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## Strategic Alignment In Mergers And Acquisitions: Theorizing IS Integration Decision making.

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### Abstract:

This paper focuses on IS integration decisions made during mergers and acquisitions from a strategic-alignment lens. The objectives of this study are to: (1) examine business-IS alignment as reflected in IS integration decisions in a merger context and (2) identify factors that shape IS integration decisions in a merger context. We study these issues in three oil and gas mergers from pre-merger announcement to three to four years after merger announcement. Our contributions are three-fold. We show that firms are somewhat misaligned in the early post-merger period, and come into alignment only two to three years after the merger. We find that business-IS alignment was a minor concern for the new organizations in pre-merger and early post-merger phases. Other factors such as acquirer-target power struggles, prior merger experience, and overarching synergy goals drove much of the initial integration decision making. Only late in the post-merger do the merged organizations revisit their systems to bring them into alignment with the business needs.

**Key Words:** IS Integration, mergers, acquisitions, business-IS strategic alignment, synergies, power, expectations, cost-saving mantra, geography, structure, sourcing

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## 1. Introduction

Mergers and Acquisitions (M&As) have become increasingly popular in the last few decades. In 2004, M&A deals in the U.S. totaled \$875 billion (Berman, 2005). Yet, it is well known that a large percentage of mergers fail to deliver synergies<sup>1</sup> for their shareholders. For example, a Business Week study (2002) announced that 61 percent of the acquisitions completed since 1998 decreased shareholder value for the acquirer. One of the foremost causes of such failures is lack of attention to integration (Schweiger and Goulet, 2000; Eccles et al., 1999, Yoo et al., 2004)<sup>2</sup>.

One of the main reasons attributed to failures of mergers in the late 1980s was the lack of attention to merging information systems, specifically (Giacomazzi et al., 1997; McKiernan and Merali, 1995; Weber and Pliskin, 1996). At the same time, the success story of Sallie Mae's acquisition of USA Group was attributed to successful post-merger IS integration (Brown et al., 2003). Likewise, successful integration of the Commonwealth Bank of Australia and State Bank of Victoria systems (Johnston and Yetton, 1996) suggests that IS integration can contribute to overall merger success.

Despite a growing interest in how IS integration contributes to merger success, Aponovich (2002) cites an Accenture study that found that 75 percent of senior management underestimated the critical role of IS in achieving merger success, and only 16 percent chose to do sufficient IS due-diligence. This leads us to ask – why do most managers decide to approach IS integration without IS due-diligence? What are the key drivers behind choosing one integration approach over another? Does the chosen approach depend on the merger's objectives? Presumably, it should (Giacomazzi et al., 1997; Main and Short, 1989), but does it? And, what role does IS alignment play in this?

The alignment literature is founded on the axiomatic assumption that business-IS alignment leads to improvements in organizational performance (Sabherwal and Chan, 2001; Chan et al., 1997; Henderson and Venkatraman, 1992). Taking this assumption further--from a single firm to two merging firms--we believe that alignment issues should be a key component of integration decisions. Such a belief is consistent with the M&A literature (Giacomazzi et al., 1997; Main and Short, 1989; Brown and Renwick, 1996; Wijnhoven et al., 2006). Essentially, we expect the newly merged IS function to be aligned with the new business needs, which emerge from the merger's strategic objectives. Thus, strategic business-IS alignment appears to be an appropriate lens through which to study IS integration decisions. For example, Giacomazzi et al. (1997) propose three IS integration strategies based on business objectives and merger goals. Brown and Renwick (1996) propose alternative IS governance arrangements for different types of acquisitions. With the exception of Johnston and Yetton (1996) and Wijnhoven et al. (2006), past literature either offers a conceptual framework without empirical support (e.g. Brown and Renwick, 1996) or empirical alignment during pre-merger planning (Main and Short, 1989). Further, while Main and Short (1989), and Wijnhoven et al. (2006) focus on the integration process, they do not report on 'complete' integration. Hence, there are few studies that report on integration completed in the way IS strategy was actually implemented.

Past literature has sought to understand IS integration decisions using the Henderson and Venkatraman (1992) framework (cf. Wijnhoven et al., 2006) and the Mintzberg (1979) framework (cf. Johnston and Yetton, 1996). However, since sourcing arrangements have now become an integral component of any IS strategy (Hirschheim and Sabherwal, 2001), we attempt to capture IS integration decisions based on the Hirschheim and Sabherwal framework. Furthermore, past literature has identified factors such as 'short-term need to reduce complexity' (Johnston and Yetton, 1996); scalability, cost, performance (response time, concurrent users), and reliability (Brown et al., 2003); and government regulation, IT user participation and hospital association membership (Wijnhoven et al., 2006). Yet, a more coherent theory of IS integration decision making still eludes us (Wijnhoven et al., 2006). Thus, we aim to:

1. Examine business-IS alignment as reflected in IS integration decisions in a merger context, and
2. Identify factors that shape these IS integration decisions.

<sup>1</sup> Synergy is defined as an "increase in performance of the combined firm over what the two firms are already expected or required to accomplish as independent firms" (Strower, 1997, p. 6).

<sup>2</sup> The difficulty of successfully integrating two large monoliths such as HP and Compaq was not lost on Carly Fiorina and her integration team as noted in the Financial Times (2002).

While this study does not specifically seek to explain integration success, we will reflect on the impact of integration decisions on merger success where possible.

The paper is structured as follows: In section 2, we provide a definition of M&A followed by a research framework on alignment profiles that match IS strategies to business-level strategies as well as the corporate strategy of a horizontal integration merger. We then use this framework as a starting point for data collection and analyses to address the question: What generates alignment or misalignment? In section 3, we outline our research method. In section 4, we present three oil and gas merger case histories. In section 5, we interpret within-case analyses of data that spans pre- and post-merger phases. In section 6, we conduct cross-case analyses to highlight factors that contribute to the IS integration decisions. We discuss limitations of the research and outline implications for future practice and research in Section 7.

## 2. Theoretical Development

### 2.1 M&A Context: Process

In this paper, the terms: 'mergers' and 'acquisitions' are used interchangeably<sup>3</sup>. For the purpose of this paper, we divide the merger timeline into two broad phases: pre-merger and post-merger. The pre-merger phase consists of: strategic planning; searching for a partner; due diligence analysis; engaging in negotiations; making public announcements; and gaining Federal Trade Commission's (FTC), European Commission's (EC) and shareholders' approval. This phase ends on 'Day One' – the day the two entities close their deal and legally become a single entity. The post-merger phase begins on Day One and continues until the new firm "settles down." The majority of post-merger changes occur within two years of Day One (Buono and Bowditch, 1989; Ashkanasky and Holmes, 1995), but integration may continue for many years afterward (Empson, 2000).

