Deakin Research Online

This is the published version:


Available from Deakin Research Online:


Reproduced with the kind permission of the copyright owner.

Copyright : 2009, ANZAM
THE INTERFACE BETWEEN INTRAPRENEURSHIP, INNOVATION AND IT GOVERNANCE

Adela J McMurray*

Assistant Dean (Research), College of Business,

RMIT University, Melbourne, Australia

Email: adela.mcmurray@rmit.edu.au

Ross L Chapman

Professor of Business Systems, and Acting Director, Centre for Industry and Innovation Studies,

College of Business, University of Western Sydney, Sydney, Australia

Email: r.chapman@uws.edu.au
ABSTRACT
The purpose of this conceptual paper is to examine the links, as reported in the international literature, between intrapreneurship, innovativeness and IT governance within medium to large organizations. A cross disciplinary literature review was conducted and yielded a theoretical framework for identifying and understanding the critical elements underpinning and driving innovation and intrapreneurship performance and their relationship with key aspects of IT governance within organizations.

BACKGROUND
This conceptual paper provides a new framework for identifying and understanding the critical elements underpinning and driving innovation and intrapreneurship performance within organizations. In addition, the paper identifies how Information Technology (IT) governance best practices may impact on organizational innovation performance which in today’s organizations provides the unique cultural blueprint that other organizations find challenging to replicate. Innovation performance is now widely recognised as underpinning improved organizational processes and outcomes (for example, Business World, 2006, Chesbrough, 2003, and Gertsen et al, 2007) thus strongly influencing organizational sustainability within the 21st Century.

Organizational (or corporate) entrepreneurs, also known as intrapreneurs, are managers or employees who do not always follow the status quo (that is, standard organizational approaches and processes) and increase the entrepreneurial intensity of an existing organization (Hornsby, Goldsby, and Kurato, 2007). The significance of intrapreneurship and innovation to established organizations in today’s competitive business environment is well recognised, yet the existing literature is relatively silent about the processes and means through which intrapreneurial ideas lead to new services, products or ventures within existing organizations. The intrapreneurship literature is primarily US-based with recent developments in India and the European Union (EU), and is dominated by a handful of authors.
whose frameworks and conceptual models are utilised in this study (Morris, Kuratko and Covin, 2008; Ren and Guo, 2007; Hornsby, et al, 2007) thus justification for extending the discipline and studies into Australasia.

Similarly, although the innovation literature is considerable, very little addresses the relationship between intrapreneurial culture and innovation performance. Similarly, the role of IT in business process improvement has received much attention, however analysis of the literature uncovered that the role and impact of IT governance within intrapreneurial processes and innovation has not yet been explored. The term IT governance has been defined in many ways, although all such definitions have strong similarities. For this paper we will use the short version of the IT governance standard definition: “the system by which the current and future use of ICT is directed and controlled”. The standard referred to here is the 2008 International Standard ‘Corporate Governance of Information Technology’ (ISO/IEC 38500).

The aim of this conceptual study is to examine the links, as reported in the international literature, between intrapreneurship, innovativeness and IT governance within medium to large organizations. Innovation is here defined as “a renewal process… [that] unfolds as a complex interplay between renewal of product/service, market, technology, organization, and/or business process, with the purpose of increasing stakeholder values” (Gertsen et al., 2006). This integrative definition was used to explicitly recognise that renewal occurs among products, processes, markets or business models, as well as modes of innovation – such as discontinuous innovation (as opposed to ‘steady-state’ or continuous innovation). It also incorporates the notion of “open innovation” (Chesbrough, 2003) where firms actively seek to open up their organizational boundaries (in both directions) for the flow of ideas, technologies, and knowledge.

Many innovative organizations have developed ‘good practice’ models for product and process innovation however a major limitation of these models is their primary focus on continuous (steady-state) innovation, much to the neglect of discontinuous innovation. More specifically, existing models largely concentrate on “doing what we do, but better” (Tidd et al, 2005: 18). This focus fails to consider shifts along technological, global market, environmental, political and other frontiers that
require new or significantly adapted approaches – that is, discontinuous innovation. Despite the importance of continuous innovation processes, discontinuous innovation is associated with an array of organizational benefits such as increased creativity, improved access to new knowledge and technologies, improved flexibility.

