ALIGNING BUSINESS AND IT STRATEGIES IN
MULTI-BUSINESS ORGANIZATIONS

Completed Research Paper

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Abstract

The alignment of business and information technology (IT) strategies is an important and enduring theoretical challenge for the information systems discipline, remaining a top issue in practice for the past twenty years. Multi-business organizations (MBOs), present a particular alignment challenge, where business strategies are developed at both the corporate level and within individual strategic business units (SBUs) across the corporate investment cycle. In contrast, the extant literature implicitly assumes that IT strategy is aligned with a single business strategy at a single point in time.

This study draws on resource-based theory (RBT) and path dependence to reconceptualize business and IT strategic alignment in MBOs. Drawing on Makadok’s (2010; 2011) theory of profit, we show how functional, structural and dynamic alignment, create value in MBOs through three strategic drivers: governance, competence and flexibility. This has implications for existing IT alignment models, providing alternative theoretical explanations of how IT alignment creates value.

Keywords: Alignment, IS centralization/decentralization, IS strategic planning, IT capabilities, Organizational performance, Top management team, Resource based theory
Introduction

The alignment of business and information technology (IT) strategy is an important and enduring theoretical challenge for the information systems discipline and practitioners (Luftman et al. 2012; Luftman et al. 2008). Business and IT alignment is defined here to include the formulation, integration and implementation of decisions made between business and IT to achieve the organization’s objectives (David 2003).

The Information Systems literature identifies three forms of business and IT alignment: Functional alignment, how IT resources leverage business capabilities (See, for example, Oh et al. 2007; Tallon et al. 2011); Structural alignment, the allocation of business and IT decision rights across the organization (See, for example, Hodgkinson 1996); and Dynamic alignment, how the strategic decisions to develop alignment at one point in time influence the range of decisions available in the future (See, for example, Sabherwal et al. 2001).

However, despite a large body of research, there is little guidance on how to build and sustain alignment between business and IT strategies (Avison et al. 2004). At the same time, alignment has become more complex. Organizations are diversifying, moving from single lines of business to multi-business organizations (MBOs); becoming more digitized, embedding IT deeper within their business strategies to enable new business models (El Sawy 2003; Orlikowski 2009); and are more dynamic in response to environmental turbulence and increasing industry clock-speed (El Sawy et al. 2008; Tallon 2011; Tallon et al. 2011; Tanriverdi et al. 2010). This complexity has led some researchers to question whether IT alignment can be achieved when the business strategy is constantly developing and, whether, in fast moving environments, alignment may simply create competitive rigidities due to strong path dependencies (Kearns et al. 2000; Tallon et al. 2000; Vitale et al. 1986).

To illustrate these challenges, consider business and IT alignment in a multi-business organization, which is the dominant organization form today. In an MBO, the three forms of alignment (or misalignment) exist simultaneously. Functional alignment: Strategies increasingly use IT to enable new business models, specifying both shared IT to compete across SBUs (organization-wide IT-enabled platforms) and the IT to compete within each SBU market. Structural alignment: Business strategies are formed both at the corporate level and within individual strategic business units (SBUs) (Grant 2002). Dynamic alignment: IT capabilities take a long time to build and, once specified, shape and constrain subsequent strategy choices, often persisting for long periods (Sabherwal et al. 2001).

This paper reviews and synthesizes the functional, structural and dynamic alignment literature to propose a model of business and IT alignment for MBOs. Drawing on Makadok’s (2010; 2011) theory of profit, we explain how each form of alignment creates value. Propositions formally specify the model and measures of alignment are defined. Finally, we identify the contributions of the proposed model to theory and practice by exploring its implications as firms become more diversified, digitized and dynamic.

Literature Review

Here, we review the literature on functional, structural and dynamic alignment, identifying three challenges to contribute to the theory of alignment in MBOs. We begin by differentiating between corporate and SBU business strategies, which is a critical dimension of how MBOs compete. Corporate strategy specifies how to compete as an organization, including the choice of markets in which to compete and the level of sharing across the organization (Bowman et al. 2003; Collis et al. 1995; Johnson et al. 1999). SBU strategy specifies the resources and capabilities required to compete in each SBU’s own specific market. The MBO organizational form enables “increasing differentiation, diversity and complexity in the portfolio of corporate assets and, as a consequence, to increasing coordination requirements” (Christensen 1998, p.4).

Corporate and SBU business strategies are supported by functional strategies. This involves the elaboration and implementation of business strategies through individual functions, including, for example, sales, marketing, finance and IT (Kathuria et al. 2007). Therefore, the first challenge is one of functional alignment: How to develop IT capabilities that optimally leverage add value to business
strategy capabilities both at the corporate level and within each SBU?

The second challenge is then of structural alignment between corporate and SBU levels: How to assign decision rights over resources to facilitate development of complementary business and IT resources so that value is added between these two levels.

Strategies change and, therefore, so do structural and functional alignment. The timeframe for corporate strategy is frequently three to five years. Within that timeframe, the corporation builds its IT platform, and the SBUs develop their own strategies and IT application portfolios to leverage the corporate strategy. The development of IT capabilities to leverage new business strategies takes time. This is particularly the case for the corporate IT platform, which supports the corporate shared IT capabilities. These IT capabilities become embedded in the organization. Therefore, the third challenge is one of dynamic alignment: How to respond to changes in the internal and external environments.

