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Ryan R. Peterson
University of Tilburg, r.r.peterson@kub.nl

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Emerging Capabilities of Information Technology Governance: Exploring Stakeholder Perspectives in Financial Services

Ryan R. Peterson

Department of Information Management, Tilburg University
The Netherlands, R.R.Peterson@kub.nl

Abstract

Information technology governance is generally defined as the locus of IT decision-making authority. This paper argues that IT governance also includes the capability to integrate IT decision-making between key stakeholders. Exploratory case studies are conducted in Financial Services to develop a richer understanding of what the emerging capabilities are of IT governance. Findings indicate that IT governance capabilities -while necessary, though not sufficient-, go beyond formal-hierarchical modes, and include important lateral and socialisation mechanisms. In particular, the role of competency, credibility and coalition building are essential to IT governance. Directions for future research are discussed.

1. Introduction

The strategic importance of information and communication technology (IT) is currently widely recognised in financial services. Banks and insurance companies are critically dependent upon IT-enabled processes, products and services. As financial services expand their organisational and geographic boundaries and compete to offer customers high-quality services, they continue to invest heavily in IT, often without experiencing any convincing value for money [13,29, 31].

The strategic opportunities IT provides, the size of IT investments, and the search for IT business value, make IT a prerequisite of management. When organisations in a specific sector have access to the same IT resources, the management difference determines the business value of IT [5,8,15,20,21,30,31]. This entails the joint effort, shared responsibility and active involvement of general, business, and IT management. IT governance provides the mechanisms that enable general, business and IT managers to develop integrated business-IT plans, allocate responsibilities and accountabilities, prioritise and organise business-IT initiatives, and track their performance and outcomes [23,31].

A plethora of IT governance concepts and research have been reported in the literature [3, 9, 18, 33]. However, with competition increasing, strategies emerging, organisations evolving, and IT drifting [4], IT governance remains an enduring management question [12]. Moreover, prior research has tended to adopt a hierarchical and mechanistic interpretation of IT governance [23]. This paper¹ discusses a re-conceptualisation of IT governance (Section 2), and describes the research approach (Section 3) and case studies in financial services (Sections 4). Directions for future research are discussed in the closing paragraphs (Section 5).

2. Theoretical Background

Organisations facing rapid change in their markets and technologies require high differentiation and high integration to be effective [17]. Lawrence and

Lorsch introduced the notion of managing differentiation and integration, pointing out that organisations interact with their external environment by creating units that deal with a particular element of the environment [17]. These divisions often have different 'cognitive, emotional and professional' orientations, consequently calling for 'intensive integration mechanisms'. Formal hierarchy mechanisms alone do not suffice, and specific roles, liaison devices and management processes are required to meet the demands of the environment [6,11,17,18,21].

The implications for IT governance are these. Besides a formal hierarchical component, IT governance also entails an informal and horizontal component, describing lateral coordination and integration mechanisms between corporate, business and IT constituencies. Traditional IT governance is primarily concerned with the formal hierarchical interpretation, i.e., the locus of IT decision-making authority, and assumes that coordination will follow automatically through the 'chain of command'. In the dynamic and competitive environment of financial services however, in which IT is both a core technology and a source of environmental uncertainty, horizontal or lateral mechanisms are essential. Differentiation of responsibilities calls for the management of integration.

The horizontal mechanisms include dealing with the belief systems of key stakeholders, implying that stakeholders may have conflicting interests and strive for different goals [19], widely reported in literature under the 'culture gap' label [30]. Any group or individual that can affect, or is affected by decisions regarding information technology, has a stake in information technology governance, and is thereby regarded as a stakeholder [23]. From a social-political perspective, dissonance in stakeholder belief systems is no organisational anomaly, but an integral part of organisational behaviour [16]. Schein describes organisations as social systems consisting of three distinctive communities: the operator community, the engineering community and the executive community [28]. These communities or stakeholder constituencies are an integral part of IT governance.

IT governance capabilities are a relatively enduring quality of an organisation's internal environment, which distinguishes it from other organisations as a result of stakeholder policies and behaviours, embedded in the organisation's structures and processes (Figure 1).

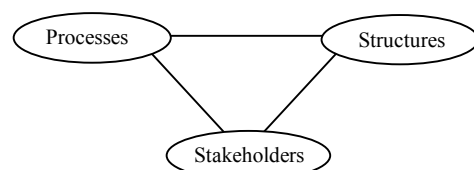


Figure 1. Dimensions of IT governance capability

IT governance capabilities involve structures, processes and stakeholders that support and shape the direction and coordination of IT-based business developments [23, 24]. The *structure* dimension describes the formal and informal devices that encourage contacts and socialisation between stakeholder groups, and include e.g., teams, integrating roles, interpersonal contacts [1,6,7,18,33,36]. The *process* dimension describes the formal and informal activities that are planned and emerge, during business-IT initiatives, and include e.g., lobbying for and selection of IT investments, organisation and evaluation IT initiatives [2,7,13,18,30]. The *stakeholder* dimension describes the objectives, expectations and perceptions of key stakeholders involved in the structures and processes [24,25,26,27,28,29]. More importantly, the stakeholders' perceptions are both 'shaped' as well as 'shaper' of structures and processes.