Innovation requires search routines, selection routines, and implementation routines. Search routines involve finding, recognising, processing and communicating information from new knowledge sources. Selection routines involve deciding which ideas, new technologies or sources of discontinuity the organization should investigate, and is largely determined by internal and external evaluation. Finally, implementation routines involve the application of the evaluated concepts found to stimulate propitious market response to the innovation. This stage should also include mechanisms to ensure the organization captures value from the innovation. This is particularly important as firms open up their organizational boundaries for technology and knowledge flows in both inward and outward directions (Chesbrough, 2003).

In steady-state innovation, the three routines may be separated and internal to the organization; however, in discontinuous and open innovation, the routines are more complex, intertwined and interactive with a range of external contacts and collaborators, particularly as our complex product and service systems often require significant business model innovation as well (Chesbrough, 2007). Tidd and colleagues (2005, 2009) have tried to present the key aspects of innovation in a simplified model (see Figure 1). They demonstrate the relationships between key stages of the innovation process, which is situated within a broader environment of innovation and technology strategies, external linkages and organizational learning. This broader environment is required for effective innovation because it provides 1) opportunities for experimentation; 2) pro-active connections and collaborations with external bodies that can help to identify sources of innovation and discontinuities; and 3) a focus on organizational learning and enhanced absorptive capacity. The development of effective external connections and networks as a key requirement for innovation (particularly discontinuous innovation) has been highlighted by Birkinshaw, Bessant and Delbridge (2007).
Together, these three factors support and promote the intrapreneurial skills required for innovation (Gertsen, Sloan, Chapman & Kyvsgaard, 2007).

**Figure 1  Simplified Innovation Model (Adapted from Tidd et al, 2005 and Tidd and Bessant, 2009:44)**

Intrapreneurship is critical to innovation in existing firms. It supports an explorative approach, as opposed to an exploitative approach, which dominates most continuous improvement activity. In contract, successful innovation requires a balance between the two strategic approaches (Boer and Gertsen, 2003) and an exploration strategy requires an entrepreneurial culture for success.

Despite the burgeoning role of IT in the operation of organizations, little is known about how the governance of IT influences the relationship between intrapreneurship and innovation. Furthermore, there is a dearth of literature about how IT governance might foster organizational cultures that are capable of creating or responding to the challenges of innovation. This paper addresses this situation by building on previous research that identified the importance of improved organizational IT governance for effective search, selection and implementation aspects of organizational innovation processes. In today’s business world, most organizations depend on information technology (IT) for their day-to-day activities and attainment towards their future business strategies (Zhao, McMurray & Toomey, 2008). In addition, the paper draws on three years of commercial experience in assessing IT governance within diverse organizational contexts including the manufacturing and service contexts. Together, these sources of scholarly and industry knowledge provide a firm foundation on which to
examine the role of IT governance in innovation. More specifically, three key questions provide the impetus to this paper:

1. What processes and factors help or hinder intrapreneurship as an organization pursues cultural renewal driving a more innovative and flexible organization?

2. How are these processes and factors linked into an organization’s innovation systems?

3. How can best practice IT governance systems support and facilitate intrapreneurship and innovation, and thus improve organizational performance?

**MODEL DEVELOPMENT**

**The significance of intrapreneurship, innovation and IT governance**

Despite research interest in organizational renewal and growth, the complexity of intrapreneurship, innovation and organizational growth is poorly understood (Delmar, Davidson, & Gartner, 2003). Conceptual understanding of this complexity is at times limited – hence the rationale and significance of this paper.

Intrapreneurs, and the organizations they are affiliated with, use a range of strategies to promote organizational renewal and growth; these include organic growth, alliances, mergers and acquisitions, new distribution channels, product and process innovation, brand development, product repositioning, and e-commerce. Given the complexity of organizational settings, and the competing demands of stakeholders, intrapreneurs often adopt multiple growth paths to maximise the sustainability of change. This might include incremental growth, rather than growing in one or a few large steps; growing organically, in contrast to acquisition; and growing within the original legal entity versus growing via merger (OECD, 2002; Davidson & Delmar, 1997). These disparate growth patterns largely reflect the strategic and operational complexity within which intrapreneurs are often situated.

In product- and process-based innovation, as commonly seen in the manufacturing sector, the increasing complexity of incorporated technologies and customer interfaces is generating higher dependence on IT systems (Chapman & Hyland, 2004). Similarly, while innovation in the service
sector often relies more on business-model innovation, this frequently involves extending and renewing existing IT systems, such as those required in e-commerce developments (Chapman, Soosay & Kandampally, 2002). Both manufacturing and service sectors are confronted with increasingly frequent discontinuities requiring the development of intrapreneurial cultures and sophisticated, flexible IT systems to maintain competitive advantage.

