Bringing the organizational dimension to IS management: re-thinking IS strategic alignment

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Abstract

The paper explores the concept of IS strategic alignment from a different perspective. It is argued that IS strategic alignment is not, essentially, a planning issue but is rather a managerial action problem. It is suggested that the theoretical frameworks which can usefully guide IS strategic alignment are the ones found in the behavioural traditions of strategic management and organization theory. The paper’s key contribution is in the application of Ghoshal and Bartlett’s (1993;1994) theory of managerial action to the traditional frameworks for IS strategic alignment, developed by authors such as [MacDonald, 1991] or [Earl, 1996]. The result is a new proposal based on organizational roles and organized into an IS corporate governance matrix.

Keywords: IS strategic alignment, IS planning, IS leadership
1. Introduction

The management of the information systems (IS) function is the most horizontal and pervasive of all organizational functions, but it is not usually recognized as such. It is often seen as another vertical function with a strong technical component, as well as an important strategic dimension. In other words, we might say that in the present paradigm, the technical and the strategic (content) approaches to information systems implementation are favoured to an organizational (contextual) approach. It is argued, however, that in order to have a full understanding of the phenomenon these two approaches are not sufficient. To achieve the full integration of information technology (IT) in organizations - the ultimate aim of IS/IT implementation - a new, all-encompassing organizational dimension is needed.

Organization science is one of the key contextual references of the discipline of information systems. The problem with the present paradigm of the discipline, however, is that because it is overly content orientated the contextual (i.e. organizational) umbrella tends to be left behind. A shift in the present paradigm, which will bring the focus of the discipline more in line with recent developments in context-oriented managerial thinking, is needed. The present article is a contribution towards the search for such new paradigm in IS research and practice.

The notion of IS strategic alignment was introduced in the IS literature through the study carried out by the MIT Management in the Nineties [Scott Morton, 1991] and the “SAM” – (Strategic Alignment Model). For the contributors to this study the overall effectiveness of IS implementation was attributed to the quality of the alignment achieved between the strategies for IS/IT and the organization’s strategies. While strongly agreeing with the causality suggested by the MIT researchers, we differ a great deal with these researchers in what concerns the contents of such alignment and especially the means by which IS alignment is achieved.

For the MIT team, IS alignment is a mechanistic process achieved by a series of iterations between “anchors” (e.g. the IT strategy), “pivots” (e.g. the business strategy) and “impacts” (e.g. the organizational infrastructure and processes). Domain anchors provide the change forces, domain pivots are the problem areas being addressed in that particular iteration and
domain impacts are the components affected by changes to the domain pivot. According to this conception of alignment, the key problems to be addressed are where to start the iterations, the direction of rotation (e.g. from the IT strategy domain to the business strategy domain or vice-versa) and how many times to go around the four different domains [MacDonald, 1991].

IS alignment is not, however, as simple as the MIT might lead us to believe it is. In his deconstruction of the concept of strategic alignment, Ciborra [1997:70] makes the following observation:

What happens when we link the boxes of strategy, organization and IT on the “diamond diagram”? It changes our representation of the interdependencies between some key business variables. We obtain a new geometrical representation that materializes the idea of “alignment” in front of our eyes (...) When focussing on the geometrical representation of business variables we tend to grant them essence and existence: it is an ideal, perfect world to which the real world has to conform.

Like Ciborra, we believe that the key to IS alignment are not neat geometric models but a better understanding of fuzzy notions such as organizational climates, culture and leadership. In order to function effectively, the IS organization needs, more so than other functional areas, a climate of cooperation. Like other functional areas in organizations IS also has values, which can be called constitutive and which become instrumental in their governance. For example, the marketing function tries to instil values such as “customer is king” and production tries to create a quality ethos by insisting on message “right first time”. IS corporate governance too needs specific IS-related values, which will bring together the various stakeholders around a common concern: managing information systems in line with the strategies and policies defined for the organization as a whole or, in other words, IS – business alignment.