3. Research Approach

Tempered by a significant lack of theoretical and empirical research [3,18,33], IT governance capabilities remains a grey area of management. Consequently, the objective of this research is to develop a richer and more comprehensive understanding of the emerging capabilities of IT governance. The overall research questions are:

- (a) *From a stakeholder perspective, what are the emerging capabilities of IT governance?*
- (b) *From a stakeholder perspective, (how) are IT governance capabilities associated with the ability to effectively exploit IT?*

The research approach is exploratory, rather than aimed at testing a-priori hypotheses, and is based on a case study research design. Case studies are the preferred strategy when the investigator has little control over events, and when the focus is on a contemporary phenomenon within a real-life situation [35]. Moreover, given the embedded nature of IT governance capabilities, and the lack of prior empirical research, case studies are the appropriate research strategy. Case selection was based on theoretical sampling. The organisations operate in the same environment, in the same line-of-business. They are of similar size with comparable strategic orientations and organisational structures, and most importantly, were willing to co-operate and share confidential information.

The investigation comprised of semi-structured interviews with key stakeholders (Table 1). The stakeholders involved included senior executives, IT directors, division managers, IT managers, and project managers. The initial framework was used to develop and conduct the interviews. Interviews lasted between one and two hours. Follow-up interviews were also held during the period of investigation. Project plans and notes were gathered and analysed for further information pertaining to the structural, process and stakeholder dimensions described.

The validity and reliability of the study are enhanced through the use of multiple sources of information, the review of draft case reports by the interviewees, and the use a standard research protocol. Group discussions and presentations were used to disseminate results and findings within the participating companies. The case analyses were guided by the theoretical framework and research questions, and

followed pattern-matching and explanation-building approaches [35].

The research was undertaken over a one-year period in three large multi-business-unit organisations, and given the sensitive nature of the topic of study, confidentiality and anonymity of their involvement was assured. The cases are reported as Company X, Company Y, and Company Z.

Table 1. Stakeholder interviews by company

Interviews	Company X	Company Y	Company Z
Corporate Stakeholders	2	2	2
Business Stakeholders	4	3	3
IT Stakeholders	3	3	4

Company X is a Dutch insurance company in employing a little over 2000 people. In 1990, Company X merged with a large bank, through which it now distributes most of its products and services. During 1993 and 1997 Company X reorganised its structure and business processes and improved its market share in the insurance industry from a fourth to a third position. The corporate mission of Company X is described as being a complete insurance provider, to exploit multiple channels of distribution and to provide added value to customers. Improving customer value and aligning products with customer needs and markets are strategic business objectives.

Company Y is a life and non-life insurer, and part of a well-established Dutch financial institution, and counts approximately 2500 employees. Company Y distributes its products through a network of independent intermediaries. In 1998, Company Y integrated its individual life and non-life insurance services to form one market-oriented business to provide new integrated insurance products and services through its intermediaries. Company Y's corporate mission is to be an integrated market-oriented and flexible provider of financial services. Providing support and convenience and customer service quality are considered strategic objectives by the business.

Company Z is an insurance company in the Netherlands with a total staff of approximately 2400. In 1992, Company Z merged with another insurance company and is part of a financial conglomerate. Company Z utilises a network of tied agents for the distribution of its products and is a leader in this market. All insurance products and services are sold from its internal offices through its own sales force. The corporate mission of Company Z is to collaboratively deliver (retail) insurance and banking products to general and specific customer groups by means of excellent personal services. Its business strategy is to be customer-oriented, innovative, and to provide professional services.

4. Case Studies in Financial Services

This section provides a description and analysis of the case studies. The company background, the role of IT and the emerging IT governance capabilities are discussed. Stakeholder perspectives are explicitly mentioned.

4.1 Company X

In 1994, Company X decided to restructure its business processes because of the increasing competitive pressures, lack of flexibility for addressing the rapidly changing marketplace, and the

increasing demands of the banking outlets. This reorganisation process was successfully completed in 1998. IT played an essential role in both the strategic developments as well as the new business operations. Business and IT managers describe IT as a life-line, arguing *“without IT there is no production, no marketing, no decent human resource development, and no added value for our customers”*. Continued investments in IT are seen as critical requirements in sustaining a competitive position. According to a senior IT management: *“we have linked all our products in the way we deliver our products to customers. And this delivery is pure IT enabled. If there is a hitch in the system we have a major problem”*.

IT was primarily a support function prior to 1996. In the last two years, IT has become a key enabler of product innovation and business transformation. This changing role of IT is also reflected throughout the IT strategy plan and investment decisions, in which IT is an integral part of the business strategy. IT strategy development occurs at the business unit level. The business IT strategy is then integrated with the corporate IT strategy in an ‘Business-IT forum’ in which the IT director, business directors and IT managers participate. In this forum the different business-IT strategies are discussed and integrated, and subsequently reviewed by the Executive Board.