### 2.2 M&A Context: Merger Integration

In the M&A literature, the received view is that merger integration involves a combination of some or all organizational assets, people, processes, and technology, resulting in 'wholeness' (Schweiger and Goulet, 2000; Lajoux, 1998; Shrivastava, 1986). Schweiger (2002) discusses three levels of integration, from highest to lowest: (a) physical consolidation of two sets of assets and functions, (b) standardization of two functions that remain separate post-merger, and (c) coordination of functions that remain separate and unstandardized. The focus of our study, 'horizontal integration' involves the highest level of integration (Schweiger, 2002). *Horizontal integration* is a type of M&A and involves a merger of two competitors in the same stage of the product-market cycle.

### 2.3 M&A Context: IS Integration

According to Giacomazzi et al. (1997, p. 290):

Integration of the two IS units does not necessarily imply that a single system, a software environment, and architecture is chosen, but that exchange of data and organizational processes, according to the merged organization needs, are possible and efficient.

They define different levels (e.g., total, partial) of IS integration depending on "the number and kind of business processes supported by the same [or standardized] software packages" (p. 291). For Weber and Pliskin (1996, p. 85), however, IS integration means a single system and a single IS function for the merged firm. Based on these works, we define IS integration as: *changes in IS strategy, IS structure, and systems supporting the combined IS and business units that allow them to function as a whole.*

The IS integration literature largely emphasizes alignment as a key aspect of merger integration. But to what extent do organizations pursue business-IS strategic alignment in selecting their new IS configuration? If they strategically choose the new IS configuration based on a business strategy, it would be reflected in their post-merger alignment status. We assess this by looking at the various components of alignment both pre- and post-merger.

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<sup>3</sup> Mergers and acquisitions do differ in terms of the financial transaction and the ensuing tax benefits. However, the implications for integration remain similar.

## 2.4 Business-IS Strategic Alignment

Strategic alignment is the extent to which the business mission, objectives, and plans are supported by the IS mission, objectives, and plans (Reich and Benbasat, 2000; Sambamurthy and Zmud, 1999). This is not a state but a “process of continuous adaptation and change,” as emphasized by Hirschheim and Sabherwal (2001, p. 87).

Next, we base our alignment framework on the work of Hirschheim and Sabherwal (2001) for two reasons. First, their work is relatively recent, and includes sourcing options *and* IS structure as *components* of IS strategy leading to a more holistic view of IS strategy. It’s been nearly 20 years since the Kodak outsourcing deal, but only now has IS sourcing appeared on the radar screen of senior management (Lacity et al., 1996, Dibbern *et al.*, 2004). We felt that by using Hirschheim and Sabherwal categories, we would be able to systematically study IS sourcing decisions in the context of mergers. Second, this framework has already been applied to study strategy contexts involving change. This aligns well with the notion of a merger as a revolutionary change.

Like any other framework, this framework has some trade-offs to consider – for instance, it does not look at IS infrastructure and processes like Henderson and Venkatraman (1992). The Henderson and Venkatraman framework, however, does not provide a way to operationalize IS infrastructure, so we eliminated it from consideration. Alternatively, we could have selected Earl’s (1996) process alignment model, but we found it was too broadly defined for our research focus. Another limitation of the Hirschheim and Sabherwal framework is the operationalization of IS structure. In particular, the professed IS structure typology may not be fine-grained enough for analyzing complex structures within large multinationals. Yet, given its parsimonious nature, it suffices as a starting point for further theory development.

### 2.4.1 Corporate and Business Strategy

Essentially, a strategy reflects a firm’s awareness of how to compete, against whom, when, where, and for what (Pearce and Robinson, 1985). The Business-IS alignment literature focuses on corporate- and business-level strategies. Corporate strategy answers the questions: “What business should we be in?” and “How do we enter the business?” (Stahl and Grigsby, 1991, p. 77). Business strategy articulates how to compete within that specific business (Stahl and Grigsby, 1991). For a multi-business firm, corporate strategy drives business strategies. For a holistic treatment, we include both corporate strategy and business strategy, since the unit of analysis is the merger of entire corporations that may deal in multiple businesses.

Past management and IS literature has applied several typologies for corporate and business strategies such as the Miles and Snow (1978) typology of defenders, analyzers and prospectors. The M&A literature outlines specific corporate strategies such as vertical integration, horizontal integration, joint ventures and divestitures. In this study, we focus on Horizontal Integration mergers--a growth strategy applied to merging partners who are competitors. Such mergers provide access to new markets, eliminate competition, and allow gains in competitive capabilities or economies of scale through increased production capacity (Thompson and Strickland, 1984).

To differentiate business level strategies, we use Porter’s (1987) highly cited work to distinguish between: cost-leadership (gained through economies of scale), combination, and differentiation (gained through unique products/services). Any one of these business strategies can be found within the corporate strategy of a horizontal integration merger.

### 2.4.2 IS Strategy

Hirschheim and Sabherwal (2001) view IS strategy as composed of: the Role of IS, IS sourcing, and IS structure.

*Role of IS* reflects the way the IS function is perceived by the organization’s senior management (Peppard and Ward, 1999; Hirschheim and Sabherwal, 2001). An IS role focused on efficiency is achieved through process-level improvements and realized through a centralized IS structure. An opportunistic IS role focused on market flexibility requires quick decisions and is achieved through seizing new opportunities. It is attained through a decentralized IS structure. A comprehensive IS role is achieved through careful decisions and quick responses and is realized through a hybrid or a shared IS structure.

*IS Sourcing* refers to “the internal and external sources of IS products and services offered to a particular firm” (Hirschheim and Sabherwal, 2001, p. 89). IS outsourcing is associated with third-party management of IS assets, people and processes. Sourcing 80 percent or more of an IS budget to third-party vendors is considered outsourcing, appropriate when IS is merely a commodity (support) function. Sourcing 20 percent or less of an IS budget to third-party vendors is considered insourcing, appropriate when IS is a critical differentiator. Lacity *et al.* (1996) and Lacity and Willcocks (1998) identify a variation of insourcing called ‘buy-in’. Organizations hire resources to meet temporary needs, thus allowing the “in-house management to retain full visibility and control of the IS activity” (Lacity *et al.*, 1996, p. 18). Sourcing between 20

to 80 percent (40 percent typically) of the IS budget to third-party vendors is called selective sourcing, appropriate when the role of IS is comprehensive.