Typically, the extant literature treats these three challenges as independent. The relationship between corporate, SBU and functional strategies is presented as a simple hierarchy with corporate strategy on the top and functional strategy on the bottom. This, in part, justified the separate study of each form of alignment. Recent research models the three forms of strategy as a heterarchy (Chakravarthy et al. 2007; Kathuria et al. 2007). Here, we adopt a heterarchy analytical framework to examine the interactions among the three challenges.

**Functional Alignment**

Functional alignment models address the relationship between business strategy and functional level IT strategy. This is also referred to as horizontal alignment (Chakravarthy et al. 2007; Kathuria et al. 2007). The critical research questions include how IT supports or enables the business strategy, how functional alignment creates value, and how alignment is established and sustained. Here, we address the first two issues. The third issue is addressed as part of the review of dynamic alignment below.

The Henderson and Venkatraman (1993) Strategic Alignment Model (SAM) is the dominant model of IT and business alignment (Chan et al. 2007). SAM builds on and extends the work developed as part of the MIT90s project (Scott Morton 1991). SAM defines strategy as choices “involving both formulation (decisions pertaining to external competitive, product/market choices) and implementation (choices pertaining to the internal structures and capabilities of the firm in order to execute its product/market choices)” (p. 472). The authors argue that these strategy choices are equally relevant in the IT domain. The result is that SAM conceptualizes IT alignment as requiring both strategic fit between positioning in the external market and its internal organization infrastructure and processes, and functional integration between business and IT domains.

SAM’s explanation of how alignment creates value draws on the contingency theory of external and internal fit. External fit matches organizational structure with the contextual environment (Lawrence and Lorsch 1969) and positioning in the external market (Porter 1980). Internal fit matches strategy, organizational processes and structures (Chandler 1962) and is associated with various configurational approaches, including MIT ‘90s.

Since its initial publication in 1993, SAM has been extensively referenced for its intuitively appealing argument for the need and importance of IT alignment, and the model’s compelling conceptual framework. However, the model has undergone limited evolution (see for example, Hirschheim et al. 2001; Maes 1999; Maes et al. 2000).

A critical limitation of SAM and other models of functional alignment is that their analytical frameworks typically assume a single business strategy and a single, separate IT strategy (Reich et al. 2000). To overcome this limitation, SAM has been adapted by some researchers to consider strategy across both corporate and SBU levels, for example, using typologies from Miles and Snow (1978). These explicitly incorporate SBU level decisions (Sabherwal et al. 2001, p. 196, citing Delery and Doty 1996). Table 1 presents a brief overview of models of functional alignment.

However, the above extensions to SAM do not address different levels of alignment at the corporate and SBU levels or within and between each SBU. Recognizing that the degree of alignment between business and IT strategies at the corporate level may be different from those within individual SBUs, Reich and
Benbasat (1996) called for researchers to address IT alignment at multiple levels, Here, we develop a model of functional alignment in which business and IT functional alignment in one SBU is independent of and different from the alignment in another.

**Structural Alignment**

Models of structural alignment explain the relationship between corporate and SBU level strategies and how they interact to create value. This is also referred to as vertical alignment (Chakravarthy et al. 2007; Kathuria et al. 2007). The critical management challenge in the IS structural alignment literature is the level of centralization and decentralization between corporate and SBU levels (Brown et al. 1994, p. 372).

For example, Hodgkinson (1996) examines structural alignment between business strategy and IT structure at both the corporate and SBU levels. The issue is that the level of IT centralization involves a trade-off between centralization, which reduces IT costs through standardization, and decentralization, which increases business value by increasing SBU flexibility to respond to market demands. Depending on their cost- or growth-based strategies, SBUs frequently disagree about the appropriate trade-off between standardization and flexibility. In which case, SBUs prioritize their unique needs over corporate needs, or seek to transfer IT costs to the corporate level (Hamel et al. 1989).

Broadbent and Weill (1996) make the same assumption as Hodgkinson (1996) when examining alignment between organization-wide strategy and IT infrastructure in large multi-business organizations. They define four types of IT infrastructure (enabling, utility, dependent, and none), with superior performance contingent on alignment between the IT infrastructure and the organization’s strategy. Value is created by strategic agility contingent on IT infrastructure supporting SBU applications in uncertain business environments.

Implicitly, but not explicitly, both studies assume that the relationship between the corporate level and each SBU is the same, in the sense that all SBUs adopt the same tradeoff. However, this is in conflict with the basic motivation for adopting an MBO form, which is to allow each SBU to compete individually in their own market and at their own pace. The common property of these models is that they consider a single IT strategy and how it meets the needs of both corporate and SBU strategies. This limits the analysis of alignment levels to that between the corporate and average SBU, reducing the complexity of structural alignment by disregarding any differences across SBUs in their relationships with the corporate center. This is equivalent to treating these strategic differences as errors.

Ravishankar et al. (2011) and Brown (1997) are two exceptions to the frequently made implicit assumption of alignment between a single strategy and a single level of centralization. The former show how a particular IT strategy can be aligned with some SBUs and misaligned with others. The latter describes the emergence of different hybrid IT structures across SBUs in an MBO. Here, we relax the implicit single centralization/decentralization trade-off assumption and develop a theory of business and IT alignment in which its level varies across SBUs.

