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ALLOCATION OF IT DECISION RIGHTS IN MULTI-BUSINESS ORGANIZATIONS: WHAT DECISIONS, WHO MAKES THEM, AND WHEN ARE THEY TAKEN?

Completed Research Paper

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Abstract

Effective IT governance is an important requirement for strategic IT-based change. The extant literature focuses on which IT decisions should be governed and who is accountable for them. However, in multi-business organizations there is little theoretical guidance on which decisions should be made at the corporate and strategic business unit (SBU) levels, or when such decisions should be made as part of the corporate and SBU strategy processes.

This paper draws on the strategic management literature to develop a theoretical framework for allocating IT decision rights between business and IT at the corporate and SBU levels. Importantly, the framework also unbundles corporate IT platform and SBU IT decision making across the corporate investment cycle. This is achieved by adopting a real options-based pricing investment model to reduce risk, uncertainty and complexity. The theoretical framework is illustrated with in-depth longitudinal case study and compared against existing normative IT governance prescriptions.

Keywords: IT Governance, Business Value of IT, Business-IT Alignment, IT Investment, IT Management

Introduction

Strategic IT-based change is complex and difficult. It is subject to poor project and investment performance, and a perceived gap between business and IT decision making. Therefore, significant senior management attention is required to capture the potential from new business models, digitized processes and enhanced operations (Porter 1991, Venkatraman 1994, Ross et al 2007). This is particularly true for large multi-business organizations that seek to build complementary business and IT capabilities in order to compete both as an organization across business units and as individual strategic business units (SBUs) within their own markets.

In response to these challenges, organizations seek to establish strong governance over IT decision making. At its core, IT governance research focuses on what IT decisions need governing and who is accountable for them. However, allocating decision rights in multi-business organizations has two challenges. One is that there is little theoretical guidance specifying which decisions should be made at the corporate level and which should be made at SBU levels. Typical prescriptions are to balance scale across the organization and agility/innovation within SBUs (See, for example, Hodgkinson 1996, Brown 1997). The need for balance across levels relies on managers' willingness to compromise, which is a weak form of control.

The other challenge is to provide guidance on when decisions should be made across the corporate and individual SBU investment cycles. The sequence of business and IT decision making between corporate and SBU level decisions is important. For example, if insufficient shared IT infrastructure is committed prior to SBUs developing their strategies, individual SBUs may have to forego some business opportunities, or build their own duplicate IT infrastructure to support their business applications. Alternatively, if too much shared IT infrastructure is committed, the investment is wasted. The typical prescription is to bundle corporate and SBU decisions together in a single investment decision, resulting in large complex IT-based initiatives across the organization. This requires extensive and dedicated IT governance processes to coordinate decision making and implementation across SBUs.

In the absence of a clear basis for the allocation of decision rights to address these two challenges, organizations rely on compensatory mechanisms, including, for example, a strong CEO and CIO relationship, stakeholder committees, and extensive formal IT signoffs (Wood and Thorogood 2007). The risks are that decisions are delayed, IT portfolios are duplicated with redundant applications, there is little accountability for decisions, and governance is perceived as red tape to be circumvented.

This paper addresses the above limitations by drawing on the strategic management literature, which distinguishes between corporate and SBU strategic decisions, and the IT literature, which distinguishes between the IT infrastructure platform and SBU business application portfolios. It develops a theoretical framework for allocating IT decision rights in multi-business organizations. Importantly, when developing this framework, we found it also needed to specify decision rights covering when those decisions should be made. This supports decisions being made by their natural organizational owners at a time of their choosing, contingent on market developments and emergent needs.

The paper begins by briefly reviewing the current theoretical prescriptions for allocating IT decision rights and describes the typical corporate, SBU and functional decision making processes in multi-business organizations. This is followed by a presentation of the framework, which separates strategic IT decisions made as part of the corporate and individual SBU strategy processes, and those made as part of the shared IT platform and individual SBU IT portfolio strategy processes. Rather than making all decisions simultaneously as part of an integrated decision at the beginning of the investment cycle, the framework adopts a real options pricing investment model rather than one based on net present value (NPV).

The framework is then illustrated by mapping strategic decision making across the corporate investment cycle for the Commonwealth Bank of Australia (CBA) *CommSee* case. The discussion shows how the framework supports the allocation and sequencing of decision rights and how the framework is both consistent with, and extends, existing IT governance prescriptions.

Review of the Literature and Theory Development

IT governance is an integral part of enterprise governance, and consists of “the leadership and organizational structures and processes that ensure that the organization’s IT sustains and extends the organization’s strategies and objectives” (Buckby et al. 2008, citing ITGI 2003). An extensive literature has developed various IT governance

structures and identified contingency factors to link IT governance and organizational performance (See, for example, Sambamurthy and Zmud 2000, Weill and Ross 2004). The literature is largely inductive and practice based.

In this paper, we define IT governance as the allocation of IT decision rights and accountabilities to control the use of IT (Weill and Ross 2004). In their studies of over 256 enterprises, including over thirty in-depth case studies, between 2002 and 2008, Weill and Ross (2009) report that organizations with superior IT governance report profits 20% higher than organizations with poor IT governance. Weill and Ross (2004) focus on the critical decisions to be governed, including which processes to digitize, enterprise architecture-integration and compatibility, IT infrastructure, business applications, and IT investment and prioritization. Existing normative prescriptions for IT governance recommend focusing on a small number of IT decisions to simplify IT governance, remove bureaucracy and aid communication.

The choice of who makes those IT decisions includes whether they should be made by the business or IT functions. Ross and Weill (2002) provide a concise, best practice-based guide to who should oversee what decisions. They identify six IT strategy and execution decisions that IT people should not be allowed to make. These are investment, choice of initiatives, levels of sharing, service quality, security and accountability.

A key prescription is that the allocation of IT decision rights should be linked to existing governance and decision making processes within the organization. Existing governance mechanisms include business and IT roles (CEO, CIO, CFO, and business/IT relationship managers), committees (Board, Executive Committee, IT steering committee), and strategy, investment and project management processes (financial investment, architectural design, project management, etc). These mechanisms frequently have reinforcing incentives already in existence within the organization.

Multi-business organizations present a particular challenge for IT governance, with decision rights dispersed throughout the organization (Boynton and Zmud 1987, p61; Burlingame 1961; Garrity 1963). However, the literature provides little guidance concerning which decisions should be made at the corporate or SBU level. Rather than allocate the six decisions to one or other level, the IT governance literature focus has been on shared decision making (via committees with representation from business/IT and corporate/SBU) and balance between corporate and SBU influence over decisions, supported by a willingness to compromise. For example, Weill and Ross (2004) recommend a centralized cost focus and a decentralized innovation/growth strategy, with blended governance to achieve both.

Alternatively, the literature focuses on the centralization and decentralization of IT. For example, Hodgkinson (1996) examines alignment between corporate strategy and IT structure using Goold and Campbell's (1987) corporate strategy styles and Earl's (1996) typology of IT structure. Superior performance is contingent on alignment between corporate strategy style and IT structure. Brown (1997) extends this research to describe the emergence of hybrid structures across SBUs.