We believe that organizational values, along with organizational roles and relationships are the basis of the organizational outcome which we call IS strategic alignment. We also believe that (stronger or better) alignment is also the solution to the problem of the cultural gap or “disconnect” [Wang, 1994] between IS and business management. We therefore concur with Keen [1991:214] when he emphatically argues that:
The key to alignment is relationships, not “strategy”. There is nothing about IT that makes it any more difficult to manage than finance, marketing, production or human resources. The real problem seems to be the history of relationships or lack of relationships in most organizations: the growth of the data processing and telecommunications professions as a technical elite isolated from the wider business; business managers’ inexperience with and fear, suspicion, abdication and delegation of IT; business units’ dependence on a central IT monopoly and later rejection of it; and a mismatch between business and IT planning processes, accounting, responsibilities and knowledge.

Hence, we submit that the issue of IS strategic alignment is an organizational and organic issue which cannot be approached by means of geometric or mechanistic models, such as the SAM model proposed by the MIT study above. We further submit that IS strategic alignment depends primarily upon managerial action, that is upon the way that managers manage (or lead) values, roles and relationships within the specific domain of IS management. And because there are so many stakeholders involved in IS management, the type of managerial action (or leadership) we are referring to is not hierarchical or top-down but shared and distributed throughout the organization. Borrowing from Schein [1980], the type of leadership we are talking about is distributed (IS-related) leadership.

Our proposals start from the work of Earl [1996] on IS strategy and the fit or alignment between IS and business strategy and lead towards a new approach inspired on the organizational view of strategic management pioneered by Ghoshal and Bartlett [1993;1994;1998]. The outcome is an innovative approach to the structuring of the IS organization, which finds expression in a new model – the IS corporate governance matrix. This approach is focused on organizational values, roles and relationships (or processes), but in this paper we will be dealing mainly with IS-related roles and relationships. IS-related values will be dealt with in a separate article.

2. Revisiting IS strategic alignment: Earl’s OFF model

Earl [1996] proposes, as an alternative to the MIT’s SAM model for IS-business alignment, the Organizational Fit Framework (OFF). The OFF model uses four major processes to provide the linkages needed in order to create alignment or fit among the corresponding four strategic
domains. The strategic domains, which provide the strategic contents, are: (1) the business strategy, (2) the information management (IM) strategy, (3) the information systems (IS) strategy and (4) the information technology (IT) strategy.

Each strategic domain is divided up into two key “components”, which are subsets of the strategic domain, and two “imperatives”, which are important factors to be taken into account. For example, the components of IT strategy are scope and architecture and its imperatives are capability and powers. The four major processes, in turn, summarize all the aspects, which the organization “must know” in order to manage its information systems and technologies. The complete framework can be seen in Figure 1.

![Figure 1 - Earl’s information systems strategy framework and alignment mechanisms](image-url)

Starting with the business or the overall organizational strategy, it comprises two major components: the business’ strategic choices, as translated into its competitive positioning, and its strategic intent [Hamel and Prahalad, 1989] in the sense of the organization’s “crystallization of purpose” or “criterion in making choices” [Earl, 1996: 492]. The second component refers to the organization’s structural choices, i.e. its hierarchical structure and its control systems, as well as the softer component of internal choice, i.e. its management style and its culture, which, together, make up the organization’s context. These are components, which must be known before embarking on strategic development in the areas of IS/IT. Hence, knowing and being well informed about the organization’s strategy is what Earl calls the clarification process.
The second domain is the IS strategy and it comprises, as key components, *alignment* and *opportunity*. Alignment is achieved at the level of the strategic business unit, through a variety of techniques, such as critical success factors [Rockart, 1979] or through structural forms such as IS steering committees [Ward and Griffiths, 1996] among others; the objective is to keep IT applications aligned with business needs. Opportunity refers to the search for more innovative uses of the technology, a task, which should be situated at group level. The objective here is to take advantage of the permanent “push” from the business platforms [Zmud, 1988] in order to identify, in the market-place, new technology-based enablers of business innovation. The process associated with the IS strategy is the *innovation process*.