Similar to the business environment, up until 1993 the IT organisation was highly centralised and in 1994 the Executive Board decided to decentralise IT to the different business units. The reasons for this were competitive pressures and the lack of flexibility. The decentralisation of IT lasted two years, and late 1995 management experienced that business and IT were not in line. There was a high degree of dissatisfaction with the way that IT was managed. The IT director indicates that *“there were too many different systems, based on different architectures using different standards, and there was no linkage between the corporate vision, business strategy and IT. Due to decentralisation IT was leading too much, in stead of being driven by the business”*. The Executive Board argued that Company X would need one policy for IT if it wanted to sustain its competitive position. Re-centralisation was necessary because of the large investments in IT, and the lack of common standards and architectures. In 1997, a shared architecture was implemented, and service level agreements and ITIL-instruments were adopted.

In the current organisation, the Executive Board shares the responsibility for IT. A central staff unit for IT is managed by the IT director and has a policy development and control function. The IT director is responsible for IT coordination, IT support, IT security, IT infrastructure and IT change developments. The IT director is also responsible for formulating and evaluating the corporate IT strategy and supports the business directors in the implementation of their business IT strategy. The IT director and IT managers meet weekly to discuss developments regarding IT. Each business unit has its own IT department, that is run by an IT manager who is part of the business unit management team. IT management is responsible for translating the business objectives into IT plans for developing, implementing and exploiting IT in the business processes. According to both

business and IT managers, *“in the last two years, after many learning experiences, we re-centralised the organisation and management of IT, and now we have a one policy for IT. I think we finally got a grip on all the shoeboxes and shoestrings”*.

In 1996, Company X institutionalised the training of its business and IT personnel for IT competency development. All IT personnel are required to follow a course on business economics and administration. The formal training and courses are focused on developing business knowledge and social-communication skills, for improving cross-domain knowledge. This programme was implemented last year. Business managers are also required to follow courses on information management. Management competency and project management skills are considered essential to the success of the business. Another mechanism currently being employed in Company X for IT competency development is job rotation, in which IT professionals work in different business environments.

IT developments are organised through steering and project groups. In the project group the business director, the user departments, the IT manager and the IT specialists are involved. The business director is responsible for the IT project, its progress and performance. The project groups meet on a weekly basis. Steering groups consist of the IT director and different business directors. The steering group is responsible for strategic decision-making and project control. The Executive Board is involved in the steering committee through monthly updates in a meta-steering group with a ‘dash-board’ function. The Executive Board, the IT director and the Finance director together with project managers discuss the progress of different projects. The function of the dash-board meeting is to create awareness of the business issues and the way they are being addressed by the IT projects. According to the business director: *“in the last two years we have developed a culture of open communication and working together for the benefit of our customers. Developing commitment is an important task”*. The motto in these management team meetings is *“No nice to have, only must have, design for budget and fitness for use”*, according to business management.

IT projects are business driven and developed in a multidisciplinary manner. Business plans and IT plans are developed in a joint effort by both business and IT managers. The IT plan consists of a project value analysis, assessing the business benefits, a description of the project objectives, resources and management, and a risk analysis. This is a standardised format for developing and submitting IT plans and project proposals to the Executive Board. If there is no agreement or consensus, the proposal is not presented to the Executive Board. There is also a standard protocol for presenting and discussing projects.

For each IT project, specific performance targets are set. Business targets describe cost-reduction, sustained growth, time-to-market, flexibility, and customer satisfaction. Project targets always describe time control, budget control and system functionality. Business and IT management indicate, that IT is being successfully exploited to the advantage of the business: *“We are very satisfied with the progress we have made in the last few years. We have come to grasp IT for business, not just IT for IT sake. It took some time to get the management right, but we are getting where we want to be”*. Both business and IT managers identify the following

contributions of IT in the last years: increased time-to-market and business flexibility, improved product/service innovation, reduced transaction costs, sustained market growth, improved customer satisfaction, improved IT infrastructure flexibility and reliable services. Company surveys indicate that customers are indeed *“highly satisfied with the services provided”*.

4.2 Company Y

Information technology is of strategic importance to company Y. The annual report describes IT as *“a strategic means to competitive advantage”* and indicates that *“the IT strategy is carefully aligned with the commercial and business objectives”*. The IT strategy plan describes the role of IT as providing optimal support to the market groups by enabling efficient and effective business processes, improved time-to-market and improved services quality to users and intermediaries.

However, business management indicates that it is unclear whether there is indeed a coherent IT strategy that fits in the business framework, and IT management indicates that business objectives are sometimes too vague to be able to integrate IT with the business. IT management argues that because of the organisational restructuring, business objectives remain abstract and are not clearly formulated and communicated to IT. As the business director stated: *“When our marketing and IT people come together to develop a new product, you can bet your bottom dollar that its going to be an interesting and long day”*.