The urgency for organizations to meet the challenges of discontinuous and open innovation has been highlighted by several authors (Christensen and Raynor, 2003, Tidd et al, 2005, Gertsen et al, 2007, Chesbrough, 2003) and is becoming a key aspect of long term organizational sustainability. One way to support and promote such sustainability is through effective IT governance structures.

Although recognised for providing operational support, IT governance may also provide innovation support, by playing a decisive role in fostering effective innovation. Given this potential, it is essential that IT governance structures are conducive to a culture of valuing, supporting and promoting innovation. Such flexible structures include arrangements for planning, delivering and operating IT systems that meet the needs of the innovation and intrapreneurship agenda. In turn, these arrangements require resources and personnel skills to design and deliver technology enablers promptly and efficiently, and to manage the tension between speed and rigour. Flexible governance structures encourage experimentation and are devoid of excessive bureaucratic constraints, while maintaining a watchful-eye on risk and value (Zhao, McMurray & Toomey, 2008).

Industry experience suggests that the IT governance system in many organizations is geared to limit "adventure"; this forces countless innovations to "go underground", which are then lost to both the organization and the nation. Additional experience suggests that, without the availability of IT for the intrapreneurship process, innovation processes are far less effective; and, due to a lack of timely, appropriate information, innovation becomes a dangerous (and unknown) threat, rather than a potential opportunity. However, if geared to support rational experimentation, IT governance can provide the key strategic framework to promote innovation in a range of modern businesses.

The Australian Standard AS8015-2005 provides a sound foundation for improving organizational IT governance (Zhao, McMurray and Toomey, 2008). The recent announcement of the 2008
International Standard ‘Corporate Governance of Information Technology’ (ISO/IEC 38500) (based on AS8015) positions Australia as a significant world-leader in establishing International Standards for IT governance in the global business arena. The ISO/IEC 38500 standard provides six guiding principles (Responsibility, Strategy, Acquisition, Performance, Conformance, and Human Behaviour) for organizational directors on the ‘effective, efficient and acceptable use of IT within their organisations’ (ISO, 2008:1) and to the governance of internal organizational management processes and decisions. However, thus far, no research has examined nor assessed how the newly developed ISO/IEC 38500 standard, and its potential application (including principles) to organizational settings, will support and drive business intrapreneurship and innovation. This conceptual paper addresses these gaps, by identifying and integrating how best practice IT governance systems and principles support and facilitate organizational intrapreneurship and innovation management processes, and thus makes a worthwhile contribution to extant literature.

By understanding how intrapreneurs use IT to manage and negotiate their complex environment, it is possible to understand organizational practices, patterns and cultures that foster innovation within and between organizations.

Both intrapreneurship and innovation (particularly discontinuous and open innovation) are under-researched and show an under-representation of multi-method research approaches addressing organizational processes and outcomes simultaneously. The role of effective IT governance practices in supporting or hindering intrapreneurship and strategic innovation processes has not been considered previously. This conceptual paper proposes a new framework for studying the linkages between key variables involving intrapreneurship, innovation and IT governance developed from a detailed literature analysis and informed by real world industry experience.

The Theoretical Model

The authors address the paper’s research questions by conducting an international literature review and engaging in conceptual theory building (Weick, 1989) to develop a conceptual framework. Bringing together existing frameworks and literature from disparate disciplines, this paper provides a new conceptualisation of the dynamic relationship between intrapreneurship and innovation (see
Figure 2). Frameworks that are merged to form this model include Ren and Guo’s (2007) intrapreneurial process model, Hornsby et al’s (2007) stakeholder theoretical framework, and Tidd and Bessant’s (2009) model for innovation (as shown in Figure 1). These frameworks, which collectively deal with the study’s three research questions, are addressed in turn below.

Ren and Guo (2007) propose a conceptual framework for understanding the intrapreneurial process through organizational structures and policy and addresses RQ1 by showing what processes and factors help or hinder intrapreneurship as an organization.

In essence, the intrapreneurial process is defined in terms of a converging phase where pools of opportunities are identified through the actions of participants who identify barriers and solutions to these barriers. This is followed by the screening phase where attention structures and policy windows, both predictable and unpredictable, result in opportunities that the organization will adopt. This process exists within the stakeholder framework that defines the organization thus RQ2 is addressed by identifying how these processes and factors are linked into an organization’s innovation systems.