The IT strategy encompasses two key elements: *scope* and *architecture*. Scope is concerned with the types of technologies, which the organization uses or should use and architecture is concerned with the framework, which shapes and controls the IT infrastructure. The imperative related to scope is the capability or the skills, knowledge and activities needed to exploit the technology competently. As regards architecture, the imperative is the organizational powers needed to implement and control the infrastructure. The process associated with the IT strategy is the *foundation process*, in the sense that the organization’s IT architecture lays the technological foundations for all other IT/IS-related activities. This process is a joint consequence of the *inside-out* and of the *bottom-up* approaches to IS strategy discussed by Earl [1989] in his earlier work.

Finally, the information management strategy. Earl [1996:487] argues that the IM strategy is the *keystone* of the information systems strategy framework. This, it is claimed, is due to the fact that not only “IM strategy questions never seem to die, partly perhaps because both technology and organization are constantly changing” but also that “it is through processes of IM that questions of both IS strategy and IT strategy are resolved”. The components of IM strategy are *roles* and *relationships*.

The former, according to Earl, refers to who has what formal responsibility and authority in managing IS-related resources; the latter, although not explicitly defined, refers to informal interpersonal relationships among the stakeholders involved in the IS governance process.
Associated to the IM strategy domain, we find Earl’s *constitution process*, which is explained as follows [1996:498]:

The output linkages from the IM strategy domain can be described as the processes of constitution. Instead of organizing and managing IS, people now talk of ‘governance’ of the IS function, perhaps in recognition of the many stakeholders, including external ones. Constitution is offered as a noun to describe this process. It can influence the setting of the organization’s strategy, for example, when tensions or fault-lines in design of the host organization become manifest as IM issues. It can affect the capability and effectiveness of IS strategy-making, for example, in encouraging teamwork and partnership. It can influence the quality of IT strategic decisions, and the subsequent buy-in to them, by education, development and propaganda programmes.

3. A comment on the OFF model

In the modified version of the MIT’s SAM model Earl’s [1996] model offers a different perspective on IS alignment. Instead of a construction model, Earl proposes an observation model, i.e. a check-list of factors, which must not be ignored when trying to integrate IS/IT and the organization. As the outcome of his model, Earl offers four observational platforms from which to oversee the IS-organization alignment as it unfolds. Such platforms are the four processes: clarification, innovation, foundation and constitution.

Although it has a distinctly more organizational slant than the MIT’s SAM, Earl’s OFF model still suffers from an overly rational and abstract perspective of organizational life. Although useful as check-list headings, processes such as “clarification”, “innovation” and “foundation” are not truly organizational in the sense that they do not emanate from any socially-based actions or events. They may be called managerial processes because they emanate from business-led or from managerial choices. The constitution process, however, is different because it is directly related to the people in the organization and their actions (their values, roles and relationships).

Earl himself raises doubts about the appropriateness of the current conceptions of IS alignment:
it is through organizations that strategies are made and thus naïve, mechanistic and simply aligned organization designs may not provide the adaptation, creativity and entrepreneurship that strategy-making requires” [1996:488]; “if information flows have to cross internal and external boundaries and information resources be shared by all, should some elements of information strategy be above or somewhat removed from a current conceptualization of alignment? [1996:490]

In spite of such doubts, Earl’s argumentation does not show signs of an action orientation. On the contrary, his argumentation is often abstract and locked into a managerial rationality ethos. For example: “IS strategy can influence the organizational strategy by pursuing synergy more aggressively than before” or “IS strategy may prompt questions of IM strategy” [1996:494]. What do these statements mean? How can “a strategy” do this or that? Is this not a reification of the concept of strategy? Earl argues that the IM strategy is based on the constitution process. While we find the application of the notion of constitution process to an IS alignment model very interesting, we believe it has some problems.

