not perceived as significance by any managers who responded. However this signified that this option was not important as a driver for the case company to start experimenting MI. This is somewhat unexpected

since managing the integration of M&A is pivotal to unlock opportunistic synergy. It is arguable that MI is crucially needed to manage the critical thinking and complexities of integrating the customers, employees and processes of a newly acquired business with no downtime from the business-as-usual operations. Differentiating MI capabilities provide the four case companies with the distinctive performance edge required to accomplish organisational growth. Most of these MI capabilities are cross functional and they gain their power from the fact that different functional proficiencies fit together in ways that other comparable competitors cannot easily imitate. In this situation, all case companies have demonstrated that they create value from its MI effort only when they apply creative discipline and dynamic structure to it.

In this context, the common prime for initiating the experimentation of MI resides at the C-suite Executive level, as evidenced by more than thirty-nine percent of respondents in Figure 5.4. It is worthy of note that about thirty percent of respondents reiterated the fact that they either do not know the existence of such formalised group or their company does not have in-place such MI group. The performance gap is attributable to the dominant management model (top-down and bureaucracy) at these monolithic case companies, particularly from top management to middle management. Further the current MI group at the divisional or department level was perceived as moderately significant (twenty-two percent). The rationale is the middle management plays a critical role in shaping unintended outcome such as refining MI ideas or piloting new enabling technologies that help spur the adoption of innovative management practices.

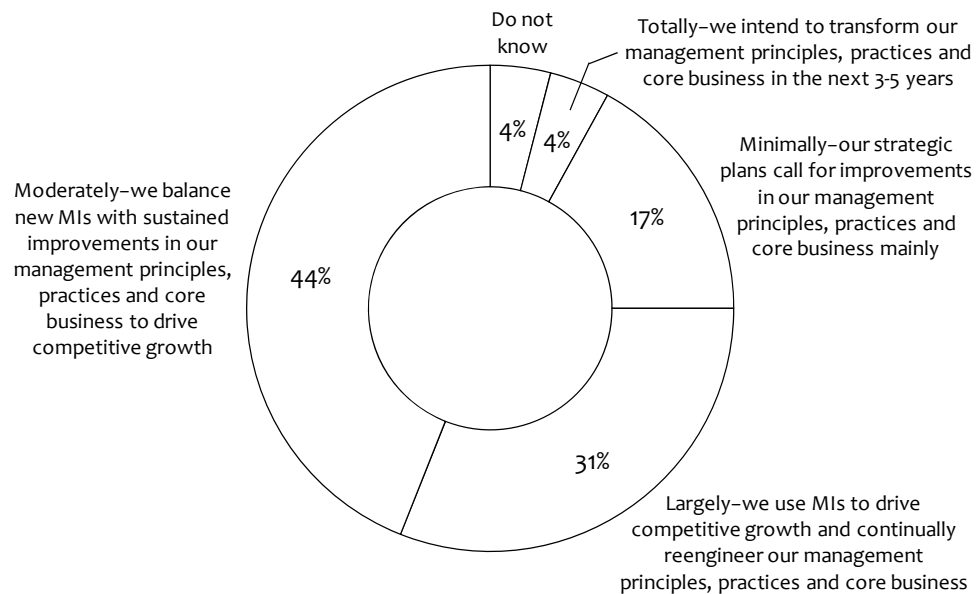
Figure 5.4: Responsible prime for MI at four case companies



When asked about the extent of case companies' strategy that depend on MI, forty-four percent of total respondents pointed out that their practising managers balanced new MIs with sustained improvements in their management principles, practices and core business to drive competitive growth (Figure 5.5).

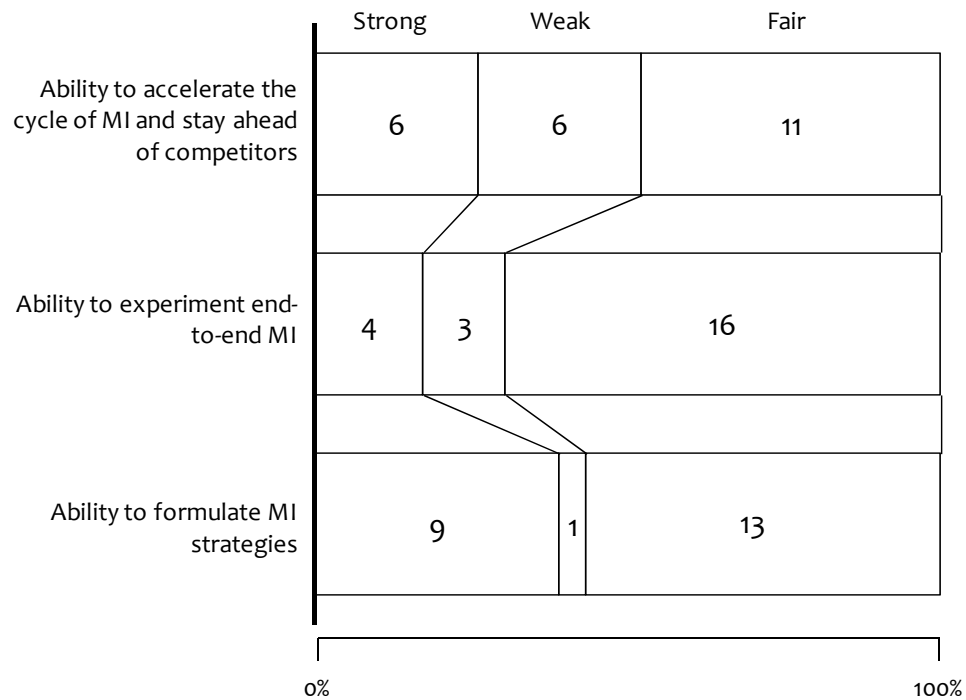
Surprisingly only a handful of senior leaders who indicated that they intended to transform their management principles, practices and core business in the next 3-5 years (four percent), as was considered important ingredients in their corporate strategy.

Figure 5.5: Extent of four case companies' strategy depend on MI



Of all respondents across the four case companies, they are rated on the companies' abilities to deliver MI-driven initiatives using a scale of strong, fair and weak. As graphed in Figure 5.6, although it seems that case organisations have lost the sense of urgency regarding their strategic intent to totally transform their management principles, practices and core business in the next 3-5 years, the vast majority of respondents reported that their ability to both experiment end-to-end MI were "fair" and formulate the MI strategies were also considered "fair." While not expected, only a small proportion of respondents indicated "strong" ability to accelerate the cycle of MI and stay ahead of competitors, affirming that a significant perceptible gap of IMMI performance existed with varying degrees of MI-driven initiatives responsive to strategic circumstance.

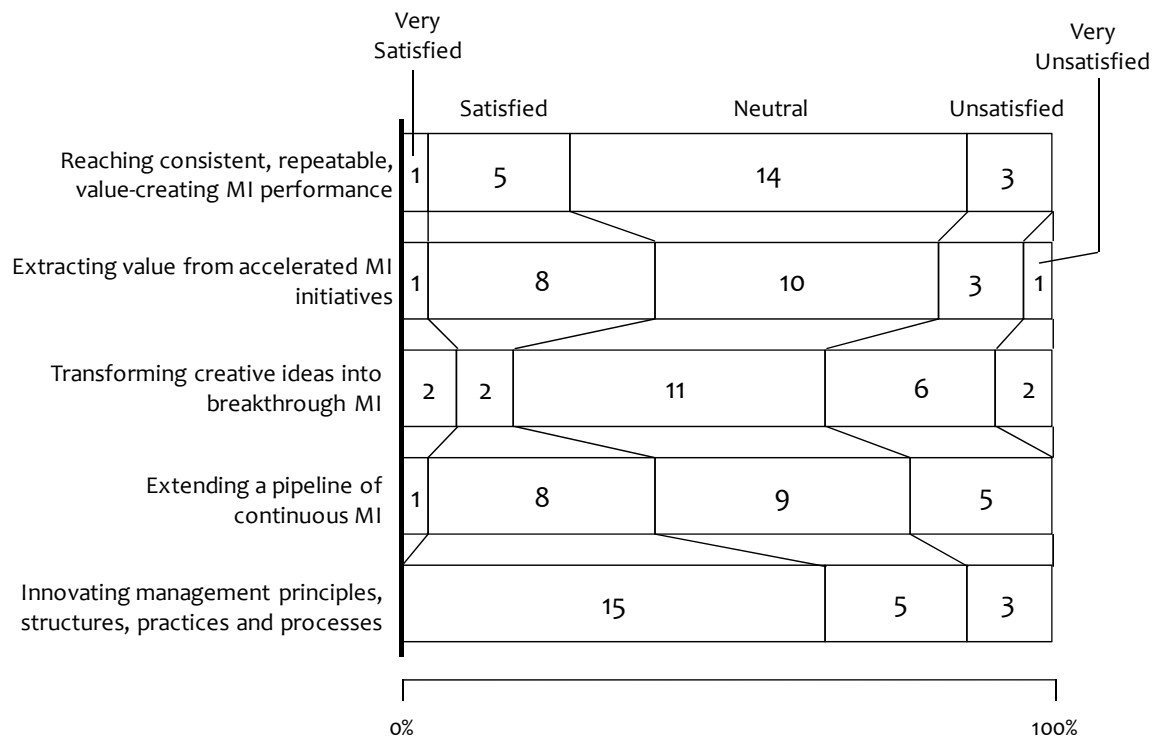
Figure 5.6: Organisation's ability to deliver the MI initiatives



As illustrated in Figure 5.7 overleaf, the satisfaction of case companies' performance across a variety of MI areas reveals conspicuous results. For most part, a clear majority of respondents feel somewhat less satisfactory towards their organisation's performance in various MI areas. They are more concerned about excellence in execution, consistent strategic execution from senior leaders and management ability to energise adaptive change.

Of all respondents, most senior leaders are satisfied with their companies' ability in innovating management principles, structures, practices and processes. The same respondents also feel satisfactory, albeit on lesser responses, towards both (1) extracting value from accelerated MI initiatives; and (2) extending a pipeline of continuous MI. However to strike a cautionary note, most respondents stated they were "neutral" or somewhat indifferent in their perceived satisfaction, particularly in three different MI areas: (1) reaching consistent, repeatable, value-creating Management Innovation performance; (2) transforming creative ideas into breakthrough management innovation; and (3) extracting value from accelerated Management Innovation initiatives.

Figure 5.7: Satisfaction of organisation's performance in MI areas



Further capitalising both on central MI capabilities and widespread scalable market learning, Direct Energy (DE), for instance, had also prospered with a highly decentralised management approach. DE relies on aggressive financial targets and high-powered incentives for divisional managers. As a result, the company's explosive growth has had a direct impact on the company's conventional management practice.

Through adjacent diversification of its activities, DE has been acquiring a number of complementary companies to extend their business footprints in multiple markets within Canada and USA. This prompts the company to rethink about their very practice of management innovation by managing diversity and promulgating a new performance culture enterprise-wide. This is also practiced in OPG as the company's enterprise portfolio/project management reiterates a partially-inclusive autonomy of operating nuclear stations at Pickering A, Pickering B and Darlington. A lifeline fundamental to the successful operations, OPG consistently makes use of highly-specialised, structurally independents and in smaller groups to focus on specific work-breakdown structures. Their compensatory incentives are based upon collective performance of the groups (based on attainment of corporate value), as opposed to the performance of individuality.

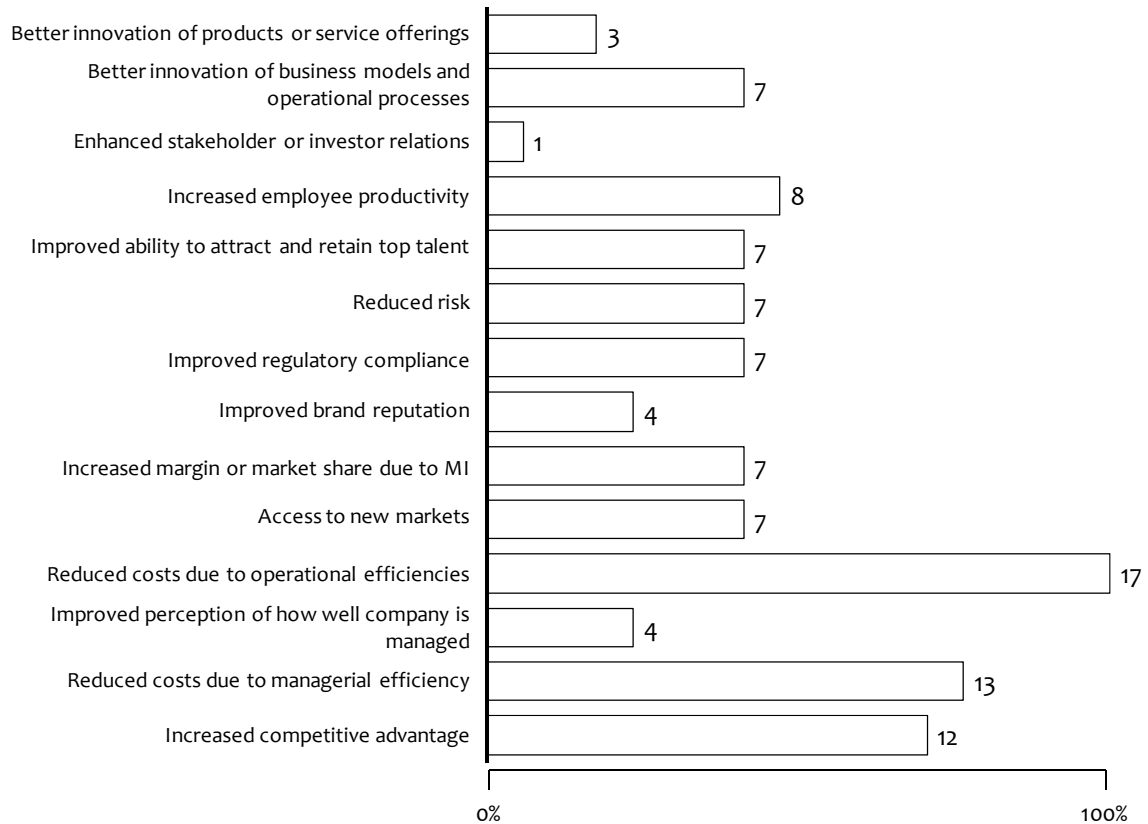
Most senior leaders from case companies regurgitated that experimenting management innovation (MI) could be seen as network of differentiated sources of competencies and capabilities, each invested in the particular learning opportunities offered by their operating environment, and brought together for specific projects focused on new innovative management of management innovation, fusing both central and local action, at the initiatives of middle managers, as evidenced in the case study of OPG's relatively autonomous three nuclear power plants. The recurring successes of OPG's past best practices in nuclear engineering management made it difficult to react effectively unless the company persistently acclimatise its unique structural context. This fosters innovative management thinking and prevents "bolt-on" solutions. As the organisation structure matures alongside its embedded business requirement (from centralisation to decentralisation), the practice of Ontario Power Generation's (OPG) managers becomes a richer, more complex.

Enbridge Gas Distribution (EGD) also exemplifies this by being committed to embracing business process outsourcing. The company intends to reprioritise its resource mobilisation to focus on serving its consumers and proliferate cross boundary partnering competences enterprise-wide, the company has consequently been embracing entirely innovative ways of managership in natural gas conservation and demand management (CDM).

Various benefits have been identified in Figure 5.8. Of note, the web-based survey questionnaire allows respondents to choose more than one that applies. Clearly, cost reduction due to operational efficiencies was the biggest benefit of all. Transforming the monolithic government monopolies into a leaner organisation that embraces the necessary MI-driven strategies to fetch scalable efficiency requires a shift in mindset towards the MI vision and corporate culture.

There are four most frequently cited benefits: (1) improved ability to attract and retain top talent; (2) reduced risk; (3) improved regulatory compliance; (4) increased margin or market share due to MI; and (5) access to new markets.

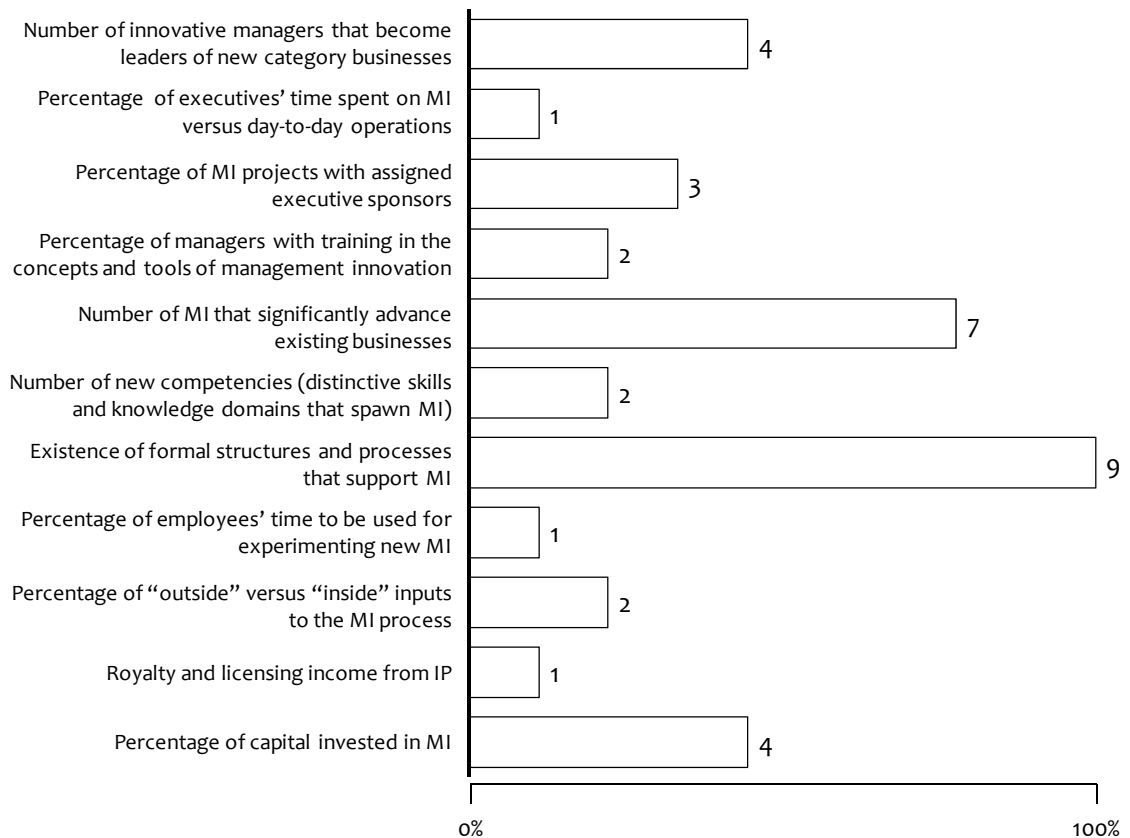
Figure 5.8: Benefits in accelerating MI at four case companies



At OPG, many functional managers maintain bureaucratic control in order to facilitate effective decision making hierarchically, especially across the sizeable number of unionised staffs. The company's managerial process of systemically controlling and sustaining power further thrives on non-transparency. This explicitly works well in OPG although some may deduce the conventional wisdom in a regulated industry that agile only flourishes on transparency. Toronto Hydro (TH) is another example of a company that has been adopting value-driven strategies in managing enterprise project portfolios, implementing quality-engineering programme, and pursuing executional excellence in hydro asset modernisation. They establish the management innovation platform and toolset (web-based), which are critical success factors to internally share the wisdom of crowd. Most of these initiatives have leveraged the emergence of digital infrastructure (e.g.: smart grid) and web-enabled technologies (e.g.: smart meter' time-of-use application for smartphone) to sustain greater accountability, transparency and integrity, while remaining efficient and innovative. Toronto Hydro's Information Technology and Services (IT&S) department has been chiefly instrumental in helping construct TH corporate strategy and implement it with other line of business leaders. To sustain good MI performance, case companies have used either financial or operational metrics to accurately measure their MI deliverables.

If a bright spot could be identified in the survey data, it would be regarding the key metrics used to sustain MI performance at case companies. This is revealed in Figure 5.9 below. The existence of formal structures and processes that support MI ranked the first, followed by the number of MI that significantly advance existing businesses. Of note, the web-based survey questionnaire allows respondents to choose more than one that applies. Overall, most senior leaders express confidence that adopting the right metrics could drive higher MI improvements and help their businesses focus on their human capital superiority.

Figure 5.9: Key metrics used to monitor MI at four case companies



5.3 Cross-Case Analysis of Multi-Case Study

The cross-analysis of the four cases allows me to make some specific considerations, as summarised in Table 5.1 overleaf. By synthesising their collective performances, I construe that the predominant MI capability determines the revealed MI strategy of the company and its innovative managership. Moreover the coherent pattern of IMMI may be envisaged as performance-related gauges of the enterprise intelligence and operational maturity. In this section, I attempt to categorise the key themes derived from cross-case analytical comparison at four case companies.