**Dynamic Alignment**

Galliers (2004) highlights that IT alignment has both a cross-sectional and a temporal dimension, with the latter being under-researched. While models of strategic IT alignment may have descriptive power at a single point in time, few have normative or descriptive power over time. A deeper understanding of dynamics is required that takes into account the cross-sectional linkages within an organization and the temporal nature of strategic decision making (Labovitz et al. 1997; Venkatraman 2000).
Table 1: Review of selected models within the strategic IT alignment literature

<table>
<thead>
<tr>
<th>Study (by year of publication)</th>
<th>Dimension of Alignment</th>
<th>Underpinning theory of how value is created</th>
<th>Level of analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scott-Morton (1991) - MIT 90’s</td>
<td>Functional: Fit between technology, structure, process, individual roles and skills, and business strategy.</td>
<td>• Contingency theory</td>
<td>A single level organization at a single point in time. Can be applied at different levels (although not between levels)</td>
</tr>
<tr>
<td>Henderson and Venkatraman (1993)</td>
<td>Functional: Fit between business strategy and structure integration between business and IT,</td>
<td>• Contingency theory • Strategy and structure (Chandler 1962) • Positioning (Porter, 1980)</td>
<td>Considers a single level organization. Can be applied at different points in time (comparative statics)</td>
</tr>
<tr>
<td>Wagner 2007</td>
<td>Functional: Linkage between business and IT and the transmission process from IT resource to the economic impact of IT</td>
<td>• RBT (Rumelt 1991)</td>
<td>Considers a single level organization at a single point in time. Applied at strategic and operational levels.</td>
</tr>
<tr>
<td>Hodgkinson (1996)</td>
<td>Structural: Addresses level of centralization and decentralization between corporate strategy and IT structure</td>
<td>• Contingency theory. • Goold and Campbell’s (1987) corporate strategy styles • Earl’s (1996) federal IT structure.</td>
<td>Considers a single level organization at a single point in time. Considers the level of centralization and decentralization across all SBUs</td>
</tr>
<tr>
<td>Broadbent and Weill</td>
<td>Structural: Provides a typology of firm-wide strategy and IT infrastructure choices</td>
<td>• Contingency theory • Three orientations (enabling, dependent, utility, dependent, and none)</td>
<td>Considers a single level organization at a single point in time. Considers IT infrastructure across all SBUs</td>
</tr>
<tr>
<td>Sabherwal et al. (2001)</td>
<td>Dynamic: Applies a Comparative statics framework of SAM at multiple points in time</td>
<td>(draws on H&amp;V) • Punctuated equilibrium</td>
<td>Can be applied at different points in time (comparative statics)</td>
</tr>
<tr>
<td>Itami and Numagami (1992)</td>
<td>Dynamic: Theorizes how business and IT strategies at one point in time affect subsequent strategies</td>
<td>Three perspectives of the interaction over time • current business strategy capitalizes on current IT strategy, current business strategy cultivates the development of future IT strategy and IT strategy drives cognition of future business strategies</td>
<td>Considers path dependencies between business and IT strategies between one point in time and the next. Can be applied at different levels (although not between levels)</td>
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</tbody>
</table>
While SAM provides a cross-sectional view of alignment, its authors recognize that fit is inherently dynamic. Changes in strategy are required to respond to opportunities or challenges created by competitors’ actions and changes in the external environment: “choices made by one firm (if fundamentally strategic) will over time evoke competitor actions, which necessitate subsequent responses. Thus, strategic alignment is not an event but a process of continuous adaptation and change” (Henderson et al. 1993, p. 473). They conclude that, “the real business challenge is not static alignment among the four domains at any one point in time (when the strategic planning exercise is carried out), but ensuring continual assessment of the trends across these four domains to allow them to reposition the firm in the external environment and re-arrange their internal infrastructure” (p. 482).

To examine the dynamics of business and IT alignment, researchers have applied SAM at multiple points in time within a comparative statics framework. Several analytical models have been proposed using this approach, including: stages of growth (Burn 1993; Street 2006), lead-lag (Burn 1996; Burn 1997) and punctuated equilibrium (Sabherwal et al. 2001). Sabherwal et al. observe long periods of relative stability, or weak evolutionary change, interrupted by short periods of quick, and extensive or revolutionary change. Consistent with punctuated equilibrium theory, they comment that: ‘Revolution, involving changes in most or all dimensions of the strategic IS management profile, interrupts the evolutionary changes’.

While comparative statics models of dynamic alignment provide a descriptive account of alignment over time, they do not explain how strategy at one point in time is affected by previous strategy choices or how it affects the next. Ghemawat (1991) explains this process of path dependence by which strategy to persist over time. As Dosi et al. (2000, p. 346) state, “Path dependency recognizes that ‘history matters’. Bygones are rarely bygones. Thus a firm’s previous investments and its repertoire of routines (its history) constrain its future behavior.”

Path dependencies in the IT alignment literatures are explored by Itami and Numagami (1992), who address how business and IT strategies at one point in time affect subsequent strategies. They present three perspectives of the interaction over time. The first is between current business and current IT strategy, where current business strategy capitalizes on current IT strategy. The second is between current business strategy and future IT strategy, where business strategy cultivates the development of future IT strategy. The third perspective is between current IT strategy and future business strategies, where IT strategy drives cognition of future business strategies.

While Itami and Numagami (1992) address path dependencies between business and IT strategies, more theorizing is required to understand how corporate business and IT strategy affect SBU level choices. For example, corporate choices around IT infrastructure and shared applications frequently shape and constrain available SBU IT choices. In turn, these choices shape and constrain the SBUs ability to compete within its own markets. Here, we identify the critical barriers to maintaining dynamic alignment.

### A Model of Alignment for MBOs

In this section, we take the initial steps to develop a model of business and IT strategic alignment for MBOs. To do this, we address the three challenges identified above, identifying seven propositions that define the conditions for high MBO alignment and defining three concepts to measure alignment or mis-alignment.