While agreeing with the centrality of roles and relationships in guiding the whole process of alignment we differ from Earl’s formulation of the constitution process. Earl places this process alongside the other three processes with no attempt at establishing priorities or a hierarchy between the processes. Secondly, Earl does not articulate how such formal roles and informal relationships are formed, what their mutual influences are or what the relationship between such roles and relationships and the traditional structure of the IS organization might be. Thirdly, when discussing IS corporate governance, Earl does not spend any time explaining this new concept. He simply states that “[in IS management] people now talk of governance, perhaps in recognition of the many stakeholders, including external ones [1996: 498].

Roles and relationships do not exist in a cultural vacuum. They are guided and shaped by organizational values. IS-related values, roles and relationships are the constitutive forces in the organization, which jointly establish an IS-related climate. Such forces start with the most basic constitutive forces of any social group - language and languaging [von Krogh and Roos, 1995] and in emotions and emotioning [Maturana, 1988], and find expression in the dyadic relationships embedded in organizational roles. That being so, the IS constitution process should not be seen just as one process among four, but should rather be seen as a process in a position
capable of producing contexts favourable to IS-related learning, which would include the creation of a disposition or capability for the alignment of IS and the business to occur.

From this, it follows that everything in the IS organization, including the other three processes (clarification, innovation and foundation) are strongly influenced, perhaps even shaped by the constitution process. We propose, thus, that from the four key processes of the strategy development process described by Earl, the IS constitution process is different and should be placed above all the others. In legal parlance, a constitution is not just an ordinary law, but is the law of all laws. Therefore, the IS constitution process should be in a position to influence all other processes. On the basis of this argument, we propose a modified version of Earl’s [1996] OFF model, which can be seen in Figure 2.

![Figure 2 - The IS constitutive process as the building block of all other IS-related processes](image)

By placing the constitution process at the center of the model and making it interact with the other three processes, it becomes clearer how IS alignment might be achieved. That is, if the clarification, the innovation and the foundation processes all have a common reference point within the constitution process, then it may be possible to align the organization’s business strategy with its IS and IT strategies. However, such an alignment model is still a set of boxes with arrows between them. We have to look inside the constitution process and try to define it in terms of the articulation of its basic elements: values, roles and relationships.
The third observation we have concerns IS corporate governance. Information systems governance is a useful concept because it creates a distinction between daily management of IS-related routines and something with a more profound significance in the organization. Monks and Minow [1995:1] define corporate governance as “the relationship among various participants in determining the direction and performance of corporations. The primary participants are (1) the shareholders, (2) the management (led by the chief executive officer) and (3) the board of directors”, in addition to a “second line” of participants, made up of employees, customers, suppliers and the community. Still according to the same authors, “governance is ultimately concerned with the alignment of information, incentives and capacity to act. The challenge is aligning the responsibilities and authorities of all the various constituencies to achieve the optimal conditions for growth and renewal” [1995:257].

When translating the corporate governance concept into IS management, it must be given a new reading. In information systems management the key stakeholders are the top management, represented by the member of the board in charge of the information systems/technology function (in the US sometimes known as the Chief Information Officer), the information systems/technology manager and the senior line managers, who increasingly have functional responsibilities in the area of information systems/technology. Hence, the notion of IS corporate governance must be based, in the first instance, upon the roles and relationships of these three kinds of players.

Top managers, information systems managers and senior line managers form a high-level triangle which dominates all IS-related decision making in organizations. But there are also other players whose roles are increasingly important when considering the constraints and the opportunities which IS/IT place upon such decision making. The other important players are (1) the suppliers of IS/IT products and services, who provide the interface between the organization and the new business opportunities afforded by IT artefacts; (2) the middle managers, who establish the link between senior managers and the end-users of IT/IS and who constitute the first line of contact with IS/IT-related constraints; (3) the end-users themselves, whose local IS/IT-related learning is a key element in IS management, both as a constraint and as an opportunity.