Table 5.1: Thematic analysis of the MI capabilities

MI CAPABILITIES	ONTARIO POWER GENERATION INC.	ENBRIDGE GAS DISTRIBUTION INC.	TORONTO HYDRO CORPORATION	DIRECT ENERGY MARKETING LIMITED
1. Vision and Strategy	<ul style="list-style-type: none"> • OPG envisions becoming a performance-driven enterprise. • MI is considered to be a survival-enhancing strategy. • OPG's operating mandate is to leverage the best-in-class management practice. Emphasises agile implementation (be bold and take risks to challenge paradigm). • Uses corporate forum for disseminating the MI vision and strategy to middle management (collaborative workshop and break-out strategy session). The corporate intranet is explicit to front-line management and employees. • Uses external partnership and synergies with nuclear industry community and knowledge brokering. 	<ul style="list-style-type: none"> • Egalitarian approach to MI as part of sustaining incentive-based regulation in Canada's natural gas industry. • Leads from the top. MI successes are derived from visionary leadership at the top of organisation. • Reiterates on making the MI as part of middle managers' core competencies (manage- up, down and across). • Executes work not necessarily because of their managerial authority but because of the level of influence, although authority remains extant due to reporting chain of command. • Top management is a facilitator, not source of authority. 	<ul style="list-style-type: none"> • Short-term view on MI. Embedded a culture of being too entrenched to status quo. • From Command-and-Control (pre amalgamation) to Coordination-and-Cultivation (2005) to Engaging-and-Coaching (2005 onwards) • Embracing MI (currently underway) at the centre of its strategy renewal for driving assets modernisation and power conservation. • Leverages rapid consumerisation of smart technologies (smart electricity meters, automation distribution). • Excellence in executing project in smaller collaborative team. 	<ul style="list-style-type: none"> • Catalyses agile leadership and MI to value creation. • No formalised MI group. The MI's strategic intent remains on permanent agenda. • Top-down communication and empowered control through command-and-control and agile processes. • MI strategy is to institutionalise the MI prioritisation method. Key enablers to MI: Analytical software, innovative sales channels, affinity relationships, web-based Internet technologies. • A systemic process of project stage-gate approach is standardised in experimenting the MIs.
2. Collective Intelligence	<ul style="list-style-type: none"> • Bottom-up, incentivised by monetary rewards. 	<ul style="list-style-type: none"> • Emphasis on lateral thought or cross-fertilising 	<ul style="list-style-type: none"> • No reference on a formalised group that 	<ul style="list-style-type: none"> • Emphasises on management openness and

	<ul style="list-style-type: none"> Supported by OPG's nuclear governing principle-based approach of DASL (Direction, Alignment, System, and Learning). Managers routinely perform cognitive-driven tasks (problem rationalising, crowd-reasoning, efficient learning led by a combination of mid-level and front-level management). Reinforces knowledge brokering to seek external MIs from industry and SMEs. 	<p>intelligence.</p> <ul style="list-style-type: none"> Promotes effective empowerment via a corporate culture of participative management. Collective intelligence and creative thinking are done in formalised group or project team/task force, led by middle managers (practising middle-down-up crowdsourcing). Matrix management approach to distribute decision-making. 	<p>leverages staff intelligence.</p> <ul style="list-style-type: none"> Crowdsourcing is limited to middle-down-up. No or little management of a structured approach in managing the company's IPs in knowledge management. An internal manifestation of silo phenomenon breeds insular thinking, redundancy, and suboptimal decision-making throughout the TH enterprise. 	<p>sharing of knowledge and management best practices.</p> <ul style="list-style-type: none"> Innovation utopia is a challenge at front line management levels. Lacks of actions/initiatives despite incentives in VBM, is in-place. The existence of middle-down-up crowdsourcing for driving endemic MIs. No workable internal forum to MI exchanges.
3. Organisational Configuration	<ul style="list-style-type: none"> Minimal bureaucracy with M-form (multidivisional form), which leads to a prevalence of non-transparency at some management levels (towards enabling bureaucracy vs. coercive). Autonomy operating divisions at three nuclear power stations (Pickering A, Pickering B, and Darlington) and empowerment driven by top management. Multi-channel service delivery, Business Partners and Centre of Excellence. Centralised services and 	<ul style="list-style-type: none"> Remains bureaucratic and uses a top-down with matrix management. Due to fundamental shifts in CDM (conservation and demand management), EGD has been reorganising to strengthen MI capacity, modifying reporting relationships, retaining only core skills in-house, outsourcing selective shared services, and streamlining operations. From pay-for-attendance to pay-for-result. Emphasises the flow of 	<ul style="list-style-type: none"> Using matrix structure and top-down management model. Trust deficits amongst managers are presently being transformed to ensure transparency, honesty, communication, consistency and predictability from empowered individuals. Process simplification in enterprise project management Moderate bureaucracy as there has been a concerted effort to move from the 	<ul style="list-style-type: none"> Abandoned the legacy subordinate type bureaucracy. Fosters top-down communication and (shifted from bottom-up process that was used prior to year 2000). Entrepreneurial M-form (multidivisional form) with "shallow" management layer, reinforcing MI. Strong reference of empowered trust. From pay-for-performance to pay-for-result.

	<p>Decentralised Controllershship in OPG Finance.</p> <ul style="list-style-type: none"> From pay-for-attendance to pay-for-performance. Legacy managerial process of POLC (plan, organise, lead and control) is shifting to DEMO (direct, engage, methodise, and orchestrate). 	<p>information and strategic initiative from the bottom up, making c-suite executives catalysts, as opposed to source of authoritative power.</p> <ul style="list-style-type: none"> Mid-level management acts as resource mobiliser (as well as impetus and influencer of MI-driven initiatives). 	<p>legacy command & control to the evolving co-ordination & cultivation paradigm.</p> <ul style="list-style-type: none"> From pay-for-attendance to pay-for-performance. No webs of alliance (absent of external collaborative network). 	<ul style="list-style-type: none"> Strong transatlantic synergies (with Centrica PLC) in sharing various collaborative/digital technologies, the utilisation of intranet/extranet has become the standard practices at Centrica/DE.
4. Corporate Culture (towards the utility of mavericks to drive performance growth)	<ul style="list-style-type: none"> High tolerance for mavericks with recurrent benchmarking initiatives. Careful evaluation prior to the adoption of untested new management principles and practices. M-form creates a multi-directional force field for BUs managers who bring undifferentiated resources. Effective collaboration results from complementarity not similarity. Leveraging swarm attitudes enterprise-wide mainly due to greater autonomy (at three nuclear plants) and self-sufficiency. 	<ul style="list-style-type: none"> Moderate tolerance to mavericks. Promotes effective empowerment. There are in-place layers of managements only because the senior management needed to control the mobilisation of resources under the incentive-based regulation. Silos behaviour remains pervasive enterprise-wide although a swarming mentality is increasingly popular in infrastructure-based projects. 	<ul style="list-style-type: none"> Fostering culture of (asset) modernisation Mavericks are seen as either innovator or disruptor. Most mavericks are not incentivised enough for advancing their innovative ways of improving operational excellence. Staffs do not normally look for vertical consensus as long as they can deliver efficiencies. A culture of collegial and recognition, which help stimulate and energise management innovation activities. 	<ul style="list-style-type: none"> Reorganising the management structures: (1) Improve leadership training; (2) reward system; (3) 360-degree performance appraisals; and (4) diffuse systemic MI outside-in. Strong reference to mavericks and experimental cultures (supporting pervasive MI experimentation that allows intelligent failures). Consensus decision-making derails and stalls MI. Empowering skunk-works. Thriving well in corporate swarm (deleveraging silos mentality)
5. Hierarchy	<ul style="list-style-type: none"> Natural hierarchy improves internal communication (6 	<ul style="list-style-type: none"> Strives for a flat organisation but has a 	<ul style="list-style-type: none"> The utility of a strong hierarchy as an effective 	<ul style="list-style-type: none"> Pursuing a flatter and open. Remains pyramidal (top-

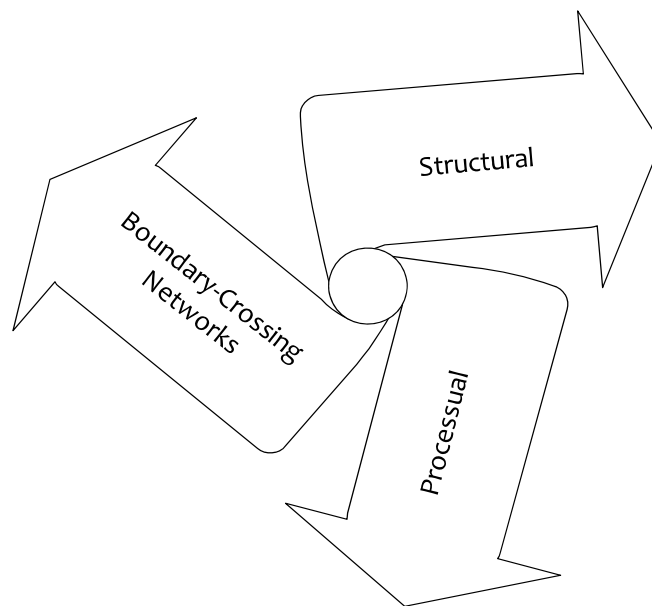
	<p>levels from top to bottom).</p> <ul style="list-style-type: none"> • Ongoing management de-layering (e.g.: post-merger of thermal and hydro businesses). • Uses a horizontal hierarchical structure that bridges individuals' aspirations and OPG's autonomous nuclear power plants. This gives employees full responsibility for piloting management innovations. 	<p>flexible organising concept, which allows for task-based groups to be formed in such a way to enable problem solving by the group itself (few or no levels of intervening management between staff and managers).</p> <ul style="list-style-type: none"> • A reputation of seeking non-confirming technical and management structures in order to move ahead with experimenting innovation. 	<p>internal mechanism to organise well and allow pre-adaptation (rapid consideration and/or escalation) and adaptation of various innovative management practices (i.e.: IT&S uses CoE effectively).</p> <ul style="list-style-type: none"> • Leveraging the "in-take" mechanism of resource pooling in in-sourcing project resources (cross-disciplinary) for advancing innovative management of management innovation. 	<p>down), especially the management layers from C-suite to the middle management.</p> <ul style="list-style-type: none"> • Strive to become an agile extended enterprise. • The performance-based reward system for those who successfully manage and deploy projects. • A demerit mechanism for those who may act as an hindrance to MIs.
6. Empowerment	<ul style="list-style-type: none"> • Adoption of web-enabled collaborative technologies • Middle managers as sustainer. • Extranet portal for managing ecosystem of 3rd party vendors/nuclear contractors. • Enabling participatory management (underway). • Multi-systems for capturing collective intelligence (flyers, on the job training, metrics). 	<ul style="list-style-type: none"> • Empowering staff is a top priority. • Commitment to continuous MI to enable a more idea-receptive environment. • Encourages enterprise cross-pollination of new novel practical applications. • Supports management innovators and encourages follow-through. 	<ul style="list-style-type: none"> • Micro-management is mismanagement • Under Haines' leadership, management effectiveness is strengthened with open-minded, mutual trust, and model of engaging-and-coaching. • Rewards are based on recognition that leads to personal excellence and confidence. No monetary incentives (implicitly leading to an increasingly inward-looking culture). 	<ul style="list-style-type: none"> • Institutionalising the performance metrics for management innovation. If project managers and team leaders deliver the projects 100% of the time (on scope, on budget, on-delivery time), then it is clear that they are not taking sufficient risks and do not tolerate failures. • Well-defined career paths for management innovators such as innovation specialist, innovation leader.
7. Organisational Assets	<ul style="list-style-type: none"> • Creates value through effective project management. 	<ul style="list-style-type: none"> • Leverages external management capabilities through selective 	<ul style="list-style-type: none"> • Explores and exploits new novel ideas from the development of Smart 	<ul style="list-style-type: none"> • Focuses Executives' attention on high-level strategic decisions

	<ul style="list-style-type: none"> • Institutionalised OPG's DEMO process (direct, engage, method, and orchestrate). • Creation of decentralised Centre of Excellence (CoE) to enthuse stronger partnerships. • Cultivates stronger partnership with union- and non-unionised workers • Embraces a moderate tolerance towards failures. • Uses MI techniques and tools because that's the device we expect to be using, not because it's the right device for the task. 	<p>outsourcing provided that critical know-how and change control is retained in-house (BPO-Business Process Outsourcing, SAP CIS-Customer Information System, Active Risk Management).</p> <ul style="list-style-type: none"> • Guards IPs (intellectual properties). • Opens up using web-based application to new novel MI. This includes the collaborative and social media technologies. • EGD expenditure on innovation-related project amount to upwards of 10% of annual allocation. 	<p>Meters related applications.</p> <ul style="list-style-type: none"> • Emphasises on system reliability (more so during the current asset modernisation programme). • Relatively slow adoption of advanced ERP system and collaborative technologies. • Asset management has not matured with the enterprise growth. • Strong emphasis on being "creative" through exploiting both the unionised- and non-unionised employees to perform maintenance works on capital projects. 	<p>impacting the management innovation enterprise-wide.</p> <ul style="list-style-type: none"> • Engages the middle management in the prioritisation of MI projects. • Largely removes top management/executives from the day-to-day oversight of MI projects (avoiding micro-management). • Disaggregation of conventional communication channels. regular meeting of senior leaders and rank-and-file staffs at cafeteria is seen as a model for effective knocking down of corporate silos. • Enterprise adoption of knowledge management system (i.e.: SharePoint).
8. Collaboration (Active and Passive)	<ul style="list-style-type: none"> • Active collaboration (self-managing teams, virtual organisation with a degree of autonomy) through adoption, adaptation, revolution and change towards an innovative culture. • Low maturity of passive collaboration to help retool managements for MIs. 	<ul style="list-style-type: none"> • Mid management leads to collaboration using regional competence networks and industry SMEs. • Pursues diversity in active collaboration via knowledge management intranet. • Once identified performance gaps in 	<ul style="list-style-type: none"> • A balanced approach (Active and Passive collaboration) to the use of internal full-time employees and external contractors (e.g.: consultants) has been adopted enterprise-wide. • Supported by centralised deployment of CoE. 	<ul style="list-style-type: none"> • Lean management and supervisory levels to enable more internal collaborations (thereby inducing more effective communication and speed of information). • Transparency is seen as a part of the DE's value system.

	<ul style="list-style-type: none"> Continually tap into external contractors for knowledge not already have in-house. 	<p>business operations, EGD managers seek out collaboration with external vendors</p>	<ul style="list-style-type: none"> Capture and integrate isolated pockets of expertise via digital technologies (e.g.: social media) to reinforce ecosystems of internal and external SMEs. Absent of external collaborative network. 	<ul style="list-style-type: none"> Uses industry SMEs and management consultants as facilitator or SMEs (subject matters experts).
9. Sustaining Lessons Learnt	<ul style="list-style-type: none"> Emphasis on creating a network of mid management to facilitate MIs (reinforcing resource sustainer role). Empower cross-disciplinary teams to creative thinking, prolific piloting, and making swift MI decisions. Turn engineers into management innovator (i.e.: 10% time and budget are allocated to innovation-related activities). Launches project governance and a competency centre, but allow project autonomy to spawn, scale and thrive with natural hierarchies. Establishes the management innovation platform and management toolset (web-driven), which are critical success factors to internally share the wisdom of crowd. 	<ul style="list-style-type: none"> Supports the active exchanges of best practices across natural gas utilities in North America (USA and Canada). Champions the analytics-enabled insights (based upon customer relationships) on its innovative management practices. Effective project execution is the successful foundation of EGD's management plan. It centres around project rollout success factors such as rolling CapEx or O&M, and collaborative governance. 	<ul style="list-style-type: none"> No reference on sustaining benefits from lessons learnt due to project non-transparency during the post project implementation review. However, TH recognises the importance of a structured way of capturing and sharing the project lessons-learned via corporate intranet (IT&S department leads enterprise execution). Ongoing commitment of 10% time allocated for MI. Extant structures of being siloed, fragmented and compartmentalised. For instance, Smart Meters deployment and time-of-use billing. No explicit managerial process in coordinating the lessons-learned. 	<ul style="list-style-type: none"> Recognises the growing importance of knowledge management and enterprise project sharing of best practices as the competitive imperatives. Decentralised centre of excellence in managing the knowledge management (a permanent nursing ground for new novel ideas and/or innovative management practices).

Appreciating the shortcomings inherent in the underlying themes identified by the multi-case studies above, reinforce to converging MI issues and solutions on how case companies go about optimising the effectiveness of their MI strategy implementation, collaboration, co-evolution, co-creation and dynamic communication efforts. The themes focus on strategic correlations between structural, processual and cross-boundary relationships (Figure 5.10). Each theme will then be canvassed by perusing the findings of common themes from the multi-case studies. This leads to a discussion of influential factors in ensuring a consistent balance between the content, context, processual, and stakeholder of IMMI efforts.

Figure 5.10: Thematic correlations



Source: Author

5.3.1 Structural-related themes

An organisation is best placed to carry out its functions effectively when it has appropriate structures in place. However the structural themes are considered from a wide perspective taking into account the synchronisation of MI strategies and their executions at four case participating companies.

5.3.1.1 *Permeability of structure (for ideas and feedback) shapes MI strategy*

The case company's realised MI-driven strategy is considered to be a consequence of the IMMI, and because IMMI is significantly evoked by structure, I learned that structure induces the MI strategy. This is corresponding to what Alfred Chandler (1962) taught us that structure follows strategy. This inter-reliance is palpable for the case

researched organisations. Because of this, senior leaders involved in structural reorganisation will have an effect on the apparent MI strategy.

Unlike mechanisms that presume a solitary decision-maker, or only senior leaders, a structure perspective of MI strategy implementation is decidedly multi-level and multi-person. As an example, Deryk King's ability as a CEO of DE to change corporate-level MI strategy (by diffusing the VBM's managing-for-value governing principle) reveals the importance of a multilevel perspective. In the case of EGD, the challenge for ingenious managers is to mobilise the rich intra-company knowledge (mainly through ecosystem of network derived from the BPO-business process outsourcing) for MI at the right time. Similarly shifting organisational configuration needs tactical adjustment of decision rights, to generate fact-driven consensus, empowered employees usually require new incentives and assorted information to react on. Another example at OPG, with the pending cessation of the use of coal in Canada by the end of 2014, prudent investments are targeted towards the safe and reliable operation of OPG's coal units and implementation of best management practices to ensure regulatory compliance and environmentally acceptable operations. Recognising those exogenous disruptions could occur at any time, OPG inexorably steer for scalable efficiency. OPG's senior leaders are committed to reconfiguring its organisational structures more permeable for new innovative practices, ideas and continuous-loop feedbacks. This has precipitated in a series of strategic changes that accelerates MI at OPG. In the case of DE's regional expansion, the real challenge is to devise permeability based on lucrative economic profit (adjacent strategies to the provinces of Quebec and Manitoba) and to perpetuate this permeability as DE organically matures and as added mid-level management are structured. This could signify that for senior leaders at DE to consciously put a boundary around the extent, magnitude and configuration of managership to sustain excellence in MI-driven decision-making particularly during the company's expansive growth. In summary the gists are twofold. First, it is not that the IMMI drives unpremeditated outcomes, but the senior leaders aiming to direct strategic results require performing the IMMI and the behavioural integration forces that influence it. Secondly, the importance of operating commitments (internal commitment—e.g reporting structures and external commitment—e.g end-users and regulatory stakeholders) at lower levels in the organisation is fundamental.

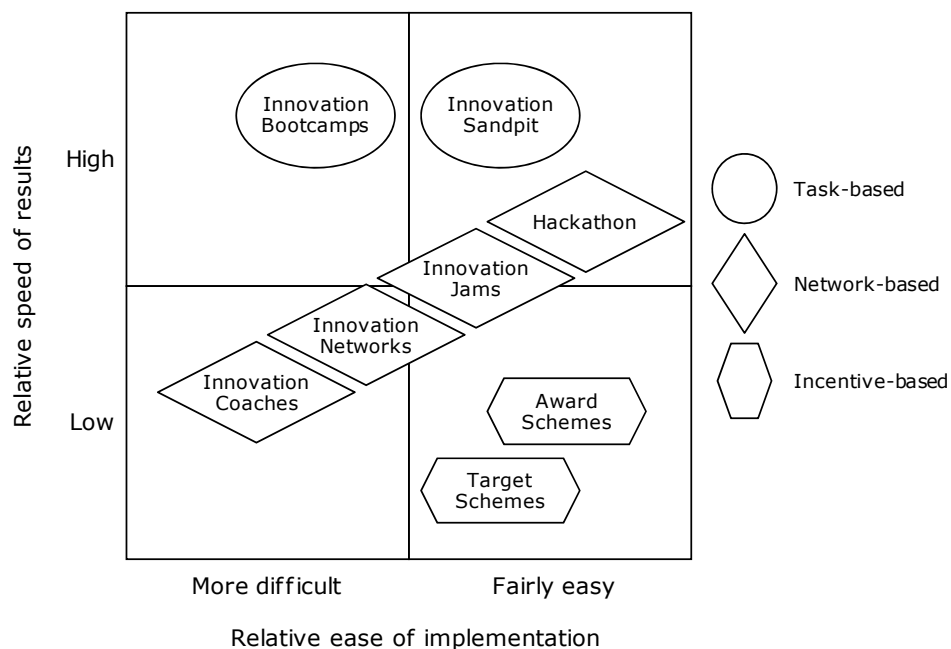
5.3.1.2 The utilisation of innovation management techniques and tools is of questionable value to the IMMI performance

Successful use of innovation methods and tools obliges an aptitude to resourcefully assimilate the optimal methods and systems correctly and timely. The key is not in replicating and implementing one method or system, but in scalable learning, which method and system to leverage on. However as revealed in multi-case studies,

functionality is often hindered by utilisation factor. Most innovation management techniques and tools were utilised because they are the means that managers expect to be using, not necessarily because they are the right ones for the task.

While there are numerous innovation techniques and tools, which have been applied to parts of the MI process there is little evidence of their widespread adoption by Canadian energy and utilities industry apart from project management tools such as network planning and the specific techniques such as lean six-sigma methodology that can be used in continuous improvement and quality programme. The four case companies have utilised these systems within the structure of MI-driven strategy pyramidically cascaded from c-suite executives, bolstered by bespoke innovative managerial processes and a culturally-aligned enterprise. The following Figure 5.11 illustrates the eight key tools, which have been used in the Canadian energy and utilities industry and have proven track record of successes.

Figure 5.11: Impact of innovation tools



Source: Re-adapted from Eager and Kyte (2012); Author.

As summarised in Table 5.2, most c-suite executives and senior managers have implemented various MIs to help them deliver business results. At OPG, in addition being the heaviest adopters of nuclear contractor management and executives and senior managers use the business process reengineering (BPR), more frequently than their counterparts elsewhere. EGD leads in the use of change management

programme, BPO-business process outsourcing, and the ERP-enterprise resource planning. TH managers implemented the Smart Meters programme and six-sigma quality to strengthen their extended enterprise architecture by taking full advantage of intelligent asset management and amplify revenues in a vigorous economy. Finally at DE, senior leaders have implemented various MIs with structural and processual changes (ambidextrous organisation, value-based management, net promoter score, and big data analytics) in their current managership. These are reflective of their collective managerial efforts in driving sustainable performance in becoming a globally integrated enterprise.