All alignment models have mechanisms embedded in them to create value. The mechanisms determine the benefits to the organization from developing high alignment. Here, we draw on Makadok’s (2010; 2011) theory of profit to explain how alignment creates value. Makadok identifies four mechanisms for creating value. Three of these, competency, governance and flexibility, map uniquely onto functional, structural and dynamic alignment, respectively.

Before we apply these forms of value to the relationship between business and IT strategy, we define the two levels of IT strategy described above. One is the corporate IT platform. The other is the SBU IT

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1 The comparative statics framework assesses cross-sectional IT alignment at one point in time and compares it with cross-sectional alignment at another point in time.
application portfolio. These two constructs partition IT strategies between those oriented towards designing the corporate IT platform and those shaping the individual SBU IT application portfolios. The IT corporate platform strategy is defined as the set of choices that specify an organization’s shared digitized processes and data systems. The SBU IT application portfolio strategy is defined as the set of choices specifying the unique IT capabilities required to compete within each individual SBU market and to leverage the shared corporate IT platform capabilities.

The IT platform literature has emerged from the development of organization-wide IT infrastructure (Broadbent et al. 1997), which is the enabling base of the shared IT capabilities that provides the foundation for other business systems (Broadbent et al. 1993, citing McKay and Brockway 1989). The IT platform includes all technology, organizations, suppliers and people (Sauer et al. 2001). As organizations have developed more sophisticated IT capabilities, the literature has begun to explore the concept of digitized process platforms — “a coherent set of standardized IT-supported business processes and data” that support the organization’s core transactions (Ross et al. 2006).

More recently, the concept of platform-centric ecosystems has been proposed in which platforms are defined as “the extensible codebase of software-based systems that provide core functionality shared by the modules that they operate with it and the interfaces with which they operate” (Tiwana et al. 2010). These include organization-wide platforms, leveraged within individual markets by both internal business units, and external suppliers and business partners. Apple, Google and Amazon are typical examples of platform-centric organizations.

In the traditional strategy cycle, corporate level strategy defines the capabilities to be shared and re-used across the organization. Subsequent SBU business and IT portfolio strategies are defined in response to their own markets, leveraging the corporate IT platform capabilities and minimizing dependencies on other SBUs. This defines four sets of strategic choices to be aligned: corporate business, SBU business, corporate IT platform and SBU IT portfolio strategies.

**Functional, Structural and Dynamic Alignment**

Functional Alignment: At the corporate level, IT creates value by specifying and building IT platform capabilities that are complementary to corporate business capabilities. The critical assumption is that capabilities influence each other through complementary relationships, where the value of one resource is enhanced by the presence of the other (Powell et al. 1997; Teece 1986). Together, business and complementary IT capabilities create synergies (Barua et al. 1996; Barua et al. 1998). Similarly, at the SBU level, IT creates value by building SBU IT portfolio-based capabilities that are complementary to SBU business capabilities.

The mechanism for creating value in this context, as described in general by Makadok (2010; 2011), is very simple and powerful. Consider two combinations of resources of equal value. In one case, there is no complementarity and the total value to the organization is the sum of the two individual resources. In the other case, there are significant complementarities. These create value over and above the value of the two resources independently. Makadok treats the value in the second case as a competency-based benefit.

The success of Google, Amazon and eBay is partially explained by their more competent use of their corporate IT platform in their business strategies. Importantly, digital businesses, which leverage IT to create competitive advantage, are not restricted to on-line businesses. Traditional organizations, including, for example, 7-Eleven Japan, the Commonwealth Bank of Australia (CBA) and Proctor & Gamble, are digitizing their business processes to compete on the basis of IT-based capabilities. For example, CBA competes on the basis of improved customer service contingent on a corporate IT platform

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2 Tiwana et al. (2010) define a module as an add-on application subsystem connecting to the platform and adding functionality to it (e.g. an iPhone application, or, a business unit application). The collection of the platform and modules specific to that platform is defined as that platform’s ecosystem. They argue that the combination of the platform and modules idiosyncratic to that platform can create formidable competitive barriers for rival platforms

3 Also referred to as two-sided platform
designed to implement a ‘single view of the customer’ across the bank (Thorogood et al. 2010). Propositions 1.1 and 1.2 in Table 2 formally specify the conditions for an MBO to be in a state of functional alignment.

Table 2: How Functional and Structural Alignment Create value in MBOs

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Proposition</th>
<th>Conditions creating value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional Alignment</td>
<td>P1.1</td>
<td>Value is created by functional alignment when Corporate strategy capabilities and corporate IT platform strategy capabilities are complementary.</td>
</tr>
<tr>
<td></td>
<td>P1.2</td>
<td>Value is created by functional alignment when SBU strategy capabilities and SBU IT portfolio capabilities are complementary.</td>
</tr>
<tr>
<td>Structural alignment</td>
<td>P2.1</td>
<td>Value is created by structural alignment when the IT platform strategy specifies capabilities that are shared across multiple SBUs.</td>
</tr>
<tr>
<td></td>
<td>P2.2</td>
<td>Value is created by structural alignment when SBU IT portfolio capabilities and corporate IT platform capabilities are complementary.</td>
</tr>
<tr>
<td></td>
<td>P2.3</td>
<td>Value is created by structural alignment where SBU IT portfolio capabilities are independent of other SBU IT portfolio capabilities.</td>
</tr>
</tbody>
</table>

Structural Alignment: Increasing structural alignment improves the allocation and co-ordination of IT resources between the corporate and SBU levels. This improves IT governance, which Makadok explains is a general mechanism for creating value by reducing transaction costs (Williamson 1975; Williamson 1996) and agency co-ordination costs (Eisenhardt et al. 1988). This provides a more general explanation than, for example, proposed by Hodgkinson (1996) for how value is created in the tradeoff between centralization and decentralization.