Although these are important actors that play a vital role in the ultimate success of IS implementation, they do not intervene directly in the practice of IS corporate governance. Suppliers
of IS/IT products and services, middle managers and end-users of IT/IS influence IS corporate governance but they do not exert the final choice in the direction and performance of IS/IT in the organization. Such choice is the outcome of the relationships among top managers, information systems managers and senior line managers.

Thus, following the elements of corporate governance quoted above and proposed by Monks and Minow [1995], we define the corporate governance of information systems as the interrelationships and interdependencies among the top management, the information systems/technology manager and the senior line managers in the day-to-day alignment and balancing of business performance, IS/IT-related external opportunities and IS/IT-related internal constraints.

4. A new framework for IS distributed leadership

The key proposal we make in this article is toward a new model of IS distributed leadership, a model which may effectively materialize and sustain the alignment between the IS/IT organization and the business needs and strategies. Such a model is inspired first and foremost on the writings of Ghoshal and Bartlett [1993,1994, 1998] and on an earlier definition of leadership proposed by Schein [1980]. According to that author, leadership is a distributed set of functions rather than the behaviour of an individual leader. Such functions can be the articulation and transmission of basic purpose, the monitoring of progress, supporting, clarifying, testing consensus, rewarding, punishing and so forth, at all levels in the organization.

Bartlett and Ghoshal [1993] propose a fresh look at organizations and management, not emphasizing organizational structures and formal managerial roles, but managerial processes and their interrelationships, instead. These authors go to the heart of general management and they start by reviewing what the founding fathers of this discipline have put forward as being the basic roles of management. Chandler, Bower and Cyert and March wrote in the sixties and seventies at the height of the explosion of “big business” in the US and in Europe and when the new multi-divisional organizational form was invented, to cope with the ever increasing size of companies. Thus, they propose a management framework, which is a radical departure from the models suggested by the founding fathers. The main differences among the traditional approaches and that of Ghoshal and Bartlett’s can be seen in Table 1.
Table 1 - Bartlett and Ghoshal’s [1993] new model in comparison with traditional models of management

<table>
<thead>
<tr>
<th>Management Level</th>
<th>Chandler</th>
<th>Bower</th>
<th>Cyert and March</th>
<th>New model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top management</strong></td>
<td>Entrepreneur and resource allocator</td>
<td>Creator of structural context</td>
<td>Established of strategic/operational plans and resolver of conflicts</td>
<td>Creator of purpose and challenger of status-quo</td>
</tr>
<tr>
<td><strong>Middle management</strong></td>
<td>Administrative controller</td>
<td>Vertical information broker</td>
<td>Advocate of sub-unit goals</td>
<td>Horizontal information broker and capability integrator</td>
</tr>
<tr>
<td><strong>Front-line management</strong></td>
<td>Operational implementer</td>
<td>Initiator</td>
<td>Problem solver</td>
<td>Entrepreneur and performance drivers</td>
</tr>
</tbody>
</table>

In the “new model” top managers are the creators of organizational purpose and challengers of the status quo, as opposed to resource allocators or makers of strategy. Middle managers are horizontal integrators of strategy and capabilities as opposed to controllers or information brokers. Front-line managers the organizational entrepreneurs as opposed to implementers of plans or problem solvers. The new model is a radical departure from the traditional management thought on the structuring of organizations. It is based on a new conceptualization of organizational endeavour whereby organizations are “developed and managed on a principle of proliferation and subsequent aggregation of small independent entrepreneurial units from the bottom up”, rather than on a principle of “division and devolution of resources and responsibilities from the top down” [Bartlett and Ghoshal, 1993:42].