In addition, the extant IT governance frameworks frequently assume all IT strategy decisions are made up-front and across all business units at the same time. The question - *When should decisions be made?* - is not addressed. Instead, IT decisions relating to large scale IT-based change are usually allocated to specific project steering committees (with business and IT stakeholders from corporate and SBU levels), and investment decisions are overseen by normal business capital investment process. Making corporate and SBU investment decisions contemporaneously requires that the organization bundles corporate infrastructure and SBU IT portfolio investment decisions across the organization. This can result in IT-based transformation projects that are large, risky and complex.

In summary, normative prescriptions for IT governance applicable to multi-business organizations should:

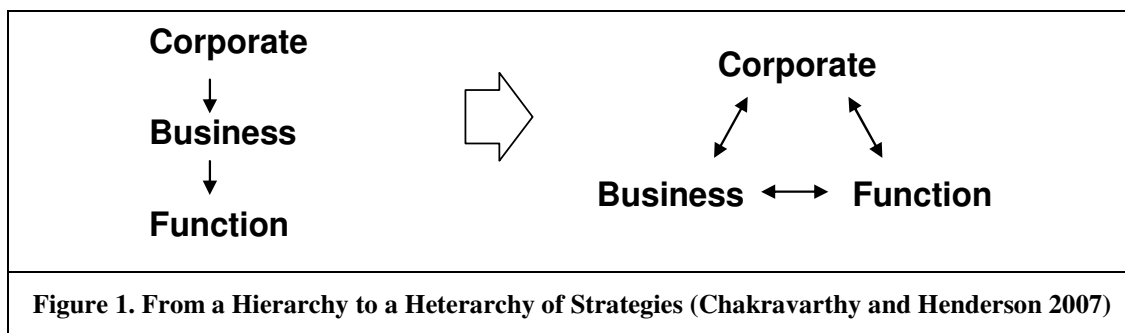
1. Focus on a small number of critical decisions
2. Leverage existing governance mechanisms and incentives
3. Design different IT governance at the corporate and SBU levels
4. Capture synergies across the organization
5. Focus on how each project and service contributes to a re-usable digitized platform.

To develop a framework for allocating IT decision rights to their natural organizational owners, we start with an examination of corporate and SBU business strategy decision-making in multi-business organizations and the organizational governance mechanisms for making them. We then unbundle corporate and SBU IT decisions with an alternate investment model. The mechanisms to maintain coherence across the corporate investment cycle are presented as well as how this reduces project risk, uncertainty and complexity.

Allocating IT Decision Rights in Multi-Business Organizations

Multi-business organizations involve the management of multiple business units, or divisions, each of which competes in its own market. Also referred to as *multi-divisional* or *M-Form*, the multi-business organization structure is the dominant form for large organizations. Superior performance is achieved by establishing a number of semi-independent strategic business units (SBUs) that allow the organization to grow and diversify (Chandler 1962; Williamson 1975).

Strategic decisions are made at both the corporate and business unit levels (Grant 2002). Corporate strategy specifies how to compete as an organization, including the choice of markets in which to compete, and the level of collaboration across the organization. SBU strategy specifies the resources and capabilities required to compete in that SBU's own specific market. Traditionally, the relationship between corporate, SBU and functional strategies has been regarded as a simple hierarchy (See Figure 1). More recently, researchers have recognized that functional strategy influences both corporate and SBU strategies in a heterarchy (Chakravarthy and Henderson 2007; Kathuria et al. 2007).



The integration of corporate and SBU strategies frequently involves complex coalitions of actors and technologies (David 1997). Typically, the expected sequence is for corporate strategy to be defined first, which then shapes and constrains subsequent SBU strategies¹. This process is overseen by the top management team, which is the key business mechanism and control point in multi-business organizations.

Managing multiple SBUs requires that the corporate strategy and individual SBU strategies generate and capture synergies across business units (Gavetti 2005). Without the capacity to generate synergies, corporate performance is simply the sum of individual divisional performances (Dosi et al. 1992; Teece and Pisano 1994). The coordination of corporate and SBU capabilities is equally relevant in the IT domain. It is commonly accepted that competitive advantage cannot be realized by simply investing in the latest technology (Carr 2003). The opportunity for IT on its own to create a source of competitive advantage for an individual organization is low (Wernerfelt 1984). Even if an organization achieves some limited competitive advantage, the benefits are rarely sustainable, as competitors can easily copy the application of technology. This reduces the investment to another 'competitive necessity' for that market (MacMillian 1989). Instead, IT that spans an organization creates organizational value by coordinating and integrating activities across SBUs into existing and new markets (Clemons 1991). These shared capabilities include IT infrastructure capabilities across an organization (Broadbent and Weill 1997), and are supported and

¹ While this is the formal strategic and investment decision sequence, it is recognized that there are strong influencing roles. The IT platform and SBU planning activities will influence the corporate strategy. The SBU IT planning will influence their corresponding SBU strategies. Once the corporate and SBU strategy decisions are made, however, the IT platform and SBU IT strategies will be developed within the constraints of those decisions.

complemented by IT management business relationship capabilities (Mata et al. 1995; Ross et al. 1996) and core business processes (Ross et al. 2006)

In this study, the IT spanning an organization is referred to as the IT platform, encompassing IT management, relationship capabilities, and processes. IT within individual SBUs is referred to as its SBU IT portfolio, encompassing the SBU business applications and SBU-specific IT infrastructure.

The IT platform strategy defines shared IT capabilities that contribute to, and support, corporate strategy and the way in which SBU capabilities are integrated. These shared capabilities drive IT-based synergies across SBUs. Each SBU IT portfolio strategy defines the IT capabilities necessary to complement and leverage its corresponding SBU business capabilities. These individual SBU strategies leverage both corporate IT capabilities and specific SBU IT capabilities to deliver their business outcomes. While the IT applications can be replicated, the ways in which SBUs leverage corporate capabilities to deploy their own capabilities quicker, cheaper and with lower risk than their competitors cannot be easily replicated.

To develop the governance framework, we start by defining four strategy domains: corporate strategy, IT platform strategy, SBU business strategy, and SBU IT portfolio strategy. Each strategy defines organizational capabilities to compete as an organization and/or within individual SBU markets. Drawing on the resource based view (RBV) of the firm, strategic business choices include the complementary IT-based capabilities that they require, the levels of sharing across the organization, the level of investment, accountability for developing them, and how they will be built, integrated and delivered. Analogous to strategic business choices, strategic IT choices include the level of IT investment, enterprise IT architecture, IT governance, IT sourcing, IT structure and IT delivery. These choices are broadly consistent with Ross and Weill (2002).

The integrated model is presented in Figure 2. The decisions include, but are not limited to, the ones shown in each quadrant. Value is created in two ways. One is by developing complementary business and IT capabilities at the corporate and SBU levels, referred to as *fit*. The other is through building complementary IT platform and SBU IT portfolio capabilities, referred to as *coherence*, while maximizing the independence across SBUs.