Table 5.2: Top ten management innovations at cross-case companies

ONTARIO POWER GENERATION INC.	ENBRIDGE GAS DISTRIBUTION INC.	TORONTO HYDRO CORPORATION	DIRECT ENERGY MARKETING LIMITED
Nuclear Contractor Management Practice	Change Management Programme (Incentive-based Regulation)	Enterprise Risk Management (performance-based regulation)	Globally-Integrated Enterprise (GIE)
Demand-side Management	Enterprise Resource Planning (SAP)	Smart Meters Programme	Value-Based Management
Business Process Reengineering (BPR)	Demand-side Management	Six-Sigma Quality Methodology	Ambidextrous Organisation
Shared Services Centre	Business Process Outsourcing (BPO)	Shared Services Centre	Net Promoter Score
Benchmarking	Shared Services Centre	Centre of Excellence (Decentralised; Fragmented)	Benchmarking
Energy Conservation Management	Balance Scorecard	Customer Relationship Management	Centre of Excellence (Decentralised)
IT/Knowledge Management	Enterprise Risk Management	Enterprise Intelligence (ERP; GIS; DMS; OMS; ODS; BI; SOA)	Time-Driven ABC/ Balance Scorecard
Balance Scorecard	Scenario and Contingency Planning	Energy Conservation Management	M&A and Strategic Alliances
Six-Sigma Quality Methodology	IT/Knowledge Management	Scenario-building and Contingency-planning	Big Data Analytics (Predictive Analytics, Business Intelligence)
Centre of Excellence (Centralised and Decentralised)	Six-Sigma Quality Methodology	Balance Scorecard	Six-Sigma Quality Methodology

Sources: Survey, interviews, archival documentaries, and public records from OPG, EGD, TH, DE

5.3.1.3 *Authority and power influence strategic circumstances*

The organisation is the means through which the senior leaders of the company can hope to ensure that the dispersed decisions that ultimately generate the MI-driven strategy are aligned. The managerial competence to mobilise resources to where they are needed has constantly been identified as decisive to innovation success (Burgelman and Maidique, 1988). In Canadian energy and utilities industry, case organisations use the current environment of globalisation and economic turbulence to de-layer management, slant operations and seize other strategic moves that contribute to becoming agile companies in their respective sub-industries. Case companies adjust their strategies to innovate their managerial processes, enhance scalable efficiencies, and improve the bottom-line. It is evident that when the power to perform IMMI is centralised, a top management might not choose to contravene positions taken by key managers closer to the ground. As the environment evolves, the dispersed decision makers make new MI resource mobilisation decision to attempt to regain alignment between MI-driven strategy and its environment. In this context, they are guided by the sets of managerial incentives provided by the dominant organisational design (i.e.: top-down). But these same environmental changes also disrupt the alignment of the strategy may well augment the overall misalignment. Thus the organisational design may need to be aptly adapted, on an ongoing basis, just as the MI strategy evolves.

Formalised seniority/power and compensatory incentives may need to be re-adapted, lines of lateral communication may need to be rewired, decision authority may need to be moved, and in some cases, positional jobs may need to be redefined. However most senior leaders at case organisations have consistently exhibited the inherent risk in too readily deeming that they have put themselves on sustainable competitive footing, given their distinctive prowess in asset management and modernisation. This mindset breeds complacency and puts at risk the appropriate balance between divisional autonomy (bottom-up process) and corporate direction, as exemplified in OPG's reciprocal influence relationship at three nuclear power stations. In addition, this is pertinent to the role of OPG senior leaders in promoting the pervasive experimentation of MI. These autonomous managers with authority, legitimacy and local power, as they gain in maturity of implementing the MIs and in their level of contribution to their companies, these groups may evolve into a robust organisational construct: an overarching organisational structure, such as the shift from "decentralised" (175 staff managed 510 contracts worth \$215 million with nine supporting units providing the service to three autonomous nuclear plants) to "centralised contractor management practice", based on integrative MI capabilities embedded in each of the three nuclear operating stations. Under the new centralisation practice, the members of these capabilities teams would be assigned

completely to these units, reporting to them rather than through a functional hierarchy, and spending their entire workweeks, and possibly their entire career, within a cross-functional context.

5.3.2 Processual-related themes

By observing inside the black box of IMMI at four case organisations, I introduce a new set of characteristics that must be considered when thinking about managing the acceleration of management innovation.

5.3.2.1 *Behavioural integration facilitates MI intensity*

People often have reservations about the extent to which a senior leader really function as a team. As evidentiary documented in previous chapter, behavioural integration has important positive relations not only to MI decision quality but also to multiple indicators of organisational performance. The degree to which senior leaders are behaviourally integrated was found to have affirmative correlations with the all case companies' capabilities to adapt to their operating circumstances. The case companies, given the plethora of business challenges, divulged ingenuity to refine the company's extant MI capacities and web-driven collaborative technologies to the senior leaders.

By upholding a collaborative, high-quality exchange of information, behavioural integration engenders social mechanisms such as trust and reciprocity (Coleman, 1990; Granovetter, 1985; Uzzi, 1997) that intends to dissolve employees' lack of enthusiasm to partaking tacit knowledge, fundamental to MI experimentation. It is tactically relevant that behaviourally integrated middle managers must tap into the collective insights of their top management—each with a repository of tacit knowledge based upon recurrent dealings at the high-level operating environment externally and internally. Such divergent knowledge sharing encourages senior leader's externalising cross-boundaries and uniting internally its tacit knowledge base and, thus the cumulative findings of new MI-driven opportunities. In this context, trust is also good in this case, not because it directly leads to beneficial outcomes, but because it allows senior leaders to have beneficial task conflict while avoiding detrimental relationship conflict. This allows senior leaders to coalesce knowledge in ways that build new ingenious management insights regarding the company's MI strategic options. Conversely absent behavioural integration and the associated interaction and collaboration, team members are more likely to resolve any dissonance they face by focusing on their own piece of the enterprise (Hambrick, 1998: p.123). At this extreme, senior leader coordination is more likely to be limited to bilateral exchanges coupled with infrequent and highly distilled communication (Hambrick, Li, Xin, and Tsui, 2001). Accordingly not as much of behaviourally integrated senior leaders tend to be prone to

deflect their manifestation to team preservation of status quo, as well as to dictate unnecessary formal rules and procedures to managerially function (Smith et al., 1994). Extending the logic from this stream of work, I argue that behaviourally integrated senior managers (middle management), working as a team at the top management level still works, albeit not optimal. When decisions are made jointly rather than by the c-suite executives only. It shows that openly sharing information and opinions within the senior leaders (c-suite executives and senior managers) should be promoted rather than having senior leaders engage in political processes to enhance influence on MI decisions. And it demonstrates that carrying out the work collectively as a team is also beneficial at the top.

5.3.2.2 *MI experimentation by mid-level managers*

In reference to the OPG case study, mid-level managers play the most decisive roles of MI experimentation, capitalising on the MI strategic initiatives of managers at three autonomous nuclear plants, and attempting to articulate a blueprint MI strategies for their disparate businesses. A successfully-managed MI experimentation process provides a real guiding purpose at the same time that it permits flexibility and scalable learning, There is no room for strategic prioritises to evolve and reshape in light of the success or failure of MI initiatives, thus enacting a new MI strategic context. Once new options or critical inputs emerge, the situation needs to be revisited, making the crafting of MI strategy (and its implementation) an endless real time iterative process. Resources commitments must be made. Otherwise there can be paralysis, a constant debate where no MI strategy is actually implemented with commitment and continuity, and where operating managers cynically wait for the next "flavour of the month" and deflect one strategic initiative after another.

The resolution that transpires from the case companies was through a combination of a clear strategic intent combined with a persistent and strong corporate culture shared among a carefully selected set of high-performing key middle managers. On the other hand, senior leaders remain attentive ensuring the grand MI strategic direction is cascaded down and well understood. This will hence keep the values and norms that marked the organisation fresh and strong and to ensuring that the rapidly growing business of the organisation share these values and embrace the norms. This analysis illustrated DE's management capacity to administer the autonomous MI strategy building process has, at a point, withered. Championing of energy retailing products (natural gas and electricity retailing) and technical consulting services (e.g.: energy automation, smart metering, greening of fleet management) as well as strategic forces in Ontario's deregulated power market were effectively performed at the operational level, guiding the non-energy retailing businesses (e.g.: home services-related products such as plumbing, heating, cooling protection plans) to flourish exponentially.

Mid-level managers operating outside DE's resiliently focused on the induced MI strategy building process, however, found it complicated to fit into place effectively in MI strategy building and experimentation necessary to stimulate MI strategic acceleration-determination sequences. Accordingly, the DE home services business was unable to organically grow, making its local rivals to take over DE's dominance. In other respects, mid-level managers protract their collective managership in fast-shifting competitive landscapes. Their architectural and key managerial processes, as evidenced in multi-case studies, were adjusted recurrently by middle and front-line managers, with intra-organisational boundaries shifting, project teams emerging and disbanding, and the new MI performance measures and decision criteria being established and fluidly amended. These organisational transformations were made by the interplay between c-suite executives and middle managers who both took the dispersed MI strategic decisions, ensuring coherence of the two.

5.3.2.3 MI strategic direction as sustaining mechanism

In Toronto Hydro's IT&S department, sustaining mechanism via intrinsic preference is a dominant expression of self-organisation, which is influenced by a reciprocally-reliant measure of executable accomplishment. This embeds in the interaction of MI strategy of generative experimentation and IMMI process, and establishment of the function of strategic circumstance. During the Smart Meters programme implementation, TH succeeded in sustaining the strategic and tactical accomplishments of practising managers and project leaders with minimal directives from c-suite executives or top management.

Further cross-examination of multi-case study pointed out that initial rollout of distinctive MI competencies in the MI strategy succession derived from unrelated product characteristics from nascent end-user requirements in Toronto Hydro's scalable Smart Meters deployments. This in turn led to several delayed attempts to complete the installations of TH's Smart Meters in Ontario. Few project managers and leaders were then forced to methodically alter the highly-specialised, technical human capital away from Smart Meters programme in response to convoluting forces in structural circumstance, which hence challenged TH's position in Smart Meters' finalisation. As a result, TH was able to supplant all the dumb-meters that was inherent in the company's legacy strategy of electric wires and poles and culture of engineering excellence and to conclude the Smart Meters programme that is consistent with emerging favourable standard in North America's energy and utilities industry.

Strategic recognition on the part of c-suite executives and/or top management made retroactive rationalisation on these strategic actions possible. The examination showed that sustaining the synchronised accomplishments of numerous practising managers

into a cogent configuration of MI strategy building and its effective experimentation, especially in the face of regulatory or legislative changes, was indeed a major challenge. At the end of the spectrum at DE, during 2000-9, Deryk King realised that DE has been somewhat auspicious to get hold of the highly-lucrative adjacent businesses linked to home-related services. He put forth strategic leadership and sustaining managership to take advantage of them. Accordingly, King shaped the crux of DE's MI strategy in a quite influential approach. He reconfigured DE strategic plan to cascade down the adaptive strategy and to obtain high-level consensuses from all his deputies and other senior leaders. He reinforced the company's MI strategy formulation on the home services business in the province of Ontario by officiating the premeditated MI decision-making at the top, in so doing restricting the renewed function of managerial echelons specifically to day-to-day operational rollouts of DE's MI strategy. While dynamic coordination and lateral communication are essential, strong ecosystem network of partnerships are also imperative.

5.3.3 Cross Boundary Network-related themes

This refers to a set of mechanism for extracting value from external entities' relationships, co-creating value with a network-centric mindset. These networks take a variety of forms, but converge on one underlying common theme: They all involve collaborating with ecosystems of third party suppliers and business partners for reciprocal value creation.

5.3.3.1 Relationship-based synergy lacks strategic assessment and minimal coordination between the strategic and operational levels

Perusing an assortment of IMMI performance, a vital composition transpired in four case studies. The evaluation of the MI initiatives was undertaken entirely on the operations and infrastructure, and review on the high-level strategic management was intermittently sporadic. Consequently an MI initiative that prompted the establishment of the IMMI process, impartial from its initial levels of either operational/infrastructure or strategic management, was persistently apportioned to the levels of operation and infrastructure solely for evaluation. Such consideration is inclusive of attempts to attest technical practicability as well as to investigate initial prospects. While these perusals were embarked on, there was no managerial action that explored the premeditated insinuations of the MI initiative. The purposive aims of bridging the strategic and operational/infrastructural levels for evaluative review were not set. This hence led to disparities for c-suite executives at strategic position to come to a decision on MI-driven projects, since all assessments and resolutions had to be prepared based upon fact-based justified exclusively from an operational or infrastructural viewpoints.

Expanding this rationale within the ad-hoc/impromptu experimentations of MI, the managerial actions from project incubation through MI assessment, pilot and formal rollout were deficient in management synchronisation involving the infrastructural or operational and strategic intensities for diverse MI-driven programmes. The outcomes of research, which had been progressed on the infrastructural/operational levels throughout the MI experimentation process could not be gauged with initial MI objectives. An iterative and unwavering accomplishments with confined capacity of analysis with coherent MI strategic purposes was not evidently apparent in any of the four case studies. Consequently, the perusals conducted in projects at infrastructural or operational-levels were rolled-out with inadequate impetus. Hence all management accomplishments associated with effectual IMMI resulted in decelerate and protracted.

5.3.3.2 Ecosystems of external entities (oriented toward reducing uncertainty in co-evolution versus emphasis on signalling the need for MI adaptation)

In today's creative-age, fast-paced and technology-fuelled environment, not many organisations take a holistic approach to infusing the IMMI outside their corporate walls, particularly within the Canadian energy and utilities industry. The reaction of case companies to the establishment of an MI group is often ambivalent at all levels. Most c-suite executives believe that IMMI is imperative to their enterprise's successful endeavours, but mid-level managers think they have not become skilled at exploiting its capability more effectively. While senior leaders understand their vision to move from linear to interactions models in MI, they have not done sufficient works to shape multiple interactions between different levels of a company with other external entities. They recited that they did not have a formalised skunk-work either at executive or operational levels, other than the creation of ambidextrous organisation, smart meters programme, business process outsourcing, and centre of excellence to operationalise the management best practices on an impromptu basis. Subsequently none of the case companies has in-place, a standardised permanent dialogue mechanism pairing collaborative MIs with cross-boundary managers' involvements, cross-functional integrations and MI piloting capabilities, has been co-shared so as to define a dynamic framework for external entities' innovation groups. Instead they are mindful on MI by delivering incremental MI innovation in a faster way, without cutting down quality levels. In reality, case participating organisations have prolifically capitalised on the MI as key element of their corporate strategy did so by harnessing the resourceful synergies and the collective wisdoms of their employees within the extended enterprises. However at DE, during the company's periods of major organisational change, i.e.: restructurings and M&As integrations, there were no specific responsibilities on a strategic level to manage external collaboration of MI with business partners and the complexity of dispersed MI escalates. Unless the new management practice has been field-vetted elsewhere and measurably evaluated for benefits accrual,

senior leaders are likely to be focused elsewhere within the organisation, leaving their MI projects orphaned. Critical MI-driven decisions are frequently left hanging, and challenging bottlenecks often go unaddressed. Of normatively, there seemed to be no systematised and interchangeable MI planning at case companies, accountable for managing operational assessments or formulating and cross-perusing estimation deliverables.

5.3.3.3 Iterative MI processes and activities are dispersed but not advanced collaboratively across levels and functional units

The dispersal of iterative MI processes signifies that managers engage in the MI experimentation, which depends upon central control of sequence that infrequently exists. At times, dominant managers have the ability to commit their companies before all voices beyond the corporate walls have a change to weigh in. Executable actions are always being developed at leading operating levels that either augment or destabilise corporate MI initiatives. In a case study of OPG, Tom Mitchell, the CEO is strong believer in collaborative teamwork and embraced diversity, as two driving forces for sustaining growth. Mitchell's focus is on the structural change issues. He exemplified his persistence in overriding established MI process in order to successfully pursue cross-boundary integration of MI-driven opportunities and synergies. Most managers interviewed, shared parallel beliefs that in effective empowerment, enabling autonomy, and partial decentralisation would enable OPG management to function more agilely and strategically relevant. Extending this logic, OPG enterprise portfolio/project management relies on the autonomy of operating division (three nuclear stations at Pickering A, Pickering B and Darlington), which could be considered, in the context of a nuclear power generator, a prime example of exploiting independent, highly-specialised and smaller groups, each mandated to deliver specific tasks and activities. Compensatory incentive is contingent upon group performance, as opposed to collective individuals. As in the case of Direct Energy (DE), Deryk King has institutionalised a structure resembling the pure "M-form" and instilled the managing-for-value (MfV) discipline that is centred on the attainment of collective economic profit from each of the four profit centres. The M-form model together with MfV, including the decentralising operating decisions reallocating cash flows between competition divisional claims, centralising control systems built around divisional profit centres, and using incentive compensation tied to the economic profit of each division's performance-promoted growth. Of importance, although this entrepreneurial m-form facilitates swift decision-making, it however seems to be rational, but not sufficiently adequate, for maximising total shareholder return. Decision makers must also engage in rigorous MI-driven decision-making, which requires a thorough search for novel practices relevant to a comprehensive set of MI-driven initiatives, and the evaluation of those initiatives.

5.3.4 Summary of Cross-Case Comparison

Cross-referencing the four cases result in the presentation of Table 5.3. This outlines the identification of a number of practical divergent related to structural, processual and boundary-crossing networks. The thematic inferences as related to the IMMI could be informed by a closer understanding of the key emerging themes.

Table 5.3: Overview of cross-case comparison

KEY EMERGING THEMES	OPG	EGD	TH	DE
I. STRUCTURAL				
(1) Permeability of structure (for ideas and feedback) shapes MI strategy	P	P	E	P
(2) The utilisation of innovation management techniques and tools is of questionable value to the IMMI performance	E	A	A	A
(3) Authority and power influence strategic circumstances	E	P	P	E
II. PROCESSUAL				
(4) Behavioural integration facilitates MI intensity	E	P	A	P
(5) MI experimentation by mid-level managers	E	P	P	A
(6) MI strategic direction as sustaining mechanism	P	E	P	P
III. CROSS-BOUNDARY NETWORK				
(7) Relationship-based synergy lacks strategic assessment and minimal coordination between the strategic and operational levels	P	P	E	E
(8) Ecosystems of external entities (oriented toward reducing uncertainty in co-evolution versus emphasis on signalling the need for MI adaptation)	A	P	E	A
(9) Iterative MI processes and activities are dispersed but not advanced collaboratively across levels and functional units	P	E	E	P
Legends: A=Absent (IMMI mechanism is non-existent) E=Emergent (rudimentary IMMI mechanism is partially existent) P=Present (underlying IMMI mechanism is existent)				

Source: Author

These themes explicated why senior leaders have difficulties accelerating for or reacting to either derivative or adjacent MIs or preparing their company for the strategic management of disruptive MIs. In fact, they correspond to the extant shortcomings, which are, generally speaking, the lack of integrated concepts for innovatively managing the acceleration of management innovations.

Formulating this deficiency in accordance with the particular challenges examined in prior chapters, leads to:

- Pain Point 1 (Structural):
 - Systematic utilisation of innovation management techniques and tools are either ineffectively or incompletely executed.
- Pain Point 2 (Processual):
 - The absent of behavioural integration to facilitate MI intensity is compounded by a partially non-existent of middle management in sustaining MI experimentation as an iterative process.
- Pain Point 3 (Boundary-Crossing):
 - Effective and productive MI partnerships are not formed within the ecosystem of cross-boundary networks. There is little inference of shared empowerment (co-advocate) and hence no proper authority to promote MI-driven change within the ecosystem of networks.

The identified pain points correspond to the last building blocks besides the insights found in literature and discussions of the cross-case comparison necessary for the conceptual formulation of the propositions. They noticeably show that empirical research in the field of IMMI is critical in order to decipher the key emerging themes.

5.3.5 Propositions

The foregoing discussions of the key emerging themes and pain points result in a careful formulation of a set of propositions. These propositions serve as guidelines for the IMMI concept. They are synthesised out of the findings of four qualitative case studies through the concept of IMMI, which are elaborated insofar and represent the epitome of this study.

Composed diachronically according to the components of organisation propositions, they seek to capture in a concise way the requirements for the effectual operationalisation of structural, processual, and boundary-crossing, following the mindset of new innovative managerial processes.

5.3.5.1 Structural Propositions

- Proposition 1: Adaptive and interactive structures as strategic configuration are needed and contingent upon the organisational circumstance.
- Proposition 2: Reconfiguration of organisational structure implies reciprocal adjustment in the pattern of managerial roles, interactions, and relationships within the organisation.
- Proposition 3: Structure of decentralisation when supported by a minimal hierarchy, impactfully supports the managerial ability to accelerate the MIs in most circumstances.

5.3.5.2 Processual Propositions

- Proposition 4: The executable roadmap of MI experimentation should be structured systematically that move the emphasis away from the siloed expertise of management innovator to system-wide competency, along the emergent new managerial processes of strategising, synchronising, stewarding and sustaining.
- Proposition 5: Appropriate visibility on the IMMI performance and MI status to management are critical determinants for the assurance of proper executive level and stakeholder supports for MI acceleration.
- Proposition 6: Processual facets such as knowledge co-internalisation and resource mobilisation are attributable to the success of co-evolving partnership, as opposed to structural facets such as MI-initiatives duration or MI ownership.

5.3.5.3 Cross-boundary Network Propositions

- Proposition 7: Development of an organisation where “MI owners” are responsible for management of core MI strategic initiatives and tactical initiatives are co-sourced. Shift in emphasis from in-house expertise to competence-based co-sourcing of shared MI expertise on an as-needed basis.

- Proposition 8: Identification and provision of authority to a MI strategic partner “advocate” (an individual who can ensure MI process is followed).
- Proposition 9: Clear enunciation of management innovator's expectations and managers of networked organisations to those expectations. Empowerment of cross-boundary managers to share in the MI-driven project risk results in the identification of existing organisational synergies across company boundaries.

5.4 Conclusion of Chapter Five

Anchored in the synthesis of cross-case comparison, this study ascertained that case participating companies have unremittingly capitalised on the IMMI to accelerate the cycle of management innovation. The next chapter six will respond to the research question and outlooks.

Chapter 6: Conclusions And Implications

Addressing The Research Question, Contributions And Limitations

As an engine for growth, IMMI has catapulted companies for economic dominance

The IMMI is the evolution of next management practice in response partly to evolving changes in adaptive strategic intent, in the dynamic capabilities of the organisation, in the creative market economy and counteraction in regards to competitive moves

6.1 Introduction

As explored in Chapter One, most organisations recognise the importance of innovative management of management innovation (IMMI). However significant knowledge gaps seem to exist between the theory and practical business application of innovative management principles and practices, that is no integrative model of innovative management of management innovation as an adaptive corporate strategy. As a result we are puzzled with how particular management practices and structures evolve over time in the face of rapid evolutionary changes. Scholars and practitioners have insofar produced histories of management thought and ideas and have investigated profoundly into specific cases of management innovation (Chandler, 1962; Fligstein, 1985; Pezet, 1997; Hamel, 2006; Hamel and Breen, 2007; Mol and Birkinshaw, 2008). Other academic scholars have empirically researched the diffusion of management ideas across space and time (Abrahamson and Rosenkopf, 1993; Burns and Wholey, 1993; Damanpour, 1987; Guler, Guillén, and MacPherson, 2002; Teece, 1980; Zmud, 1982) or surveyed the habitual streams of modern management fashion (Abrahamson 1996; Strang and Macy, 2001; Zbaracki, 1998). Further a lag also emerges to subsist on how management innovation gets experimented, prolifically commercialised, and in some cases, ultimately abandoned. But useful as all these studies are, none of them really tackles the significant gaps in the management of management innovation within- and across-cases of monolithic energy and utilities companies.