In defining organizations as social structures, Bartlett and Ghoshal state “even though actions of and within organizations may be motivated by a variety of economic and other objectives, they emerge through processes of social interactions that are shaped by the social structure”[1993:43]. In adopting this interpretivist view, unusual in mainstream strategic management circles, Bartlett and Ghoshal bring the fore the constructs of values, roles and relationships as the principal shapers of organizational life and not generalizations about those relationships, which is the case in the bulk of the literature on organizational structure. They explain their position as follows:

our model reflects a different research perspective. Despite the obvious fact that organizations are social structures that shape and are shaped by the relationship among actors within their social systems, organizational analysis has historically focused on abstract generalizations of
relationships represented by its formal structure. In contrast, we have defined our model in terms of three core processes that are built around a specific set of relationships among the front-line, middle and top management of a company. In this way, we have presented a conceptualization of organizations, not as a scheme for dividing the overall corporate activities among a group of subunits, but as a cluster of roles and their interrelationships. From this perspective, it is the behaviours and actions associated with each of these roles that collectively define the social structure of a company within, which its management processes are embedded. [1993: 41]

Bartlett and Ghoshal base their management model on extensive research into the management practices of a well managed global corporation (INTEL, Kao Corporation, McKensey, Philips, Skandia and, especially, Asea Brown Boveri), which serve as role models. From the case studies and their academic experience, these academics draw conclusions about new roles (i.e. expected patterns of behaviour) for the three core positions within the management structure of most companies: top management, middle management and front line management. These roles, according to the authors, reflect all the major changes, which have been taking place in large organizations and, which have been briefly discussed above. Furthermore, they develop the notion of “management processes”. Management processes are the “interlocking behaviours”, the relationships or the interactions of managers with the organization in performing their daily activities. They are the managers’ key tasks, as seen by themselves. This is why the authors claim that this line of thought is leading them towards a new theory of the firm, which they have labelled as the managerial theory of the firm.

A managerial process is a notion, which cannot be functionally described because it is an interpretive concept, i.e. it is the result of organizational enaction. Managerial processes are the outcome of an act of managerial choice, in the form of managerial formal roles and the interpretation (enaction) of such roles by collective action. In the words of Ghoshal and Bartlett “it is the behaviours and actions associated with each of these [managerial] roles that collectively define the social structure of a company within, which its management processes are embedded” [1993:41]

The three core managerial processes proposed by Ghoshal and Bartlett are: the Renewal, the Integration and the Entrepreneurial process. They are “core” processes because each of them is present in all three managerial roles. In line with the view of organizations as “networks of roles and relationships”, Bartlett and Ghoshal [1993:44] argue that
Each of the three core processes is structured around a specific set of relationships across these three roles; the three processes coexist because of the overall symbiosis within and across those roles. In this way, we have defined the structure of the organization not in terms of how subunits are composed and decomposed but as clusters of statuses and associated roles that collectively define the social structure of a company within, which its core management processes are embedded.

By creating an interaction between managerial roles and processes, Bartlett and Ghoshal create a new framework for *managerial action*, which has a truly social-relational flavour. The framework can be seen in Table 2.

<table>
<thead>
<tr>
<th>The Renewal Process: <em>creating purpose and challenge</em></th>
<th>The Integration Process: <em>linking and leveraging capabilities</em></th>
<th>The Entrepreneurial Process: <em>aligning and supporting initiatives</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing the tension between short-term performance and long-term ambition</td>
<td>Managing operational interdependencies and personal networks</td>
<td>Creating and pursuing opportunities</td>
</tr>
<tr>
<td>Creating and maintaining organizational trust</td>
<td>Linking skills, knowledge and resources</td>
<td>Reviewing, developing and supporting initiatives</td>
</tr>
<tr>
<td>Shaping and embedding corporate purpose</td>
<td>Developing and nurturing organizational values</td>
<td>Establishing strategic mission and performance standards</td>
</tr>
</tbody>
</table>