IT strategy plans are developed by the IT organisation and are derived from the market group strategy. The mission of the IT organisation is to deliver optimal IT support to the business in a professional manner. Professional meaning on time, within budget and according to specified functionality and quality. The central IT organisation is led by a CIO on the Executive Board, and consists of centralised departments for (i) IT consultancy, architecture and information management coordination, and (ii) IT infrastructure, support and services. These departments are led by IT department directors and consist of different functional IT managers.

In 1998 the IT organisation initiated an integrated change programme to upgrade its services and organisation. Pressures leading up to this change programme were the new market-oriented business structure, increasing project cancellations, time and budget over-runs, insufficient professional project management and a general dissatisfaction with the quality of IT systems and services. The IT organisation-wide change programme includes (i) account managers for relationship management with the business; (ii) system development process improvement; (iii) infrastructure management improvement; (iv) training and coaching of IT personnel. Through the recent introduction of ‘information management’, the business organisation attempting to take responsibility for the demand of IT, and making the business leading and in control of IT investments and strategic developments. The information management function serves as a linking pin between the business organisation and the IT organisation. According to senior IT management: *“the information manager will need to inspire and fulfil the difficult role of translator between IT and the business”*. The information management functions in the different business domains are led by the IT organisation.

Up until 1998 the demand and supply of IT were regulated by the IT organisation. Priorities, roles and responsibilities with regard to IT were unclear. IT was managed in a relatively ad-hoc manner, and many IT projects were driven by IT, with limited involvement and understanding by the business and without clear business objectives. According to senior IT management: *“there were too many projects, there was no clear structure, and there was no real involvement or commitment from business management”*.

A senior business executive stated: *“we have a culture of starting immediately, building everything at once, and working our way out of problems. Still too often we want too much too fast, without considering the complexity and risks involved. As a consequence, we lose sight of the real business relevance, the organisational impact and scope of the project. We still need to keep a tight lid on the scope of our IT endeavours”*. Business management indicates that IT has little feeling for the real business issues and they often do what pleases them, arguing that *“IT always comes up with the newest ideas and gadgets, but whether it is desirable, necessary and relevant to the business is not always clear”*.

In response to the unsatisfactory ad-hoc management of IT, Company Y organised steering groups and project management structures in 1997. A business sponsor, who is responsible for the budgets and results of the project, chairs the steering group. The steering group consists of business directors, department managers, IT managers and the project manager. The rationale for setting up steering groups was to get senior and business management more involved in the IT initiatives. Steering groups meet each month to discuss project plans and progress. Reports are written and discussed in formal meetings. IT managers reveal however that *“the intake and planning of projects is not always according to specification, and budgets and timelines are the actual measures used for managing projects”*. Business management indicates that *“still too often there is a focus on budgets and costs, with not enough attention paid to added value to the business and changes that need to take place in the organisation in order to benefit from IT”*. IT management indicates that *“the problem originates in the very first phase of the project definition when we don’t have the guts to say that the objectives aren’t right or clear enough. Because of commercial pressures we still follow through, hoping for a ‘quick win’”*.

Business management indicates that *“often there are ‘pet projects’ that receive more attention. As projects progress, new demands and user needs are communicated to IT and these are then included without changing the plans. This leads to frustrations for both business and IT; this situation remains much the same. A strategy on how to manage IT is missing. What we need is a clear vision and strategy for managing IT, not just IT”*.

The project manager, usually appointed from the IT organisation, is responsible for the managing the project organisation and the different project leaders. Each project organisation has different sub project leaders who are responsible for a functional area within the project, e.g., user requirements and functionality, IT system design and development, and organisational change and implementation. Formally, the project managers and leaders meet every week to discuss plans and progress. Informally there is bilateral communication between project management and project leaders. However, according to project management *“in practice there is still*

a feeling of 'us against them', and project reports are too often informal and not always according to the agreements". Business management also indicates that "progress reports are of low quality and documents are not always complete or in writing".

According to senior IT management, steering groups are no longer steering, but discussing the technical details of the project: "The roles, responsibilities and relevance of projects is not always clear, and too often conflicts arise between business and IT. As a consequence, we have endless discussions that result in extended budgets and time-lines, and low system functionality".

In response to the external commercial pressures and internal unsatisfactory management conditions, Company Y also adopted programme management in 1998 for the selection, control and evaluation of IT projects. Under responsibility of the CIO, the programme management office is responsible for selecting, controlling and evaluating IT projects with regard to the overall compatibility with the company strategy and business plans. Based on Information Economics/Balanced Scorecard based-methods, the programme management office selects and prioritises projects in alignment with the business objectives, hereby taking into account the IT budget that was specified by the Executive Board. Every year a project calendar is developed and performance measures defined. The programme manager indicates that "identifying objectives and performance measures is easy, but agreeing on these objectives and measures across business and IT, and the different management levels is tricky. Different parochial cultures exist with different interests and we need to break through these mental barriers. It's a learning process that takes time, effort and commitment. We have made progress, but there is still a long way to go".

