Association for Information Systems
AIS Electronic Library (AISeL)

PACIS 2010 Proceedings

Pacific Asia Conference on Information Systems (PACIS)

2010

World-Class IS-Enabled Business Innovation: A Case Study of IS Leadership, Strategy & Governance

Steve Elliot
The University of Sydney, steve.elliot@sydney.edu.au

Mary-Anne Williams
University of Technology, Mary-Anne@TheMagicLab.org

Follow this and additional works at: http://aisel.aisnet.org/pacis2010

Recommended Citation
Elliot, Steve and Williams, Mary-Anne, "World-Class IS-Enabled Business Innovation: A Case Study of IS Leadership, Strategy & Governance" (2010). *PACIS 2010 Proceedings*. 180.
http://aisel.aisnet.org/pacis2010/180

This material is brought to you by the Pacific Asia Conference on Information Systems (PACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in PACIS 2010 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

WORLD-CLASS IS-ENABLED BUSINESS INNOVATION: A CASE STUDY OF IS LEADERSHIP, STRATEGY & GOVERNANCE

Steve Elliot, Business Information Systems, The University of Sydney, Australia, steve.elliot@sydney.edu.au

Mary-Anne Williams, Enterprise and Innovation Lab. University of Technology, Sydney, Australia, mary-anne@themagiclab.org

Abstract

While many global corporations acknowledge they lack corporate capabilities for successful technology-enabled business innovation, an Australian financial services provider has been ranked by an international ratings agency in its highest categories due to the capabilities of its Information Systems. Its Loan Processing system has been commended by the ratings agency as the principal reason for its high ranking and for the organization's inclusion on a global list of selected service providers.

This paper presents a longitudinal case study of how an organization with 750 employees located in rural Australia came to develop world-class strategic Information Systems. From its first system nearly 30 years ago, this paper shows how the organization has grown in-house capabilities to devise, develop, implement and manage applications of technology from operational systems that automate specific functions to systems that inform and enable enterprise strategy. The implications for theory and practice are discussed.

Keywords: Innovation, World Class, IS-enabled, Case study

1 INTRODUCTION

> *Banking is transforming itself at a pace and on a scale that has no historical precedent … Banking has to make the leap from a transaction-based business into a sales-and-marketing culture where a bank will be defined by its ability to add value to the customer relationship… Those banks that refuse to adapt will very likely die (Darlington, 1998).*

Ten years after Darlington presented his ultimatum to banks, an Australian financial services provider has been ranked by an international ratings agency in one of its highest categories due not to its prudential practices or growth in its funds under management, although both are superior, but due to the capabilities of its Information Systems. Its Loan Processing system has been commended by the ratings agency as the principal reason for the high ranking and for the organization's inclusion on a global list of service providers considered world class (S&P 2008). This internationally competitive organization is not a major bank located in the nation's financial centre but a medium sized enterprise located in a provincial city some 120 kilometers (75 miles) from the nearest state capital.

At a time when many global corporations recognize the necessity to undertake strategic, technology-enabled business innovation but acknowledge they lack the corporate capabilities to achieve this goal (IBM 2008; McKinsey 2010) this paper examines how an organization with 750 employees located in rural Australia came to develop world-class strategic Information Systems. Through four phases of systems implementation over nearly 30 years, we examine how the Regional Building Society* (RBS) grew its capabilities to develop and apply technology from an inaugural operational system automating a back office function to Information Systems that inform and enable enterprise strategy. Unusually, due to high rates of staff retention, RBS' current staff can provide first hand accounts of each phase. The focus of this paper is RBS' Loan Processing system. As with all of RBS' core systems since the 1990's, the Loan Processing system was developed in-house.

The paper's subsequent structure is: research approach, the case study, lesson learned, and conclusions, implications and discussion. * the enterprise's name is withheld.