Successful MBOs generate and capture synergies across their SBUs. Otherwise, corporate performance would be simply the sum of individual SBU performances (Dosi et al. 1992; Teece et al. 1994a). Therefore, managing a successful MBO requires coordination between corporate and SBU levels (Foss et al. 1996; Teece et al. 1994b). The critical challenge is to assign decision rights to co-ordinate the IT platform capabilities and SBU specific IT capabilities within the organization.

In CBA, for example, the decisions regarding a single view of client and associated service capabilities (e.g. tracking of interactions and workflow across channels) are made as part of the corporate IT platform and apply to all SBUs. However, decisions about sales capabilities are unique to individual SBUs (e.g. retail lending, commercial lending, investment advice and insurance). The sales capabilities leverage the single view of client, but are managed to be independent of other SBUs (Thorogood et al. 2010).

Propositions 2.1, 2.2 and 2.3 in Table 2 formally specify the conditions for an organization to be in structural alignment. The IT platform capabilities leverage the corporate business capabilities; SBU specific IT capabilities leverage the complementary IT platform capabilities; and SBU specific IT capabilities are independent of other SBU specific IT capabilities.

Dynamic Alignment: Increasing dynamic alignment creates value by enabling flexibility for the organization to respond to change, or to capture new market opportunities. Boyer et al. (2003) describe establishing coherence between corporate and SBU strategies has been extensively explored within the strategic management literature, for example, Bowman and Ambrosini (1997), Foss and Christensen (1996), Foss and Christensen (2001) point out that the notion is not new and is represented by ideas such as related diversification and core competencies, dating back to the work of Penrose (1959), Chandler (1962) and Ansoff (1965) It remains an important stream of strategy research, and has recently been the subject of a special edition of the Management Decision.
strategic planning as ‘an exercise in managing flexibility’. At a general level, increasing flexibility increases the options for the organization. Options have value. It is this increase in value that Makadok (2010; 2011) explains.

Flexibility can be achieved by three approaches – each of them reduces the path dependencies between strategic decisions. The first approach is by sequencing decisions (Cohen et al. 1974; March et al. 1976), and maximizing discretion over their timing (Cyert et al. 1963). Each decision shapes the future of the organization, and expands or constrains the future choices and options available to it.

The second approach is real-options. By sequencing strategic IT decisions and making decisions over time, discretion as to when decisions are made on the path can then be maximized using additional mechanism such as staging and real-options pricing models to reduce risk, uncertainty and complexity (Dixit et al. 1994; McGrath 1997; Reynolds et al. 2010). The third approach is dynamic capabilities: the organization’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments (Teece et al. 1997). Dynamic capabilities address the ability to create new capabilities in fast changing markets, to respond quickly and to be innovative.

Figure 1 presents the paths by which functional alignment between business strategies and functional IT strategies create complementary capabilities, and structural alignment between the IT platform and the SBU IT portfolio strategies create complementary capabilities. Over time, strategies change and, therefore, so do the patterns of complementary capabilities. In response to some desired strategic changes, the development of the optimal pattern of complementary capabilities are blocked or constrained by prior strategic choices.

Two paths map the dependencies across strategy domains (see Figure 1). One path illustrates the sequence of strategy choices to develop the shared IT platform capabilities. The other path illustrates the sequence of choices to develop SBU IT capabilities. Where SBU IT capabilities leverage IT platform capabilities, they are dependent on both paths.

Together, the two paths correspond to a top-down, business-led approach with the corporate strategy defined, followed by SBU strategy, and business strategy defined prior to IT strategy. This is typical of formal decision-making and investment processes in large organizations. While this is the formal strategic and investment decision sequence, it is recognized that there are strong influencing roles. The IT platform and SBU planning activities influence the corporate strategy and the SBU IT planning influences their
corresponding SBU strategies. Once the corporate and SBU strategy decisions are made, however, the IT platform and SBU IT strategies are developed within the constraints of those decisions.

The coherence between the IT platform and SBU portfolio strategies are not directly specified. Coherence is the result of strategy choices made at the corporate level and within each SBU over the strategy cycle, which commences at the corporate level with the definition of the organization’s long-term objectives or strategic intent. This is its ‘intended strategy’, which is then refined as strategic decisions are made and embedded. Thus, the realized strategy emerges over time as capabilities are developed.

Not all capabilities need to be defined up-front. Managers make decisions over time and establish multiple workstreams to define specific capabilities. In doing so, capabilities are developed in parallel and over time. This is especially important for the IT platform, which frequently includes developing extensive IT infrastructure and shared applications. Where possible, IT capabilities required early by SBUs are defined up-front and independently of other platform capabilities to allow them to be developed early in the cycle. These capabilities are integrated with other IT platform capabilities as they are developed.

As each strategic capability is developed along the strategic path, it embeds a degree of alignment (or misalignment). The IT platform strategy embeds fit at the corporate level, while each SBU IT portfolio strategy embeds fit with its SBU strategy and coherence across corporate and SBU levels.

Once strategies are defined, they are frequently irreversible, and (mis)alignment is embedded until the next investment cycle. Each set of strategic choices shapes and constrains subsequent ones. The ability to make new strategic decisions is constrained, with the organization already committed to existing capabilities. As a consequence, available strategic choices decrease across the strategy cycle and misalignment increases.