In attempting to expound the IMMI, chapter two established the fundamental theoretical constructs on which the innovative management of management innovation is based upon. This revolves around the creation of my research focus—homing in on the generative managerial processes that matter the most to any ingenious managers given their unique set of operating circumstances.

To answer the research question, chapter three explored and deployed the research methodology and its operationalisation. This consists of a highlight of survey

population, consideration of research ethics, and multi-case cross-comparative analysis. This chapter also encapsulated a combination of web-based survey, in-depth interviews, archival documentaries and public record information to construct multi-cases studies.

Chapter four summarised the four corporate case studies in the Canadian energy and utilities industry. The principal aim of the multi-case studies was to obtain evidence and to document the innovative management practices and human capital factors that each case company uses to translating adaptive strategy to MI acceleration process. Both the web-based survey and in-depth interviews were completed with senior leaders (c-suite executives and senior managers) from the businesses of each of the participating case organisations.

Chapter five disclosed both thematic within- and across-case analysis of the inclusive practices of IMMI at intra-organisational levels for each case participating companies. They are then categorically grouped according to the identified key emerging themes or pain points.

This final chapter six is concerned with answering the research questions derived from the literature reviews and empirical findings from the multi-case study. This chapter is decomposed into six sections. The introduction of this chapter six is briefed in section 6.1 where it outlines the thesis' background that pinpointed the bridges between main chapters before the final conclusions and research implications. Section 6.2 addresses the research question. This takes account of the identification of innovative managerial processes that transpire as a result of the extant generative process in managership. Moreover, expanded new roles of managers in today's creative economy, an integrated pathway to the IMMI, and the core aspects of the IMMI will be explicated. Next, knowledge contributions in practical, methodological and theoretical will be highlighted in section 6.3. Research limitations will then be emphasised in section 6.4. Next, section 6.5 will enlighten the study implications and research outlooks. The last section, section 6.6 will conclude chapter six and presents a closing remark of the DBA thesis.

6.2 Addressing the Research Question

My main research question is ***"Which and how managerial processes accelerate the management innovation?"*** Answering this question has led me to present a discussion on the re-emergence of innovative managerial processes, new expanding

roles of manager in the creative economy, indigenous aspects of the innovative management of management innovation (IMMI), and pathway to the IMMI.

6.2.1 Re-emergence of New Managerial Processes

Following the rapid development of creative economies and diffusion of digital information technologies in the Canadian energy and utilities industry, management has undergone a progression of growing differentiation. This has henceforth intensified accelerative growth in management innovation and will steer the swiftly evolving new roles of managership.

Reflecting on the synthesis of collated data with a focus on the deliberate intention of innovative activities as espoused by the managers practising them, I have identified a number of internal and external outcomes from the four case companies. Internally, this new managerial processes is based on the intuitive concept of formal rationality (Weber, 1978: p.85), which interrelates the strategic changes in the aspiration of an organisation (adding value to customers) and the emergent of innovative managerial roles of nurturing self-organising teams (rooted in the gradual erosion of functional silos and increasing influence of distributed cooperation-type of "swarming") and reinforcement of open managership. Further the way the work is harmonised through dynamic linkages that are enabled mainly through the advancement of web-enabled collaborative technologies. Externally the value of a company for being transparent, embracing continuous improvement and sustainability, and the structural changes in lateral communications from vertical commands to horizontal conversations – all these truly make enterprises more effectively to drive renewed growth and hasten transformative MI-driven change. When fully articulated and integrated, the changes amount to more than a minor tweak to the prevailing paradigm. They amount to a different ecology of managership. The propagation of smart infrastructure (i.e.: Smart Grid and Smart Meters) and exaptation of smartphone as a controlling device, have additionally prompted many enterprises to re-invent and/or re-define their managerial processes in order to focus on data collection with enhanced granularity and regularity, rationalising end-users' transactions, and capturing behavioural economics in real-time. Hamel (2012) suggested that "thanks to the web 2.0, we can imagine organisations that are large but not bureaucratic, that are focused but not myopic, that are specialised but not balkanised, that are efficient but not inflexible and, best of all, that are disciplined but not disempowering."

The summative view of four case companies' managerial processes and sub-processes are presented in Table 6.1 (Operations) and 6.2 (Infrastructure).

Table 6.1: Managerial processes (and sub-processes) in Operations

ONTARIO POWER GENERATION INC.		ENBRIDGE GAS DISTRIBUTION INC.		TORONTO HYDRO CORPORATION		DIRECT ENERGY MARKETING LIMITED	
Processes	Sub-processes	Processes	Sub-processes	Processes	Sub-processes	Processes	Sub-processes
Direct	Acquire energy	Plan and research	Develop new products/services	Plan	Acquire energy	Develop fact-based	Manage business performance
Engage	Perform contract management		Manage plant, equipment and facilities	Prioritise	Bill for products and services		Manage marketing and consumer promotions
	Manage power production	Assess and recommend					
Manage nuclear facilities			Manage warehousing	Market and manage products and services	Control inventory		
	Manage sales	Refine and produce products				Execute	Maintain facilities
Manage warehousing			Perform order management	Manage logistics	Operate stores		
	Orchestrate	Procure materials and services				Make decision	Procure materials and services
Approve			Service station (and gas storage) retailing	Order management	Materials & services procurement		
						Manage supply and trading	Monitor
Service customers			Operate systems				

Sources: In-depth interviews, web-based survey, internal archival documentaries, and public records from the four case researched companies

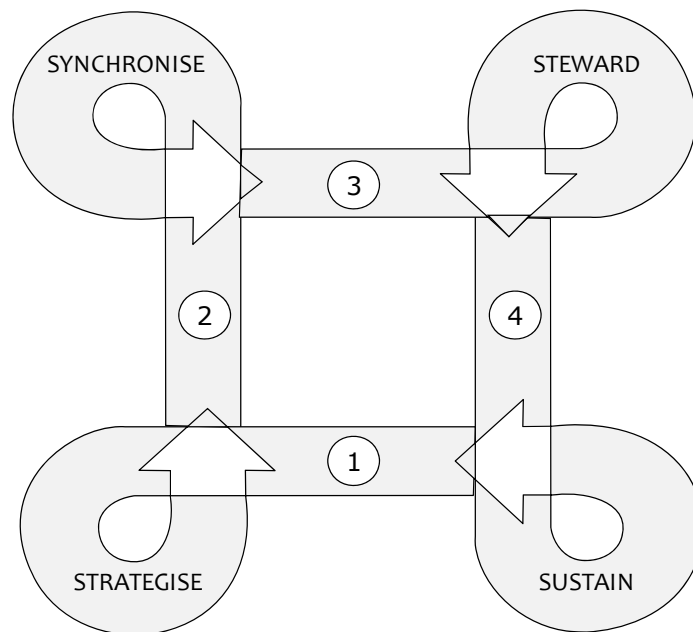
Table 6.2: Managerial processes (and sub-processes) in Infrastructure

ONTARIO POWER GENERATION INC.		ENBRIDGE GAS DISTRIBUTION INC.		TORONTO HYDRO CORPORATION		DIRECT ENERGY MARKETING LIMITED	
Processes	Sub-processes	Processes	Sub-processes	Processes	Sub-processes	Processes	Sub-processes
Direct	Manage accounting	Plan and research	Manage accounting and control data	Plan	Manage capital programme	Develop fact-based	Manage capital projects
	Provide decision support		Provide decision support	Prioritise	Manage accounting and control data		Manage in-house credit
Engage	Manage Human Resources (HRs)	Asses and recommend	Manage Human Resources (HRs)		Deploy resources		Provide decision support
	Manage Information Technology (IT)		Manage Information Technology (IT)	Manage Human Resources (HRs)		Evaluate issues and alternatives	Manage Human Resources (HRs)
	Perform joint venture accounting (JVA)		Plan and manage business				Manage Information Technology (IT)
	Methodise	Plan and manage business	Make decision	Manage programme	Execute	Plan and manage business	Review
Manage projects		Manage capital and risk		Control	Manage capital and risk	Manage capital and risk	
Manage capital and risk		Approve	Manage support services	Monitor	Manage support services	Manage payable and receivables	
Orchestrate	Perform production and revenue accounting (PRA)					Approve	Manage support services
	Manage support services						

Sources: In-depth interviews, web-based survey, internal archival documentaries, and public records from the four case researched companies.

Taken collectively, I further re-cluster the constituent workflows of the companies' innovative managerial processes into a unified model of how ingenious managers at every level actually do what they innovatively do better. Each emergent function complements and affects the performance of others. As illustrated in Figure 6.1, the "Cloverleaf 4S Model" presents a practical lens to guide companies' management practices in becoming the IMMI-driven organisation. It is a powerful tool for understanding and integrating the four critical components of new managership.

Figure 6.1: The Cloverleaf 4S Model



Source: Author

Essentially there are four innovative managerial processes that encapsulate the collective IMMI performance at case companies (Table 6.3 overleaf). First, a company or business unit strategises the effective mobilisation of resources (assets, knowledge and capabilities) in support of the achievement of sustainable value creation in shareholder, societal and regulatory. The strategy sets in motion the sub-processes of the "operations" (acquire energy and perform appraisal, perform contract management, and manage business performance) as well as the "infrastructure" (plan and manage business, manage accounting and financial decision support, and manage investments). Secondly, it translates the strategy into a synchronising process where the alignment of web of networked ecosystems is imperative in both the "operations" and "infrastructure." The managerial processes of operations comprise managing energy production, managing plant, equipment and facilities, and managing distribution and logistics). The infrastructure's managerial processes are inclusive of managing portfolio, programme, projects, providing decision support and procuring

materials and services). Thirdly, it materialises a stewarding plan to provide on-the-job engaging-and-coaching to manage the "operations" (manage customer relationships, provide customer support, and manage IPs) and "infrastructure" (manage payables and receivables, manage HR, and manage IT). This requires collaborative efforts in building MI capabilities and confidence to drive the change in energy conservation and demand management, health and safety risks. Finally, it purports the ownership requirement to sustain the collaborative efforts for co-creating and co-evolving performance management inside and outside the corporate walls respectively, for the "operations" and "infrastructure." While the "operations" includes managing investor relations, managing sales, and managing marketing and consumer promotions, the managerial processes of infrastructure include managing collaboration, managing capital and risk, and managing regulatory and legislative compliance.

Table 6.3: The innovative 4S managerial processes

PROCESS	FROM LEGACY:	PLAN ↓	ORGANISE ↓	LEAD ↓	CONTROL ↓
	TO EMERGENT:	STRATEGISE	SYNCHRONISE	STEWARD	SUSTAIN
SUB-PROCESSES	OPERATIONS	Acquire energy and Perform appraisal	Manage energy production	Manage customer relationships	Manage investor relations (IRs)
		Perform contract management	Manage plant, equipment and facilities	Provide customer support	Manage sales
		Manage business performance	Manage distribution and logistics	Manage Intellectual Property (IP)	Manage marketing and consumer promotions
	INFRASTRUCTURE	Plan and manage business	Manage portfolio, programme, projects	Manage payables and receivables	Manage collaboration
		Manage accounting and financial decision support	Provide decision support	Manage human resources (HRs)	Manage capital and risk
		Manage investments	Procure materials and services	Manage Information Technology (IT)	Manage regulatory and legislative compliance

Source: Author

In today's creative economy, employees are ubiquitously innovative. Through the utility of self-managing teams, employees could manage their own work by leveraging complex adaptive systems. Case companies are also surprised by overwhelming changes in the external environment. The greatest tumult has been impacted by the rapid advancement of digital and collaborative technologies. These are vital enablers of digital infrastructure, of instantaneous communication, of dynamic collaboration, of co-creation, of co-evolution, and of access to mounting data of customer analytics. While managership moves away from a "command-and-control" of industrial age to a more "coordination-and-cultivation" of knowledge economy, shareholder value creation remain suffered because top management (i.e.: c-suite executives) makes decisions in a vacuum without broad input from mid-level management to front-level employees. This is consistent with organisational rigidity of unidirectional, top-down pyramidal model. On the other hand, today's management embeds and embraces a "engaging-and-coaching" paradigm. In this context, all employees' knowledge and creativity count, regardless of their individual deliverables and managerial roles. Every team co-creates, dynamically shares knowledge, participates in lateral decision-making and managerially co-evolves across organisational boundary. The idea democratisation flows in multi-directional rather than cascading from senior leadership down through multiple levels of managership to front-line employees. As a result, the traditional managerial processes such as plan, organise, lead, and control (POLC), has not kept up with the paradigm shift in management and turned out to be either a collective activity of all employees or the ones that are delegated. Therefore managership must be adaptive and function agilely to meet evolving business requirements rather than cling to antiquated preconceptions. This rate of change has precipitated the rapid emergence of an expanded roles of managership.

The emergent "Cloverleaf 4S" framework of strategising, synchronising, stewarding, and sustaining are inextricably connected and complementary. Without sustaining, strategy and visions may remain empty thoughts that never get materialised. Sustaining the MI-driven performance without a clear sense of the extant regulatory or technological situations and where the company is headed, can lead to edge-of-chaos. These new managerial processes may possibly generate creative tensions that must be innovatively managed. Hitherto it is evidently embedded in case participating companies that effectively managing them is the quintessence of new managership. While individuals need to exercise all four functions they must also collaborate with others (outside corporate walls) who complement their skill portfolio. In this way managership can be shared among many. Where one might be strategising for the future, another is collaborating and/or co-creating with others to invent more effective ways of managing what they deliver at best. Hence managership may innately be collective and individual.

6.2.1.1 *Strategising versus Planning*

Planning is one of legacy managerial processes. It increasingly becomes ineffective partly due to its staticness that focuses on predictions (in preference to experimentation, proliferation, standardisation and acceleration) and inability to foresight in complex environments at the edge-of-chaos. Planning also relies on highly prescriptive data collection process as opposed to recognition logics of resource mobilisation, democratically experimented by the whole, not top-down. Main rationales include:

- Fixed time horizon of planning, which becomes less relevant or outdated (prior to its implementation) during or by end of the annual planning cycle.
- Transitions from the economies of industrial age (production worker) to knowledge-based (knowledge worker) to creative-based (creative worker).
- Twin assumptions of (1) stable, steady and slow environments (Volberda, 1997; Chakravarthy, 1997); and (2) the company can, to an extent, control its environment (Cravens, 1991; White, 1998).
- The convergence of IT/web-enabled management principles and practices.

As a result, planning is evolving and being supplanted by "strategising" to meet these evolutionary conditions. Strategising envisages strategic roadmap of what the future is and is comprised of a visioning (a roadmap of future state), strategic visualisation, a flexible yet disciplined, coalescing vertical (top down; middle-up-down; bottom-up) and horizontal (lateral) models of resource mobilisation involving empowered employees, harmonising between configured structure and speed of adaptation, and instigating adaptive adjustment as opposed to reacting to external forces. Visualisation is essential as it prototypes novel practices or ideas to become experientially concretised. Visioning is also important because it provides the motivation for people to give up their current views and ways of working in order to change. In the case of Toronto Hydro, strategising is executed by involving more actors in visioning and facilitating sub-processes, delegating to those closest to the customers (for co-creation as in the case of the Smart Meter application on smartphone) and co-evolution using smaller, independent cross-functional teams outside the corporate walls. Strategising has manifestly become a trial-and-error mechanism, sprouting through the innovation of what sustains dynamic MI capabilities. As a result strategising cycles tend to be shorter and more fleeting. Rapid responses are required to fuel actionable tactics, which inherently dictate adaptive strategy. This is in line with what Stacey (1992) advocates that strategising must always be an unstructured self-governing mechanism where practicing managers unofficially conversing premeditated challenges and solutions. Few

key roles are performance administrator, value creation manager, advanced analytics and data integrator, resource mobiliser or capital optimiser, business facilitator, operational administrator, entrepreneur or intraprenuer, and tactical architect.

6.2.1.2 *Synchronising versus Organising*

Organising traditionally involves designating tasks and responsibilities to employees with the specific skill sets needed to complete the tasks. Organising also involves developing hierarchical chain of command within the company. The vast majority of Industrial companies were formal hierarchies and bureaucracies that consigned particular tasks and activities to staff.

The focus on roles put all authoritative power in the hands of managers, who preside over employees by the POLC (plan, organise, lead and control). This was inevitably what made the current management a pyramidal top-down, restricting function. However the transition from knowledge-age to creative managership accelerates an upgraded function and vastly expanded roles of management. Some of the key reinforcements include the diminishing of rigid hierarchy, enterprise managers now become proficient in self-management, management works by synchronising execution and visual thinking (the groundwork for being creative), nurturing, developmental and effectively empowering to others. Synchronising, on the other hand, is the management function that follows right after strategising. It entails formulating processes, sub-processes, activities, and tasks required to achieve intended strategy. It also engages in executing the relationship architecture needed to attain business vision of the future. In our networked age of today's creative economy, effective synchronising includes (1) preserving focus on augmenting the collaboration of highly-specialised teams and within internal market of the enterprise; (2) tailoring energy products and energy-related services through effective co-creation with consumers (and in some cases, prosumers); and (3) cooperating and co-evolving with others beyond corporate walls in innovative ways of accomplishing work.

An expanded roles of manager as synchroniser include performance catalyst, fiduciary overseer, stakeholder principal, competence building or management leader, business and management developer, innovator and agent for change, results shaper and converter. The CEO as a performance catalyst is a great example. As in the case of Toronto Hydro (TH), Anthony Haines is not typically the direct drivers of opportunity. Rather, he helped facilitate and induce evaluative provisions within TH organisation that sanction MI-driven opportunities (i.e.: Smart Meters deployment or the scalable rollouts of Extended Enterprise Architecture) to be consistently pursued. As such, he is considered as instituting the cultural values of the "entrepreneurial mindset."

6.2.1.3 *Stewarding versus Leading*

Modern managers have been coached for years to operate in conditions of high certainty, whereas today they must overcome complexity resulted from increased turbulence in an age of uncertainty. The conventional authoritarian, leading-oriented managership, when applied in today's age of uncertainty, can bring about destabilisation of management relationships and unintended behavioural outcomes. To be successful, managers need to attain a better balance of influence (as opposed to authority and power) and evolve their distinctive MI capabilities that allow them to create economic value. Further due to the prevalent shifts from the industrial-based economy (centered around command-and-control), knowledge economy (fostered coordination-and-cultivation) to today's creative economy (embracing an engaging-and-coaching paradigm), managership is no longer about dealing with who executes the plans (strategy, operations, and tactical) and how they are led. Instead, managers at the creative economy steward resources (assets, skills and capabilities) to enable collaboration across boundary networks, co-create products with consumers and prosumers, co-evolve the strategic circumstance with competitors, and provide stewardship in instilling a combination of innovative managership and responsible leadership. It is the managerial aptitude to establish collaboration and coalesce with others for accelerative transformation throughout the extended enterprises. Explicit in this emerging managerial process, managers are empowered to steward the collective efforts of strategically driven investment decision-making processes and long-term capital plans. The stewarding governance is hence built on cross-unit performance targets and measurements. On one hand, they are responsible for providing coordination between tactical/operations management and strategic management, and processes for better hands off between the operational teams and executive management. On the other hand, these managers serve as key strategic reserves, pooling necessary contingencies and spending authority levels into resource mobilisation decisions by leveraging the web-enabled collaborative technologies and MI tools for process automation and capitalising on the time, human capital, cost efficiency, scope, procurement, communication, risk, high quality and prolific project/portfolio management. In addition, the stewarding managers are capable to develop dynamic planning, budget integration and resources balancing/forecasting by constantly communicating and facilitating well-planned cultural change. Emerging roles include performance governor, administrator, policy authoriser, process compliance regulator, corporate policy enforcer, enterprise risk manager, business recorder and reporter, and stakeholder manager.

6.2.1.4 *Sustaining versus Controlling*

In controlling, when managers lack of confidence in their managerial roles routinely search for sheer conformity to task management from their direct reports. However,

what they find out is that conformity differs from commitment. The dilemma is when these subordinates cannot be committed, they then do not take the initiative. And henceforth manager cannot effectively delegate. Thus, the managerial challenge has always been to cultivate a greater wisdom of shared commitment to shared values, as opposed to one of sightless adherence to what typical managers conventionally dictates. Sustaining, on the other hand, is bi-directional in its utilisation. Firstly, sustaining direction is a managership role that maps the future and prepares the organisation for change. Secondly, sustaining accountability is needed when requiring the managerial ability to guide present and near-future activities. Sustaining has two basic purposes: (1) it facilitates shared commitment throughout the enterprise; and (2) it helps in strategising. The followings are some of the main characteristics of sustaining function of management:

- *Sustaining is a omnipresent.* It is executed by managers at all levels.
- *Sustaining is an end function.* A function which comes once the managerial performances are progressed in conformities with the adaptive strategy.
- *Sustaining is closely related with strategising.* They are two inseparable functions of innovative managership. Without strategising, sustaining is a futile process and without sustaining, strategising is ineffective. Strategising presupposes sustaining and sustaining thrives strategising.

Key examples of emerging roles of sustainer include sustainability inspector, fiduciary overseer, stakeholder ambassador, management and business assessor, business validator, risk mitigation assessor and accounting/financial auditor.