2 RESEARCH APPROACH

In response to a reported deficiency in corporate capabilities for sustained business innovation acknowledged in a global surveys of more than 1,100 (IBM 2008) and 1,440 (McKinsey 2010) CEOs and a call for research into the institutional context and conditions that facilitate the development of corporate capabilities for applications of IT enabling strategic advantage in customer services (Ray et al. 2005) this paper aims to present and to analyze a case study investigating an example of internationally leading-practice. The critical research questions are: "How does an enterprise, with apparently the same access to technology as its competitors, come to be recognized as world class in its applications of technology?"; "How did the enterprise come to develop strategic capabilities in the application of technology while many corporations internationally struggle with this challenge?"; and, "Can this be a revelatory case to inform current IS theory and practice?"

Preparation of the case study included interviews with the organization's Chief Executive Officer, Chief Information Officer and a current employee who worked on the first system to be implemented. Triangulation in data collection was achieved through interviews as well as internal and external reports and details. The unit of analysis was the subject organization and its IS capabilities over a period of 30 years of development, implementation, maintenance and evaluation of Information Systems.

Validity and reliability requirements for the study were addressed explicitly. Construct validity was assured by establishing the focus of the study as being of importance in both theory and practice with independent verification that the organization selected was acknowledged to have world-class IS, essential to support the aim of the study. Internal validity was established through adoption of a broad, multiple perspective, exploratory investigation of the phenomenon of interest without predicted theoretical outcomes. A case study protocol described the project's objectives, data

collection areas, details and deliverables. A case study database of all documents at all stages ensured continuity of data collection, verification, analysis and reporting. The open-question interviews were recorded, transcribed and verified by interviewees. Both protocol and database were essential to establish reliability of the outcomes (Yin 2003).

Anonymity in a case study represents a challenge to reliability. Investigation of an enterprise with world-class strategic IS can be problematic for both the organization and the researcher. The subject enterprise is, not unreasonably, reluctant to present its experiences if the case is to be attributable. The researcher seeks open and candid responses to requests for data but cannot expect complete candor if the information may compromise the organization's strategic advantage. The outcomes of this dilemma tend to be bland overviews of publicly identified companies or more detailed investigations of anonymous firms. To adequately address the research aims and questions, anonymity was accepted for this study. A single case has been recognized as being sufficient to make a significant contribution to knowledge if it meets the requirements for a revelatory case, i.e., it can provide important insights not previously available (Yin 2003). As can be seen in the following details and analysis, this case meets this requirement.

3 REGIONAL BUILDING SOCIETY (RBS)

With a history dating back to the late 1880's, RBS is an authorized deposit-taking institution licensed under the Australian Banking Act. It provides a full range of financial products and services to its members through alliances with specialist providers. Like savings and loans associations in the USA, building societies are mutually owned so each customer is a member and shareholder. Although they provide similar services to and compete with banks, building societies are different in that their primary aim is to provide members with services rather than to accumulate value for distribution to shareholders.

One of the largest building societies in the nation with more than 300,000 members and $US5 billion in assets under management, RBS has grown from its home city of 90,000 inhabitants to extend throughout Eastern Australia. Members' services are provided by a distribution network of 130 branches, agency retail outlets and brokers, complemented by an extensive suit of Internet and telephone banking services. RBS' original and continuing aim is to provide the best financial services for its members. Its current business strategy focuses on: providing excellence in member services; product innovation; growing membership; and diversifying its traditional market to broaden its revenue sources so as to reduce its regional exposure to the impact of natural forces including destructive storms, floods, fires, and earthquakes.

3.1 IT and E-Business

> *"Strategic investment in technology and integrating technology with banking products at every level has been essential to positioning RBS for sustainable growth and has been a critical factor in our success to date" (CEO).*

The most apparent impact of IT and E-Business has been in transforming interactions between RBS and its member clients. In 1995, face-to-face transactions in branches accounted for 60% of all transactions. That has now decreased to less than 8%. Internet banking has been operational since 1999 and now accounts for more transactions than all 130 branches and agencies.

RBS has upgraded their Internet banking channel every year since 1999 to meet the ever-growing demands of their member base. The driving force for this transformation has been member demand. Customer surveys clearly show that members want to use technology to do their banking. Since 1995, the annual volume of transactions online has increased fivefold from 10 million to 50 million while member numbers have not quite doubled.