Company documents describe IT as a strategic enabler of improved business processes and insurance products. Senior executives and business management however indicate that in practice IT is more of an inhibitor than an enabler: "Except for individual highly successful projects, more than half of the IT initiatives fail to meet time, cost, quality, and functional requirements. Many IT projects still run over time and budgets limits, do not meet functional requirements or business objectives, and users are largely unsatisfied". An internal memo indicates that the Board of Directors is not satisfied with the performance of the IT systems.

While IT management reports that the costs of IT have dramatically risen, business management indicates that there is little added value to the business. According to business management "while IT may have reduced costs to some extent, the real value for our business and customers, in the form of improved products and services, remains difficult to achieve". Improved time-to-market, flexible systems, and service innovation are key objectives, which according to business management "have not improved significantly from the investments in IT". A recent IT memo states that "Company Y is not getting the expected value for money from investments made in IT". According to IT management this has led to a negative image of IT in the business organisation and a low-morale among the staff in the IT organisation. Both business and IT managers are largely dissatisfied with the governance and performance of IT and indicate that "as 'IT governors' we still need to learn to govern IT effectively".

4.3 Company Z

In 1998, Company Z organised a major strategic change programme to restructure and upgrade its business processes because of the increasing competitive pressures, lack of flexibility for addressing the rapidly changing marketplace, and lagging sales effectiveness. In order to improve its planning and control processes, top management adopted a balanced scorecard management approach in 1998. This was part of the strategic change programme. Performance indicators were identified and formulated according to the strategic objectives of Company Z. Plans were made for the prioritisation and selection of IT projects according to the balanced scorecard management approach. However, as business management indicates, "I haven't seen many real changes around here". According to the CEO the organisational culture is characterised by "a family culture of low accountability and passive involvement".

The IT strategy describes the role of IT as being essential for both strategic developments as well as business operations. The IT plans are derived from corporate and strategic sector plans. The IT objectives are defined to support the business strategy, i.e. to be innovative and customer-oriented, to realise growth in market share and provide professional services. "IT is of critical importance to the further development and improvement of distribution channels and sales effectiveness", as the sector leader stated.

Prior to 1995, the IT function was centralised. In 1996, IT management was decentralised to each business sector in the form of a technical support staff. The sector Automation is lead by an IT sector leader and the IT staff organisation is responsible for systems development, architecture and infrastructure. These functions are organised according to the functional business sectors life insurance, property & casualty, sales force support and general systems. The IT organisation is currently professionalising its organisation and services. The IT professionalisation programme was started in 1997 and is focused on improving the software development process, training of system developers in social, communication and consultancy skills, and professionalisation of project management and systems development methodologies.

An IT steering committee is responsible for the decision-making and control of projects, and generally consists of a business sector leader, the project manager and the IT sector leader. The project organisation consists of a project leader, usually an IT manager, and several sub-project managers responsible for user-organisation, IT development and implementation. Increasingly project managers are attracted from a central pool of professional project managers from the parent company. The project leader reports monthly to the steering committee and project members meet weekly. Reports address budgets and time-lines.

Prior to the strategic change programme initiated in 1998, projects were driven by IT and lead by an IT manager. However, the IT organisation is taking distance from project management responsibilities and is looking into consulting and decision-implementation tasks. IT management no longer wants to be in control of IT projects and their new role and responsibilities are as yet unclear. The question as to who should take the lead in IT remains unclear, as this is not formally arranged. Business management indicates that "as a result it is unclear who should take the lead". Although a general agreement on the new responsibilities and accountabilities is expressed,

in practice there is not much enthusiasm of business sector leaders to lead projects and take responsibilities. Taking on the responsibility for IT is a risky task, as one business sector leader put it: *“Success has many fathers, but failure is an orphan. So who in his right mind would want to be responsible for IT?”*.

Prior to 1998, demand and supply were regulated and driven by IT. Business demand and project descriptions were unclear and objectives were not tightly formulated. Project prioritisation and selection were not formalised and were based on available budgets and the lowest costs. IT management indicates: *“It was more a matter of who could scream the loudest. As projects would progress, new demands and user needs would be communicated to IT and these would then be included. This led to frustrations and disappointment for both parties and the situation remains unchanged”*.

Furthermore, the IT architecture requires a drastic ‘overhaul’. Due to many maintenance activities projects (>80% of IT budget), and flexible system and IT architecture designs for product and service innovation remain unrealisable. According to business management, *“IT is more of an inhibitor, than an enabler. IT remains under-exploited in improving time-to-market, maintaining market share and customer satisfaction. New products take too long to reach the market and improving market share remains a priority”*.

Senior executives indicate *“in most cases commercial objectives are not achieved. There is no alignment between business and IT, no one wants to take responsibility, and there is there is a serious lack of commitment from both business and IT”*.

Business management argues *“there is not enough attention for the user-organisation and too often a ‘quick and dirty’ systems development methodology is used. There are no clear business objectives or business cases, there is a lack of prioritisation and performance tracking, and there is no post-implementation evaluation. The quality of IT is a disgrace”*.