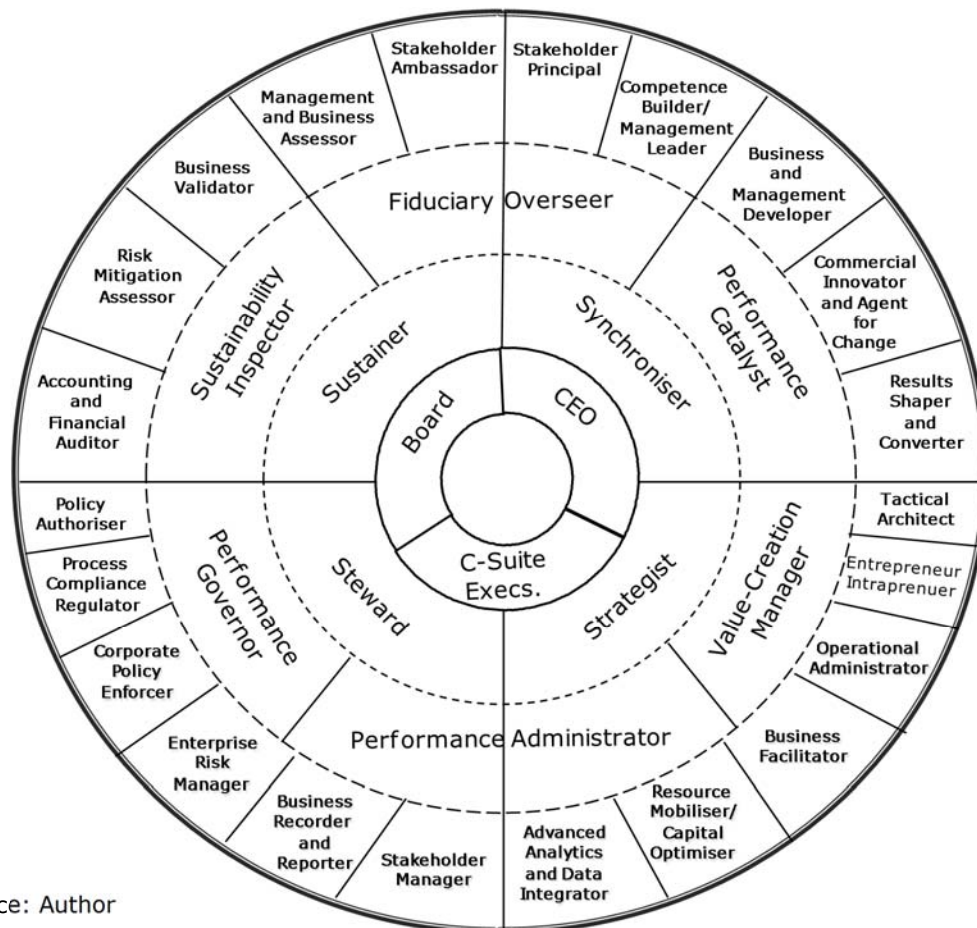
6.2.2 Redefined Roles of Managers

Corresponding to the emergence of new expanded managerial processes elucidated earlier, a transition toward high-performance work teams from silos to swarming, a meritocracy (Hamel, 2010), a shift from the shareholder capitalism to customer capitalism (Martin, 2010), an increased focus on corporate governance, shift in accountabilities driven by more stringent regulatory changes, results in dramatic changes to the manager's role. Similarly as organisations continue to flatten, the traditional role of the manager has undergone a dramatic redefinition. Previously expected to simply execute tasks, plans, organises, coordinating decisions and policies made by top executives, operational managers are now asked to participate in the strategising process as well. That means they must concurrently understand the direction of the organisation, foreseeing potential problems and challenges that are on the horizon while also offering solutions and strategies for dealing with an uncertain

future. Re-conceptualising from the management competencies wheel, the Figure 6.2 represents a constellation of redefined roles of today's manager as related to a new "creative economy" functional model. This may be universally understood by both internal and external constituencies as a critical prerequisite through the IMMI. Appendix 12 (p.267) further presents an exhaustive definition of newly expanded roles of managership.

- *Manager as a Strategist.* Perusing facts to envision strategic frame of reference.
- *Manager as a Synchroniser.* Catalysing the effective performance through diffusion of shareholder value attitude, dynamic collaboration and MI.
- *Manager as a Steward.* Governing the process compliance over the organisation's resources (assets, skills and knowledge), ensuring it meets its compliance obligations and exceeds stakeholders' expectations.
- *Manager as a Sustainer.* Balancing the organisational performance through fiscal prudence and optimal service levels.

Figure 6.2: Wheel of redefined management roles

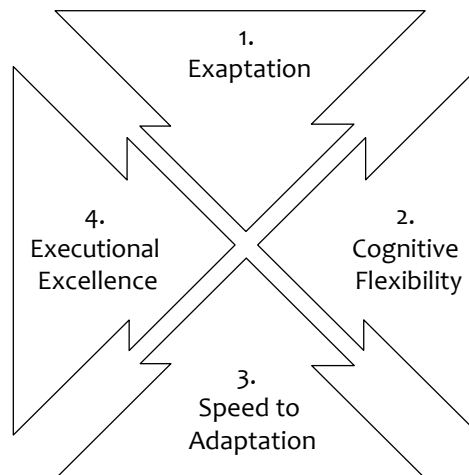


Source: Author

6.2.3 Indigenous Aspects of the IMMI

The multi-case studies suggest that the operating environment of structural circumstance is a decisive determinant for the outcomes of IMMI. This is particularly the case when an MI-driven decision necessitates both substantial executives' commitments and in parallel, high levels of uncertainty for the organisation. Underlying this assertion is that the case companies face challenges regarding all aspects of the IMMI. Due to their larger corporate size and operational maturity, these companies tend to have more layers of hierarchy and more formal communication channels than smaller ones. Hence it is more likely that the MI experimentation gets distorted or at worst, never reaches the right decision maker. Furthermore, at these monolithic case companies, it is more complex to incorporate all stakeholders who are engaged in the IMMI decision making (MI strategy building and experimentation) development, merely due to multiplicity. Four main aspects of this context are particularly relevant (Figure 6.3).

Figure 6.3: Aspects of the IMMI



Source: Author

6.2.3.1 *Exaptation (from connecting people to controlling devices)*

The theory of exaptation⁴ (in management innovation) refers to the appropriation of a structure, function or feature developed originally for a divergent utilisation. From cell phones, we have seen how it evolved in solving the disconnect between phones and the

⁴Exaptation may be conceptually defined as the co-optation of a feature for its present role from some other origin-has been borrowed from evolutionary biology (Gould and Vrba, 1982) to explain creative re-use phenomena in technology, markets (Mokyr, 1998; Dew et al., 2004) and artefact production (Villani et al., 2007).

walking-around life. Accordingly, mobile applications also solved the gap between computers and cell phones. Smartphone is currently making rapid headway in Canada, making these multi-faceted devices mainstream.⁵

The rise of smartphone-controlled innovations signifies a direction toward complete or near automation, especially when these multi-faced devices evolve from connecting people to a controlling device. They serve as an emerging platform to steer the interactivity of MI-driven behaviour and hardware. This will be made even more intelligent through the leverage of smartphone-based applications, as opposed to merely the technological breakthrough of chipsets, that directly increment the value of utility, as exemplified by Powercents application (Figure 6.4) below.

Figure 6.4: Powercents' application



Source: powercents.ca

At present Toronto Hydro (TH) has completed 100% target of its deployment of Smart Meters and grids in the city of Toronto. As part of the company's strategic plans, TH creates an opportunity for the company's managers to directly connect with end-users (consumers and prosumers) as dynamic collaborators instead of submissive ratepayers as per the Ontario power industry's rate of regulations. The anticipation may point out

⁵As of Mar-2012, Ontario has a penetration rate of 48%. Canada nation-wide is 47% (StatCan, 2012).

to various energy-related services that soon emerge, including exchanges of retail energy products and services and bundled or tailored services. In concert, these progress also yields unparalleled volume of customer intelligence, economies of speed and complex adaptive system. For TH managers in managing and using this information, they must continually innovate their managerial processes to gain analytical insight. For instance, designing effective demand response programme requires that TH managers execute advanced predictive analytics across a combination of data about customers, consumption, physical grid dynamic behaviour, generation capacity, energy commodity markets and weather. Given this evolving environment, energy and utilities companies are now attentive on the power of IMMI, advanced business intelligence and sophisticated customer analytics on big data to prop up MI-driven strategising, synchronising, stewarding, and sustaining processes. These alignment endeavours need an assimilative perspective of consumer data throughout autonomous groups and functional divisions. Ingenious managers and/or creative leaders that harmonise and peruse the big customer data may tap into strategically-relevance, insightful intelligences, permitting them to proceed with practical undertaking as opposed to merely responding to intermittent occasions right after occurrence. The outcomes are inclusive of improved productivity, diminished environmental/carbon footprints, enhanced health and safety, augmented relations on legislative and regulatory affairs, and superior contentment of end-users.

6.2.3.2 Cognitive Flexibility

According to Spiro and Jehng (1990: p.165) "*[...] cognitive flexibility (is) the ability to spontaneously restructure one's knowledge, in many ways, in adaptive response to radically changing situational demands...This is a function of both the way knowledge is represented (e.g., along multiple rather than single conceptual dimensions) and the processes that operate on those mental representations (e.g., processes of schema assembly rather than intact schema retrieval).*" The construct of cognitive flexibility lie basically on transfer of knowledge acquired at initial stages of MI learning to more advanced ones and that is why it purports that, for this to occur, information should be presented from multiple intellectual viewpoints that originate from best practices that act as diverse instantiations of knowledge in context. It is strategically apt in the strategic circumstances of senior leaders mainly due to the fact that it encapsulates the degree of MI to which c-suite executives and senior managers collectively interpret their environmental setting and how they stage prolific experimentation of MI that contains novel and conflicting elements.

In practising the IMMI, senior leaders strive for high levels of cognitive flexibility during the experimentation, proliferation, standardisation and acceleration of management innovation. This is characterised by perusing the alternatives, reflecting,

visioning, and changing of opinions between senior leaders through two mechanisms. The first is when cognitive flexibility remains high, the managerial intricacies of the cause-and-effect correlations intrinsic in the MI strategy building process can be better comprehended. Since MI-driven strategic decision processes are typically characterised by novelty, complexity, and open-endedness, high cognitive flexibility allows the senior leaders to make accurate observation of the MI-enabled insights attained from the operational setting. Secondly, the cognitive flexibility will augment the creativities with which novel information is interpreted and the alternatives that are generated, which can provoke cognitive shifts in interpretation that smooth the progress of adaptive change in managerial processes. The senior leaders can achieve cognitive flexibility throughout the exchange and sharing of customer intelligences by explicitly asking for them, presenting both solicited and unsolicited information, and critically perusing the insights. New and innovative management practices are aptly derived from senior leaders through formalised organisational systems. This condition could lessen senior leaders' discernment that it may require to seek insights from mid-level managers only due to senior leaders palpably presumed that they possessed the requisite insights although the reality seemed to be otherwise. Seen in this rationale, mid-level managers could be hesitant to exchange insights and connect in an influential dialogue when they are uneasy of adverse outcomes for their management roles or when they explicitly spot modest or no change for their idea recognition, as evidenced through the case of DE's retail stores.

6.2.3.3 Speed to Adaptation

Adaptation is essential to healthy growth and economic vigor (Klapper, 2013: p.22). In today's hypercompetitive environment, the economies of speed increasingly supplant the economies of scale as a key competitive edge. The pursuit of becoming intelligent and yet nimble organisation requires expeditious strategic agility. Accelerative growth depends equally on how quickly a company can implement strategic initiatives. In most companies, the missing ingredient is how senior leaders consciously include staff in their strategic building of IMMI and mobilise human capital to execute rapidly. As discussed, the construct of IMMI provides senior leaders in four case companies with the speed of integrated and aligned execution they need to optimise both shareholder and societal values. It is crucial for them to have strategic focus and agility so that managers can aptly adapt expeditiously and identify energy industry trends and evolving regulatory requirements so they can steward and sustain MI efforts and resources more effectively.

The intelligent organisations are those that are agile and thus deal best with incessant uncertainty. To rationalise this, take the instance of traditional incumbent utility company like Toronto Hydro (TH). Strategic, structural and operational changes

combined with external environment (waves of utility consolidation in the province of Ontario, Canada) create a high level of uncertainty in their environment. Most utility companies have not started examining alternative business model to prepare for eventualities such as the standardisation of Smart Grid (Appendix 13: p.268) and Smart Meters into the commercial and industry customers. Thus as uncertainty increases in the business environment, smarter organisations are continuously enhancing their MI capability to sense rapidly, predict and build modular environments can be dynamically configured.

Of equally congruent at OPG, its new strategic initiative that synergised the amalgamation of middle management efforts of three independently autonomous nuclear power plants (with nine functional departments providing this critical service to three nuclear plants located at Pickering A, Pickering B and Darlington) to OPG headquarter for a training of the new innovative, centralised contractor management office, succeeded because of, not despite, c-suite executive level involvement. This initiative alone saves the company's operational run-rate of more than \$20 million per year. Most OPG senior leaders are committed to accelerate their IMMI adoption by diffusing innovative processes and/or deploying enabling technologies. However, improved organisational processes and legacy IT systems may not optimally eliminate the systemic impediments. Evidently senior leaders at case companies should consider more about unleashing and optimising four critical mindsets: (1) Revealed MI strategy to support the innovation objectives; (2) Leveraging of web-enabled technologies and innovation management tools to accelerate MI; (3) Pervasive collaboration, co-creation, and co-evolution; and (4) IMMI acclimatisation.

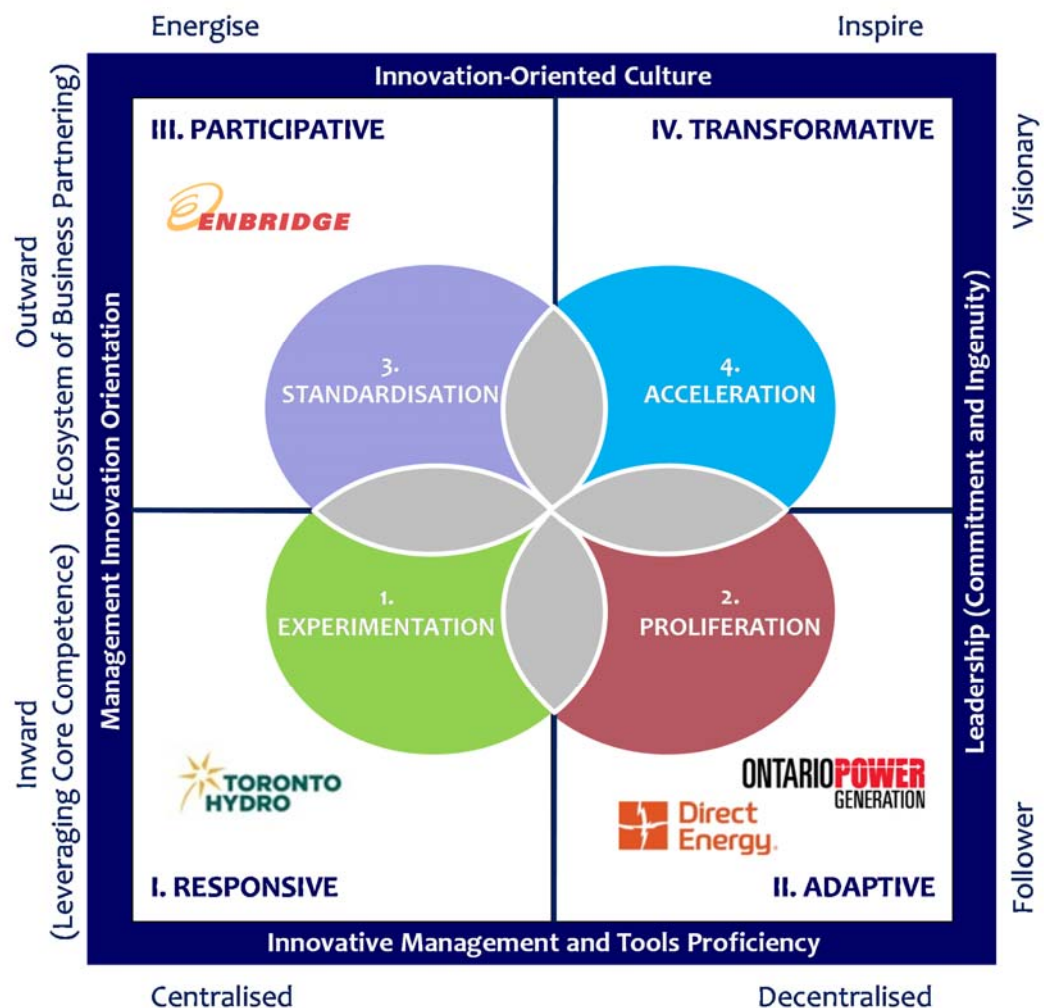
6.2.3.4 Executional Excellence

As the engine of operational excellence, executional excellence emerges as one of priority aspects by senior leaders, who understand that putting their company's MI strategy into executable action can differentiate their business from competing rivals and create a sustainable competitive advantage. Being excellent in execution requires a focus on distinctive MI capabilities to strategise and promulgate high standards, steward decision-making, synchronise delivery mechanism, and to sustain the performance of human capital. Delivering all these innovative managerial processes requires a unification of cross-functional management disciplines, as exemplified by case companies. If agility enables hasty modifications to effect change, and accelerated MI allows an organisation to stay ahead of the competition and market dynamics, then executional excellence is the quintessence of fiscal discipline, optimising the effective utility of resources (assets, knowledge and capabilities) and the assurance of revenue sustainability and, ultimately, profitability.

6.2.4 Pathway to the IMMI

In the pursuit of growth-oriented and high performance enterprise, case organisations are pressurised to be operationally agile and cost-efficient. They have been excelling in part because they execute innovative managerial processes prolifically better than their peers. Perpetuating operational and competitive advantages have been critically difficult to accomplish in the creative economy. Incessant reinvention of managerial processes that are value-creative to end-users, the enterprise and stakeholders. Of equally significant given today's extent and pace of structural change, the year-to-year viability of a company increasingly depends on its innovative managerial ability to accelerate management innovation (MI). Eager to accomplish a much higher return, management then lurch toward a new MI-driven strategy aimed at taking a more formal, systemic and rigorous approach to speeding up the cycle of MI. The following Figure 6.5 presents the watershed IMMI framework that addresses how distinctive MI capabilities are being explored and exploited to the advancement of MI.

Figure 6.5: The IMMI Framework



Source: Author

As depicted in the Figure 6.5 above, the IMMI Framework provides a conceptual device for governing the acceleration of MI. At the outside, it serves as an integrated pathway to show how case companies are being perceptually mapped with respect to their IMMI. While relentless focus is necessary, no organisation should limit itself to just one quadrant. It is thus imperative to execute a pervasive MI portfolio that focuses on competence-based areas, but also practises other quadrants of the matrix and synergises between varied innovation tools and approaches that are available to the hosting organisation. The IMMI is, above all, about recombination of adaptive managerial resources and distinctive MI capabilities. The outer has four quadrants:

I. Quadrant I: RESPONSIVE

Exploring the company's centralised MI capabilities and tools to episodically respond in facilitating managerial improvement using innovative managerial processes and enabling ICTs (information communication and technologies). A range of IT-based techniques and systems can assist in building up core infrastructures that protract the MI effort. Toronto Hydro exemplifies this quadrant.

II. Quadrant II: ADAPTIVE

Exploiting the company's decentralised MI capabilities and tools to continually adapt in facilitating managerial improvement using innovative managerial processes and enabling ICTs. The emergence concept of web-as-participation-platform captures, facilitates and aids partnership and cooperation. These extend over the whole ecosystems, from internal managerial functions and departments to external third party vendors/partners. Direct Energy and Ontario Power Generation are prime examples.

III. Quadrant III: PARTICIPATIVE

Energising the company's business partners to participate in its management innovation efforts in structural, processual and cross-boundary networks using innovative managerial processes and enabling ICTs. Co-evolution with external partners is becoming essential to deploy an increasingly sophisticated set of MI-driven solutions that would not be individually possible. Enbridge Gas Distribution fits into this quadrant.

IV. Quadrant IV: TRANSFORMATIVE

Inspiring the company's business partners to transform its management innovation efforts in structural, processual and cross-boundary networks using innovative managerial processes and enabling ICTs. Advanced levels of collaboration inside and outside of multiple ecosystems are currently

feasible with the advent of sophisticated collaboration tools. None of the case companies within the Canadian energy and utilities organisations are in this quadrant but are strategically building their IMMI capabilities.

In every case companies discussed in chapter four, further erosion of operating margins, reduced return on grid investment and the dwindling of traditional sources of growth have increased the premium on the emerging ICTs (information communication and technologies) and new inventive management practices. Also shown in Figure 6.5, while the inner circles contain the four categories of MI capabilities, the centred crossovers represent intellectual progressions of case companies to accelerate MIs and thus improve their odds of commercial successes:

1. EXPERIMENTATION

Responding by leveraging the company's core competency and centralised innovative management tools to energise MI capability within the organisation.

2. PROLIFERATION

Adapting by leveraging the company's core competency and decentralised innovative management tools to inspire MI capability within the organisation.

3. STANDARDISATION

Participating by co-evolution of cross-boundary partnering and centralised innovative management tools to energise MI capability within the ecosystems of business networks.

4. ACCELERATION

Transforming by co-evolution of boundary-crossing business partnering and decentralised innovative management tools to inspire pervasive MI capability within the ecosystems of business networks.

6.3 Contributions to the Knowledge

A research objective of the Doctor of Business Administration (DBA) study is to apply theoretical knowledge to the advancement of management practice (or to influence and solve contemporaneous issues in managership and/or leadership). The presentation of my DBA thesis herein is to inform business practitioners, management innovators and academic scholars on a complex management phenomenon regarding

innovative managerial processes which may be pivotal to the acceleration of MI. The research undertaking offers knowledge contributions to practice, method and theory.

6.3.1 Practical Contributions

The findings of this research contribute to the practical discourse on managership at four case companies, not only have management innovation as part of their strategic imperatives, but also mobilise time, motivation and resources for energising a culture of innovation within their enterprises. Not surprisingly the c-suite executives and senior managers of the case companies capitalise the IMMI to accelerate MI. For example, Ontario Power Generation and Toronto Hydro encourage middle-to-front-line managers and field services team members to use up 10% of weekly working hours on strictly innovative-related projects that would benefit the enterprise and provides 10% budgetary support for new management practices. Direct Energy supports their innovation efforts by not only creating an entire division (via decentralised Centre of Excellence) devoted to MI, but also new managership/ leadership positions dedicated to championing innovation at all levels within the organisation. Enbridge Gas Distribution also focuses on "collaborative innovation" and "co-evolving with ecosystem of external networks" to impart management innovation and training to its staff and managers. In that connection, the common thread amongst these participating case companies is that all are investing in in-house talent cultivation, innovative managerial processes, and managership (and leadership) training to embrace MI and diffusing the next management principles and practices that fit within their own dominant culture. Extending these logics, I hope my research findings will have impact on three sets of readers.