It is fortunate that members have embraced Internet banking. At the average cost of retail banking transactions published by the national financial regulator ($US5.00 for transactions in a branch and $US0.35 for transactions online) an additional 40 million transactions each year through branches

would have bankrupted the organization or would have driven members seeking higher levels of service to competitors. The capacity for technology enabled applications to provide full services to members online 24/7 while also reducing the transaction costs by more than 90% illustrates how the impact of technology has moved from operational to strategic benefits.

3.2. Phases in Development of E-Business

RBS has developed its capabilities to apply technology successfully to address business problems through four phases of systems implementation over nearly 30 years. Their first phase was implementation of a payroll system, their first computer system, in the early 1980s. The second phase, in the late 1980s and early 1990s, saw the implementation of a mini-computer based core banking system connected to a wide-area network. The core system supported basic back-office banking functions: recording deposits and loans, ledgers and member details. The wide-area network included ATMs for customer access and file transfers with the Reserve Bank (national regulator) for direct entry transactions. The business objectives for the core system were consistent with benefits realized by the payroll system: reductions in time and cost through process efficiencies and improved accuracy. The objectives in providing customer services through ATM access and direct entry file transfers were, however, strategic. The major banks provided these services so RBS was obliged to provide comparable services to support its mission to provide the best levels of service to members.

The third phase was in the late 1990s and early 2000s, with integrated workflow systems across organizations. The Loan Processing system described below is the prime example. The business objectives were operational in support of process efficiencies but also strategic in support of growth and market diversification. The current, fourth, phase in the late 2000s is characterized by a virtual organization encompassing alliances with specialist providers to provide a full range of financial products and services to RBS' members. The business objectives are also a blend of strategic and operational. Alliances with specialist providers enable RBS to present a full range of specialist services to members that compete with major banks but without the operational costs of establishing those service capabilities in-house.

In undertaking the Loans Processing project, RBS sought to improve operational efficiencies through workflow integration but also to implement corporate strategies for growth and market diversification outside their geographical region. RBS' choice was either to incur substantial costs in staff and branches by developing remote branches or to find a more efficient, cost effective technology-enabled approach to processing loans. The Loans Processing system was initiated to realize both efficiency and strategic objectives. Use of brokers in other states and regions was a way for RBS to increase loans volume substantially without the necessity to open branches in those areas. Intermediary offices were established in Sydney and Melbourne to interface with mortgage brokers who sold mortgage loans into the Sydney and Melbourne markets.

From a process perspective, an application in the Loan Processing system was processed completely without paper documentation. Details are entered, submitted online and evaluated for general applicability. Member's details are inserted into the application from the Member Details ERP to avoid duplicated effort. RBS' staff acknowledge that, due to the large number of processes and people involved, prior to the Loans Processing project they did not have a detailed understanding of existing business processes from loan application to completion. Their first task, to map and to redesign the loan processes, took three months. A major consultancy was engaged to train the team in process mapping techniques.

RBS sought to improve the efficiency of their internal processes by process and procedural changes as well as by the review and revision of their loans processing policies. The initial tasks were to map the business processes from end to end and to e-engineer them. The system was then specified and developed based on the improved business processes. The project took about 12 months.

> *"We looked at the process as a whole, reengineered it, and then developed the technology system and implemented that" (CIO).*

Systems development challenges confronting IT departments commonly include: ensuring alignment between technology and business objectives; persuading business areas to take responsibility for development of new systems; acquiring user acceptance of systems once implemented; and determining the degree of fulfillment of objectives, after implementation. RBS experiences none of these challenges. Business and technology were totally integrated at all stages in the Loans Processing projects and remain totally integrated today where the current CIO has responsibility for technology and payments, and the previous CIO is now the CEO.

Objectives and Key Performance Indicators were set around the business process to decrease costs by fifty percent and to increase the process efficiencies in terms of throughput by fifty percent. These targets were not just wishful thinking. The project commenced with a complete mapping of business processes down to the level of tasks, or individual components of work. For each task, the project team timed how long it took the person to complete the task, and determined the cost of that person's time, including on-costs. Task analyses were amalgamated to create detailed time and cost models of the overall loans process. New models were then developed based on the procedural and policy changes identified and the benefits anticipated from the use of technology. Comparing the two models indicated that process improvements in time and cost of around fifty percent were achievable so those figures were set as the targets. By the end of the project the team had enhanced the system following change requests and the targets were exceeded.