IT management states: *“It seems as if there is no business policy with regard to IT, and there is no clear structure. Too many ad-hoc activities are carried out and tolerated”*.

In response to the deteriorating situation, and in an effort to remedy this situation, Company Z created a new IT position at top management level, and appointed a CIO late 1999.

4.4 Case Study Results

With regard to the traditional conceptualisation of IT governance, i.e., the locus of IT decision-making authority, all three organisations are characterised by a *hybrid mode of IT governance*. In a hybrid mode of IT governance, decision-making authority for IT infrastructure services is centralised, and decision-making authority for IT development is decentralised [3]. The cases also describe the traditional ‘pendulum swing’ between centralised and decentralised modes of IT governance, converging towards a hybrid mode of IT governance in the late 1990s. The competitive environment and the need for flexibility and synergy lead to the adoption of hybrid modes of IT governance in each of the companies.

Proposition: Competitive pressures and competing objectives lead to the adoption of hybrid modes of IT governance.

More specifically, the findings suggest that modes of IT governance transform through ‘cycles of change’, induced by business pressures. Contrary to the traditional conceptualisation of ‘pendulum swings’ caused by technology development [3], in each case, *business pressures and poor performance* -as perceived by business executives- were the initial thrusts for IT governance re-orientation, *lead by business executives*. Past experiences, current perceptions and future expectations by stakeholders play a critical role in this process. A resource-based view of IT governance provides clarification.

From a *resource-based perspective* [20], IT governance is a unique resource characteristic because of time dependency and social complexity. IT governance develops over longer periods of time through accumulation of experience and learning. Interpersonal relationships, coalitions and credibility between stakeholders may take years to develop, to be able to effectively exploit information technology [20,28]. The case findings indicate that it took Company X four years to develop the desired capabilities.

Proposition: IT governance capabilities are time- and context-dependent. Stakeholder experiences, perceptions and expectations lead to a reorientation of IT governance.

The case findings indicate that there is *no uniform hybrid mode* of IT governance. In Company X, business management is responsible for IT development, while in Company’s Y and Z, the responsibility is decentralised to local IT management. Furthermore, in X, business management takes the lead in IT initiatives, while in Y and Z, the lead role lies with corporate IT or IT management in the case of Z. In comparison to Y and Z, X has a ‘more decentralised’ hybrid mode of IT governance [3,9].

The case findings indicate a third important distinction within the hybrid mode, i.e., the degree to which different stakeholders *share in IT decision-making*. The sharing of IT decision-making responsibilities between the stakeholder constituencies is readily recognised in Company X, yet less prominently present in Companies Y and Z, albeit on the increase. The notion of sharing is consistent with the need for integration in highly differentiated environments [17]. In response to a competitive environment, a potential advantage accrues by having different stakeholders participate in IT decision-making [3,6,26,31].

Proposition: Hybrid modes of IT governance are variable, depending upon the (formal and informal) involvement of key stakeholders.

Related to the sharing of IT decision-making, the case findings suggest the emergence of a *networked mode* of IT governance, where IT decision-making authority is no longer concentrated, but dispersed among a wide variety of stakeholder constituencies. In Company X, the traditional boundaries between ‘business and IT’, and ‘corporate and division’ have been spanned over the past four years. In contrast, these formal boundaries are explicitly demarcated in Companies Y and Z. What emerges are stakeholder-based networks consisting of different constituencies, regardless of the ‘chain of command’, but based on their competency and credibility in the organisation.

Comparing the case studies, in particular Company X with Companies Y/Z, reveals the following *emerging capabilities of IT governance* (see Table 3).

With regard to *structures*:

- Shared IT responsibilities;
- Linking-pin/Integrator roles;
- Cross-functional arrangements.

With regard to *processes*:

- Shared IT decision-making;
- Interdependent business/IT planning;
- Cross-functional competency building.

With regard to *stakeholders*:

- Shared understanding/coalition-thinking;
- Business and IT knowledge;
- Attitude towards IT-based change.

The case findings suggest that emerging capabilities of IT governance are highly interrelated, e.g., certain structure-types enable shared IT decision-making, which consequently may lead to improved shared understanding between stakeholders, or increased political turbulence and conflict (e.g. Company Y). Alternatively, shared understanding and a positive attitude towards IT-based change may also drive the need for sharing IT responsibilities and decision-making (e.g. Company X). The absence of a positive attitude towards IT-based change can similarly influence the level of sharing of IT responsibilities (e.g. Company Z).

Proposition: IT governance capabilities are interrelated and consist of a portfolio of capability-building devices. Stakeholder experiences, perceptions and expectations influences the use of devices.

The case findings also suggest a pattern in the stakeholder perspectives. What emerged from the data was the focus of corporate stakeholders on formal-explicit mechanisms, and the focus of business and IT stakeholder constituencies on informal-tacit mechanisms. The interdependency between business and IT stakeholders in IT developments would indeed suggest both formal and informal modes of interaction. In Companies Y and Z, these interactions were considered politically turbulent, while in Company X, coalition-thinking was regarded as essential.