The stakeholder theoretical framework proposes an entrepreneurial grid which indicates the importance of innovativeness, risk-taking and pro-activeness, as well as the richness of the innovation choice that is available to the organization (Hornsby et al, 2007). The ability of an organization to effectively respond to, or take advantage of, the discontinuities affecting all aspects of the business are a key element in the organization’s ability to develop a sustainable competitive advantage.
Morris et al’s (2008) discussion shows that successful intrapreneurship models in the US include eco-system venturing, innovation venturing, harvest venturing and private equity venturing (p. 63). Our review of the economics literature suggests that the environment or climate within which the organization operates has a critical impact on the organization’s stance addressing innovation including the level of innovation that occurs within the organization. Table 1 shows a breakdown of key sub-factors within each of the main variables considered in our theoretical framework in Figure 2. These factors have been identified from previous research as discussed herein, and together, Figure 2 and Table 1 provide a valuable model to drive future empirical work investigating the links between intrapreneurship, innovation and IT governance management processes (including the ISO/IEC 38500 principles of Responsibility, Strategy, Acquisition, Performance, Conformance, and Human Behaviour) thereby addressing RQ3 in how can best practice IT governance systems support and facilitate intrapreneurship and innovation, and thus improve organizational performance.

<table>
<thead>
<tr>
<th>External Factors</th>
<th>Antecedents</th>
<th>Internal Factors</th>
<th>Organizational Posture</th>
<th>Innovation</th>
<th>Intrapreneurial Success</th>
<th>Intrapreneurial Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proactive Linkages</td>
<td>Power</td>
<td>Policy</td>
<td>Capital Investment</td>
<td>Individual</td>
<td>New Service/Product</td>
<td>Cont./Incrmen’l/Periodic</td>
</tr>
<tr>
<td>Environ. Change</td>
<td>Stakeholders</td>
<td>Financial Strength</td>
<td>Working Capital</td>
<td>Team</td>
<td>Value Creation</td>
<td>Dynamic</td>
</tr>
<tr>
<td>Technology Change</td>
<td>Participants</td>
<td>Org’l Culture</td>
<td>Org’l Well Being</td>
<td>Climate</td>
<td>Differentiation</td>
<td>Revolutionary</td>
</tr>
<tr>
<td>Gov’t Policy &amp; Regulat’n</td>
<td>Structure</td>
<td>Org’l Climate</td>
<td>Org’l Change</td>
<td>Org’l Strategy KPIs</td>
<td>Reputational Capital</td>
<td></td>
</tr>
<tr>
<td>External Standards</td>
<td>Legitimacy</td>
<td>Top Mgt. Support</td>
<td>Pool of Opportunities</td>
<td>Search</td>
<td>Discretionary Expenditures</td>
<td>Organizational Performance</td>
</tr>
<tr>
<td>Int’l</td>
<td>Learning</td>
<td>Work Discretion</td>
<td>Reactive vs. Defensive</td>
<td>Strategic Selection</td>
<td>Goodwill</td>
<td>Operational</td>
</tr>
<tr>
<td>Responsibility, Strategy, Acquisition, Performance, Conformance Human Behaviour</td>
<td>Org’l Boundaries</td>
<td>Value Capture</td>
<td>Community</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Politics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1  Sub-Factors for Key Variables in Figure 2
The literature shows that although existing frameworks help to understand intrapreneurship, they largely assume that all organizations within a given industry face the same set of possible intrapreneurship events, but not all are able to recognise and screen them appropriately. For instance, the decision-making process that underlies the adoption of intrapreneurship decisions could follow Ren and Guo’s (2007) stakeholder theories. Yet, following Hornsby et al, (2007) organizations that can identify and adopt all available events are considered revolutionary. Revolutionary organizations are rare in practice, with most organizations considered to demonstrate continuous/incremental, periodic/incremental, dynamic and periodic discontinuous innovation, depending on the ability of the organization to implement intrapreneurship events. Furthermore, central to the ISO/IEC 38500 standard is people’s behaviour as it is the responsibility of organizations to ensure the standard is embedded in their organizational culture. Thus the applicability and implementation of the ISO/IEC 38500 six principles would influence the elements identified within Ren and Guo’s (2007) and Hornsby et al’s, (2007) frameworks thereby impacting on human behaviour, business processes, and organizational structures in the effective, efficient and acceptable use of IT and its capability in specific organizational contexts and cultures.