This level of attention to process improvement may suggest that operational efficiencies were the sole objective. In fact, the Loan Processing system was directly attributable to RBS' corporate strategies for growth and market diversification outside their geographical region. Prior to the system, RBS had little interaction with mortgage brokers. The strategic success of that system is shown by the fact that today, lending volumes through brokers represent half of RBS' total loans business.

Although the Loans Processing system was designed to create productivity improvements, its benefits were strategic, particularly in the area of service standards, growth and market diversification. Using the system, RBS could process a loan in less than 24 hours and have all documentation in the hands of approved borrowers in less than another 24 hours.

> *"This is a competitive capability that nearly ten years later the major banks can still only envy" (CEO).*

That is an important advantage for a building society that has no physical brand presence outside its home region. The strategies for growth and market diversification through the Loans Processing systems have been proven internally through revenue growth from outside the home region (now representing about half of RBS' total loans business) and externally through recognition as being world class by an international ratings agency (S&P 2008).

Before the introduction of this system, RBS had a huge volume of documents relating to loans. Paper files were processed and stored in the Credit Department. Technology allowed pooling of resources to meet the workload. RBS went from a loans portfolio of $US650 million to $US4.5 billion in seven years. If RBS hadn't automated the lending processes they would have had to use the equivalent of the whole of the Head Office building just to process and store loan documents.

> *"At RBS, technology's only purpose is to support the strategies and policies of the Society by providing superior member service. There is no technology for technology's sake. Every major IT investment is strategically aligned and approved by the Senior Executive Group as well as the IT Steering Committee to ensure that IT continues to add value. " (CEO).*

This clear statement about alignment of enterprise and IT strategies at all levels in the organization from governance to management and operations is not just policy. In practice, the Chief Information Officer (CIO) also has responsibilities for core business functions. The current CEO was previously General Manager, Technology and Distribution during development of the virtual organization in the early 2000s. The current CIO is General Manager, Technology and Payments, reflecting the current emphasis on leveraging the distribution network in place. Technology is integral to innovation in RBS. The current CIO chairs the steering group that encourages, facilitates and evaluates innovation across the organization.

From a business perspective, technology has to enable the enterprise to be responsive to the banking market where competitive and regulatory forces have created a dynamic industry environment. This need for responsiveness is one of the main reasons RBS has undertaken in-house the development and operation of the vast majority of their technology assets and solutions. The enterprise policy of self reliance has proven to be a success factor for the Loans Processing system and also explains how RBS was able to achieve competitive advantage from generally available technology. RBS purchased their ERP software from a vendor but have continually enhanced it over a period of nearly 20 years to the point where it provides unique advantages not available from any other source.

4 LESSONS LEARNED

Although the vast majority of technology development at RBS is undertaken in-house, technology's only purpose is to support the strategies and tactics of the Building Society. The first lesson learned is the importance of having enterprise and IS strategies completely aligned. The outcome of this alignment is a world-class system, as evaluated by an international rating agency (S&P 2008). Other lessons from this case include the critical necessity for executive management to: recognize the strategic potential of IS within the industry as well as within the organization; actively engage with and to take responsibility for applications of technology within the organization; acknowledge that the principal challenge is not development, deployment and continuous improvement of IS, that may be outsourced, but the development and refinement of corporate capabilities for successful technology-enabled business innovation, that must not be outsourced; ensure that analysis is undertaken of all parts of extended value chains to optimize processes and to support business strategies; and to utilize alliances with best practice suppliers and providers but only to the extent that supports enterprise strategies.

In short, to know your business, to clearly state your mission, strategies and goals; to identify your opportunities (including technology-enabled business opportunities) as they develop; and to seize those opportunities that contribute to your long term goals. The perennial mantra for organizations to "know your customer" (Gummesson 2008) and the imperative for banks to focus on adding value to customer relationships (Darlington 1998) have been necessities for RBS since its conception because it is a mutual organization owned by its customers. This strong customer focus is in contrast to major banks competing in RBS' home market since the banks' focus on shareholder returns.