The emerging networked mode and capabilities of IT governance are consistent with a *holistic view* of structural and non-structural mechanisms to create a lateral organisation capability [11]. Galbraith describes four general mechanisms (Table 2): (a) integrator roles, (b) formal groups, (c) informal roles and (c) networking. Daft adds a distinction between permanent and temporary roles and groups [6].

Table 2. Lateral mechanisms and IT governance capabilities

Capabilities	Integrator roles	Formal groups	Informal roles	Network-building
Structures	✓	✓		
Processes		✓		✓
Stakeholders			✓	✓

Formal ↔ Informal

Explicit
↕
Tacit

Galbraith states that the difference between successful and less successful companies is the building of an organisational capability to coordinate across units [11]. In a highly competitive and changing environment, successful companies are characterised by increased lateral mechanisms. Moreover, informal roles and network-building, in terms of actions that promote

voluntary, collaborative problem-solving and socialisation across stakeholder communities provide a foundation for formal mechanisms and increased 'lateralism' [11].

Reviewing the case findings, Company X shows a higher degree of 'lateralism', in comparison to Companies Y and Z. More importantly, and distinctly of Company X, are the informal and network-building practices, e.g., cross-functional events, socialisation, cross-functional reward practices and cross-functional competency building programs.

Proposition: Competitive environments require lateral IT governance capabilities for improved performance.

The case findings indicate that patterns of effective management practices are related to the rate of change in markets and technologies [6]. *Mechanistic management* practices are found in relatively stable environments, and characterised by specialisation, hierarchy of authority and control, vertical communication, rules and regulations. *Organic management* practices are found under conditions of change, and characterised by loosely defined tasks, lateral communication, adaptive behaviour, and more decentralised decision-making authority. The latter management patterns are characteristic of Company X, and are more consistent with the changing environment of financial services, and the need to share information internally and externally, in an uncertain and complex environment. These organic management practices are also characteristic of the networked mode of IT governance. The mismatch between this same environment and the management practices of Company Y and Z, explains, in terms of Galbraith, why these two companies have been less successful. Companies Y and Z are characterised by mechanistic hierarchical mechanisms, unable to deal with the uncertainty and need for fluid information exchange.

Proposition: Competitive environments require organic IT governance capabilities for improved performance.

The case findings indicate that IT governance capabilities, *while necessary, are not sufficient*. Two other capabilities required are a 'technology base' and a 'skill base' reflecting the technological and human resource infrastructure of the company [9] (Figure 2). Company X, in comparison to Companies Y and Z, has been developing all three capabilities over the past 4 years. Companies Y and Z have been developing IT governance capabilities, but are still facing poor technological and human resource capabilities, as described in the cases.

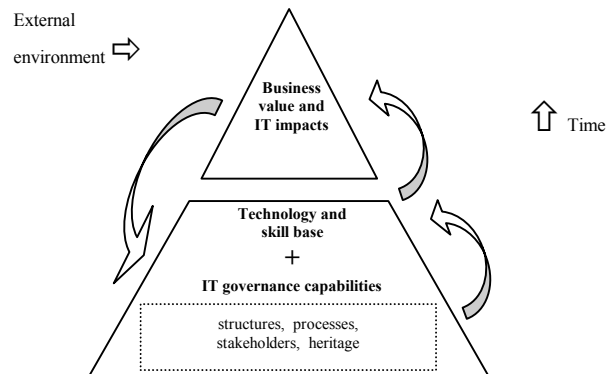


Figure 2. Role of IT governance capabilities.

The cases indicate that IT governance capabilities are necessary in order to leverage and develop the technology and skill base of the organisation. However, IT governance capabilities sec may not lead to the desired impacts and value accruing from investments in IT.

Proposition: IT governance capabilities are necessary, but not sufficient for improved performance.

As discussed in foregoing sections, business pressures and poor performance may also lead to a re-orientation of IT governance. Not meeting the expected and/or desired IT impacts or business value, can thus also shape IT governance capabilities. This case is illustrated in Company Z, that was unsatisfied with the performance of IT, and created a new IT position and appointed a CIO as a ‘formal integrator role’. However, the case evidence also suggest that having a ‘CIO’ by itself is insufficient; what is also required are network-building and coalition-thinking among key stakeholders [11,34].

5. Discussion

This research set out to develop a richer and more comprehensive understanding of IT governance. Based on an exploratory study of financial service organisations, several emerging capabilities of IT governance were identified. In contrast to the traditional ‘vertical’ mechanisms of the hierarchical mode of IT governance, competency, credibility and coalition-building are essential capabilities of an emerging networked mode of IT governance. It is also concluded that while IT governance capabilities are necessary, they are not sufficient. In response to increased environmental complexity and uncertainty in financial services, organisations seek advantage through flexible designs and networking relationships. While the strategic role of IT -in e.g., electronic commerce- and the rise of new - e.g., virtual- organisational forms is documented, what has not been recognised are the associated changes occurring in the governance of IT.