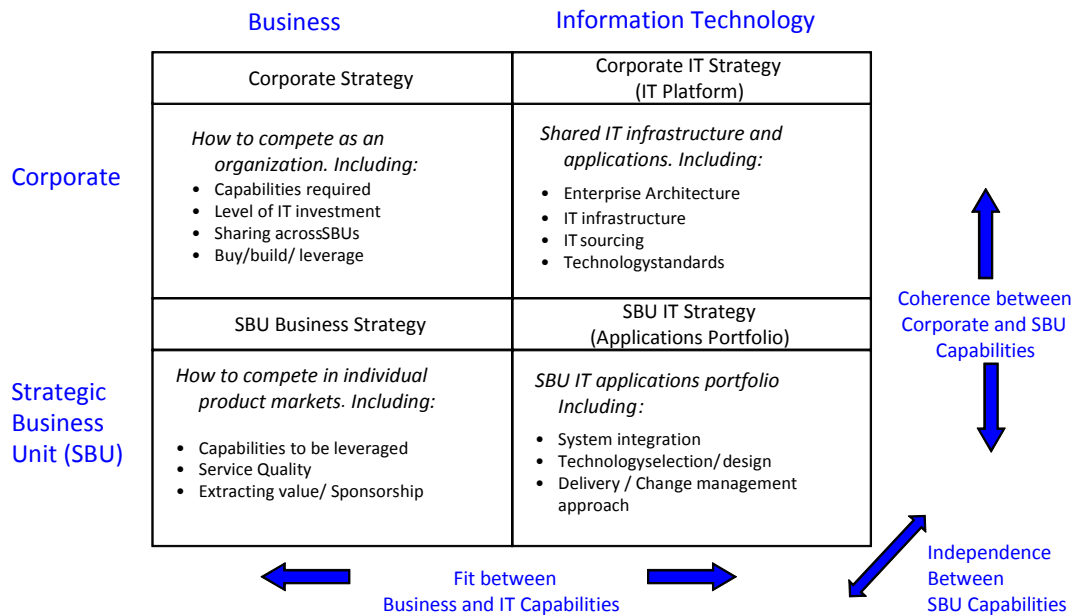


Figure 2. IT Governance in Multi-business Organizations

We now examine how this framework allocates decision rights to their natural organizational owners, unbundles IT investments between corporate and SBU levels, and maintains coherence over time. This reduces project risk, uncertainty and complexity.

Assigning strategic decisions to their natural owners

The model in Figure 2 prescribes allocating strategic IT decisions to their natural organizational owners in a way that reinforces the M-Form organizational design where the corporate function captures synergies across a set of quasi-independent SBUs. This allows corporate shared IT platform capabilities and SBU IT capabilities to be developed in timing with the normal business strategy development processes.

Each quadrant in the model has its own decisions making mechanisms (roles, committees and processes). At the corporate level, the CEO and top management team own the corporate strategy. The CIO owns the corporate IT strategy, which is usually endorsed by the top management team. The processes for corporate strategy choices are frequently extensive, as they affect multiple parts of the business.

At the SBU level, the SBU head owns the SBU strategy, which shaped and constrained by the corporate strategy. This includes the business projects that will be delivered, which, in turn, are supported by the SBU's IT application portfolio. Rather than by wide consultation, SBU executives make these decisions in response to their own markets. As a result, SBU business projects can be 'log rolled' quickly and inexpensively, avoiding the costly and drawn-out bureaucratic processes that large complex projects use to engage disparate stakeholders.

A key element of the model is the oversight provided by the top management team, which oversees the corporate strategy and endorses the IT platform strategy. Later, it endorses each of the SBU strategies (and their associated IT portfolios). This is done as part of the normal corporate and SBU planning processes. By using the established business processes and natural organizational owners, the need for special, complex, governance mechanisms to coordinate IT decision making is significantly reduced. This underpins stronger and simpler IT governance.

A critical requirement of the new framing is partitioning of the IT platform strategy from SBU IT portfolio strategies. Without this, these decisions cannot be allocated to their unique natural owners. The complication is that a stand-alone investment in IT infrastructure is typically NPV-negative, which restricts its funding options. It follows that organizations are motivated to bundle the infrastructure with multiple NPV-positive business projects. This combines the infrastructure and business project investments into one integrated business case, with an attractive NPV valuation. While this satisfies the funding requirement, it bundles decisions into one large and complex decision with no natural organizational owner, creating a complex governance challenge.

Here, a different investment model, based on real options pricing, is proposed. The new model partitions commitment to the IT platform from the SBU initiatives, while retaining a strong valuation linkage between them for the IT investment decision. Here the challenge is to define an IT platform that will support the subsequent SBU applications portfolio, thereby achieving coherence between corporate and SBU IT strategies. Partitioning the IT platform and SBU IT portfolios reduces the project risk, uncertainty and complexity, by defining smaller initiatives in phase with SBU strategy needs and that minimizes dependencies between SBUs.

Real Options Pricing Framework

Real options pricing provides an alternative financial mechanism to NPV for evaluating investment decisions. A real options-based investment model is a logical extension of the pricing models developed for financial options (Dixit and Pindyck 1994). The power of real options theory is that options over investments are valuable in uncertain environments just as financial options over stocks are valuable in times of volatility (Amram and Kulatilaka 1999). Real options theory is particularly valuable when choices involve the timing (earlier/later) of irreversible commitments.

Within a real options framework, there is a two-stage decision process. The first is acquiring the option. The second is deciding when to execute it. In contrast, within an NPV framework, there is a single-stage up-front commitment. The two-stage real options model makes the timing of investments more flexible by locking in a future price but without the obligation to buy.

This logic extends to IT-based investments (Thorogood and Yetton 2005). An organization's infrastructure presents managers with a set of options with the IT infrastructure as the technology platform generating options over dependent business projects. The infrastructure investment is the premium paid to acquire the rights, but not the obligation, to develop future IT-based business projects. The result is a multi-stage process, with the corporate center accountable for building the IT infrastructure, and SBUs accountable for their subsequent investments in

business initiatives and IT application portfolios that leverage that corporate infrastructure. This formally unbundles the IT strategic investment decisions.

The IT platform value is the aggregate of premiums the business units would pay to acquire the rights to execute their intended IT-based business projects. The net value of an infrastructure investment becomes the value of the options to invest in the business projects, plus any portfolio effects, less the cost of the infrastructure. In principle, this investment model generates an IT infrastructure project that upgrades the IT platform to support the portfolio of quasi-independent business projects. This model is consistent with the description of infrastructure as a generator of digital options (Sambamurthy et al. 2003), an enabler of business strategies (Weill et al. 2002), and a platform providing utility-like services (Keen 1991).

Figure 3 illustrates the real options-based approach for executing a series of projects over time. Projects A, B, D, E and F execute as planned. The organization abandons Project C because, while it was NPV-positive when the decision was taken to support it, it becomes NPV-negative before it is executed. Figure 3 contains Project 'X', a high-risk project which was NPV-negative at the time of the decision to support it. However, its option-value was sufficient to justify building the infrastructure to support it. When market preferences unfold and it becomes an NPV-positive investment, it is executed.