A culture of self reliance was developed by RBS due to its rural location but this culture has served the organization well in encouraging a can-do willingness to innovate strategically as well as operationally. In the Loans Processing project, the self sufficiency approach adopted was very successful and has been subsequently applied to other process improvement projects, including branch operations, insurance, and personal loans. This approach means the organization assumes total business responsibility for all aspects of the project and staff will develop capabilities as required to ensure the project is successful. Investment in staff members' professional development has proven its value to RBS as staff retention rates are very high.

5 CONCLUSION, IMPLICATIONS AND DISCUSSION

RBS, an Australian financial services provider, has been ranked by an international ratings agency in its highest categories due to the capabilities of its Information Systems. Its Loan Processing system has been commended by the agency as the principal reason for its high ranking and for RBS's inclusion on a global list of world class service providers (S&P 2008). This paper presents a longitudinal case study of how an organization with 750 employees located in rural Australia came to develop world-class strategic Information Systems.

> *"One of the most significant applications of technology at RBS has been the loan processing system. We were able to successfully combine existing legacy systems with workflow processing, imaging of loan documentations, automation of processes, and completely*

removed paper documentation from our loan processing. This was achieved in less than 12 months and today still stands as Australia's most successful loan processing system." (CEO).

The critical questions addressed in this case study are: "How does an enterprise, with apparently the same access to technology as its competitors, come to be recognised as world class in its applications of technology?"; "How did the enterprise come to develop strategic capabilities in the application of technology while many corporations internationally struggle with this challenge?"; and, "Can this be a revelatory case to inform current IS theory and practice?"

In response to these questions: Equal access to technology with strategic impact on the market cannot be assumed. RBS continuously developed their systems in-house over 20 years to reach their current status. In-house development over a long period reduces the capacity for competitors to imitate strategic systems by purchasing identical systems. There was no intention to develop world-class systems; the intention was to provide the best services to its members. That intention when applied to a core banking function and enabled by in-house organizational capabilities produced outcomes rated independently as being world-class.

The impact on current IS theory ranges from factors in the general organizational context, through institutional theory to the specific IT artifact and then to governance. Organizational theories of environmental impact consider the physical and social factors outside an organization relevant to its success. Factors may represent a deterministic force or an opportunity (Duncan 1972; Child 1972; Kotter 1979). The impact of technology, regulation, market and user factors are common to all levels of IS management (Lederer and Mendelow 2005). Geographical isolation leading to a culture of self-reliance and its influence on IS development enabling an organization to compete in an international market previously has not been identified as a factor or a deterministic force. Further research into geographical drivers of IS success in a globalizing market appears warranted.

Institutional theory considers two dimensions in an organization's environment that influence organizational form and actions (Scott 1987, 2001; Chaisson and Davidson 2005). RBS' experiences, however, appear to be influenced by a broader range of dimensions and to inform institutional logics, actors, governance, demand, supply, technologies and markets rather than being limited to organizational forms and actions. This study suggests further research should be undertaken into the range of independent and dependent variables contributing to institutional theory.

The IT artifact is embedded within a social and technical context that includes: values, industry and firm conditions, agendas and relationships, and external and internal jolts. The IT artifact comprises the material and cultural properties of the hardware and software designed for a task (Orlokowski and Iacono 2001; Benbasat and Zmud 2003)). RBS' approach to systems development appears to challenge current thought in that RBS' IT artifact is not so much embedded within context but indistinguishably intertwined with the business context. Further research appears warranted to identify other possible instances of this phenomenon and to determine if the intertwined nature of business and technology is a characteristic of world-class systems.

Based on prior work in IT governance (Sambamurthy and Zmud 1999; Weill and Ross 2004, 2005) a study of 57 IT investment decision in Chinese hospitals (Xue et al. 2008) identifies IT governance archetypes. That study: reframes IT governance to include pre-decision stages; suggests that even when top management approval is required, the IT department may not play a key role in the IT investment decision process; considers that allocation of final decision rights is only a part of IT governance; and finds that IT governance archetypes may affect desired outcomes of IT investments. The RBS study finds some support for that work (Xue et al. 2008) but also some basis for challenging several of the outcomes from prior research. The archetypes for IT governance receive some support, particularly the duopoly of Top Management and IT professionals. There is no challenge to the proposed extension of IT governance to include pre-decision stages; that allocation of decision rights is only part of IT governance; or that IT governance archetypes may affect the desired outcomes of IT investments. However, there is no support for the suggestion that the IT department may not play a key role in the IT investment decision process.