1. Future scholars studying the innovative management of management innovation process can benefit from the sets of generative (and yet innovative) managerial processes presented in this thesis and can use the model for future inquiry. Managerial efforts to investigate and identify the collaborative MI interactions should provide opportunistic synergy for understanding the IMMI content when market-induced or IT-driven MI initiatives remain highly uncertain and ambiguous. OPG is a useful example of how the company's managers employed the IMMI processes to drive MI experimentation (e.g.: nuclear contractor management practice) that are not directly apparent.
2. Scholars who have not considered the implications of IMMI process. The emergent findings from this research study were expected to yield insight into the "black-box" of MI strategy implementation. In four case studies, understanding and recognising the multi-level nature of MI has important implications for other research traditions. Of importance, because MI decision-

making occurs at multiple levels, the IMMI framework should include the new integrative roles of mid-level managership and the expanding new roles of practising managers in their analysis of competitive advantage.

3. Practising managers trying to direct MI experimentation in their enterprise. The extant MI experimentations represent a sequential progression of resource commitments that have been rationalised by individual managers at multi-level functional units, spanning over multiple years. Realising the new innovative managerial processes, ingenious managers can accordingly apply these insights to optimise their IMMI, a more salient source of managerial direction in their enterprise. Ultimately understanding how the IMMI process exerts and how to well-manage its strategic direction should, not only at the core of case organisation's adaptive strategy, but also a strategic fundamental to the managership (and leadership) of intelligent enterprise.

6.3.2 Methodological Contributions

While the research methodologies employed in this study were ordinary, they were coalesced in pragmatic ways that had not been formerly performed. Cross-comparative analysis began with the classification of components of survey and interview transcripts from the topical themes of research strategy. The technique of synthesising the transcribed transcripts of web-based survey and in-depth interview from executives and senior managers (as well as iterative verification and triangulation with archival documentaries and public record information), into statements of pertinent gist and shaping managerial concepts of the IMMI. Unlike previous studies of the former stream analysed the antecedent and consequences of management innovation (Birkinshaw and Mol, 2006; Birkinshaw, Hamel and Mol, 2005), this research undertaking is grounded in the interpretivism paradigm and utilises the multi-case studies. This perspective allowed me as a doctoral researcher to interpret the research question and its complementing characteristics by incorporating innovative managerial processes, expanded managerial roles and relationships and the pathway to IMMI.

As encapsulated in Appendix 14 (p.269), multi-case study is considered to be one way of doing empirical social research, an investigation of a current observable fact within modern corporation and in an explicit condition where numerous evidentiary sources can be utilised. As disclosed in Chapter three, four main sources of data were employed to construct four corporate case studies: (1) web-based survey (quantitative), semi-structured interview (qualitative), archival documentaries, and public record information. Authors such as Yin (1989), Eisenhardt (1989) and Gummesson (1991) have been advocating for a long time for the building of theories

based on the case study method. Bonoma (1985) believes that case study is particularly applicable when analytical generalisations, not statistics, are wished, which can contribute to a theoretical framework that needs consolidation and/or improvement. The case study allows the systematic description of inimitable experiences among organisations, systems or business networks. Thus it generates value because it enables the monitoring of actual flows (social, of goods, finance, risk, trading, and information) and identifies how the problems are recognised and solved. Moreover the decision about the number of cases (or replication) will depend on the degree of certainty wished on the research results (that is, similarly, a decision similar to the significance of a statistical test) (Yin, 1989). Eisenhardt (1989) suggests the study of four to ten cases as a good number for the theory building. Less than four cases, the theory may be difficult to be generated, while more than ten cases, the data volume is so big that hinders its systematisation.

6.3.3 Theoretical (Conceptual) Contributions

From a theoretical perspective, this study is among the first to substantively apply the competence-based management and complexity theories. Both theories are concerned centrally with the patterns by which companies are constantly improving existing resources to fundamental activities and obtaining new resources for achieving sustainable competitive advantage. The theory of competence-based management, on one hand, is concerned primarily with devising effectual paths to allocate the financially viable values constructed by an organisation to the suppliers of distinctive resources consumed by hosting organisation's in its MI value-creation process. Consistent with the theory, when the prevailing turbulence conditions coupled with high-uncertainty and high managerial dedication, organisations that espouse the innovative management of management innovation should do better than peers who do not, in terms of total shareholder return. Management does acknowledge that mostly the swiftness in which competences are made use of and the investment outlays that are implicated, are critical in realising performance edge. On the other hand, the complexity theory focuses on the significance of high-performing enterprise is what collective individuals managerially perform, as opposed to what c-suite executives design at higher level (Lewin and Phelan, 2000), on how competition reinforces synergistic combination through co-evolution with peers, and pyramidal management will not work in the new creative economy.

In asserting this, it is important to recognise that the challenge for managers in Canadian energy and utilities companies is to mobilise the rich intra-company resources (assets, skills and knowledge) at the right time. With a better vantage point, the core findings from the multi-case studies put forward a more nuanced

conceptualisation of structural inertia may be more apt in describing established organisations' response to MI disruptions in their environment. OPG's response to the transformation of its Finance division cannot be characterised simply as a delayed response to the elimination of redundancy and realisation of economies of scale through "services centralisation and decentralisation controllership." The company then embarked on a management transformation and re-invented an innovative adaptation of their finely-tailored management approach. Senior leaders sanctioned the acceleration of MI once their managers improved enterprise awareness of the economic/financial implications to enhance effective decision-making. This was also supported by rapid standardisation and scalable automation of IT systems across three disparate nuclear power stations.

6.4 Limitations

Like all other research, my investigative research of the IMMI presented in this study, has few limitations and merit discussion. This limitation provides an incomplete exploration and examination of the subject. My findings from this research should be viewed as exploratory in nature and offered as a basis for further research through field-testing. Few limitations emerge as follows. The first is this study is confined to the Canadian Energy and Utilities Industry. The findings of this research may not be reproduced nor correspond to other adjacent Canadian industrial sub-sectors. My sample population is composed of one public company that is wholly-owned by the government of Ontario, a Canadian Crown corporation, and two privately owned subsidiaries of the larger US-publicly traded conglomerates. This analysis has therefore generated exhaustive knowledge about the IMMI practices in four Canadian-based organisations. A concern may be advanced that the revealed research outcomes may be intrinsically explicit to the contextual boundary of Canada. Secondly, this empirical study is conducted within Canada's most populated province of Ontario. The research outcomes may not be applicable to other regions and/or countries, which are attributable to the cultural, operational maturity, and contextual divergences in functional circumstances of managership. These have resulted in intra-organisational variations in the research outcomes. Thirdly, this research was operationalised at multi-companies' organisational units within the Canadian energy and utilities industry. Such a focus facilitated corporate-, industry and Canadian-specific disparities in MI acceleration that might have otherwise concealed considerable effects on the case companies' IMMI. Fourthly, this research used a combination of web-based survey, in-depth interview, public records and archival documentaries for constructing four qualitative case studies. The decision to use survey and interview over other

approaches was due to their complementarities (of exclusive knowledge from distinct perspectives). Finally the cross-sectional nature of my study, although the subsequent findings divulged consistency with theoretical predictions and practical conjectures, may require a Canadian-based longitudinal research that experientially determines the cause-and-effect assertions of my IMMI framework.

6.5 Implications and Research Outlooks

This study has provided pragmatic refinements to the generative managerial processes through which management innovation can be fostered for experimentation and managed for acceleration. Due to my narrow focus, my findings from this study offers opportunistic pathways for further research. Particularly future studies that would suggestively be of value to practitioners, innovators and academics in the domain of innovative management of management innovation. Learning from this research being the first empirical study of its kind, six areas deserve emphases:

- Future research that replicates this study in other regions or adjacent industries (i.e.: oil and petroleum, alternative energy or mining). This could enhance understanding of which and how managerial processes accelerate MI and provide a more complete picture to the phenomenon.
- Since there are no empirical studies of IMMI insofar examining how today's management solutions (emphasising on reciprocal causality, non-linear relationships between managerial behaviour and MI outcomes, lagged effects, and effects for varied groupings of explicit IMMI behaviours) prevail in the challenge of accelerative MI, one might possibly conduct a study along this sphere of influence, which would add value to the study of management innovation.
- Empirical-based research, ideally conducted in a context where non-energy or IT-based companies are pursuing accelerative MI, may be needed to validate the prescriptive view that transpires from this study.
- Scholars might be interested in investigating the specific management mindsets and roles of top-, middle-, and lower-level managership in accelerating the cycle of management innovation.
- It is vital to recognise that distinct management performances are dissimilar to managerial skills, competences or values. These other constructs can be

purposeful for understanding effective managership in accelerating MI, but they hold opposing views in critical junctures from evident IMMI performances. Upon feasibility, future research studies must explore and exploit how distinct types of constructs mutually justify managers' authorities on the autonomy of business units' performances on MI.

- Researcher might also attempt to link the IMMI outcomes to intra-company performance. As the IMMI paradigm matures, our aptitude to examine constituents of the bespoke IMMI process advances. This facilitates the study to progress beyond the empirical exposé of IMMI phenomenon and become more extrapolative.

6.6 Conclusion of Chapter Six: Closing Remark

Deriving from an alliance of theoretical enquiries and four qualitative case studies' findings of this doctoral research, my closing remark concludes that propelling the managership into self-renewal initiatives to keep managers on a sustainable growth path, persistent MI over the past few decades has divulged an acclimatisation of their very nature of innovative management. Four participating case companies were found to have spurred their managerial efforts and adopted innovative management approaches, albeit with varying maturity, significance and outcomes. Of sophisticated managership, these companies have cultivated a shared, distinctive orientation toward the IMMI that pinpoints six catalysts: (1) a strategic intent of retaining organic, minimal hierarchies; (2) a widely shared belief that MI is the competency-based resources (assets, knowledge and capabilities); (3) creative collaboration through autonomous entities with minimal or less centralised governing body; (4) an ecosystem of cross-boundary networks for co-evolution; (5) stronger involvement from employees and senior leaders who are willing to shift power as well as resources laterally to those who make MI-driven decisions; and (6) an adaptively-tailored IMMI that fits the circumstance in which the organisation operates. In many ways, there are herein compelling evidences that the IMMI reiterates greater appreciation of its utility within the innovation management discipline and reinforces strategic relevance for the four companies under-studied. Indeed the IMMI lays the field-derived groundwork of a holistic approach for accelerating the MI as induced by the evolving nature of the company's integrative strategy and asset portfolio. In another respect, mastering the IMMI and its ecology manifestly serves as a true competitive differentiator, underpinning new waves of productivity growth of innovative managership, pervasive MI and cognitive surplus.

Glossary of Terms

Award Schemes – Innovation award schemes are set up to encourage staff innovation efforts through some form of publicised reward. Typically they are either recognition-based (i.e. aimed at recognising individual "good innovation behaviour") or results-based (i.e. aimed at rewarding achievement of business-related outcomes through innovation, often through a team or group rather than an individual) (Eager and Kyte, 2012).

Bureaucracy – An organising principle to warrant command-and-control mechanism.

Capability – Refers to what the firm can do with its resources.

Capacity (management) – The adjustment of human capital (management resources) to create value. It is the power to hold, receive or accommodate that includes skills, resources and accumulated knowledge.

Centralisation – Authoritative focus on the highest hierarchical of managership.

Cognitive Surplus – Explores what is possible when individuals or managers unite to use their intellect, energy, and time for the greater good/value creation (Shirky, 2011).

Collective Intelligence – The cumulative facts and know-how of collaborative teams.

Competence (individual's know-how) – The quality or state of being functionally adequate or having sufficient knowledge, strength and skill.

Consumerisation of Smart Grid – Represents a plethora of communication alternatives that empower consumer (rate payer) to become prosumer (active seller) and enable the telecommunication or technology or utilities companies to cater their relevant products and services.

Core Competency – The combination of aggregated knowledge and capabilities.

Co-create – Reinforces the underway realisation of reciprocal company-and-customer value (For examples: at Apple, an exchange of play list through iTunes).

Co-evolution – An evolutionary transformation of more than two correlated entities where their interactions are reciprocally-influential to each other's successes.

Co-source – Recombinant of services from within and outside a business to achieve the same goal.

Digital Transformation – A broad strategic initiative in which multiple parts of an organisation use new digital technologies (such as social media, mobile, analytics or "smart" devices) to enable improvements such as enhancing the customer experience, streamlining operation, or creating new business models.

Distribution System – It is the interconnected delivery power system that connects end-user's own meter to the province of Ontario's network of power transmission.

Ecology – A set of fundamental relationships forming the bedrock of ingenious managership.

Electricity – A form of energy associated with the movement of electrons and protons.

Empowerment – Augmentation of employees' shared managership and leadership in making sound decision.

Entrepreneurs – An individual who are vigilant of business prospects - to what extent s/he is needed to prolifically mobilise the resources (i.e.: skills, assets and knowledge).

Expert Networks – A wiki-style knowledge database and is using an enterprise social networking solution (in this case Yammer) to maximise connectivity and speed of response (Eager and Kyte, 2012).

Globally Integrated Enterprise – A term coined in 2006 by Sam Palmisano, the then CEO of IBM Corporation. It is used to denote a new corporate entity based on collaborative innovation, integrated production, and outsourcing to specialists is emerging in response to globalisation and web 2.0/3.0 disruptive technologies (sources: IBM, foreignaffairs.com, wikipedia.org, 2013).

Hackathon (Hack in Management Innovation) – Collaborative ways of staging practical, and risk-bounded management experimentation with an intention to alter the pathway manages perform work.

Innovation Bootcamp – An immersive experience in which small teams of managers are tasked with developing and then pitching a new product, service or process idea to a senior management "Dragon's Den2"-style panel (Eager and Kyte, 2012).

Innovation Coaches (Champions) – Engage different parts of the organisation in innovation-orientated activities such as idea management (generating, enriching, connecting), coaching in good innovation practice, implementation of award schemes and exchange of knowledge and insights (Eager and Kyte, 2012).

Innovation Jam – Time-limited, web-based, large-scale cross-sector discussions about specific hot topics, likened to a musical jam session in which the participants react to and spark off each other's contributions (Eager and Kyte, 2012).

Innovation Sandpit – A team-based exercise to develop solutions to problems that brings together participants from across functions and disciplines, including external organisations (Eager and Kyte, 2012).

Ontario Energy Board (OEB) – The province of Ontario's central governing authority or regulator for electricity and natural gas sectors.

Shareholder Value – A conceptual outcome (e.g.: dividends/stock price) derived from the company's pursuit of wealth augmentation of its shares' owners.

Silos – A structural decomposition of functional division and departments.

Swarming – An emergent work principle to perform intricate workflows through collective influence and collaboration with less or no centralised control.

Subordinate (Sub-) Process – Represents work consisting of one or more subtasks.

Target Schemes – Practice of setting corporate, team & individual innovation-related targets and measuring progress against them using metrics (Eager and Kyte, 2012)

Task – Represents an atomic amount of work.

Time-of-Use Pricing (TOU) – It is the application of billable hourly power rates to end-users during the business day and is part of the smart meter's default feature.

Web 2.0 – Focuses on users' collaborations and information sharing of user-generated content such as blogs, wikis, RSS-really simple syndication, social bookmarking (tags), social networking sites, hosted services, and mashups, etc.

Appendices

Appendix 1: Characteristics of management

CHARACTERISTICS	DESCRIPTION
A managerial process	Management or managership is a process. It is not merely a body of individuals. Managers exercise leadership by assuming authority and direct others to act within the organisation.
A social process	Management takes place through people. The importance of human factor in management cannot be ignored. A manager's job is to get the things done with the support and cooperation of subordinates. It is this human element, which gives management its special character.
Action-based	Management is always for achieving certain objectives in terms of sales, profit, etc. It is a result-oriented concept and not merely an abstract philosophy. It gives importance to concrete performance through suitable actions. It is an action-based activity.
A group activity	Management is not an isolated individual activity but it is a collective activity or an activity of a group. It aims at using group efforts for achieving objectives. Managers manage the groups and coordinate the activities of groups functioning in an organisation.
Aided (not supplanted) by ICT	The computer and internet are extremely powerful tools of managership. It helps a manager to widen his vision and mission. The computer and internet supply ocean of web-based information for rapid and more effectively decision-making. They have unbelievable data processing and feedback facilities on a real-time basis. This has enabled the manager to conduct quick perusal towards making correct decisions. Although a computer and internet support manager in his or her managerial deliverable, it cannot however, supplant managers in actual business affairs. They were required in the past, at present and also in future. Their existence is dynamically evolving and absolutely essential in the managerial process.
Pervasive	Management is comprehensive and covers all departments, activities and employees. Managers operate at different levels but their functions are identical. This indicates that management is a universal and all pervasive process.
An art, science as well as a profession	Management is an art because certain skills, essential for good management, are unique to individuals. Management is a science because it has an organised body of knowledge. Management is also a profession because it is based on advanced and cultivated knowledge.
Innovative	Management techniques are dynamic and innovative. They need to be adjusted as per the evolving requirements of the situations. Another manager need not repeat the decisions of one manager. Similarly, a manager has to change his decisions under dissimilar circumstances.
Has different operational levels	Every organisation needs managers for managing business activities. The manager's job is basically the same at all levels. The managers at the higher levels have more important duties while managers at the lower levels have to perform routine functions i.e. duties.
Dynamic	Business is influenced by changes in economic, social, political technological and human capital. Management adjusts itself to the changing atmosphere making rapid foresight and reactionary changes in the direction of corporate policies. Hence management may be treated as a dynamic activity.

Appendix 2: Taxonomy of work, behavioural, change and managerial processes

PROCESSES	DESCRIPTION
Work	<ul style="list-style-type: none"> 'A process is thus a specific ordering of work activities across time and place, with a beginning, an end, and clearly defined inputs and outputs: a structure for action.' T.H. Davenport, <i>Process Innovation</i> (Boston: Harvard Business School Press, 1993), p.5. 'Process. Any activity or group of activities that takes an input, adds value to it, and provides an output to an internal or external customer.' H.J. Harrington, <i>Business Process Improvement</i> (New York: McGraw-Hill, 1991), p.9. 'We view processes as the direction and frequency of work and information flows linking the differentiated roles within and between departments of complex organisation.' J.R. Galbraith and R.K. Kazanjian, <i>Strategy Implementation: Structure, Systems, and Process</i> (St. Paul, MN: West, 1986), p.6.
Behavioural	<ul style="list-style-type: none"> 'The key to understanding what makes an organisation more or less effective is how it does things . . . One must understand various processes—how goals are set, how the means to be used are determined, the forms of communication used among members, their processes of problem solving and decision making, how they run meetings and groups, how superiors and subordinates relate to each other, and ultimately how leaders lead.' E.H. Schein, <i>Process Consultation: Its Role in Organisation Development</i>, 2nd ed. (Reading, MA: Addison-Wesley, 1988), p.15. 'Decision-making is an organisational process. It is shaped as much by the pattern of interaction of managers as it is by the contemplation and cognitive processes of the individual.' L.R. Sayles, <i>Managerial Behaviour</i> (New York: McGraw-Hill, 1964), p.207.
Change	<ul style="list-style-type: none"> 'Process is a way of giving life to data by taking snapshots of action/interaction and linking them to form a sequence or series . . . Process is the analyst's way of accounting for or explaining change.' A. Strauss and J. Corbin, <i>Basics of Qualitative Research</i> (Newbury Park, CA: Sage, 1990), p.144, p.148. 'A good process theory describes, at least in broad outline, plausible time parameters associated with change within and between the phenomena of interest . . . At the centre of all dynamic analysis is the assessment of change over time.' P.R. Monge, 'Theoretical and Analytical Issues in Studying Organisational Processes,' <i>Organisation Science</i>, vol. 1, no. 4, 1990, p.408, p.426.
Managerial	<ul style="list-style-type: none"> 'Whether proposing a change in the executive compensation structure, establishing priorities for a diverse group of business units, consolidating redundant operations, or preparing for plant closings, a senior executive's conscious thoughts are foremost among the processes for accomplishing a change or implementing a decision: 'Who are the key players here, and how can I get their support? Whom should I talk to first? Should I start by getting the production group's input? What kinds of signal will that send to the marketing people? I can't afford to lose their commitment in the upcoming discussions on our market strategy.'" D.J. Isenberg, 'How Senior Managers Think,' <i>Harvard Business Review</i> 62 (November–December 1984), p.82–83. 'Most of the literature of general management has separated the positional aspects [of the chief executive officer's function] from the managerial ones. In positional frameworks, the problem of managing is described in terms of getting the firm from one position to another. . . . In the managerial framework, attention is focused on how goals are developed, on how resources are allocated, and on how the efforts of individuals are coordinated to achieve particular goals and patterns of allocation. Managerial frameworks focus on the process of management more than on the overall direction followed by the company.' J.L. Bower and Y. Doz, 'Strategy Formulation: A Social and Political Process,' in D.H. Schendel and C.H. Hofer, eds., <i>Strategic Management</i> (Boston: Little, Brown, 1979), p.153.

Appendix 3: Rationales for adopting management ideas and practices

VIEW	DESCRIPTION	LIMITATIONS/COUNTER VIEWS
Rational view – organisational effectiveness	Associated with individuals and based on a cognitive approach using models or proven techniques of (rational, economic) decision-making. Also associated with finding a solution to match a perceived problem or crisis, the search for 'proven' techniques and causal links between practice and performance and being able to 'get: beyond the hype.	Management rationality recognised as bounded – or even unobtainable. Difficulties in specifying problem and isolating impact of intervention on performance, Others view rationality as a way of justifying political and emotional decisions and hiding chaos, intuition, etc. – and often applied as post-rationalisation of a decision taken for other reasons, a psychological 'comfort blanket'.
Psychodynamic view – relieving anxiety and securing identity	Associated with emotionally informed views and can be based on an impulsive decision to adopt ideas that may or may not be of benefit to the organisation. A competing psychosocial process that involves both autonomy and belonging so paradoxically, managers want to be seen to be using some new technique both before and at the same time as everyone else. Psychodynamics often used to explain the transience of management ideas.	Highly influential because of its counter view to the rational perspective. However, criticised because it views managers as so under pressure and anxious that they will adopt anything, particularly if others are doing so. This misses out that many managers are active in the production and transformation of ideas.
Dramaturgical view (rhetoric) – successful rhetoric	This view focuses more on the supply side of the relationship, the persuasive influence of management gurus, management consultants, academics, etc. and their presentation techniques. Overall, impression management is vital, not necessarily the content.	Like the limitation to the psychodynamics view, the rhetorical view tends to give the view of managers as passive 'victims of the clever tricks of organisational witchdoctors' (p.161). It also presents a top-down view of the knowledge diffusion process rather than one based on interaction and transformation.
Political view – furthering career, function, status or control	Broadly concerned with 'the instrumental use of ideas to secure power and/or with their content in terms of their material and/or discursive power effects (p.161)–basically 'which ideas and practices are diffused depends in part on who has control of the means of dissemination' and 'ideas flow from the powerful (p162) –leading to the current domination of US and neo-liberal ideas.	Political perspectives tend to generalise the process of adoption - focusing on interests and outcomes rather than context or relevance. It therefore fails to explain adequately why some ideas spread whilst others do not or do so at a different time or in a different sequence.
Cultural view – cultural resonance or meaning	Highlights that the diffusion of ideas can be spread across cultures, for example, through globalisation, M&As/joint ventures. Local knowledge can act as a 'bridge or barrier' to transfer.	In certain contexts, ideas and practices are attractive precisely because they are alien or a challenge to existing arrangements (e.g.: Japanese or North American). However, this 'dominance' effect is often overlooked.
Institutional view – securing organisational legitimacy	This view has become dominant in organisational studies, including much management accounting research, it considers various societal or social influences on organisational practices-their 'institutional embeddedness'. Its premise is that organisational operating in a similar environment will employ similar practices (isomorphism).	Despite its dominance, institutional theory has been criticised, including by critical accounting researchers. Power dynamics are underplayed or taken for granted and it tends to ignore nations or organisational that does not fit the pattern of the region or sector.