*IS Structure* refers to “the configuration of the IS function and the locus of responsibility for IS management decisions” (Hirschheim and Sabherwal, 2001). We use the centralized, decentralized and hybrid<sup>4</sup> typology to classify IS structure. In a centralized structure, IS decision making is controlled by a centralized or corporate IS unit (Brown and Magill, 1994). In a decentralized structure, IS decision making is controlled by each business unit, where IS personnel report to the business units. With a hybrid IS structure, part of the decision making authority lies with a centralized IS unit, and part lies with the business units. Centralization affords greater efficiencies (economies of scale), and integration and “helps manage IS outsourcing arrangements...without redundancy (Rockart *et al.*, 1996); while decentralization provides local (business unit) control and ownership of resources, and quicker responses and better customization to users in insourcing arrangements” (Hirschheim and Sabherwal, 2001, p. 90). A hybrid IS structure maps to a selective sourcing arrangement.

An alignment profile is a congruent set including structures, sourcing arrangements, and the role of IS. For example, a hybrid IS structure, selective sourcing and comprehensive IS role together form one alignment profile since the elements match one another (Hirschheim and Sabherwal, 2001).

### 2.4.3 Synthesizing the Alignment Components

As discussed earlier, horizontal integration can imply market consolidation, or access to new markets or products/services (Thompson and Strickland, 1984). Market consolidation, or cost leadership, is achieved by lowering IS procurement costs through increased buying power, lowering fixed costs through elimination of redundancy (*e.g.*, human resources and IS), and increasing prices through elimination of competitors (Schweiger, 2002). To lower these costs, “most, if not all, organizational functions and activities have to be [physically] consolidated and standardized” (Schweiger, 2002, p. 35). If a merger’s primary business goal is to realize economies of scale, we expect senior management to view the IS function in an *efficiency* (support) role. Accordingly, the IS function would be outsourced (Dibbern et al., 2004), with elements of buy-in (Lacity *et al.*, 1996) and its governance structure centralized, which enables standardization and physical consolidation of the two sets of systems and supporting staff. In contrast, if horizontal integration is driven entirely by product/service differentiation, then the IS function would be leveraged in a more *opportunistic* (strategic) role. After Hirschheim and Sabherwal (2001), the IS function would then be insourced and decentralized. Finally, when a merger is driven both by economies of scale and product/service differentiation, we expect the role of IS to become comprehensive, sourcing arrangements to be selective, and the IS structure to be shared (Brown and Magill, 1994).

Assuming a corporate strategy must drive business strategies, we expect some economies of scale to be realized in any horizontal integration. This is because a horizontal integration brings together two firms that are in the same business and have some similar business processes. Therefore, IS functions supporting these businesses will also overlap in skill sets and application portfolio. Some cost savings through economies of scale can indeed be gained from integrating IS functions and systems.

**Table 1: Ideal Post-Merger Business-IS Alignment Profile for Horizontal Integration based on Hirschheim and Sabherwal (2001)**

Corporate Strategy		IS Role	IS Sourcing	IS Structure
Horizontal Integration	<i>Product/Service Differentiation</i>	Opportunistic	Insourced	Decentralized
	<i>Cost leadership strategy</i>	Efficient/Support	Outsourced + ‘buy in’	Centralized
	<i>Combination</i>	Comprehensive	Selective Sourcing + ‘buy in’	Shared (Brown and Magill, 1994)

Table 1 summarizes our research framework based on Hirschheim and Sabherwal’s (2001) strategic business-IS alignment components in the context of horizontal integration mergers. The constructs outlined in the framework will be used to identify merging organizations’ IS integration decisions; specifically about the role of IS, IS structure and IS sourcing arrangements. This will help us to examine business-IS alignment as reflected in IS integration decisions in a merger context.

<sup>4</sup> Here, we are not specifically differentiating exactly which part of the IS function is decentralized and centralized, unlike the specific differences that Brown and Magill (1994) highlight by defining hybrid or shared or federal governance as central management of technology and decentralized management of use of technology. Unless we specifically quote Brown and Magill or our data, we use the terms ‘hybrid’ and ‘shared’ interchangeably.



Simultaneously, this will help us to explore the extent to which the business-IS alignment rationale governs IS integration decisions in pre- and post-merger phases. We assume that if the merging organizations consciously consider alignment in making integration choices, it will be reflected in the implementation of IS structure, role, and sourcing so as to be in alignment with one another and merger goals. Finally, if we find that business-IS alignment logic does not explain IS integration choices, we will look for other contextual factors to explain IS integration decision making.

### 3. Research Method

A merger is a complicated phenomenon, characterized by high uncertainty and sensitive information in a highly charged, emotional environment. Therefore, we followed a multi-site qualitative case study method in order to study this type of phenomenon in its natural setting (Yin, 2003; Pare, 2004). In case research, generalizations are possible mainly toward the analytical framework or theory used to inform the research (Eisenhardt, 1989; Orlikowski and Baroudi, 1991; Yin, 2003; Walsham, 1995) – in our case, business-IS strategic alignment and its role in merger integration decision making. Thus, instead of offering propositions and their validations, we shall introduce themes, or tendencies, which explain IS integration decision making at the studied mergers. These will not, however, be strongly predictive of future merger integration decision making.

The credibility (Lincoln and Guba, 1985) of our work is achieved by providing rich case descriptions and relevant quotations from transcripts or internal publications to create a satisfactory chain of evidence (Yin, 2003), and by triangulating<sup>5</sup> data from multiple sources (Denzin, 1978) To cover both sides of the story, we interviewed both acquirer and target participants. We compared these data with internal publications such as newsletters and presentations, for triangulation. More importantly, clarifications of contradictory evidence were presented in follow-up interviews to see if they were considered plausible.

#### 3.1 Site Selection

Site selection was pragmatic,<sup>6</sup> as access to the sensitive/secretive phenomena of mergers is difficult to attain. Using theoretical sampling (Pare, 2004), we found three horizontal integration mergers the corresponded with our corporate strategy construct. Similarly, in line with our business strategy construct, two of these mergers engaged in cost leadership, while the third followed product differentiation. These three mergers of six Fortune 500, public, multinationals in the oil and gas industry had deals valued at over \$1 billion. We labeled the first merged firm AmazonNile, where Amazon acquired Nile. We labeled the second MekongIndus, where Mekong acquired Indus. We called the third SeineLena, where Seine acquired Lena. Given the extremely sensitive nature of mergers, we were happy to find that our sample sites satisfied the business strategy construct in two out of the three categories. Since we did not find a merger that was motivated by a combination of cost-leadership and product-differentiation, we will be careful in drawing conclusions that apply to such a context. By having two cases that belonged to the same category, cost leadership, we have the additional advantage of being able to explore possible replication logic between AmazonNile and MekongIndus.