The conceptual model proposed in this paper extends existing models and relevant literatures. It demonstrates that the relationship between intrapreneurship and innovation is not static, but rather, a continuing process with intrapreneurship events and other discontinuities occurring irregularly over time. The ability of an organization to respond to intrapreneurship events determines its characteristics, including organizational culture. Organizational culture can be inferred from organizational behaviours, which manifest in the organizational climate (McMurray and Dorai, 2003) and intraprenerial behaviour among personnel. For instance, organizations with strong intrapreneurship cultures tend to operate more efficiently and consist of groups of intrapreneurs,
vigorously competing for resources, and adopting and implementing only the best intrapreneurial events.

In addition to merging and extending extant bodies of knowledge, the model proposed in this paper builds on three key themes that have dominated recent research on innovation and entrepreneurship. The first is the structural issues that face larger organizations seeking to be innovative (Leifer et al, 2000; O’Reilly & Tushman, 2003). The second theme is the relative success of different approaches to innovation in relation to the lifecycle of the product or service a company offers, focused on changing the underlying business concept (Hamel, 2000). Finally, the third theme addresses the importance of organizational culture, and the extent to which organizational systems and processes inhibit creative and innovative thinking (Hamel, 2000; Hamel & Valikangas, 2003; Hamel and Getz, 2004). Together, these three themes add flesh to Ren and Guo’s (2007) organizational structures and policy conceptual framework, as well as Hornsby et al’s (2007) stakeholder framework, and informs this paper’s original theoretical conceptualisation.

Furthermore, this paper is innovative because there is a lack of empirical research on the development of intrapreneurship models in existing organizations. There have been few studies on the development of intrapreneurship models in existing organizations. Of these works, two stand out. The first was a major study involving interviews with more than 750 of the world’s top CEOs and leaders; where researchers found that business model innovators gain a competitive edge through focus and specialisation (Business World, 2006). The second is the work of Wolcott and Lippitz (2007) where four different intrapreneurship models were defined based on internal factors of resource allocation authority and organizational ownership for new business creation. Like the individual attributes of intrapreneurs (Seshadri and Tripathy, 2006), these factors are encompassed within the internal factors found in Figure 2.

According to Govindarajan (2006:12), successful organizational strategy “is not about protecting existing competitive advantage but about finding the next advantage”. This may be viewed as opportunity recognition which relies on having the right people, such as intrapreneurs, and processes in place to facilitate successful business transformation. Increasingly, the “next advantage” is linked
to discontinuities in technology, markets, environmental, political or regulatory regimes (Gertsen, et al, 2007; Tidd and Bessant, 2009).

Khanna & Palepu (2006) support Hamel’s (1996) earlier work in noting that organizational strategies employed by emerging giants in developing countries fly in the face of their rivals, yet compete successfully against multinational companies through intrapreneurs redefining the customer value proposition; redefining the market space; or redrawing industry boundaries. Competitive advantage is based on their core competencies of understanding the local market and being able to manoeuvre through institutional voids and bureaucracy so as to tap into discontinuities and hence opportunities.

There has been little if any research that simultaneously examines the dynamic relationship between intrapreneurship, IT governance, and organizational innovation processes and outcomes. Given the importance of innovation in business development, this provides fertile ground for future research. The authors will pursue research in this area by using a multi-method research design to achieve the conceptual paper’s three objectives.

**CONCLUSION**

Innovation is a key element in entrepreneurship (Schaper and Colery, 2003) and has positive effects on national economies (Teece, 2002). The future performance of an organization depends on its ability to maintain and improve its competitive position and adapt to its evolving market. Seizing advantage through the innovative use of IT governance and its role in conjunction with intrapreneurship and innovation will generate significant practical business applications and guidelines whilst contributing to theory development and innovative business cultures having implications for Australia’s economy and international competitiveness. The integration of prior theoretical and empirical research within an applied research context informs the conceptual model developed by this work, and positions this paper where smart information use sees corporations making more effective use of intrapreneurship and innovation systems and processes. These in turn address the second priority and promote an innovation culture and economy through maximising a nation’s creative and technological capability by understanding factors conducive to innovation and
its acceptance. Finally, through the development of an exploratory causal model involving important cross-disciplinary linkages, this paper has addressed key aspects of innovation policy concerning the strengthening of creativity and knowledge generation evident in the policy statements of many national governments.

Future research on this topic should consider an empirical assessment of the role and relationship of best practice IT governance (as identified in the International Standard (ISO/IEC 38500) in supporting intrapreneurship and innovation practices in SME and medium to large organizations in Australian industries; particularly in the service sector, and a consideration of how the issues of intrapreneurship, innovation and IT governance principles impact on comparative organizational performance. Such research will test the theoretical framework developed in this paper and provide an analysis of the veracity of hypothesised links between key variables as described above.
REFERENCES