Real options theory treats the initial set of business applications as a portfolio of potential investments, some of which fail before development and, therefore, become un-executed options. The business unit that proposed Project C pays the premium for the option over that project but avoids subsequent development costs. In Figure 3, the business units execute all other projects, including Project X, at their individual market optimum times. In general, the infrastructure would not support projects other than the set of A-F and Project X. If the business units required additional projects beyond that set, then additional infrastructure upgrades would be necessary, making it desirable to consider a wide range of options whenever justifying the IT infrastructure.

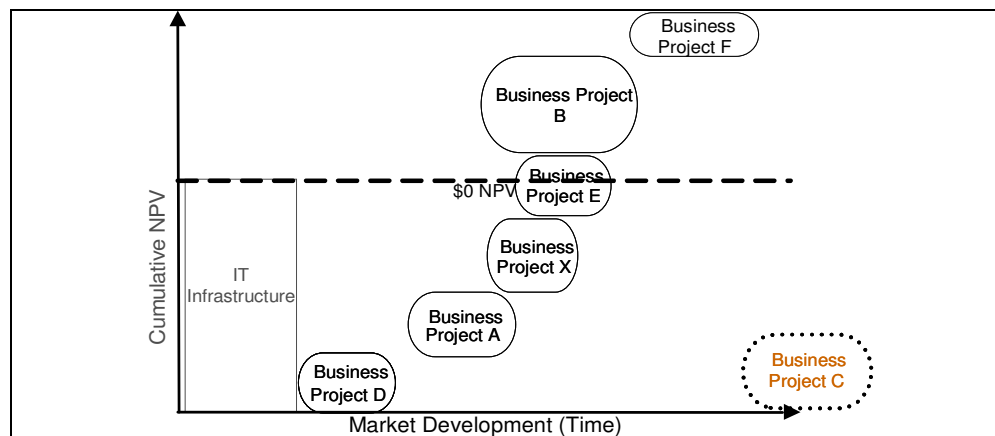


Figure 3. A Real Options Approach to IT Investments (Thorogood and Yetton 2004)

Maintaining Coherence between IT Platform and SBU IT Portfolios

The new investment model provides a mechanism for making strategic IT decisions in phase with corporate and SBU strategy processes. Specifically, it allows the corporate IT platform to be committed up-front. If the IT platform is not committed when SBUs are defining their strategies, they are likely to define their own unique IT capabilities for delivering their strategy needs, rather than relying on uncertain future shared IT platform capabilities. This supports the Broadbent and Weill (1997) concept of building a flexible IT infrastructure, and the Ross et al. (2006) concept of defining a foundation for execution and building an IT platform, one project at a time.

The key requirement is to establish and maintain coherence between the IT platform and the SBU IT portfolios across the corporate investment cycle. Coherence requires that there is limited IT *shortfall*, *underutilization* and *subsidies*. Shortfall occurs where IT capabilities required to contribute to or support another strategy, are not

defined, while underutilization occurs where IT capabilities are developed that are not leveraged by another strategy (Reynolds 2009; Tallon and Kraemer 2002). Subsides occur where the IT platform develops capabilities that benefit only one SBU strategy, or one SBU develops capabilities for a second SBU strategy (Reynolds 2009).

However, coherence is not directly specified. Rather, it is the result of strategy choices made at the corporate level and within each SBU. The key mechanism to ensure coherence is the top management team. This team commits to the corporate business strategy and then endorses the supporting IT platform strategy. Later, it endorses each of the SBU strategies and their associated IT portfolios as part of the normal corporate and SBU planning processes.

As a member of the top team, the CIO has a critical responsibility for recommending the IT platform strategy to the top management team. During this process, the strategy is reviewed by the SBU heads to ensure it will support their existing and intended future SBU strategies. Once the IT strategy platform is approved, the CIO then has a role in ensuring that SBU IT strategies leverage the IT platform.

There are strong incentives for the SBU heads as members of the top team to ensure that the IT platform will support their projected SBU IT portfolios and that they maintain their commitment to the IT platform by ensuring they leverage the IT platform capabilities as part of their SBU strategies. This mutual self-interest and personal commitment provide a strong mechanism for achieving and sustaining coherence between the IT platform and SBU IT portfolios.

Project Risk - Reducing Complexity and Uncertainty

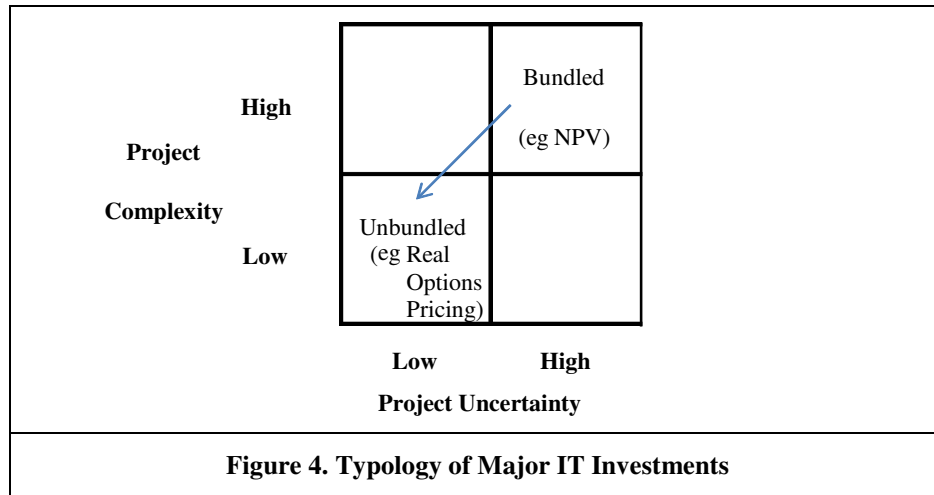
The real options-based investment model reduces the risk profile of IT investments in two ways. First, it reduces the complexity of IT investments by unbundling projects into smaller initiatives. Second, it reduces uncertainty by making IT investments when market needs dictate.

Bundling infrastructure upgrades with multiple IT-based business projects creates large complex projects due as a consequence of both their scale and integration (Grover et al. 1995). This places the investment at risk. In contrast, The Standish Group (2003, 2004) and Sauer and Cuthbertson (2003) report that small projects have the highest success rates – what Feeny (1997) calls “Dolphins not Whales”. As such, unbundling the investments into smaller initiatives and limiting dependencies to between the individual SBUs and corporate initiatives reduces project complexity.

Also, large bundled initiatives require extensive up-front planning and coordination, which encourages waterfall-style methodologies. These can result in specifications being locked in before systems requirements are known (Hughes and Cotterell 2002; McConnell 1996). Using the real options-based framework, the capacity to choose the timing of an investment reduces uncertainty, with business applications committed only in phase with SBU business developments. The downside is limited to the cost of the option. The complexity is reduced by minimizing dependence between the business projects, so lowering the portfolio’s risk (Markowitz 1952). The portfolio value of project independence acts as a counterweight to the benefits of traditional project management techniques, like resource sharing, which reduce cost and time but increase coupling, and hence, the effects of bundling.