These findings need to be considered with a mind to their limitations. This is a single case in a single industry so the generalizability of the findings remains subject to confirmation. The RBS study is of a medium sized business in the Financial Services sector in Australia rather than a large hospital in China [19]. Small and medium sized businesses are acknowledged to have different forms, concerns and priorities to larger organizations (Welsh and White 1981). RBS is a mutually owned organization and so is likely to have greater reliance on collaborative forms of governance. The findings do, however, provide a richness of experience and a depth of detail not previously available and, therefore, RBS may be considered a revelatory case (Yin 2003) that challenges prior thinking.

Lloyd Darlington's warning in 1998 also challenged prior thinking in stating that it was imperative for the financial services industry to transform itself through applications of technology to become sales and marketing focused. That warning found a ready audience in the service oriented, mutually owned RBS in rural Australia.

References

Benbasat, I. and Zmud, R. (2003). The identity crisis within the IS Discipline: Defining and communicating the Discipline's core properties, MIS Quarterly, 27(2), 183-194.

Chaisson, M. and Davidson, J. (2005). Taking industry seriously in IS research, MIS Quarterly, 29(4), 591-605

Child, J. (1972). Organizational structure, environment and performance: The role of strategic choice," Sociology. 6. 2-22.

Darlington, L. (1998). Banking without boundaries. In Blueprint to the Digital Economy (Tapscott, D. Ed), McGraw-Hill, New York.

Duncan, R.B. (1972). Characteristics of organization environments and perceived environmental uncertainty. Administrative Science Quarterly, 17(3), 313-327.

Gummesson, E. (2008). Total relationship marketing: Marketing management, relationship strategy and CRM approaches for the network economy, Butterworth-Heinemann; 3rd edition, 3-4.

IBM (2008). The Enterprise of the Future: Global CEO survey, IBM Corporation, NY, 14.

Kotter, J.P. (1979). Managing external dependence, Academy of Management Review. 4(1), 87-92.

Lederer, A.L. and Mendelow, A.L. (2005). The impact of the environment on the management of Information Systems, Information Systems Research, 1(2), 205-222.

McKinsey, (2010) Building organizational capabilities, McKinsey & Company, Global Survey.

Orlikowski, W. and Iacono, S. (2001). Desperately Seeking the 'IT' in IT Research—A Call to Theorizing the IT Artifact, Information Systems Research 12(2), June, 121-134.

Ray, G. Muhanna, W.A. and Barney, J.B. (2005). IT and performance of the customer service process: A resource based analysis, MIS Quarterly, 29(4), 625-652.

Sambamurthy, V. and Zmud, R. (1999). Arrangements for Information Technology governance: A theory of multiple contingencies, MIS Quarterly (23:2), pp. 261-290.

Scott, W.R. (1987). Organizations: Rational, Natural and Open Systems (2nd ed.), Prentice-Hall Publications, Englewood Cliffs, NJ.

Scott, W.R. (2001). Institutions and Organizations (2nd ed), Sage Publications, Thousands Oaks.

Weill, P. and Ross, J. (2004). IT Governance: How Top Performers Manage IT Decision Rights for Superior Results, Harvard Business School Press. Boston.

Weill, P. and Ross J. (2005). A Matrixed Approach to Designing IT Governance, MIT Sloan Management Review, (46:2), 26-34.

Welsh, J.A. and White, J.F. (1981). A small business is not a little big business, Harvard Business Review, July-August, 18-32.

S&P (2008). Servicer Evaluation: 'RBS', Standard and Poors, 14th October.

Xue, Y.J., Liang, H.G. and Boulton, W.R. (2008). Information Technology governance in Information Technology investment decision processes: The impact of investment characteristics, external environment, and internal context", MIS Quarterly, 32(1), March, 67-96.

Yin, .K. (2003). Case Study Research Design and Methods (3rd ed.), Thousand Oaks, CA: Sage Publications.