Table 2 - Bartlett and Ghoshal’s managerial roles and processes

5. Looking inside the constitution process: the IS corporate governance matrix

Reflecting upon Bartlett and Ghoshal’s roles and processes model (see Table 2) we can see how it also provides a perfect framework for thinking about the governance of the IS corporate function, by replacing the front-line management, the middle management and the top management roles by the three key IS managerial roles - top management, information systems management and senior line management. These roles have been derived from an analysis of the emerging trends in IS management discussed by several IS authors [Beath, Ross and Goodhue, 1996]; [Brancheau, Janz and Wetherbe, 1996]; [Rockart, Earl and Ross, 1996]; [Cross, Earl and Sampler, 1997]; [Feeny and Willcocks, 1998] and surveyed by [Magalhães, 1999].
1. Building and managing the IT infrastructure, i.e. developing a coherent blueprint for a technology platform responsive to present and future business needs

2. Building and maintaining partnerships between IT specialists and IT users

3. Achieving high performance and rapid technical progress by the IT organization

4. Managing the organization’s IT sourcing strategy and identifying new technological solutions

5. Centralized oversight of the IS function, the need for personal involvement and commitment from top management

6. Decentralized implementation of IS through a federal-type IS organization

7. IS staff acting more as business consultants and less as technicians

8. Improving IS strategic planning, i.e. integrating IS/IT efforts with business purpose

9. Developing IS human resources and creating a strong IS/IT workforce

10. Line management’s new role in the management of and experimentation with IT at the local level

Table 3 - Emerging Trends in IS Management

These ten key roles can be further summarized into three major overriding issues:

⇒ (1) The development and management of the organization’s IT infrastructure

⇒ (2) The development and management of solid partnerships between IT specialists and users

⇒ (3) The personal involvement from top management in establishing and maintaining an appropriate climate for the development of the IS function
Ghoshal and Bartlett’s [1993;1994] notion of managerial processes (the Renewal, the Integration and the Entrepreneurial process) can now be applied to IS corporate governance, by taking the three overall emerging trends identified above and turning them into managerial processes. In fact, something very close to this has already been achieved by Earl [1996] with the three processes he has put forward and which we have discussed above - the Foundation (or Infrastructural), the Innovation and the Clarification processes.

The result is the creation of a new framework of IS corporate governance for the future (see Table 4). This innovation, as far as we are aware, has never been proposed or attempted in the IS literature.

The proposed framework can be developed further as a translation of Bartlett and Ghoshal’s distributed leadership model in terms of IS corporate governance. As more details emerge about future trends in the IS management function, it should possible to develop a finer framework on the basis of Ghoshal and Bartlett’s work. The main idea is to find out how the notions of managerial values, roles and processes can be usefully applied to the corporate governance of IS.
<table>
<thead>
<tr>
<th>Managerial processes</th>
<th>Managerial roles</th>
<th>Front-Line Management</th>
<th>Middle Management</th>
<th>Top Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewal process ①: creating purpose and challenge</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>IS corporate governance process ②: Clarification</td>
<td>IS Functional Management</td>
<td>Senior Line Management</td>
<td>Top Management (Board member in charge of IS)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Managing the tension between short-term performance and long-term ambition</td>
<td>Creating and maintaining organizational trust</td>
<td>Shapping and embedding corporate purpose</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Filtering new developments from the external IT market and translating them into the organization’s language</td>
<td>Building communication bridges between IS departmental demand and central IT supply</td>
<td>Translating the corporation's intent and purpose into IS corporate objectives</td>
<td></td>
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<tr>
<td>Integration process ③: linking and leveraging capabilities</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>IS corporate governance process ③: Intrastructural or Foundation</td>
<td>IS Functional Management</td>
<td>Senior Line Management</td>
<td>Top Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Managing the corporate IT infrastructure and rapidly achieve technical progress in line with the business</td>
<td>Actively contributing towards the maintenance of an IT infrastructure by having a grasp of the technology-related opportunities and constraints</td>
<td>Embedding an IS ethos into the organization and championing IS/IT issues at Board of Directors’ level</td>
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<tr>
<td>Entrepreneurial process ③: aligning and supporting initiatives</td>
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<tr>
<td>IS corporate governance process ③: Innovation</td>
<td>IS Functional Management</td>
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<td>Reviewing, developing and supporting initiatives</td>
<td>Establishing strategic mission and performance standards</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal consulting on IS issues (including business process innovation) and work on the building of relationship with the line departments</td>
<td>Searching for IS-based innovative solutions (including those coming out of good local IT initiatives) and linking them with business targets</td>
<td>Facilitating the achievement of a balance in the centralization vs. decentralization issue through personal involvement in the strategic management of IS/IT</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 - The IS corporate governance matrix: integrating managerial roles and processes
6. Conclusion