Not all IT platform capabilities need to be defined up-front. Where possible, IT capabilities required early by SBUs are defined up-front and independently of other platform capabilities, allowing them to be developed early in the cycle. These capabilities can be integrated with other IT platform capabilities as the latter are developed.

Figure 4 maps both the NPV-bundled project strategy and an unbundled real options-based framework in terms of their project complexity and market risk. The critical assumption challenged here is that major IT investments, located in the top right hand cell, are subject to both high complexity and high uncertainty (for example, due to market risk, market changes and technology evolution). Instead, replacing an NPV-based bundled decision model with a real options-based investment model relocates major IT investments from the top right to the bottom left hand cell in Figure 4.



Illustration

The illustration is drawn from the CBA *CommSee* case, a single in-depth longitudinal case study of a major IT-based strategic change at the Commonwealth Bank of Australia (CBA). CBA is a large multi-divisional organization and is Australia’s largest bank. It was rated in the top twenty-five in the world by market-capitalization in 2005 (Baker-Self et al. 2005, p. 143). To date, the CBA has emerged well from the global financial crisis and was globally rated in the top twenty safest banks in 2009².

The *CommSee* case is based on 78 interviews with business and IT executives and the Bank’s senior managers, and documents, including 103 papers submitted to 85 meetings (Board, Executive Committee and IT steering committees). These are augmented with data from participant and direct observation.

The case study is chosen for three reasons. First, it is an example of successful large-scale IT-based business transformation involving a complete set of strategic IT decisions supporting the new corporate business strategy. Second, the case study contains a complete set of these decisions across the corporate and SBU investment cycle³ (Table 1). Third, in contrast to traditional IT governance approaches, where the majority of decisions are made by a project steering committee balancing needs across levels, the *CommSee* project steering group assigned decisions for each shared or SBU capability to their natural owners as per the existing corporate governance structures.

	Business	IT	Total
Corporate	5	35	40
SBU	6	9	15
Total	11	44	55

Table 1: *CommSee* Strategic Decisions in each Domain

Following Newman and Sabherwal (1996), the data is presented here by reconstructing the strategic decision path for *CommSee* (see Figure 5). Each solid line indicates a sequential dependency between sets of IT decisions in each domain. The dotted lines indicate dependencies. Each of the decisions was triangulated through interviews and formal documentation, and categorized according to the domain (business/IT) and level (corporate/SBU). The strategic decision paths are mapped to the strategy timeline, financial commitments, and SBU strategic initiatives.

² Source: Credit Suisse Asian Investment Conference, Hong Kong, 27 March 2009.

³ Strategic decisions have three characteristics: they are important, involve large commitments and are generally irreversible. Given these criteria, strategic decisions are often centralized at the apex of an organization (Brockmann and Anthony 2002)

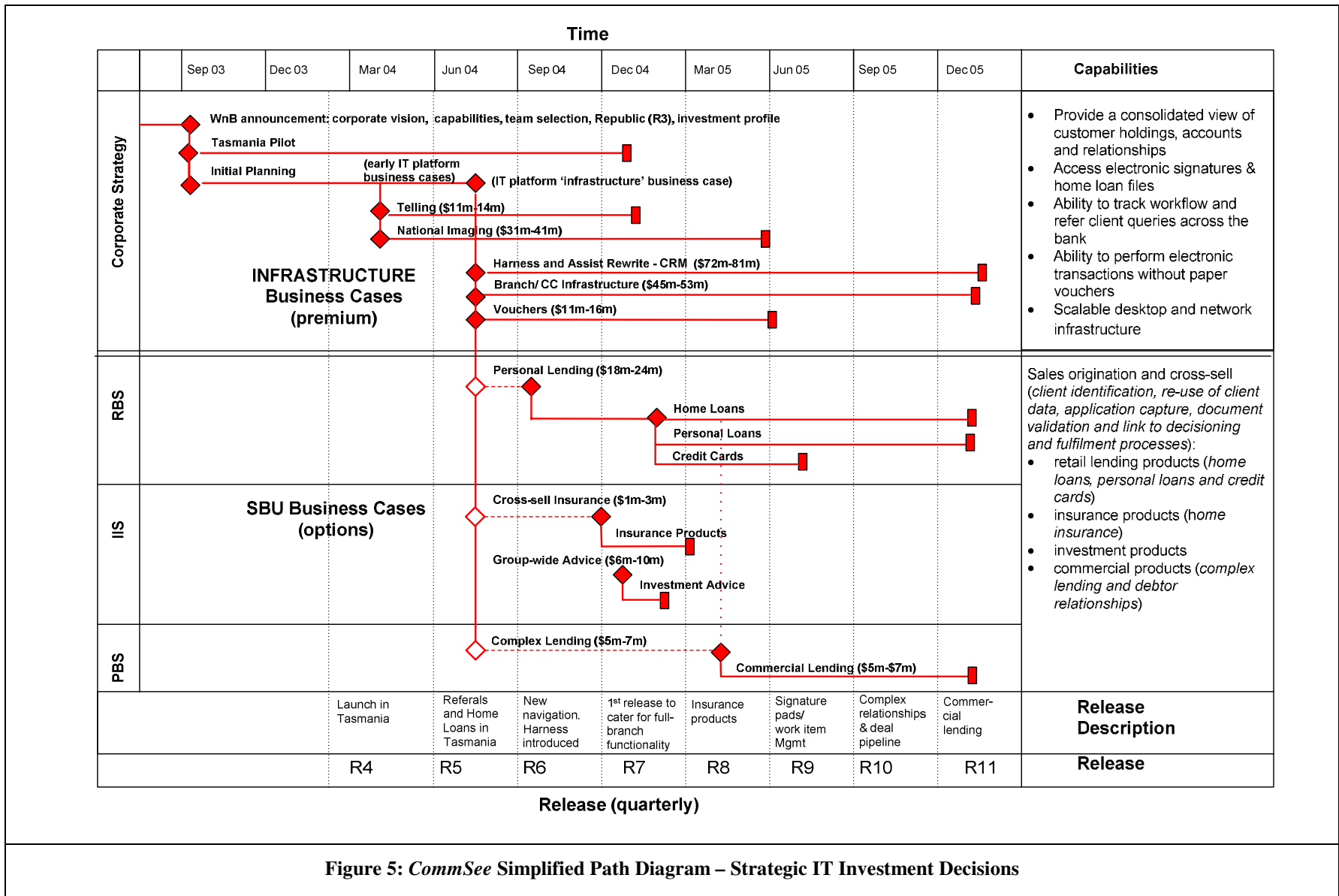


Figure 5: CommSee Simplified Path Diagram – Strategic IT Investment Decisions

A new Corporate Strategy

The CBA ‘Which *new* Bank?’ (*WnB*) transformation was announced in September 2003. The announcement to analysts, media and staff identified a new corporate vision ‘to excel in customer service’ underpinned by a new integrated Customer Management System, *CommSee*⁴, that would integrate customer details, contact records, leads and referrals, tracking of requests and access to customer documents. Its objectives were to present the same information to all customer-facing staff in any location. The intent was to improve customer service measured against the customers’ expectations of the bank to ‘know me’, ‘give me what I want’ and ‘do it reliably’.