#### 3.2 Participant Selection

We selected our participants who had been on the IS integration task force of their merging firms or were informally involved in IS integration decision making and implementation. They were typically located at the corporate headquarters or in a city where there was a significant IS presence. The firms' integration team actually made the decisions (Marks and Mirvis, 1998) beyond the financials of the deal, prioritized integration projects, and allocated resources (Tetenbaum, 1999). By necessity, they were senior IS managers (e.g., CIO, or account manager or senior managers). We sought at least two members from each heritage<sup>7</sup> organization – resulting in at least four participants from each merger. This is consistent with Sanders (1982), who notes: "It is realistic to believe that sufficient information may be collected from approximately three to six individuals" (p. 356). In these merger contexts, interviewing more people would not necessarily lead to more insightful data because few<sup>8</sup> interviewees were deeply involved in IS integration decisions. Thus, we could reach the point of theoretical saturation (Pare, 2004; Yin, 2003; Eisenhardt, 1989) within the range specified by Sanders (1982) and Pare

5 Denzin (1978) posits four types of triangulations – (1) using different sources of data, (2) using different researchers to collect and interpret data, (3) using multiple theories to interpret a single set of data, and (4) using multiple methods to study a single problem.

6 These mergers were accessible because they had longstanding relationships with one of the researchers.

7 Heritage' refers to a place of origin. There is a history, a culture, a way of working, a set of values, that merging organizations bring to the table. People, processes and systems can come from either the acquirer or target heritage

8 During a merger, typically very few people are involved in the actual decision-making in the initial phase (e.g. the top 100 executives world-wide, but this depends on the size of the merging organizations, among other factors). Out of this hundred, very few are in-charge of the IS decision-making – for instance, in one merger, one out of seven teams were the IS integration team and had only five people on that team. In another case, the IS integration team was part of the Finance team and had three members from each heritage organization. In the later stages of the decision-making, more people are brought on board.

(2004). If we did not reach theoretical saturation, then we sought more managers. Accordingly, we continued to conduct follow-up interviews even when they retired post-merger.

### 3.3 Data Sources

Interviews, internal documents, public records (i.e., SEC Filings: Schedule 13D and DEFM14A forms) and news articles were the main sources of data collection. We also collected press releases announcing each merger's synergies. The internal documents we analyzed included presentations and internal newsletters. In one merger, we were shown, but not allowed to take away or copy, an intranet application showing the cost-benefit analysis of the merger integration. We conducted the interviews from 2001 to 2005. At least two 'snap shots' of each merger were taken through thirty-six interviews (see Table 2), each lasting between 30 to 180 minutes, often followed up with email clarifications and comparisons with previous findings. We taped and transcribed each interview.

**Table 2: Interviews organized by heritage, merger and snapshot of the merger timeline**

Merger	Merger Timeline	Acquirer Heritage	Target Heritage
Amazon + Nile	Pre-Merger		
	Early Post-Merger	4	2
	Late Post-Merger	8	2
	<i>Total</i>	<i>12</i>	<i>4</i>
Mekong + Indus	Pre-Merger	2	1
	Early Post-Merger	1	1
	Late Post-Merger	3	2
	<i>Total</i>	<i>6</i>	<i>4</i>
Seine + Lena	Pre-Merger		
	Early Post-Merger	1	1
	Late Post-Merger	3	5
	<i>Total</i>	<i>4</i>	<i>6</i>

The interviews were semi-structured in nature (Pare, 2004). While questioning the participants, we tried to ensure that they (a) were allowed to express their opinions on issues *they* considered important, and (b) answered *our* questions related to strategic alignment and IS integration. The interview guide presented in Appendix A functioned as rough template. After each interview, we modified the questions to incorporate the findings of the previous interviews and to add emergent themes (Eisenhardt, 1989). The original strategic alignment framework also began to tighten, and themes constituting 'theory' on IS integration decision making during mergers began to emerge.

### 3.4 Data Analysis

We loaded all transcripts and external reports into an NVivo 2.0 project, each document showing the year it was documented, the interview round, and the firm's pseudonym. We also loaded a 'starting list' of codes (Miles and Huberman, 1984) developed from our strategic alignment framework and a literature review (See Table 3) into NVivo as 'nodes' or trees of nodes. This list is provided in Column 3 in Tables 4,5,7,8, and 10. Using NVivo, the researchers then selectively 'read' the text by highlighting and coding the transcripts (Van Manen, 1990), which resulted in pieces of text highlighted against a particular node. This enabled the participants' comments to be applied in the context of the alignment framework in Table 1. Next, we compared these responses for agreements and disagreements among the IS managers belonging to the same heritage, and then with the IS managers of the other heritage, resulting in within-case analyses. Nvivo also allowed us to generate tables of all the text that reflected a particular code or category, per merger. This allowed us to look for patterns in each category across all three cases, resulting in cross-case analysis. Through iterative readings of the transcripts, some notions that were not part of the starting code list, were repeatedly revealed: these were identified as data-emergent factors that had an impact on IS integration decisions. These new categories were 'open-coded' in NVivo by creating new nodes. We also integrated these data-emergent categories into the list of codes, in keeping with Walsham's (1995), Yin (2003), and Eisenhardt's (1989) suggestion to remain open to the field data. This constant comparison of data with the current categories in our framework made us realize that new categories were required to capture (a) IS integration decisions regarding applications and infrastructure, (b) the influence of geographical dispersion of multinationals on the IS reporting structure and (c) explanation of IS integration decisions that didn't stem from the alignment rationale. As we continued our follow-up interviews, we compared the old data to our latest understanding, refining our data-emergent categories.