Sources: Daniel et al. (2009); Sturdy (2004)

Appendix 4: Evolutionary comparison of the management principles and practices

CATEGORY	LEGACY PRACTICES	CONTEMPORARY (BEST) PRACTICES	EMERGENT (NEXT) PRACTICES
Enabling Forces	Industrial revolution	Information technology and services	Connectedness of consumers
Business Model/Approach	Bureaucratic (a highly formalised, specialised, and centralised structure).	Task Force (an agile, dynamic, and participative, and is effective in performing a well-defined task, such as: adhocracy, infinitely flat organisation, spider's web/network, starburst/satellite, internal market).	Self-organising (a new pattern that includes across-the-system coherence, demonstrating a naturally occurring consensus from competent people spontaneously come together to accomplish some objective without being told to).
Contemporary Economic System	Capitalism (Shareholder Capitalism)	Capitalism (Customer Capitalism)	Mixed Economies (co-existence of free enterprise and government control).
Work Principle	Fragmentation in work roles	Cross-fertilisation by specialists seeing wide relevance	Self-efficacy
Organisation	Hierarchy (efficiency-driven coordination between the increasingly autonomous units).	Better cross-silo interactions such as Heterarchy (relations of interdependence and are characterised by minimal hierarchy and by organisational heterogeneity) (Stark, 1999).	Emergent, adaptive organisational structures such as Wirearchy (a dynamic two-way flow of power and authority, based on knowledge, trust, credibility and a focus on results, enabled by interconnected people and technology) (Husband, 2008).
Business Organisation	Small Businesses (Independent)	Hierarchical in corporations (Centralised)	Ecosystems of networks (Decentralised)
Mode of Managerial Coordination	Command-and-Control	Consensus-driven; Coordinate-and-Cultivate	Engage-and-Coach
Management Model	Top-down (a model conceives of knowledge creation within the confines of the information-processing perspective) (Dalkir,	Bottom-up (a flat and horizontal shape, with hierarchy and division of labour eliminated, the organisation might have only three to four layers of management between the top and the front-line); and	Lateral sideways

	2005)	Middle-up-down (emphasises the dynamic role of the middle manager as the knowledge facilitator (Dalkir, 2005), resource locator (Bower and Gilbert, 2005), and the key driver to continuous Management Innovation) (Nonaka and Takeuchi, 1995).	
Type of Mgr. Processes	Functional	Skills and responsibilities	Competence-based
Authority; Decision-making	Centralised, top-down decision making (based on staff's obedience and compliance)	Diversity, bottom-up, variety	Collective wisdom (for idea democratisation)
Employee Motivation	Pay for attendance	Pay for performance	Pay for result/outcome
Work Commitment	Involuntary	Voluntary	Choice
Operational Excellence	Publishing/ Production	Participative management	Collaborative engagement
Drivers for Change	Crisis	Intrinsic (to how an organisation operates)	Extrinsic and systemic
Corporate Governance	Transactional value (i.e.: accounting profit)	Shareholder value (i.e. economic profit)	Stakeholder value (i.e. triple bottom line in economic, social, and environmental)
Resource Management	Top-down/Pyramidal allocation	Market-based control	Network-based control
Sales/ Marketing Management	Product-centric	Consumer-centric	Value-centric
Employee Assessment	Performance review	360-degree appraisal	Appreciation (i.e. ego boost)
Strategic Planning	Pyramidal structure	Inverted pyramid (decision made at operational level and driven up for ratification to the top)	Horizontal and Bi-directional
Tactical (Resource)	Non-flexible (budgetary-driven)/ project prioritisation (for the dept.	Dynamic or flexible (through a competitive	Scalable

Planning	with the loudest voice)	market of ideas' models)	
Talent Mobilisation	Partitioned and protected within departmental/ business units' silos	De-siloed talent mobilisation	Swarming principle and a collective pools of interconnected networks with shared meaning and common cause
Competency	Position and seniority	Responsibility	A function of fair competence and dynamic capability
Information Flow	Restricted control	Flexible	Dynamic (bi-directional)
Measure of Creativity	Limited (within organisation)	Widely distributed to all employees	Within- and cross-boundary network
Performance/ Value Measure	Accounting-based (ROI, ROA, ROE)	Residual income based on Shareholder Value (Economic Value Added, CFROI, Economic Margin)	Sustainability of Triple Bottom Line (social, economic, and environmental)
Technology Deployment	Large and expensive system	Modular, highly configurable solution via internet (services at web)	Cloud Computing such as web services (e.g.: Platform-as-a-service; Infrastructure-as-a-service; Software-as-a-service).
Compensation	Seniority and Status and gender (based on extrinsic factors such as monetary reward)	Skills and performances	Skills, intelligence, and hard work (based on human motivation).
Motivation for innovation	Stability (based on controllable machines)	Sense of disruptive (or incremental) change	Accelerated affordable innovation (since innovation is now becoming cheaper and faster)
Knowledge Diffusion	Centralised (intranet)	Distributed (intranet and extranet)	Decentralised (intranet and extranet)
Environmental for fostering innovation	Simple	Stable	Complex
Ideologies	Autocratic and Permissive	Directive and Authoritative	Democratic

Sources: Hamel (2006; 2007; 2009), Birkinshaw & Mol (2008), Carter (1999), Author.

Appendix 5: Comparative view of paradigms

CHARACTERISTICS	1. POSITIVISM	2. INTERPRETIVISM	3. CRITICAL
Philosophical/ theoretical origins	Contingency theory; systems theory; population ecology; transaction cost economics of organising; dustbowl empiricism, natural sciences	Hermeneutics, phenomenology, symbolic interactionism	Marxist, feminist, psychoanalytic
Why conduct research?	Natural laws that enable prediction or control of events	To understand social life and describe how people construct social meaning	To uncover myths/hidden truths that account for social relations, and empower people to change society radically
What is the nature of social reality?	Social reality contains stable pre-existing patterns or order that can be discovered	Fluid definitions of situations created by people through their social interactions with others	Social reality is multi-layered; events and relations based on hidden social structures/ forces that evolve in a historical context
What constitutes an explanation/ theory of social reality?	A logical, deductive system of interconnected definitions, axioms and causal laws stated in probabilistic form	A description of how a group's meaning system is generated and sustained; contains detailed contextual information and limited abstraction	A critique that reveals the underlying social structure of conditions and helps people see the way to a better world
Whose voices are privileged?	Researcher(s)	Participant(s)	Stakeholder(s)
Research methods and type(s) of analysis	Experiments; questionnaires; secondary data analysis; quantitatively coded documents Quantitative: regression; Likert scaling; Qualitative: grounded theory testing	Ethnography; participant observation; interviews; conversational analysis; grounded theory development Case studies; conversational and textual analysis; expansion analysis	Field research, historical analysis, dialectical analysis PM: deconstruction, textual analysis
What is the place of ethics in research?	Extrinsic; mechanisms guiding ethical conduct are external to the inquiry process itself	Intrinsic; participant values and personal nature of researcher-researched interactions are integral to the research process	Intrinsic; collaboration among participants and empowerment occur through the research process

Sources: Re-adapted from Neuman (1994), Guba and Lincoln (1994), and Gephart (1999)

Appendix 6: Type of case study research

TYPE	DEFINITION
Exploratory	<p>This type of case study is used to explore those situations in which the intervention being evaluated has no clear, single set of outcomes (Yin, 2003).</p> <p>It is usually conducted during the early stage of decision making when the decision is ambiguous or uncertain about the nature of the problem.</p>
Descriptive	<p>This type of case study is used to describe an intervention or phenomenon and the real-life context in which it occurred (Yin, 2003).</p> <p>It is usually conducted when there is an awareness of the problem but not completely knowledgeable about the situation.</p>
Explanatory (Causal)	<p>This type of case study would be used if you were seeking to answer a question that sought to explain the presumed causal links in real-life interventions that are too complex for the survey or experimental strategies.</p> <p>In evaluation language, the explanations would link programme implementation with programme effects (Yin, 2003). It is conducted to sharply define problems even though uncertainty about future outcomes exist.</p>
Multi-Case	<p>A multi-case study enables the researcher to explore differences within and between cases.</p> <p>The goal is to replicate findings across cases. Because comparisons will be drawn, it is imperative that the cases are chosen carefully so that the researcher can predict similar results across cases, or predict contrasting results based on a theory (Yin, 2003).</p>
Intrinsic	<p>Stake (1995) uses the term intrinsic and suggests that researchers who have a genuine interest in the case should use this approach when the intent is to better understand the case.</p> <p>It is not undertaken primarily because the case represents other cases or because it illustrates a particular trait or problem, but because in all its particularity and ordinariness, the case itself is of interest. The purpose is not to come to understand some abstract construct or generic phenomenon.</p> <p>The purpose is NOT to build theory (although that is an option; Stake, 1995).</p>
Instrumental	<p>Is used to accomplish something other than understanding a particular situation. It provides insight into an issue or helps to refine a theory. The case is of secondary interest; it plays a supportive role, facilitating our understanding of something else.</p> <p>The case is often looked at in depth, its contexts scrutinised, its ordinary activities detailed, and because it helps the researcher pursue the external interest. The case may or may not be seen as typical of other cases (Stake, 1995).</p>
Collective	<p>Collective case studies are similar in nature and description to multiple case studies (Yin, 2003).</p>

Source: Yin (1994)



Appendix 7: Elements of framework to innovation management

ELEMENTS	DEFINITION	APPLICATION TO INNOVATION	ROLE OF THE MANAGER
System	A larger collection, including one or more populations of agents and possibly also artefacts	Agents, artefacts, their relationships and the social and economic context in which they are embedded (Russo et al., 2008)	Recognise the systemic nature of the activity
Variety	The diversity of types within a population or system	Diversity of ideas	Balance exploration with exploitation and prevent premature convergence
Interaction pattern	The recurring regularities of contact among types within a system	Method by which ideas and innovations are brought into contact with each other in order to test and embellish them	Structure and facilitate interactions
Selection	Processes that lead to an increase or decrease in the frequency of various types of agents or strategies	Choosing the methods, ideas and innovations that will survive and collecting knowledge gained from interactions, including successes and failures	Participate in the selection process
Agent	A collection of properties, strategies, and capabilities for interacting with artefacts and other agents	The ideas of people, inventors, developers, marketers, advertisers, sellers and distributors and end-users (Lane et al., 2006)	Select and implement idea generating strategies
Strategy	A conditional pattern that indicates what to do in which circumstances	Methods for generating ideas	Select and implement idea generating strategies
Artefact	A material resource that has definite locations and can respond to the actions of agents	Innovations produced by agents which, in turn, can be used by other agents to build their own innovations (Lane et al., 2006)	Choose the ideas to be carried forward as innovations
Type	All the agents or strategies in a population that have some characteristic in common	Categories of ideas	Participate in the categorisation of ideas into types
Space (physical)	The location in geographical space and time of agents and artefacts	Physical or virtual proximity of people leading to interaction of ideas and innovations	Provide proximity

Source: Axelrod and Cohen (2000)

Appendix 8: Survey

A.8.1 Administration of web-based survey: close-ended questionnaire



ATTN: Executives and Managers
Canadian Power & Utilities Organizations

RE: Innovative Management of Management Innovation Survey 2011

Dear Sir or Madam,

My name is Frengky Chaniadi and I am currently undertaking a doctoral research at Manchester Business School, UK.

I would like to sincerely request your assistance to participate in this survey, in my efforts to better understand the organizational implications of accelerating the cycle of management innovations.

I have been conducting interviews and research about how organizations are responding to management innovation-related business forces. Now I am eager to hear how you and your company are strategizing, innovating, and competing. The survey will only take about 10 minutes of your time.

You can be assured that all responses are kept in the strictest confidence and under no circumstances released to any individual without your written permission. If you require further information, please do not hesitate to email at Frengky.Chaniadi@postgrad.manchester.ac.uk or phone me at +1.416.837.0169. Alternatively, you may wish to contact my supervising professor, Dr. Thomas Kirchmaier at Thomas.Kirchmaier@mbs.ac.uk.

I appreciate your participation. I look forward to reporting the results to you this Summer 2011.

Gratefully,

Frengky Chaniadi | Suite 3.26 | Manchester Business School | Booth Street West | Manchester | M13 9PL | UK

1. What do you believe is the status of management innovation on the agenda of top management?

☐ Already a permanent fixture and core strategic consideration

☐ On the agenda permanently but not core

☐ Temporarily on the agenda but not core

☐ Excluded from the agenda, because viewed as a passing fad

☐ Never considered for the agenda

☐ Do not know

2. Please identify cases of management innovations that have emerged in your organisation? Other (please specify)

3. What are the business drivers causing your organisation to focus on management innovations, identified in Q2?
(Please select up to three drivers)

- ☐ Save money by reducing costs
- ☐ Improve productivity
- ☐ Provide new revenue opportunities
- ☐ Improve existing products, create new products, or enter new lines of business to sustain competitiveness
- ☐ Improve visibility and control of managerial processes
- ☐ Improve quality of organisational processes (work, change and behavioural processes)
- ☐ One time event (M&A or joint venture)
- ☐ Government or compliance requirements
- ☐ Enhance customer satisfaction to remain competitive
- ☐ Enhance management coordination or organisational responsiveness
- ☐ Enhance management of resources
- ☐ None
- ☐ Other (please specify)

4. If your organisation has a group responsible for management innovation (MI), where is it located within your organisation?

- ☐ We do not have a formal MI Group
- ☐ Our MI Group is at the Executive Level
- ☐ Our MI Group is at the Divisional or Departmental level
- ☐ Our MI Group is located within IT
- ☐ Our MI Group is located within HR or Training
- ☐ Our MI Group is located within Finance
- ☐ Our MI Group is located within Quality Control
- ☐ No particular group is responsible
- ☐ Other (please specify)

5. To what extent does your organisation's strategy depends on management innovation (MI) for its sustainable growth?

- ☐ Totally—we intend to transform our management principles, practices and core business in the next 3-5 years
- ☐ Largely—we use MI to drive competitive growth and continually reengineer our management principles, practices and core business
- ☐ Moderately—we balance new MIs with sustained improvements in our management principles, practices and core business to drive competitive growth
- ☐ Minimally—our strategic plans call for improvements in our management principles, practices and core business mainly
- ☐ Not at all—we look to maintain our management principles, practices and core business as they are today for the next 3-5 years
- ☐ Do not know
- ☐ Not applicable

6. How would you rate your organisation's ability to strategise, experiment and accelerate management innovation initiatives?

	Strong	Fair	Weak
Ability to formulate Management Innovation strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to experiment end-to-end Management Innovation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to accelerate the cycle of Management Innovation and stay ahead of competitors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. How satisfied are you with your organisation's performance in the following management innovation areas?

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied
Innovating management principles, structures, practices and processes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extending a pipeline of continuous management innovation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transforming creative ideas into breakthrough management innovation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transforming creative ideas into breakthrough management innovation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reaching consistent, repeatable, value-creating Management Innovation performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Which metrics do you use to monitor management innovation (MI)? (Please check all that apply)

- ☐ Percentage of capital invested in MI
- ☐ Royalty and licensing income from intellectual property
- ☐ Percentage of "outside" vs. "inside" inputs to the MI process
- ☐ Percentage of employees' time to be used for experimenting new MI
- ☐ Existence of formal structures & processes that support MI
- ☐ Number of new competencies (distinctive skills and knowledge domains that spawn MI)
- ☐ Number of MI that significantly advance existing businesses
- ☐ Percentage of managers with training in the concepts and tools of management innovation
- ☐ Percentage of MI projects with assigned executive sponsors
- ☐ Percentage of executives' time spent on MI versus day-to-day operations
- ☐ Number of innovative managers that become leaders of new category businesses
- ☐ Do not know
- ☐ Other (please specify)

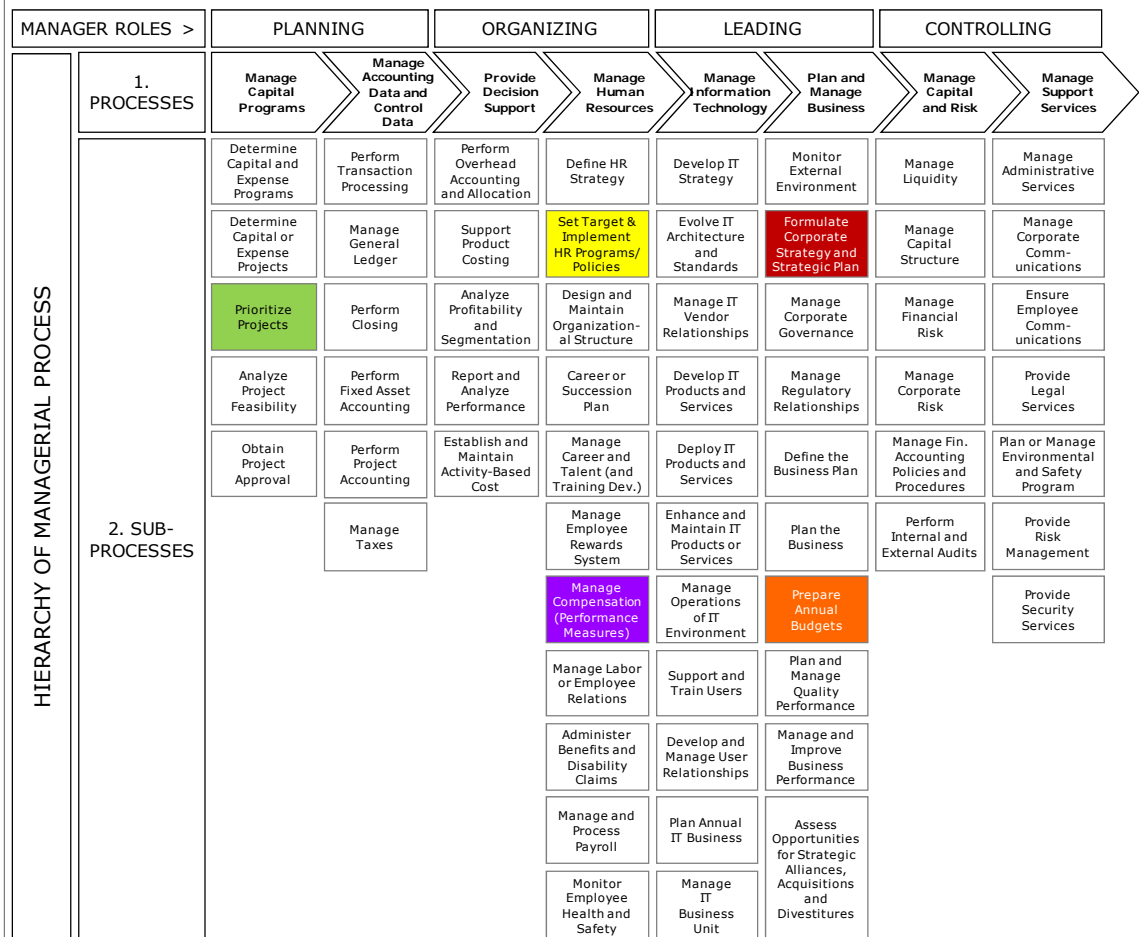
9. What are the greatest benefits to your organisation in accelerating management innovation? (Please select up to five benefits)

- ☐ Increased competitive advantage
- ☐ Reduced costs due to managerial efficiency
- ☐ Improved perception of how well company is managed
- ☐ Reduced costs due to operational efficiencies
- ☐ Access to new markets
- ☐ Increased margin or market share due to management innovation
- ☐ Improved brand reputation
- ☐ Improved regulatory compliance
- ☐ Reduced risk
- ☐ Improved ability to attract and retain top talent
- ☐ Increased employee productivity
- ☐ Enhanced stakeholder or investor relations
- ☐ Better innovation of business models and operational processes
- ☐ Better innovation of product or service offerings
- ☐ There are no benefits
- ☐ Do not know
- ☐ Other (please specify)

The managerial processes and sub-processes that one finds in most North American power & utilities organizations (including strategic planning, budgeting, financial reporting, and employee evaluation) increasingly prove to be less effective in supporting management innovation (MI) and frequently discouraging it. Series of management innovators are often frustrated by legacy managerial processes and sub-processes that were built to ensure discipline, alignment and conformance (Hamel 2010), rather than to provide support for innovation, experimentation and acceleration.

The following “EXHIBIT A” depicts the hierarchy of managerial process. The framework represents best practices for managerial processes (and sub-processes) and reflects evolving business conditions in today's volatile economy. There are eight managerial processes and each is divided into several sub-processes. Each sub-process is comprised of many operating activities in which each activity has hundreds of supporting tasks. Both activities and tasks vary greatly among practicing managers and organizations.

The next four questions will ask you to identify specific things that could be done to make your company's managerial processes and sub-processes powerful catalysts for MI, rather than impediments to new management practices.



10. Referring to “EXHIBIT A” above, can you please identify which managerial sub-processes have slowed-down the work of management innovation in your organization and how?