Propositions 3.1 and 3.2 in Table 3 formally specify these processes.

Table 3: Dynamic Alignment

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Proposition</th>
<th>Predicted conditions where alignment exists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irreversibility</td>
<td>P3.1</td>
<td>Alignment is embedded across the investment cycle. Once strategies are defined, they are largely irreversible.</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>P3.2</td>
<td>Degrees of freedom for strategic choices decrease across the strategy cycle. Value is created by dynamic alignment when strategic flexibility is maximized across the investment cycle.</td>
</tr>
</tbody>
</table>

As new requirements arise (e.g. responding to new markets or market changes), capabilities may not be available or different capabilities may be required in addition to those currently defined. As the external environment changes and the level of misalignment builds within the organization, it triggers a re-evaluation of corporate strategy and a new alignment cycle. In 7-Eleven Japan, this process is institutionalized: A new corporate IT platform is developed every 7 years.

Levels of Alignment

In high alignment as specified in Tables 2 and 3, there would be no shortfall or underutilization between the IT platform and SBU IT portfolios. IT shortfall is defined by Tallon (2011) as “the level of IT support for business strategy. Misalignment happens if IT cannot fully support the business strategy. A lack of IT support could be due to inadequate levels of IT spending or misallocation of IT resources to areas that are

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more peripheral to the business strategy”. In contrast, “IT underutilization recognizes that IT spending may be more than adequate considering the current needs of the business. IT support may be abundant but whether due to a lack of business opportunities or managerial oversight, the business strategy has not yet evolved to take full advantage of the IT capabilities that already exist within the organization”.

So, functional-based IT shortfall and IT underutilization are proxies for how well IT is functionally aligned with the business, and how the business should or could be better aligned with IT. Hence, these two dimensions reflect the bi-directional relationship between business strategy and IT use (Chen et al. 2010; Itami et al. 1992) and are consistent with other theoretically-based approaches to alignment (Kearns et al. 2003).

Extending the analytical framework to examine shortfall and underutilization between the corporate and SBU levels, shortfalls occur where the IT platform strategy does not include capabilities that are necessary to support the SBU IT portfolios. The IT platform strategy should include all IT capabilities that are to be shared across SBUs, maximizing the independence between SBUs. Underutilization occurs where the IT platform strategy includes capabilities that are not leveraged by any SBU IT portfolios. The SBU strategies should define capabilities that leverage the shared IT capabilities to compete within their own markets, rather than build their own similar capabilities. So, structural-based shortfalls and underutilization are proxies for structural alignment.

In addition, in high alignment there would be no subsidies between the IT platform and individual SBU capabilities, or among SBU IT portfolios capabilities. The IT platform capabilities should not include IT capabilities to meet unique SBU strategy needs. Similarly, SBU IT portfolios should not include capabilities to be shared across SBUs; these should be defined and developed within the IT platform strategy, based on the level of sharing determined by the corporate strategy.

Four States, S1.1, S1.2, S2.1 and S2.2 in Table 4, formally specify the states for high functional and structural alignment. These proxies for alignment can be extended to measuring dynamic alignment. The measure in this case is the shortfall, underutilization or subsidy incurred because the optimal solution cannot be chosen contingent on the level of flexibility in the IT platform or relevant SBU IT application portfolio.

### Table 4: State of Alignment

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Proposition</th>
<th>Conditions creating value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortfall and Underutilisation between corporate and SBU levels</td>
<td>S1.1</td>
<td>The IT platform includes all necessary capabilities to be shared by SBU IT portfolios.</td>
</tr>
<tr>
<td></td>
<td>S1.2</td>
<td>The IT platform does not include any capabilities that are not shared by SBU IT portfolios.</td>
</tr>
<tr>
<td>Subsidies</td>
<td>S2.1</td>
<td>The IT platform does not include IT capabilities to meet unique SBU strategy needs.</td>
</tr>
<tr>
<td></td>
<td>S2.2</td>
<td>SBU IT portfolios do not include capabilities to be shared across SBUs.</td>
</tr>
</tbody>
</table>

**Discussion**

This paper integrates the existing literature to explain how alignment creates value in MBOs using Makadok’s (2010; 2011) theory of profit. Value is created by functional alignment at the corporate level and within each SBU by developing competencies: The corporate IT platform capabilities leverage corporate business capabilities and SBU IT portfolio capabilities leverage SBU business capabilities. Value is created by structural alignment between corporate and SBU levels through governance: The optimal allocation of decision rights, specifying what is shared and what is unique to each individual SBU. Finally, flexibility creates value by maximizing strategic options over the investment cycle. The model provides
new insights, and, in some cases, provides alternative explanations of the observed behavior and prescriptions in the existing literature.

Traditional functional alignment models based on the strategy/structure and positioning literatures (Chandler 1962; Porter 1980), which assume a single business strategy and a single IT strategy, are unable to explain how functional alignment creates value both at the corporate level and within individual SBUs.

Drawing on the resource-based theory of the firm, we analyze corporate and SBU level strategies and the need for complementary business and IT capabilities at each level. Value creation focuses on combining complementary business and IT capabilities to create IT-based competitive advantage. Over time, capabilities are replicated by the market place and competitive advantage declines.

A single strategy, which is the typical prescription in the extant literature, would, at best, be suboptimal for corporate level, individual SBUs or both. The new model simultaneously creates competencies at the corporate and SBU levels. At the corporate level, alignment of the corporate IT platform strategy and corporate business strategy creates synergies across the organization. Within each SBU, the alignment of SBU IT strategy and its corresponding SBU business strategy creates value through unique SBU competencies, which leverage the IT platform to compete in their market cheaper, faster and with less risk than their competitors.