Table 3. Code List

Starting and Data-emergent codes	Framework and Literature Review
Motivation to merge:	Trautwein, 1990
Lack of internal resources	Schweiger, 2002; Pearce and Robinson, 1985
Growth in global market	Schweiger, 2002; Pearce and Robinson, 1985
To gain competitive advantage	Schweiger, 2002; Pearce and Robinson, 1985
Bandwagon effect: to avoid competitive disadvantage (survival)	Trautwein, 1990; Pangarkar, 2000
Cost saving synergies through consolidation/ economies of scale	Trautwein, 1990; Schweiger, 2002
Selection criteria for merger partner:	Trautwein, 1990; Haspeslagh and Jemison, 1991
Capital assets (resources)	Haspeslagh and Jemison, 1991
Geographical overlap and complementary customer-base;	Schweiger, 2002; Haspeslagh and Jemison, 1991
Complementary business capabilities	Schweiger, 2002; Haspeslagh and Jemison, 1991
Synergy promises have a time component	Schweiger and Goulet, 2000; Graebner, 2004; Brown <i>et al.</i> , 2003
Role of IS (the way in which an organization's senior management perceives IS):	Peppard and Ward, 1999; Hirschheim and Sabherwal, 2001
IS is perceived as a support or overhead function	Hirschheim and Sabherwal, 2001
Senior IS Manager [CIO] not perceived important to be part of [pre-merger] decision-making	Reich and Benbasat, 2000; Segars and Grover, 1998
Differentiator: strategic use of IS for competitive edge	Sabherwal and Chan, 2001; Camillus and Lederer, 1985
Role of IS in [merger] corporate decisions	King, 1978; Segars and Grover, 1998
Not significant in merger decisions	Kendler, 2004
Senior management's focus on IS integration	Brown <i>et al.</i> , 2003; Johnston and Yetton, 1996
IS Sourcing:	Hirschheim and Sabherwal, 2001
Insourcing	Lacity and Hirschheim, 1995
Use of contractors	Lacity and Hirschheim, 1995; Lacity <i>et al.</i> , 1996
Sourcing factors: IS budget cuts	Lacity and Hirschheim, 1995; Lacity <i>et al.</i> , 1996
Sourcing factors: Cultural values	Fowler and Jeffs, 1998; Allen <i>et al.</i> , 2002
Selection criteria for outsourcing vendors – cost	Lacity and Hirschheim, 1995; Lacity <i>et al.</i> , 1996
Selective sourcing (application development)	Lacity and Hirschheim, 1995; Lacity <i>et al.</i> , 1996;
IS structure:	Brown and Magill, 1994; Brown and Magill, 1998
Regional versus global;	Tractinsky, and Jarvenpaa, 1995
Centralization (shared services)	Brown and Magill, 1994; Sabherwal <i>et al.</i> , 2001; Camillus and Lederer, 1985
Centralization associated with efficiency and cost savings	Brown and Magill, 1994; Sabherwal <i>et al.</i> , 2001; Hirschheim and Sabherwal, 2001
Decentralization	Brown and Magill, 1994; Camillus and Lederer, 1985; Hirschheim and Sabherwal, 2001
Flat: less hierarchy, decision-making at lowest levels	Mintzberg, 1983
Hybrid IS structure	Brown and Magill, 1994; Sabherwal <i>et al.</i> , 2001; Hirschheim and Sabherwal, 2001
IS structure should match business structure	Henderson and Venkatraman, 1992
Standardization:	Tractinsky and Jarvenpaa, 1995; Karimi, and Konsynski, 1991; Brown and Magill, 1994
Global standardization (of IS processes)	Tractinsky and Jarvenpaa, 1995; Karimi, and Konsynski, 1991; Ives and Jarvenpaa, 1991
Standardized IS processes supports efficiency	Giacomazzi <i>et al.</i> , 1997;
Acquirer-target power differential:	Hirsch, 1986; Pablo, 1994; Haspeslagh and Jemison, 1991
Top Management Turnover from Target heritage;	Bergh, 2001; Canella and Hambrick, 1993; Hirsch, 1986
Senior job placements are reserved for Acquirer	Canella and Hambrick, 1993; Haspelagh and Jemison,



Our data analysis section describes both data-emergent themes and research framework-based themes. Themes can take the form of patterns, rules, local meanings, common sense explanations, and metaphors (Miles and Huberman, 1994). For instance, we discovered a set of rules common to MekongIndus and SeineLena that we called 'Big Rules' or 'the Mekong way', which essentially involved adoption of all acquirer's systems and processes by the merged organization. Eisenhardt (1989) specifically considers themes to be one of the many forms of theory-building. To improve construct validity, we accompanied these themes by what Eisenhardt (1989) calls "enfolding prior literature" or we compared our data-emergent findings with supporting and conflicting prior literature. Taken together, we used these themes to build theory for IS integration decision making during mergers and acquisitions. The themes may or may not be common to all mergers.

#### 4. Merger Histories

Oil and gas is a commodity business where scale and size matter. Our study firms merged at a time when the mature industry had already witnessed a gradual consolidation. For Amazon, Nile, Mekong, and Indus, global growth required large capital investments in infrastructure. These firms collectively promised several hundred million dollars to Wall Street in cost savings synergies resulting from economies of scale. Two years after Day One, all mergers were considered successful, since the expected merger synergies had been delivered within a given time frame acceptable to Wall Street<sup>9</sup>. Roughly ten percent of the overall synergies were to come through a reduction in the IT budget.

None of the CIOs was involved in the initial due-diligence process. IS transition teams formed only after the announcement and consisted of 5 to 20 people. In all three mergers, IS integration teams decided to select one of the pre-existing acquirer or target systems because they had no time to explore the marketplace for a new one. They established a set of systems evaluation criteria including cost, scalability, and functionality; system migration risk and time; and contribution to overall synergy targets. The team scrambled to enable a single web presence and offer email capability by Day One. Interim solutions (e.g., software interfaces to port data across acquirer and target systems supporting the same business function) were cobbled together within the first few months after Day One, in order to allow the business side to quickly realize their synergies.

**AmazonNile:** All adopted systems, regardless of heritage, had to meet Amazon's Risk Management Framework<sup>10</sup> requirements. Major integration initiatives were: the standard desktop environment, the email systems, the ERP systems, and infrastructure management automation. From the two email platforms--Amazon's EmailApp1 and Nile's EmailApp2--the latter was selected, for it had additional collaboration and knowledge management features. Nile's CIO, who was leading the IS integration effort, believed these collaboration features to be strategic to upstream research and development:

It was chosen because of its collaborative features, so those were perceived to be of very high value in upstream. I don't think that collaboration skills and mentality had developed in Amazon. So they don't know the real value of the system (Senior IS Manager<sup>2</sup>, Nile)

Since EmailApp2 didn't meet the Risk Management Framework requirements imposed by Amazon, its collaboration features were eventually disabled post-merger.

In a dramatic move, Amazon moved away from its regional decentralized structure toward Nile's global structure in order to standardize business processes throughout the world. Management believed it to be necessary to realize cost savings from economies of scale. Accordingly, corporate IS (ISO) moved to standardized IS processes (e.g., customer service), standardized systems (e.g., call routing management system to support global customer service), and standardized infrastructure (e.g., desktop environment).

However, the seismic data processing (SDP) unit continued to report to the upstream business unit instead of ISO, a point of contention both pre- and post-merger. SDP argued that it should remain closer to its customer base because it was the organization's core competency. ISO argued that economies of scale could be leveraged in absorbing SDP into ISO. Four years later, this change had yet to come about. Figure 1 offers a visual representation of AmazonNile's IS integration decision making.