FOR EXAMPLES [REFER TO THE COLOR-CODED BOXES IN EXHIBIT A]:

- (1) Annual Strategic planning sub-process may reinforce potentially dangerous industry orthodoxies [RED BOX]
- (2) Target setting sub-process may undermine the trade-off between the triple bottom line in economic, social & environmental and short-term financial gain [YELLOW BOX]
- (3) Annual budgeting sub-process could be overly biased against untested novel ideas [ORANGE BOX]
- (4) Incentive compensation sub-process may underweight an individual’s contribution to management innovation [PURPLE BOX]
- (5) Conventional project prioritization sub-process may result in sub-optimal balance between innovation/growth and productivity/maintenance projects [GREEN BOX]

11. Which of the following are the impediments that hindered or derailed your management innovation activities? (Please check all that apply)

- ☐ Organisational structure (bureaucratic hurdles—long administrative procedures; restrictive laws and organisational regulations and standards)
- ☐ Financial bottlenecks (securing early stage funding; hindered access to external finance; high management innovation costs that leads to high economic risks)
- ☐ Limited internal know-how to manage the management innovation process effectively and efficiently (e.g. missing project management know-how)
- ☐ Resistance to managerial change (perpetuation of management status quo)
- ☐ Translating the idea into a compelling and convincing business case
- ☐ Lack of a governing process for "end-to-end" management innovation
- ☐ Conservative corporate culture—our practicing managers are not risk takers
- ☐ Too little collaboration with outside parties
- ☐ Shortage of and hindered access to qualified managers
- ☐ Dealing with objections that reflect inflexible mental models
- ☐ Finding a suitable sponsor or organisational “home”
- ☐ Accessing expertise in other parts of the organisation (cross-boundary networks)
- ☐ Getting through risk and regulatory reviews
- ☐ Keeping the project alive despite shifting priorities or short-term pressures
- ☐ Lack of intellectual property rights (including intellectual capital, methodologies, solution and tools)
- ☐ Other (please specify)

12. What changes have you made to your company's managerial sub-processes within the goal of side-stepping those impediments identified in Question 11?

NOTE: You may focus on a single impediment and imagining how changes to a variety of management processes and sub-processes might help to offset that impediment. Similarly, you may also focus on a single management system and imagining the ways in which it could be changed to address a variety of MI barrier.

FOR EXAMPLE: If securing early stage funding is a barrier or issue-at-stake, one may suggest that 5% of each department's operating budget to be allocated exclusively for new novel ideas that would not normally get funded through the traditional project approval gate process.

13. Similarly which impediments (from Q11) would generate the highest management innovation pay-off once overcome?

FOR EXAMPLE: Bureaucratic form (and top-down structure) in any organisation can be a powerful inhibitor (as opposed to facilitator) to MI. It is a reflection of a style of leadership based on chain of command-and-control where orders are issued at the top and followed by the ranks. People lower down the organisation who may have innovative ideas may feel inhibited about promoting them.

A.8.2 Web-based survey Database

The following table presents the survey respondents in each of case companies. All responses were conducted from January 5, 2011 to April 13, 2011. As mutually-agreed, interviewee's name and position shall remain confidential.

NO	SURVEY RESPONDENT	COMPANY	DATE (dd.mm.yy)
1	Senior Leader DE #1	Direct Energy Marketing Limited	26.01.11
2	Senior Leader DE #2		23.01.11
3	Senior Leader DE #3		25.01.11
4	Senior Leader DE #4		24.01.11
5	Senior Leader DE #5		21.01.11
6	Senior Leader DE #6		21.01.11
7	Senior Leader DE #7		21.01.11
8	Senior Leader DE #8		06.02.11
9	Senior Leader THC #1	Toronto Hydro Corporation	24.01.11
10	Senior Leader THC #2		09.02.11
11	Senior Leader THC #3		26.01.11
12	Senior Leader THC #4		25.01.11
13	Senior Leader THC #5		05.01.11
14	Senior Leader EGD #1	Enbridge Gas Distribution Inc.	23.01.11
15	Senior Leader EGD #2		30.01.11
16	Senior Leader EGD #3		10.02.11
17	Senior Leader EGD #4		21.01.11
18	Senior Leader EGD #5		11.04.11
19	Senior Leader OPG #1	Ontario Power Generation Inc.	24.01.11
20	Senior Leader OPG #2		30.01.11
21	Senior Leader OPG #3		08.02.11
22	Senior Leader OPG #4		13.05.11
23	Senior Leader OPG #5		21.01.11

A.8.3 Web-based Survey Transcripts

Responses from the SurveyMonkey questionnaires are enclosed in this thesis in digital format. Please refer to the sub-folder: *Appendix/SurveyMonkey/Web_Responses_TXT*.

Appendix 9: Interview

A.9.1 Administration of semi-structure interview: open-ended questionnaire

The University of Manchester
**Manchester
Business School**

MANCHESTER
1824

RESPONDENT VERSION

Frengky Chaniadi
Manchester Business School
The University of Manchester
Booth Street West, R3.26
Manchester, M15 6PB
United Kingdom

www.mbs.ac.uk

A. Introduction (*Interviewier to initiate*)

- i Objective and mission of the research study

B. Vision and Strategy

- 1 Does your company have a vision and strategy for Management Innovation¹ (MI) and how do you disseminate them?
- 2 How do you leverage collective intelligence as part of your organizational routines?

C. Innovative Management of Management Innovation

- 3 What organisational design does your company have to encourage improvement in ways managers can innovate (in structural, processual and cross-boundary networks)?
- 4 How does your corporate culture tolerate mavericks who challenge the convention?
- 5 What examples can you provide for understanding how your organizational hierarchy and protocol allow the rapid escalation and consideration of innovative management practices?
- 6 In what ways do you inspire, empower and energize your direct reports for speeding up the MI schedules?
- 7 How do you coordinate and manage your organizational assets (i.e.: competences², capabilities³ and skills) for accelerating the cycle of MI?
- 8 How do you enable collaborative MI in your organization (active and passive collaboration⁴)?
- 9 To what extent do you sustain a successful implementation of lessons learnt from harnessing the power of collaboration and project-driven learning?

¹Management Innovation (MI) is "an induced managerial capacity to search for novel ways to create value."

²Competence is the ability to apply assets in a coordinated way in order to reach a certain aim.

³Capabilities are repeatable patterns of action in the use of assets to create/produce/offer products to a market.

⁴Active collaboration refers to individual actively going to a portal or a tool to contribute and share knowledge or information willingly about new novel ideas, products and help others. Passive collaboration on the other hand is seeking help on a specific problem with a specific individual or group of people. It is targeted, focused and short.

A.9.2 Interview Database

For this research study, thirty-one semi-structured and in-depth interviews were carried out with a total of twenty-three unique respondents. Each and every interview was digitally tape-recorded, name-labelled for easy reference, and textually transcribed. The table below recaps a drill-down of unique interviewees and total interview sessions conducted in each of the core case participating companies:

COMPANY	NUMBER OF UNIQUE INTERVIEWS	NUMBER OF TOTAL INTERVIEWS CONDUCTED
Ontario Power Generation Inc.	5	7
Enbridge Gas Distribution Inc.	5	6
Toronto Hydro Corporation	5	10
Direct Energy Marketing Limited	8	8
TOTAL	23	31

Each and every in-depth interviews were completed from January 14, 2011 to December 23, 2011. Several respondents, in particular senior leaders from Direct Energy Marketing Limited and Toronto Hydro Electric System Limited were interviewed more than once. The purpose was to obtain further information or clarify the interviewees' previous responses.

A.9.3 Interview Recording

The complete recording of all in-depth interviews with senior leaders in WMA format, are part of the submission of this thesis in digital format. Please refer to the sub-folder: *Appendix/Interview/WMA_Digital_Recording*.

A.9.4 Interview Transcripts

Interview transcripts (plain text, *.txt) are enclosed in this thesis in digital format. Please refer to the sub-folder: *Appendix/Interview/Transcripts_TXT*.

A.9.5 List of Interviews

NO	INTERVIEWEE	COMPANY	DATE (dd.mm.yy)	MODE	DURATION (Hr:Min:Sec)
1	Senior Leader DE #1	Direct Energy Marketing Limited	18.02.11	Telephone	01:32:11
2	Senior Leader DE #2		29.03.11	Face-to-Face	01:51:32
3	Senior Leader DE #3		08.02.11	Face-to-Face	01:05:27
4	Senior Leader DE #4		14.01.11	Face-to-Face	01:08:09
5	Senior Leader DE #5		28.01.11	Face-to-Face	01:15:16
6	Senior Leader DE #6		04.07.11	Face-to-Face	01:18:30
7	Senior Leader DE #7		23.12.11	Face-to-Face	01:42:06
8	Senior Leader DE #8		21.11.11	Face-to-Face	00:59:18
9	Senior Leader THC #1	Toronto Hydro Corporation	13.06.11 27.06.11 29.06.11	Face-to-Face Face-to-Face Face-to-Face	00:31:11 01:09:17 00:11:46
10	Senior Leader THC #2		10.06.11	Face-to-Face	01:06:56
11	Senior Leader THC #3		15.06.11	Face-to-Face	01:48:50
12	Senior Leader THC #4		13.06.11 13.06.11 21.06.11	Face-to-Face Telephone Face-to-Face	00:09:16 00:12:14 01:07:02
13	Senior Leader THC #5		14.06.11 16.06.11	Face-to-Face Face-to-Face	00:48:23 00:49:48
14	Senior Leader EGD #1	Enbridge Gas Distribution Inc.	21.03.11	Face-to-Face	00:51:21
15	Senior Leader EGD #2		17.10.11	Face-to-Face	01:13:09
16	Senior Leader EGD #3		29.08.11	Face-to-Face	01:30:17
17	Senior Leader EGD #4		07.10.11	Face-to-Face	01:16:46
18	Senior Leader EGD #5		09.09.11 22.12.11	Face-to-Face Telephone	01:00:08 00:19:56
19	Senior Leader OPG #1	Ontario Power Generation Inc.	25.05.11 29.09.11	Face-to-Face Telephone	01:25:26 00:24:11
20	Senior Leader OPG #2		02.06.11	Face-to-Face	01:27:51
21	Senior Leader OPG #3		15.11.11	Face-to-Face	01:04:59
22	Senior Leader OPG #4		23.12.11	Face-to-Face	00:58:01
23	Senior Leader OPG #5		13.06.11 17.06.11	Face-to-Face Telephone	01:24:57 00:35:09
TOTAL INTERVIEW DURATION ►					31.00.07

Appendix 10: Performance audits on management practices at OPG

MANAGEMENT ATTRIBUTE	MID 1997 (IIPA-INDEPENDENT, INTEGRATED PERFORMANCE ASSESSMENT REPORT)	2001 (EXTERNAL CONSULTANTS REPORTS TO OPG)
Manager Accountability	<ul style="list-style-type: none"> • Lack of accountability by managers • No awareness of site specific goals 	<ul style="list-style-type: none"> • Managers do not have ownership of their projects • No follow through on commitments
Lateral Working Relationship	<ul style="list-style-type: none"> • Unclear lines of authority and of accountability • Lack of teamwork 	<ul style="list-style-type: none"> • Roles/responsibilities not clearly defined nor documented • Lack of teamwork
Managerial Practices	<ul style="list-style-type: none"> • Ineffective lines of communication • Gap between perceived and actual performance • Timelines and resource limitations 	<ul style="list-style-type: none"> • Ineffective management controls • No adherence for the achievement of milestones
Support of Subordinate Managers	<ul style="list-style-type: none"> • Bad news does not follow up • Problems solved at too low a level 	<ul style="list-style-type: none"> • Workers are not encouraged to voice issues upward • No encouragement for innovation
Culture of Pickering A, Ontario (a nuclear Station)	<ul style="list-style-type: none"> • Little focus on cross organisational cooperation • Employees lack accountability and commitment to quality 	<ul style="list-style-type: none"> • Ineffective sharing of information • No cultural support of safety standards

Source: Canadian Nuclear Association (2013)
http://www.cna.ca/wp-content/uploads/6_Appendices.pdf

Appendix 11: Chronological history of EGD

YEAR	DEVELOPMENTS
1848	Almost two decades before Canadian Confederation, Consumers Gas is formed to secure a 'purer, more regular, cheaper supply of gas.'
1853	Five years after its founding, the new company has become a success. Energy efficiency improves and the price of gas drops by 17 percent. Almost two decades before Canadian Confederation, Consumers Gas is formed to secure a 'purer, more regular, cheaper supply of gas.'
1879	Electricity is discovered and, over the next few decades, becomes a common energy source. Gas use continues to grow.
1908	Our first store opens at 12 Adelaide Street West in Toronto. Customers can purchase the latest lighting fixtures, ranges and other appliances.
1923	During its 75th anniversary celebrations, Consumers Gas estimates it has 1,046 kilometres (650 miles) of pipeline. Today, we use more than 31,000 kilometres (19,262 miles) of gas mains in the regions we serve.
1945	The company helps with wartime conservation efforts by teaching homemakers how to preserve fruits and vegetables. It also donates money and time to a service club for soldiers, sailors and airmen.
1959	The world's longest natural gas pipeline is completed, connecting Alberta to Toronto and Montreal. In the Niagara region, residents stop relying on US imports – and start selling natural gas across the border.
1975	The world's first natural gas vehicle is introduced at our booth at the Canadian National Exhibition. EGD work with government and businesses to encourage the use of environmentally-preferred, cost-effective natural gas vehicles.
1985	The Canadian energy industry begins to be deregulated.
1995	IPL Energy of Calgary acquires the Consumers Gas Company.
1998	The company is renamed Enbridge Consumers Gas.
1999	A new government regulation requires the separation of retail sales, service and repair operations from our core distribution business. As a result, a sister company, Enbridge Home Services, is formed to supply and service retail products such as furnaces, water heaters and barbecues.
2002	Enbridge Home Services is sold to Centrica North America. Enbridge Consumers Gas changes its name to Enbridge Gas Distribution Inc.
2003	Enbridge Gas Distribution adds a record 60,000 new customers in one year.
2006	Enbridge Gas Distribution serves 1.9 million customers.
2008	<p>The world's first Hybrid FuelCell was commissioned, which provides a more efficient, and cleaner, natural gas pressure reduction technology.</p> <p>Jointly developed by Enbridge Inc and FuelCell Energy Inc., it produces approximately 2.2 megawatts of electricity, enough to power approximately 1,700 homes, by recovering energy normally lost in day to day pipeline operations.</p>

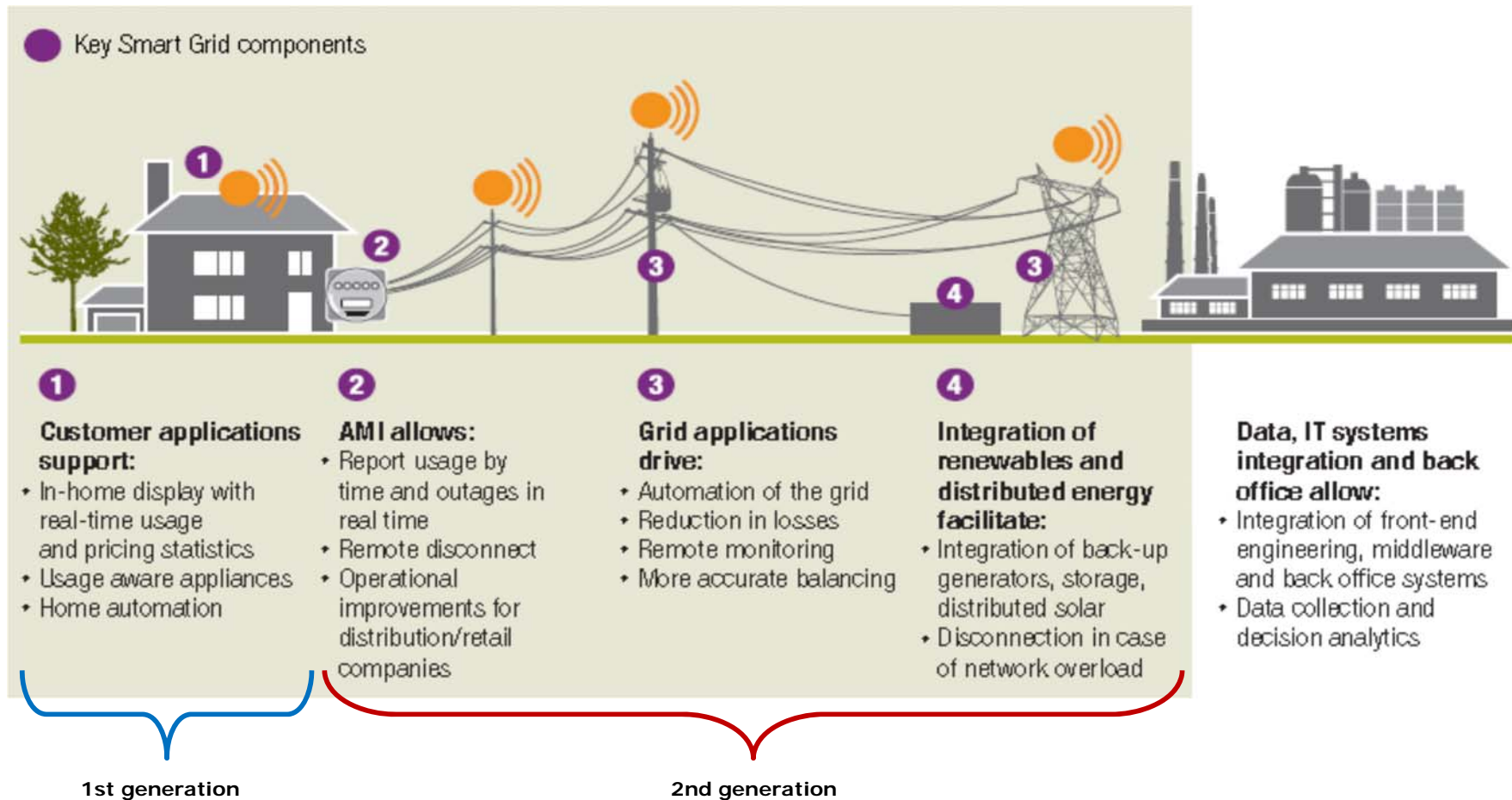
Source: <https://www.enbridgegas.com/about/our-history.aspx>

Appendix 12: Expanded roles of management

ROLES	DESCRIPTION
Management and Business Assessor	Evaluate and monitor corporate performance against the strategic and business plans.
Stakeholder Principal	Serve as the primary interface with external constituents. Drive value creation from within the organisation.
Value-Creation Manager	Provide value-creative managership and expertise to the business process. Assess business model impacts and plan adaptive strategies.
Stakeholder Ambassador	Ensure that the organisation creates stakeholder value
Competence Builder/ Management Leader	Develop and maintain a strong relationship with the board and advise them on issues facing the organisation on a timely basis.
Resource Mobiliser/ Capital Optimisation	Devise and sustain an optimal capital structure and working capital strategy.
Process Compliance Regulator	Ensure ethical behaviour and process compliance with laws and regulations, audit, financial and accounting principles.
Business/ Management Developer	Seek to develop sales opportunities through leveraging existing relationships or creating new strategic alliances or JVs.
Advanced Analytics and Data Integrator	Support and promote efficient operations by establishing an appropriate performance evaluation structure, by reporting insightful data analysis and integrity, and by providing advice relevant to the evolving business performance, goals and ecosystem.
Policy Authoriser	Approve all major policies and procedures, such as capital and liquidity policies.
Commercial Innovator and Agent for Change	Provide leading edge products/services to customers and aim to attain dominant market share and position.
Business Facilitator	Enables business-oriented project/task groups to collaborate more effectively.
Operational Administrator	Administers the performance scheduling of business operations, data entry, performance reports, and so on.
Entrepreneur /Intrapreneur	Entrepreneur is starting a business, while Intrapreneur is developing a new product in an already existing business.
Stakeholder Manager	Act as the organisation's interface between the financial and non-financial stakeholders by communicating expectations, results and issues with integrity and transparency.
Accounting and Financial Auditor	Audit committee should select, supervise and evaluate the performance of the external auditor and ensure independence. Review and understand financial statements.
Results Shaper and Convertor	Assess financial outcomes based on business activity and translate into operational goals as per the organisation's strategic objective.
Business Recorder and Reporter	Perform all accounting and transaction processing activities with efficiency and integrity. Prepare accurate, validated reporting to meet statutory, the OEB, and Shareholder needs in a timely fashion.
Risk Mitigation Assessor:	Identify principal risks of the organisation and ensure that appropriate systems are in place to manage those risks.
Tactical Architect	Drive the operational vision & direction in alignment with the overall business strategies, lead and guide the realisation of the organisational core disciplines, and evaluate & balance the performance of the various functions and its workforce.
Enterprise Risk Manager	Identify, evaluate and mitigate key risks within operations, in achieving stakeholder value and in executing strategic planning
Business Validator	Act as the sounding board for management decisions that challenges/ validates senior management decisions ensuring that the interests of the stakeholders are being vetted and in line with corporate mission.
Corporate Policy Enforcer	Define, deploy and maintain policies and procedures, ensure compliance to controls and standards, and provide opinions to executives and Audit Governance committees.

Sources: McKinsey & Company (2013), Deloitte Touche Tohmatsu (2012), Author

Appendix 13: Smart Grid development



Source: McKinsey & Company (2012)

Appendix 14: Utilising the multi-case study method

CHARACTERISTICS	DESCRIPTION
Research purpose	Exploratory
Research approach	Qualitative
Research questions	Case study strategy is more suitable to answer questions such as "how" and "why".
Units of Analysis and sub units	Types of units: individuals, groups or organisations, business, process, one aspect or a dimension of organisational or social behaviour. Holistic cases: the focus is centered in the general context of the phenomenon. Embedded Cases: the focus is shifted to sub-units, included in a broader context.
Research goal	Develop and validate a management method.
Geographical unit	Choice for convenience and relevance.
Identified strategic groups	According with the pattern of competition in the industry.
Number of studied cases	Until theoretical saturation. However, it is recommended 4 to 10 cases.
Gathering of secondary data	Institutional material (websites, catalogs, reports), articles in newspapers and magazines, websites etc.
Gathering of primary data	Questionnaires, in-depth interviews, focus groups and participant observation
Supporting tool	Semi-structured research guide.
Researcher's profile	The attributes of fairness and sensitivity to understand the reality from the meaning given by individuals (respondents) to their experiences. The interactive to guide the research and carry out a theoretical sampling.
Recommendations to the interviewer	Should avoid direct questions about the detailed design of operations and other related information. Do not publish any data, information or opinion considered confidential and strategic for organisations. Respondents are asked to review the final report of the case, even omitting the name of the organisation if desired.
Respondents' profile (interviewees)	Hold power to influence the unit of analysis. Have access to information and data about the unit of analysis. Have accumulated knowledge (experience) on the unit of analysis. Good interest to work on the research. Keep an open communication "channel" for future contacts.
Period to hold case study	Specified period, discrete analysis.

Sources: Yin (1989), Eisenhardt (1989), Strauss and Corbin (1990).

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