Structural alignment creates value by improving governance, increasing the effective allocation of decision rights between corporate and SBU levels. The new model recognizes that SBUs are not identical, providing a more complete and robust explanation of the tradeoffs between centralization and decentralization of IT than Hodgkinson (1997), who effectively treats structural alignment as balance and compromise between the two levels.

**Limitations**

While the new model addresses some questions unable to be addressed by the existing literature, further questions remain to be explored about the nature of alignment in MBOs. For example, while we know a lot about the individual dimensions of dynamic alignment, we know little about how they interact with each other and the impact of those interactions on overall value created. Additional research is needed to consolidate and extend the new model.

For example, there are other, more complex, organizational forms, which have different drivers of value. In MBOs, value is driven by scale and integration at the corporate level and a set of quasi-independent SBUs. As organizations become more diversified, digital and dynamic, we observe the emergence of new organizational forms based on networks and ecosystems (See, for example, Iansiti et al. 2004; Krishnan 2012). Some of these implications are explored below.

While there is typically a top-down, business-led strategy cycle super-imposed on the planning cycle of large MBOs, the practice of strategic decision-making is less structured. IT strategy continues to have the ability to influence the choice of business strategy. As part of this process, IT capabilities may have been developed (perhaps not deliberately) that have the ability to shape new business strategy\(^6\). Further research is warranted into strategic decision processes, in addition to the focus here on the decisions takers.

Finally, empirical testing is required to validate and determine the boundaries of the new theory. The absence of substantive empirical testing in this study, while being a limitation, reflects our focus on theory building, which, in itself, is a contribution to IS research (Weber 2003; Zmud 1998). The new framework opens up opportunities for empirical testing across in different organizational settings.

**Implications**

The new framework predicts the emergence of the hybrid structures identified by Brown (1997), assuming heterogeneous SBU strategies, with value created between the corporate level and different SBUs. The

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\(^6\) However, once business strategy decisions are taken, options are generally adopted or cancelled (i.e. not further invested into). Large IT platform investments are not likely to occur in an emergent way.
model generalizes to accommodate the structural IT alignment of highly entrepreneurial (autonomous) SBUs that do not share significant capabilities with the broader organizations and, therefore, are not loaded up with corporate IT systems and their associated cost structures. The model also accommodates structural alignment for large and well-established SBUs in mature markets that are being run for efficiency and low cost, maximizing their use of the corporate IT platform. Over time, the more autonomous SBUs may use more of the platform, or bring new capabilities to be leveraged across other SBUs (See, for example, Reynolds et al. 2009, which follows the journey of a start-up stockbroker within an established bank).

A critical contribution of the model is that structural alignment varies across SBUs, and requires specific decisions on what is to be shared across which SBUs, and what is unique to each SBU. For example, IT-based business processes provided by the corporate IT platform, including IT infrastructure, may be shared by two or more SBUs but not all SBUs. The critical insight is that structural alignment is contingent on the level of autonomy specified by the corporate business strategy.

The model also provides explanations of previously reported inconsistent results. For example, Broadbent and Weill (1996) hypothesize that greater IT infrastructure creates greater strategic flexibility. This is consistent with earlier research, for example Duncan (1995). Therefore, they predict that, in high (low) uncertainty environments, firms would invest in more (less) IT infrastructure. Instead, they report the opposite to be the case. The model developed here provides a simple explanation. In environments of high uncertainty, where the corporate strategy mandates SBUs high autonomy, there are limited shared capabilities and, therefore, less investment in the corporate IT platform. The converse holds for low uncertainty environments.

The model creates value by maximizing strategy flexibility when responding to changes within the internal and external environment. The extant dynamic alignment literature assumes strategic choices can be revisited as required to create alignment or to correct misalignment (See, for example, Henderson and Venkatraman 1993). In practice, strategic decisions, once formally taken and announced to analysts, shareholders and the wider market, are hard to revisit and change without replacing senior management or even the CEO.

Rather than predicting continuous re-visiting of strategic decisions, the new framework shows how alignment (or misalignment) is embedded over time, persisting until the next investment cycle. If all strategic IT decisions are made up-front and contemporaneously, there are few degrees of freedom across the investment cycle. Making IT decisions in this way requires advanced knowledge of all SBU strategies and external markets. In a stable organization and market, this may be possible. Typically, SBUs compete in different markets at different paces and their business strategies developed within different time frames.

This insight provides an interesting explanation of the alignment dynamics described by Sabherwal et al. (2001). They observe long periods of relative alignment stability or evolutionary change, interrupted by short periods of extensive revolutionary change. Each cycle starts with a new corporate strategy that relaxes previous path dependencies and re-establishes degrees of freedom. As new strategic choices are made across the organization, the degrees of freedom are reduced. Then, there is a period of limited evolution until the corporate strategy again needs revisiting.

This is the behavior that we would expect when all decisions are made up-front and contemporaneously. The IT strategy choices are committed and the degrees of freedom are cancelled. When businesses make other decisions, either not predicted by the IT strategy or in response to market changes, the IT strategy is already committed and frequently not optimal to their requirements and results in misalignment. This misalignment builds over time until it triggers another investment cycle.

This behavior is reinforced by traditional IT investment models based on NPV, whereby the IT platform has to be justified on the basis of the SBU applications that it supports. This requires commitments across SBUs in advance of business strategies being developed and also frequently creates dependencies between SBUs that were intentionally set up to be independent of each other.