<sup>9</sup> Actual values and synergy delivery deadlines found in press releases and financial statements cannot be disclosed here in order to preserve the identity of the companies.

<sup>10</sup> Every managerial and operational policy, procedure, business process, and its IS support had control mechanisms forming an organization-wide Risk Management Framework.

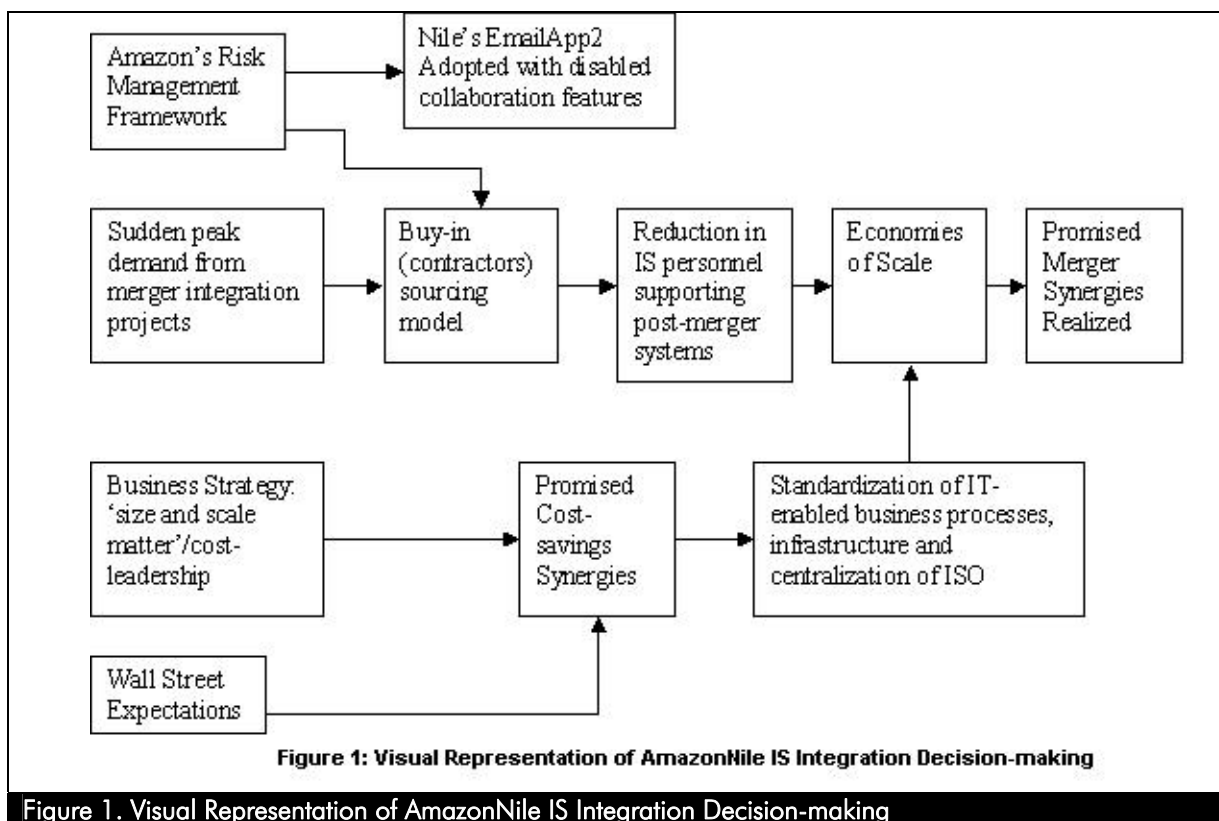


Figure 1. Visual Representation of AmazonNile IS Integration Decision-making

**MekongIndus:** By the time Indus was acquired by Mekong, it had been financially and psychologically exhausted, as the following quote illustrates<sup>11</sup>:

[Indus] had gone through a lot of downsizing... were wounded a long time [ago]...that's why the survivors were...not aggressive and proactive in fighting for their position in the new merged company. So size wasn't such a big reason for why the acquirer had more people [post-merger]. (Indus senior IS manager).

After the merger's announcement, the Indus CIO declared that he would leave after the integration phase. Thus, Indus IS personnel entered the MekongIndus merger leaderless and dispirited.

Mekong's senior management paid more attention to IT in the MekongIndus merger relative to the attention it paid in prior acquisitions because prior IS integration had taken too long and did not deliver the synergies within the timeframe Wall Street had expected. This time around, MekongIndus IS integration was based on a few simple heuristics: "quickly select Mekong systems by default unless the Indus system provided significant cost savings." The overarching theme for IS integration was "simplify and standardize" and finish the integration within "18 months of Day One".

In order to achieve the promised cost savings, MekongIndus standardized its systems globally. However, in keeping with the MekongIndus' federal business structure, the ISO structure was also "federal [hybrid] in nature". Part of IS (application development) reported to upstream; shared services (infrastructure) reported to ISO. In addition, Mekong had outsourced IS components that Indus had in-sourced, and vice-versa. In the end, most of Mekong's outsourcing arrangements were adopted by MekongIndus.

Finally, the integration team chose to adopt Mekong's more dated ERP version rather than face the risk and delays in moving Mekong's larger data set and processes to Indus' newer ERP version with new account payable and product revenue capabilities. However, a couple of years later, they upgraded to the newer version. Figure 2 offers a visual representation of MekongIndus' IS integration decision making.

<sup>11</sup> A Wall Street Journal article also confirmed this viewpoint. This article was pointed out by a Mekong IS manager, who too found his Indus counterparts "pliable".