The announcement followed an intensive six month strategic IT planning process to identify the IT capabilities required for the CBA to compete over the next 3-5 year time horizon. The identification of these capabilities was driven by the assessment of corporate and SBU strategic plans, financial services industry business and IT trends, and current business and IT issues. The resultant capabilities were then categorized, according to priority and shortfall gap within existing capabilities, by the business executives heading each SBU.

Management then assessed the extent to which capabilities were shared across SBUs or unique to one SBU. The critical questions included: Whether each capability needed to be common across all SBUs; whether it could be built by one SBU and reused across others; whether it could be built by individual SBUs to common standards to enable sharing information; whether it could be built independently. This information was used to help define which capabilities should be implemented at the corporate level and which should be implemented as part of an SBU initiative across Retail Banking Services (RBS), Investment and Insurance Services (IIS), and Premium Banking Services (PBS).

The CEO established an aggressive project timeframe of two and a half years to gather the requirements, develop the business case, and build and deploy the capabilities. The CEO chose to leverage a team from the Bank’s successful online stock broking subsidiary to deliver *CommSee* across the Bank as part of the corporate IT team. This team was used to working in a dynamic environment with rapid market changes and had already developed a small CRM system for one of the Bank’s business units.

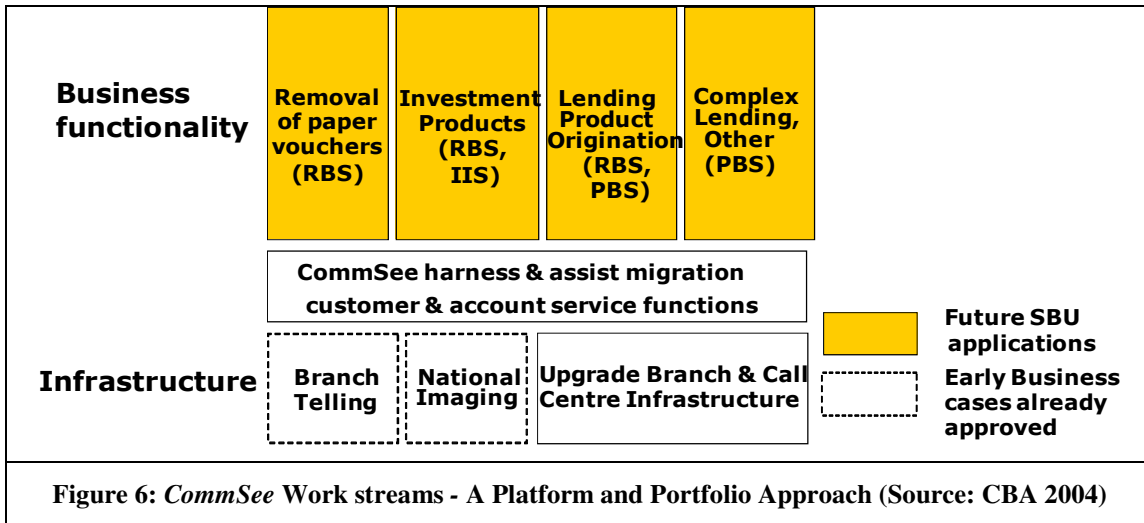
These decisions, along with the budget for the investment, are shown together as part of the ‘corporate strategy in Figure 5. Subsequent decisions are shown as part of the IT platform and individual SBU decisions.

Unbundling the IT Platform and Portfolio capabilities

The *CommSee* team unbundled the IT-based capabilities to support *WnB* to separate the IT platform from the portfolio of business projects. They identified ten streams of work incorporating the *CommSee* IT infrastructure platform and other business projects (Figure 6). The IT platform strategy involved extensive cross-SBU planning, coordination and communication with the rest of the organization. Key decisions included the initial structure, definition of the scope⁵, high level architecture (solution design, technology choices and infrastructure) and risk management activities. The key architectural decision was the development of an application ‘harness’ to leverage the IT platform capabilities and present a consistent graphical user interface, role-based access security, and ‘plug and play’ capability for business applications.

⁴ Commonwealth Bank Service Excellence Everyday.

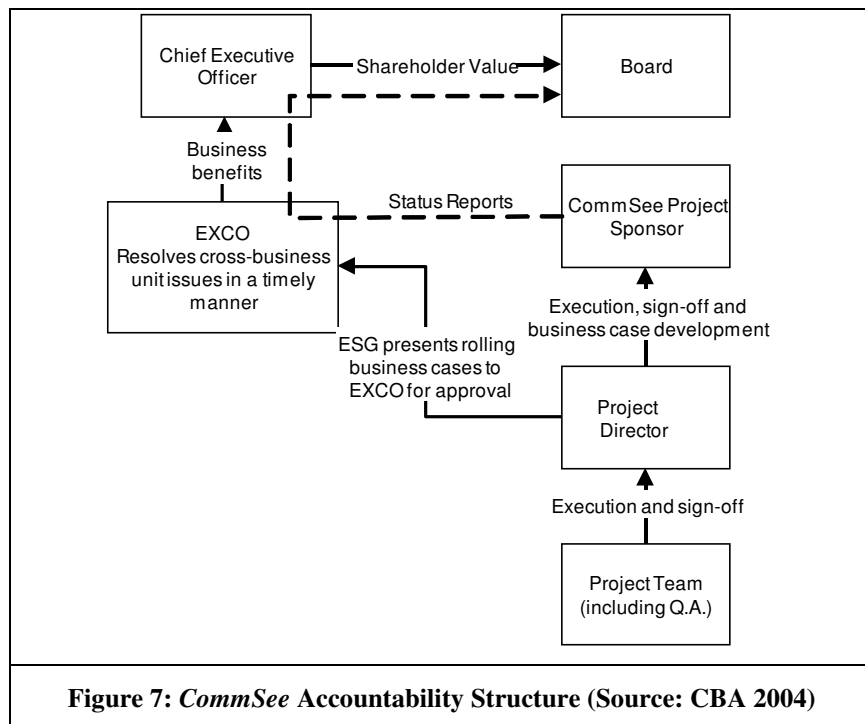
⁵ The *CommSee* approach did not try to define all requirements from all SBUs and related initiatives at one time. Rather, its approach defined the long-term aspirations for customer experience and set an overall framework for delivering individual initiatives as they were defined by the business.



The project streams were structured to be independent of each other to minimize risk. One stream did not have to wait for another, and if one failed or was late, the others could still be released on schedule. Streams that were not highly reliant on the IT platform, such as the national imaging of all signature and home loan files, were initiated up-front. This established the momentum for the project.

Assigning to Natural Organizational Owners

Strategic choices relating to the IT platform were owned at the corporate level by the *CommSee* team (with input from SBUs), while the strategic IT choices relating to individual SBU IT portfolios were owned within the relevant SBU. As the *CommSee* team made IT platform decisions, these were presented to the top management team for endorsement. Each SBU project was developed as part of that SBUs business planning, and then endorsed, incorporating its IT components, by the top management team.