The practical implications of this study are these. Financial service organisations should take into account that allocating IT decision-making responsibilities is only part of the IT governance equation. Consequently and more importantly, sustaining IT-based innovation requires the integration and coordination of key stakeholders’ interests and involvement, requiring a portfolio of IT governance capabilities. From an organisation theory perspective however, one can argue that the case findings seem common sense; however, as the case practices indicate, common sense is not always commonly applied. More specifically, hybrid modes of organisation have been well documented in organisation theory [e.g. 6, 11], however the integration capabilities associated with hybrid modes of IT governance remain largely unexplored and untested.

Nevertheless, this study and its results are limited. In attempting to extend the current conceptualisation of IT governance, this study has only scratched the surface. The research was based in a single sector, in three information-intensive, multi-business unit organisations, operating in a competitive environment. Generalisation towards a larger population is not possible, albeit not the motivation for this study. Future research is recommended, taking into account the limitations of this study. Opportunities lie in: (a) assessing the role and nature of IT governance in different environments utilising the proposed theoretical framework (Figure 2); (b) investigating IT governance in networked organisations, with the involvement of external stakeholders; (c) statistically testing the validity of this framework over a large population of companies; (d) assessing the interdependency between the capabilities of IT governance over time, requiring a longitudinal research design; (e) developing measurement instruments related to IT governance constructs and variables. While this study used pre-validated constructs and variables based on organisation theory and prior IS research, there is a general lack of operationalised and validated measures regarding IT governance specifically.

The findings for ‘differentiated’ and ‘networked’ modes of IT governance also raises the question what other types of ‘hybrid structures’ are emerging and how they are associated with the organisational context. An alternative, yet related research question concerns the role of IT in supporting and shaping a ‘networked mode’ of IT governance. Galbraith suggests the use of IT as a lateral mechanism [11]. Interestingly however, this study found no strong evidence of e.g., computer supported collaboration or groupware technology for IT decision-making. The case findings indicated the dominant use of ‘personal meetings’ and ‘written material’. Company X was the only case in which a company-wide intranet was being developed, but this was not used as a dominant integration or communication medium between key stakeholders. Future research should look into the role and reasons for (not) adopting ‘computer supported collaboration’.

The reported study on IT governance is currently continuing in modes (a) and (b), in which IT governance capabilities are being studied in, e.g. networked organisations in Health Care, Manufacturing, Tourism, and Financial Services. In a joint programme with different industries and companies, the research on required capabilities of IT governance for the 21st century continues.

Table 3. Summary of stakeholder perspectives on emerging IT governance capabilities (Dominant perspectives in BOLD)

Stakeholder perspectives	Company X (1995 – 1999)	Company Y (1995 – 1999)	Company Z (1995 – 1999)
Corporate stakeholders (e.g. Executive Board, CEO, CFO, CIO)	<p><u>Structures:</u> Shared corporate responsibility Cross-functional forums</p> <p>PROCESSES: Shared IT decision-making IT investment-benefit management Competency building</p> <p><u>Stakeholders:</u> Awareness building Coalition-building and lobbying</p>	<p>STRUCTURES: CIO responsibility Hierarchical reporting Programme management</p> <p><u>Processes:</u> Split IT decision-making IT investment management tools</p> <p><u>Stakeholders:</u> Leading role-reactive Political turbulence</p>	<p><u>Structures:</u> CIO responsibility Hierarchical reporting Programme management</p> <p>PROCESSES: Split IT decision-making IT investment management tools</p> <p><u>Stakeholders:</u> Political turbulence Abrogate responsibility</p>

<p>Business stakeholders (e.g., Business director, Vice President, Division management)</p>	<p><u>Structures:</u> Steering committee Project management Job-rotation <u>Processes:</u> Interdependent planning (formal) Competency building STAKEHOLDERS: Leading role-proactive IT knowledge of business Conflict resolution</p>	<p><u>Structures:</u> Steering committee Information management function <u>Processes:</u> Dependent planning (ad-hoc) Competency building STAKEHOLDERS: Diverging expectations/perceptions Political turbulence</p>	<p><u>Structures:</u> Steering committee <u>Processes:</u> Dependent planning (ad-hoc) Competency building STAKEHOLDERS: Diverging expectations/perceptions Political turbulence</p>
<p>IT stakeholders (e.g., IT management, Account managers, IT consultants)</p>	<p><u>Structures:</u> Business management team Linking-pin t 'Business-IT' Forum Job-rotation <u>Processes:</u> Interdependent planning (formal) Competency building STAKEHOLDERS: Business knowledge of IT Pro-active stewardship Conflict resolution</p>	<p><u>Structures:</u> Project management Account manager <u>Processes:</u> Dependent planning (ad-hoc) Competency building STAKEHOLDERS: Different expectations/ Perceptions Political turbulence</p>	<p><u>Structures:</u> Project management <u>Processes:</u> Dependent planning (ad-hoc) Competency building STAKEHOLDERS: Leading role-reactive Diverging expectations/ Perceptions</p>

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