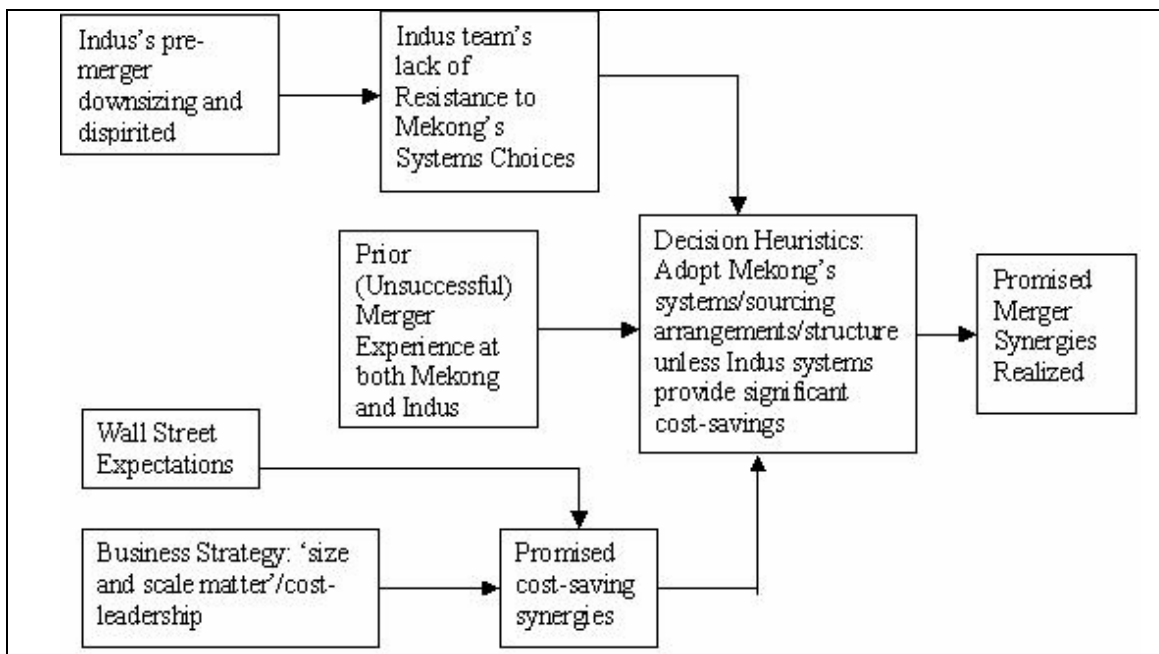


Figure 2: Visual Representation of MekongIndus IS Integration Decision-making

Figure 2. Visual Representation of MekongIndus IS Integration Decision-making

**SeineLena:** Seine was a large integrated oil and gas multi-national. Lena was a smaller, multi-national dealing in oil products (OP) and consumer products (CP). Seine's OP division was Lena's direct competitor. Seine had little OP market share, while Lena's OP had leading brands, primarily in North America. It aspired to gain an international presence like Seine but lacked the necessary capital. Seine also found Lena's successful CP products very attractive. Seine acquired Lena to gain additional product differentiation (brand value) in both the CP and OP businesses. Seine had not been very successful in its previous M&A activities and was therefore under considerable public scrutiny to integrate Lena successfully within the timeframe that Wall Street expected. In addition, Seine was to "go global" a year after Day One, adding more pressure to finish the integration in time.

Prior to the merger, Seine introduced only a few oil products to the market every year while Lena was more agile and released numerous oil and consumer products every year. Lena's IT function was agile and customer-friendly; Seine's IT function was slower. In addition, Seine's IT organization hadn't often delivered on time and within budget in the recent past, while Lena's IT organization prided itself as a low-cost enabler. As Lena's CIO notes:

Up until [recently], Seine...had hodge-podge of [IT] stuff all over the place... [Then] they took all of the IT in [Seine], sucked it apart into a separate business... Then they said, "It's a failure so we have to bring it back in."... Now you have total [confusion]... Now our IT at [Lena] was really good at what we did, but again, remember that we weren't an IT company. ...And [Lena] was always more responsive and low-cost than others.

The integration team believed that it had developed good rhythm and some members of the team had known each other from past projects. Lena members also appreciated the open-mindedness of their Seine counterparts. One of the Big Rules<sup>12</sup> of this acquisition: 'we are going to use Seine's systems' was imposed. Even though Lena's infrastructure was operating at a lower cost than Seine's, following the Big Rules, a decision was made to move Lena to Seine's infrastructure and standardize Lena's desktop to match Seine's environment. Six weeks into the decision making, however, it became apparent that migrating Lena's business applications and ERP to Seine's systems didn't make sense. Lena members found it challenging to convince their Seine counterparts and their finance supervisors why they must go against the Big Rules, as articulated by Lena's CIO:

[The integration solution] wasn't popular at all... it violated every precept of the Seine culture. Seine was going this way and we were going that way [away from Seine].

<sup>12</sup> Big Rules is a local term introduced to Lena by Seine. Other Rules included adopting Seine's managerial style, business practices and business processes.

In order to follow the Big Rules, the team would have had to make significant changes to Seine's systems to support the same customer base and offer the same functionality in terms of sales features. Since this wasn't practical, almost all of Lena's non-ERP business applications and ERP modules were adopted in the new OP unit of Seine. For other businesses such as exploration and production, SeineLena continued to use Seine's ERP modules. Figure 3 offers a visual representation of SeineLena's IS integration decision making.

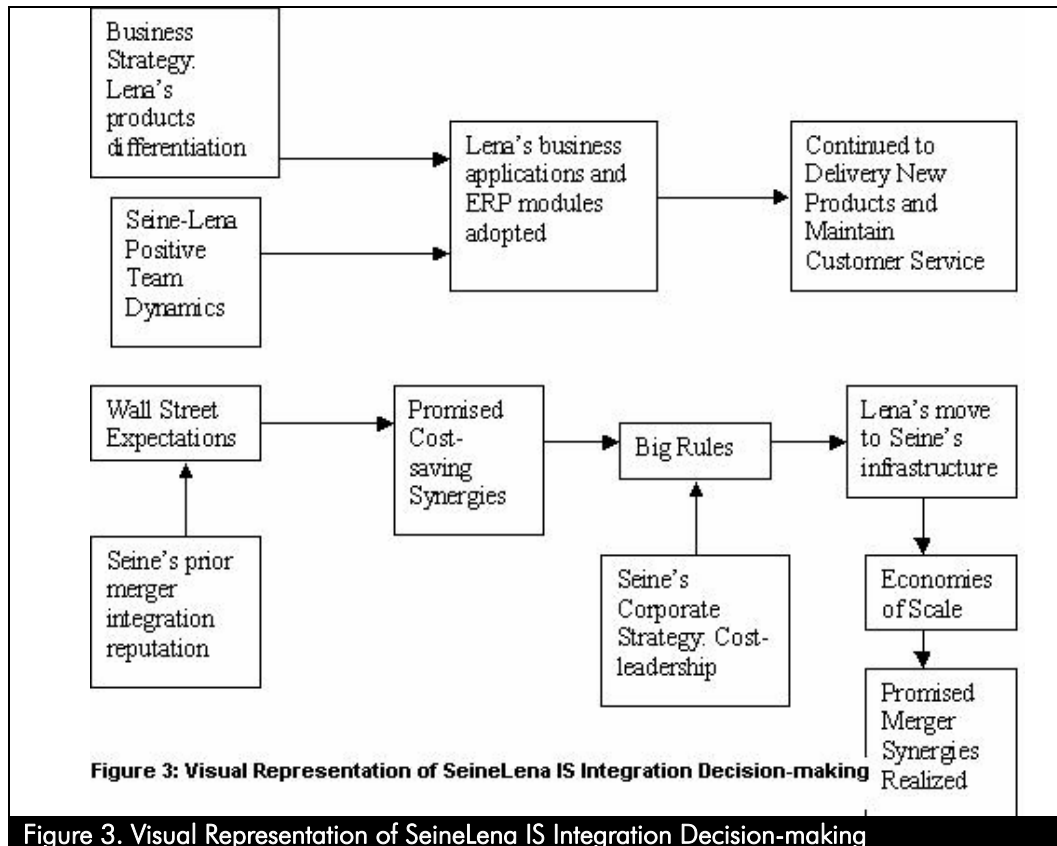


Figure 3. Visual Representation of SeineLena IS Integration Decision-making

## 5. Case Interpretations

### 5.1 AMAZONNILE

#### 5.1.1 Corporate and Business Strategy

The acquisition of Nile by Amazon was a horizontal integration because both are energy producers – manufacturing products at the same level in the value chain.