This process was overseen by an Executive Steering Group (ESG) comprising the heads of each client-facing business unit, the head of Group Strategy (responsible for the business transformation), and the Group CIO (responsible for overall IT governance and delivery of IT technology infrastructure via the outsourced provider). Strong governance processes within the Bank ensured that strategic decisions were taken or formally endorsed by EXCO, the CEO or Board (See Figure 7)⁶.

Real options investment framework

The IT platform investments were proposed first. Initially, two IT platform capabilities, *National Imaging* and *Telling*, were approved (total investment A\$42m-\$55m)⁷. The removal of paper-based vouchers was initially regarded as an RBS application to be subject to its own business case. However, this stream of work involved significant investment in pin-pads and signature-pads for each branch. Therefore, vouchers were included within the infrastructure business case. This and the remaining IT platform capabilities were approved in July 2004 (total investment A\$128m-151m) presented to the Board by the Chair of the ESG and endorsed by the CEO.

Subsequently, before each business project commenced, the relevant SBU prepared a detailed final business case for approval by the Board, close to the time of initiation. This included gathering the necessary requirements, demonstrating business value, and aligning organizational activities (i.e. business changes) in response to market developments. Each case outlined an SBU's strategic business decisions and set the parameters for building its IT applications, including how they would leverage the *CommSee* platform.

Early commitment to the IT platform⁸ allowed the SBUs to develop their strategies knowing that IT platform capabilities would be available for leveraging and building upon within their own SBU IT portfolios. Further, it avoided the need for *CommSee* to coordinate a single business case across all four SBUs simultaneously. This would have required identifying SBU IT requirements prior to their business strategies being developed.

The major component of the RBS strategy was streamlining home loan origination to drive efficiencies, substantially reduce cost and significantly enhance the customer experience of the home loan process. The business case was approved by the Board in October 2004 (total investment A\$18m – 24m).

The IIS SBU insurance strategy focused on cross-selling home contents insurance and loan protection insurance with home-loans. It was approved by the IIS SBU head in December 2005 (total investment A\$1m – 3m). The IIS group-wide advice strategy focused on formal advice and standard sales processes to promote consistency and improve regulatory compliance across the Bank (total investment A\$6m - \$10m).

The PBS strategy focused on complex lending origination to replace the existing cumbersome and predominantly manual processes that supported business lending. The strategy recognized that *CommSee* already provided many features addressing the above issues, which had been implemented as part of RBS home loan origination. Given the dependencies with RBS *home loan origination*, the business case for PBS *commercial lending* was delayed until February 2005 (total investment A\$5m – 7m).

Maintaining Coherence

The top management team reviewed each investment as it came through to ensure coherence. Two key 'interventions' by the top management team are discussed here. First, there was the question whether RBS would build their loan origination solution specifically to their requirements, or whether it should leverage the new *CommSee* platform. RBS had been running its end-to-end home loan program since 2001. Significant benefits had been committed and it was well underway in 2003 including reengineering processes, standardizing products and introducing new products. However, the new processes were being developed within a legacy system, not the new *CommSee* platform.

⁶ The specific forum depended on the strategic, financial and regulatory impact.

⁷ Ranges are used here to protect confidentiality and have been applied using a random function such that the actual investment bears no relationship to the range mean or median.

⁸ The business case provided the commitment to the investment to enable planning across the group, although the bulk of the expenditure was incurred during the rollout in conjunction with the new business applications. Tight controls were imposed by the central finance group, with Finance and CEO permission required based on separate stage gates through the deployment.

This initiated a major investigation across the business units to determine which elements of the end-to-end process (client capture, application, verification, fulfillment and process control) would be common for which products (home loans, personal loans and credit cards) and to which business units (retail and business). Recommendations were presented and endorsed at EXCO, in June 2004, and the decision was taken that the origination processes for each business unit product set (retail and business) would be delivered on the *CommSee* platform.

The other example was the IIS *group-wide advice* strategy. This provided consistent advice and standard sales processes across the Bank. The strategy covered the Bank's 3,000 advisors, including those within CBA branches and tied third-party financial advisors⁹. Maintaining a 'single view of client across' the Bank required that details of customers serviced by internal advisors, including product and balance sheet information, be available across the Bank.

However, as the IT platform had, to that time, been designed to support only internal staff¹⁰, IIS proposed a separate commercial planning solution from COIN Software¹¹ that could be deployed to both internal and third-party advisors rather than using the new *CommSee* platform. An extensive review was undertaken to determine how to achieve both the corporate objective of a 'single view of client' and the SBU objective of standardized processes across internal and external advisors. The recommendations from the review were presented to EXCO in December 2004, which approved COIN to be implemented. However, it also agreed that there would be two-way integration of data between COIN and *CommSee* to meet 'single view of client' requirements across the Group. The impact on the business case was more than A\$4m in project costs, with additional potential benefits more than A\$7m. Reducing risk and complexity

CommSee was required to deliver some capabilities earlier than others and to manage dependencies carefully. If IT platform capabilities were not available when required by individual initiatives, SBUs would build their own capabilities using existing legacy systems and a 'single view of client' would not be achieved. As such, capabilities were built using a 'staged incremental approach' and delivered across quarterly releases throughout the project. At each release, additional IT platform and IT portfolio functionality was delivered and integrated into a working solution for the business. Each release was deployed with formal release testing and deployment, and change management plans.

The ability to deploy small components of the infrastructure and incrementally add business applications allowed *CommSee* to be piloted in the call centre and branch network across Australia's smallest state, Tasmania, as early as February 2004 (Release 4, following the numbering from the early CRM systems). Subsequently, each release included elements of delivery for each SBU strategy. The pilot solution operated in parallel with existing systems. The first full solution was in December 2004 (Release 7) and was subsequently trialed for national deployment in the eastern suburbs of Sydney in February 2005 (Release 8). Full national deployment commenced in April 2005 (Release 9). The rollout was conducted with up to 40 sites (branches and call centers) connected every weekend. The final release of this strategy cycle was December 2005 (Release 11).

Outcomes

CommSee delivered a new shared IT platform for all front-end sales and service processes across channels (branch, call centre and mobile bankers). The platform was then leveraged by each SBU (retail, business, and investment and insurance) to compete in their markets.

Business and project outcomes were regarded internally and externally as very successful. The initiative achieved its project outcomes, with delivery on time, within cost and more than originally scoped. There was little evidence of IT shortfall, underutilization or subsidies. The transformation productivity targets were exceeded with the retail bank cost-to-income ratio being reduced from 54.7% to 47.2% (target 48%). By 2007, the gap between CBA and their top rated peer had closed from 12.5% to 7.8% and staff satisfaction improved from the 69th to 78th percentile¹².

⁹ A 'tied' advisor can recommend only financial products marketed by the company he or she represents.

¹⁰ This was updated in the next strategy cycle, *CommSee II*.

¹¹ COIN is a commercial 'off-the-shelf' product. It was purchased by Macquarie Bank in June 2005.

¹² Source: CBA 2008 annual report.

The CBA has continued to develop *CommSee* as its strategic IT platform. In 2009, CBA continued to build its platform with ongoing releases, reaching *CommSee* Release 25. The CBA also embarked on a core banking systems replacement project to replace its back-end systems.