We contend with the way that alignment is conceptualized in Earl’s OFF model. Alignment or organizational fit cannot be reduced to a set of flow diagrams which never leave the paper that they are printed on. In other words, we should not convey the simplistic notion that alignment is something that can be planned or charted, by means of fitting various types of strategies through a few linking mechanisms. We should rather convey the idea that IS alignment is something organismic, that is, something that must be shaped and made to grow within the organization. The operative word to describe the formation of IS alignment would be an organizational disposition, as suggested by Angell and Smithson [1991], that is an (IS-related) ethos or climate, which would bring about the desired alignment. In our view, alignment is achieved not by planning strategies or linkages between strategies, but by emphasizing managerial action or leadership, in its distributed form, as suggested by Schein [1980] and operationalized by Ghoshal and Bartlett [1993;1994].

Alignment, like climate or context in organizations, is something, which is formed by forces which are constitutive in nature. We submit, therefore, that IS strategic alignment depends upon the IS-related climate or context achieved, first and foremost, through IS-related (distributed) leadership, as defined by Schein [1980]. The IS corporate governance matrix, emphasizing IS roles and relationships, is a way of operationalizing IS-related leadership. Hence, IS-related leadership should be seen as the responsibility of every manager in the organization and not as the sole responsibility of the IS Director.

Furthermore, IS-related leadership should not be seen as being exclusively concerned with technical issues related to IS development, acquisition or outsourcing, but with much broader managerial concerns, such as (1) clarifying IS/IT issues in terms of business objectives; (2) actively promoting the search of IS-related innovation and (3) rallying the organization around the cost-effective maintenance of the IT infrastructure. These three managerial processes put forward by Earl [1996] do not just happen. They have to be to made to happen, as we have suggested above, by a higher level process also proposed by Earl - the constitution process. The constitution process, which is made up by the various IS-related managerial roles and relationships, is the basis for the formation of a “matrix mind set” [Ghoshal and Bartlett, 1990].
in the IS organization, which in turn, enables the alignment between IS and the business to materialize.

Finally, a word about organizational values. Ciborra [1997] suggests the adoption of a new language to promote the alignment of IS and the business, a language emphasizing care, hospitality and cultivation. These expressions imply values that managers should adopt in relation to the infusion and diffusion of information technology in the organization. While agreeing entirely with Ciborra, we believe that these values apply mainly to one part of the IS corporate governance matrix: the infrastructural or foundation process. We suggest that in order to be effective, the new language should also encompass issues which are not only related to the adoption of the technology, but which encompass also business concerns. These issues would find expression in organizational values such as the will to clarify, the drive to innovate, the ability to negotiate or the fostering of local learning. Such organizational values would be the ones required by the other two processes in the IS corporate governance matrix: the clarification and the innovation processes.

As indicated above, the organizational approach to IS strategic alignment outlined in this article must be complemented by a discussion on organizational values. Such a discussion, applied to IS corporate governance, cannot be adequately accomplished in the present paper but will be the focus of a forthcoming one.
7. Bibliography