The alternative analysis presented above shows that the dynamics of alignment are not inherently punctuated equilibrium; rather, they have that form as a consequence of the strategic investment model that the organizations adopt. However, if organizations make decisions over time, whereby strategy
choices and the development of capabilities are conducted in time with SBU business strategy development, they would be able to change more uniformly with gradual transformation. This would be the case if the typical NPV investment model were replaced with a real option-pricing model.

As organizations become more diversified, digital and dynamic, the new model provides a theoretical lens to examine the implications for business and IT alignment. Organizations are becoming increasing diversified across product, customer and geographic segments. This is driven, in part, by greater globalization and competition and organizations are looking for ways to leverage their operating skills and scales into new markets, while responding to local requirements.

Traditionally, business strategy has viewed SBUs as the source of value within organizations (Goold et al. 1987; Grant 2002). However, as organizations become more diversified, we expect to see the IT platform rise as an additional and important source of competitive advantage (Martin et al. 2010). IT platforms have traditionally been used to capture IT scale (shared IT infrastructure) and processing scale (shared business services) across organizations. In addition, platforms are now acknowledged mechanisms for realizing competitive advantage by enabling greater use of data, processes and knowledge sharing with the potential to reshape traditional business models and create new ones (El Sawy 2003; Ross et al. 2006; Straub et al. 2001; Wheeler 2002). The development and ownership of the corporate IT platform is a new and critical role for the corporate function.

Well known examples of platform-based organizations include Apple, Google and Amazon. However, this approach can also be observed in other digital organizations such as P&G, CBA and 7-eleven Japan. For example, P&G is now coordinating across its 300+ brands to provide shared IT and business services. More importantly, P&G (corporate), rather than the SBUs and the Brands, wants to own the customer, providing digital business intelligence, digital business capabilities, and digital experiences, to transform consumer relationships (Chui et al. 2011). In the new model, this represents a shift in value creation from the SBU level to the relationship between the corporate business strategy and the corporate IT platform strategy.

As highlighted by the P&G case, organizations are rapidly digitizing and strategic IT decisions in these organizations are increasingly becoming integral components of the business strategy (El Sawy 2003; Orlikowski 2009). As a consequence, it is becoming increasingly difficult to disentangle strategic business processes from those IT processes (Orlikowski 2009). This has led to terms such as fusion (El-Sawy 2010) and digital business strategy (Bharadwaj et al. 2013).

IT strategy has traditionally been framed as a separate set of functional strategy decisions that play a supporting role to business strategy and must be linked to business decisions. The challenge has been how to integrate business and IT decisions, with the common prescription requiring IT executive to have more business knowledge.

Instead, the model developed here identifies two other challenges. One is to identify the boundaries between the IT strategy that has become an integral component of the corporate business strategy and the IT strategy that is the responsibility of the IT function. For example, Ross and Weill (2002b) argue that certain decisions should not be made by the IT department alone, such as: the choice of which parts of the organization to digitize, level of IT investment and which IT capabilities should be shared across the organization.

The other challenge is to develop senior line managers that can contribute to IT-based corporate business strategizing. This challenge has been managed elsewhere, for example with respect to the marketing function. No one would propose that the marketing strategy should be aligned with the business strategy. The marketing strategy is part of the business strategy. At the same time, there is a critical need for a strong marketing function that implements the functional marketing strategy.

The model highlights the critical role of top management to establish and sustain alignment, in particular, to ensure coherence between the IT platform and SBU IT portfolios. The CIO is responsible for recommending the IT platform strategy to the top management team. During the IT platform’s development and approval, it is reviewed by the SBU heads, who are also members of the top team, to ensure it will support their existing and intended future SBU strategies. Once the IT strategy platform is
approved, the CIO then has a role in ensuring SBU IT strategies leverage the IT platform. This mutual self-interest and personal commitment provide a strong alignment mechanism whereby the SBU heads commit up-front to the IT platform capabilities that they will leverage with their own unique SBU strategic IT application portfolios.

Finally, as markets become more dynamic, the model suggests an increase in the incremental staged delivery of modular architectures. A key requirement to achieve this is the ability to coordinate strategic IT decisions with the business strategy decisions over time. However, traditional investment models, based on NPV, bundle IT platform and SBU IT portfolio decisions, to create early commitments, often ahead of business strategy commitments. The bundling encourages maximization of the return of the investment and, as such, for all SBUs to use the platform regardless of their optimal structural alignment. The projects typically are large and complex. Frequently, creating dependencies between SBUs where previously there were none.

Alternative investment models, such as Real Options Pricing (Dixit et al. 1994) provide a way for presenting the IT platform as generating options over dependent business projects (See, for example, Ross et al. 2002a; Thorogood et al. 2005). The IT platform investment is the premium paid by an SBU to acquire the rights, but not the obligation, to develop future IT-based business strategies. The result is a multi-stage process, with corporate accountability for building the IT platform, and SBUs accountability for their subsequent investments in business initiatives and IT application portfolios, to leverage the corporate infrastructure. This unbundles IT strategic investment decisions, enabling dynamic alignment over time.

Conclusion

This research draws on the extant strategy literature and IS theory to propose a new model of business and IT alignment in multi-business organizations. This has been a problematic issue for both academics and IT executives for the past two decades. The new model reconceptualizes business and IT alignment, providing explanations of how IT creates value both at and between the corporate and SBU levels. It offers a new potential research agenda focused on how capabilities are created, reconfigured and retired, in line with the recent strategy literature. It opens up new opportunities to research the dynamics of how alignment is established and sustained over time.

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