Discussion

This research provides a theoretically based governance framework to allocate IT decision rights in multi-business organizations. Rather than relying on committees to balance business/IT function, and corporate/SBU needs, the framework allocates decision rights to their natural organizational owners across the corporate investment cycle.

The new investment cycle unbundles IT platform and SBU IT decision making. Rather than a single investment decision, it proposes a two stage process for the IT platform and individual SBU investments. This provides improved quality of decision making, whereby SBUs can make decisions with the knowledge of which IT platform capabilities have been committed to and in timing with their own business planning processes. It also provides improved oversight, with more frequent investment decisions being overseen by the top management team.

Together, the model and illustration meet three principle criteria for theory building. Theories must be completely specified, observable and testable, and actionable (Bacharach 1989; Dubin 1978; Weber 2003; Whetten 1989). The theory is completely specified with each construct (corporate strategy, IT platform strategy, SBU strategy and SBU IT portfolio strategy) the relationships between them (fit and coherence), along with the criteria for creating value (limited shortfall, underutilization and subsidies) and boundary conditions (multi-business organizations). It is testable by mapping the strategic decisions across the corporate investment cycle. Finally, it is actionable, providing prescriptions that are consistent with, and extend, extant normative prescriptions for IT governance. These are discussed below with reference to the prescriptions outlined in the literature review and the case illustration.

Focus on a Small Number of Critical Decisions

The new framework focuses IT governance on a small number of strategic IT decisions that are made as part of the business and IT strategy at the corporate level or within specific SBUs. The remaining decisions to deliver IT-based change remain the accountability of individual project teams and project steering committees.

In the *CommSee* case, there is a strong correlation with those predicted by the framework. The corporate strategy decisions included the capabilities required, level of sharing and level of investment. IT platform strategy choices included specific IT choices about enterprise architecture, technology standards and sourcing. The SBU strategies included decisions around how to compete in their markets by the on-line origination of products, bundling and provision of consistent advice. The SBU IT strategies included decisions around the delivery of SBU IT capabilities and the level of integration with the platform. The remaining normal management decisions to effect the change were managed by the executive steering group, project director and project team.

Leveraging Existing Governance Mechanisms and Incentives

Rather than create new special governance mechanisms for strategic IT decisions, the framework prescribes assigning strategic IT decisions to their natural organizational owners, governed by the same processes as other strategic business decisions (as is done with marketing, finance etc). These are overseen by the top management team. Each owner at the corporate/SBU level has their own mechanisms for making decisions. This provides further support for the integration of IT decision making within normal business governance structures (Sauer and Yetton 1997; Weill and Ross 2004).

This is illustrated in the *CommSee* case, where the *WnB* strategy was sponsored by the CEO and top management team (EXCO), which included the CIO. The IT platform strategy decisions were proposed by the *CommSee* team as part of the corporate IT function and approved by EXCO. The SBU strategies, including their application portfolios, were defined and approved by the SBU head but also endorsed by EXCO. The business case and project process were consistent with all other *WnB* business projects.

Design Governance at Corporate and SBU levels

The framework prescribes unbundling shared IT platform capabilities and individual SBU IT capabilities. Decisions related to these capabilities are then overseen by either the corporate level governance mechanism (e.g. corporate

strategy process, corporate IT architecture processes, project structures etc) or SBU level governance mechanisms within each SBU (e.g. SBU heads, management teams, project structures etc). The governance structures within individual SBUs may be different depending on their market context and management styles, catering well for the concept of hybrid governance structures.

In the *CommSee* case, the shared IT capabilities were defined to achieve a consistent customer experience across the organization by having a single view of client, national imaging, and a scalable infrastructure. These decisions were taken by the corporate IT team and overseen by EXCO. The SBU strategies addressed how to compete in their markets by the on-line origination of products, cross-selling and provision of consistent advice, which included decisions around the delivery of SBU IT capabilities and the level of integration with the platform. These were taken by the SBU head and overseen again by EXCO.

Capture Synergy across the SBUs

The level of centralized or decentralized decision making is contingent on the corporate strategy. If the corporate strategy emphasizes synergies across SBUs, there will be more shared IT capabilities and decisions taken at corporate level (centralized). If the corporate strategy emphasizes individual SBU autonomy, there will be more individual SBU IT capabilities and more decisions made within SBUs (decentralized).

In the *CommSee* case, the corporate strategy requires extensive shared IT capabilities and hence there is more centralized decision making (refer Table 1). The corporate IT strategy requires 35 decisions around common IT capabilities (telling, imaging, IT infrastructure and CRM). This results in centralized decisions for these capabilities. The remaining capabilities are then defined by individual SBUs (origination, bundling and advice), with only 9 strategic IT decisions taken as part of SBU IT strategies.

A Reusable Digitized Platform

The new framework prescribes the unbundling of the IT platform and SBU IT portfolios across the corporate investment cycle, with the IT platform committed up-front. This allows SBUs to develop their IT strategies knowing which IT platform capabilities will be available to aide their strategies. The real-options framework unbundles the investment decisions and links the IT platform investment and value created through SBU application portfolios.

In the *CommSee* case, early commitment to the IT platform avoided the need for *CommSee* to coordinate a single business case across all four SBUs simultaneously. Had it not done so, there would have been a need to identify SBU IT requirements prior to their business strategies being developed. In previous banking and industry projects, this has led to long delays and over-specification of solutions¹³. Instead, IT decisions were taken in timing with corporate and SBU decisions.

Coherence between the IT platform and SBU IT portfolio was maintained by decisions being overseen by EXCO, which included the CIO and SBU heads. SBU heads were required to endorse the IT platform proposed by the corporate IT team and then ensure that their SBU initiatives leveraged it when they proposed their SBU strategies. The IT platform was delivered to meet the needs of the first SBU using those capabilities and extended across the organization to support other SBU initiatives over time. The IT platform was then delivered incrementally in conjunction with the new business applications.

Limitations

Description of a critical illustrative case cannot, of course, provide proof of particular causal chains. However, the case illustration provides a practical example of how the theory can be used to explain and guide decision making in a multi-business organization. Future empirical testing across different outcomes and in different organizational settings is required. The absence of substantive empirical testing in this study reflects the research focus on theory building which, in itself, is a contribution to IS research (Weber 2003; Zmud 1998).

¹³ See, for example, Westpac CS90 (Boynton et al. 1993; Glass 1999). CBA also had its own failed core banking initiative at that time, *Mainstream*.

Conclusion

This research provides a theoretical basis for the allocation of IT decision rights. By allocating decisions to their natural organizational owners in timing with the corporate and SBU strategic investment cycles, the need for special, complex, governance mechanisms to coordinate coherence of IT decision between corporate and SBU levels is significantly reduced. This underpins both stronger and simpler IT governance and reinforces the dominant logic of the multi-business organization

The challenge of separating the IT platform and SBU business application decisions is addressed using a real options-based investment framework. While IT governance research has traditionally focused on the decisions, structures and decision rights, this research suggests IT governance should also focus on the timing of decision making.

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