This corporate-level strategy was easy to infer from the interview data (See 4-1, 4-2)<sup>13</sup> and public literature (e.g., SEC filings, and AmazonNile's website). At the business-level, Amazon and Nile expected to gain competitive advantage through complementing properties and overlapping areas of operations, while removing redundancies would contribute to cost savings. Like other mergers, in order to justify such a significant organizational change to the shareholders and the government, the firms justified the increase shareholder value via economies of scale:

I think there is a lot of cost saving out of it, economies of scale is a good way to get value in this industry (Nile Senior IS Manager).

In short, AmazonNile was expecting to compete on cost--hence its business strategy was that of cost leadership, typically found in a commodity business such as oil and gas.

<sup>13</sup> 4-1 refers to Table 4, Row 1. Similarly, 5-1 implies Row 1 of Table 5, and so on.

**Table 4: AmazonNile Corporate Strategy**

Ref.	Data	Codes (based on both a priori and data- emergent concepts)
4-1	Specially domestic, the production is declining...getting more and more global regarding exploration and production and that takes a lot of infrastructure and ...capitalization (Nile IS Manager)	Motivation to merge: lack of internal resources + desire for global market
4-2	Nile was looking for a partner for financial reasons and Amazon was mainly interested in terms of complementary upstream properties (Amazon Upstream IS Manager)	Partner Selection criteria: capital; complementary properties

**Table 5: AmazonNile IS Strategy**

5-1	I doubt that the CIO knew about the merger before the announcement (Nile IS Manager).	Role of IS: CIO not perceived important to be involved pre-merger
5-2	In the new company, I think we are much more critical than we were when we were Amazon (Amazon Upstream IS Manager).	Role of IS: moving from support role to more critical support role
5-3	AmazonNile has no major outsourcing. We did outsource desktop support. After the merger, we brought in the Help-desk. We have contractors, but we do not outsource. This helps in peak-time resource management. When normal levels of resources are required then the contract is just terminated – and we don't have to fire any employees...If we were tight on the dollars we might have considered outsourcing (Amazon Senior IS Manager).	IS Sourcing: insourcing; use of contractors Reasons for outsourcing: IS budget cuts – view of IS as cost-center
5-4	A lot of people who reported to me are part of the field jobs. They were placed in ABC [city] and they did not need to be in ABC. They need to be close to the fields. I have to talk with people and write letters: these people are required where the applications were – out in the field (Nile IS Manager).	Hybrid structure required

### 5.1.2 IS Strategy

As described earlier, IS strategy consists of the role of IS, IS sourcing, and IS structure.

*Role of IS:* Both Amazon and Nile regarded IS as an overhead--as a staff function, as illustrated in the following quotes:

But IS is mostly overhead. All of what we do is overhead (Amazon IS Engineer).

IS was an overhead. Anything other than that [an oil producing unit] was overhead (Nile IS Account Manager).

The only IS capability that AmazonNile considered strategic was the seismic data processing capability. Once the merger was announced, IS managers had to scramble together a set of interim solutions for Day One. Since neither CIO was involved in pre-merger negotiations and due-diligence, we can infer that IS did not play a significant role in the decision to merge (See 5-1). However, Nile was more advanced in its IS capabilities and perhaps considered the IS function to be more than just a support function. In the merged firm, the IS function did perhaps gain more recognition than it held in Amazon before the merger, but it still wasn't considered a differentiator (See 5-2).

*IS Sourcing:* Before the merger, neither firm had any significant outsourcing arrangements. Pre-merger, Amazon had outsourced its help-desk support but post-merger, the help-desk was brought back in-house. Post-merger, AmazonNile did not have any major outsourcing. Instead of outsourcing, AmazonNile relied on contractors, or buy-in rather than outsourcing vendors so that it would be easy to terminate contracts once the merger integration was completed (See 5-3).

In the pre-merger phase as well, Amazon did not believe in outsourcing, because it would threaten the career development of loyal employees:

You see– one joins Amazon and retires from Amazon. The people are more loyal – and tend to not believe in outsourcing. We allowed people to transfer from one department to another. (Amazon Senior IS Manager).



The IS units of Amazon and Nile remained in-house also because the firm believed that it could reduce their operating expenses by 5 percent by keeping control of the IS development and maintenance.

*IS Structure:* Pre-merger, Amazon had a decentralized IS structure. The firm did happen to have a centralized structure within the U.S., but not internationally. Amazon found that Nile had already created a globally centralized IS organization (shared services) before the merger. Post-merger, both business and IS functions were centralized:

Amazon had infrastructure services [but] each division owns their own IS department. The merger resulted in a shared service organization of real estate of human and system that pulled it all out of business (Nile IS Senior Manager).

However, the seismic data processing unit continued to report to the business (See 5-4).

	Amazon (Acquirer)			Nile (Target)		
Corporate Strategy: Horizontal Integration	IS Role	IS Sourcing	IS Structure	IS Role	IS Sourcing	IS Structure
<b>Business Strategy for both Amazon and Nile:</b> Cost leadership	Efficient Support, but seismic data processing is a core competency	Insourcing + 'buy-in'	Decentralized	Largely seen as a support organization, but seismic data processing a core competency. IS is considered more important in Nile than in Amazon	Data Unclear <sup>14</sup> – Perhaps Insourcing (As mentioned by an Amazon manager)	Largely centralized (with some elements of a hybrid structure)

Corporate Strategy: Horizontal Integration	AmazonNile		
	IS Role	IS Sourcing	IS Structure
<b>Business Strategy:</b> Cost-leadership	Support/Efficiency, Seismic data processing still considered core competency	Insourcing + 'buy-in'	Centralized – with a separate seismic data processing

Tables 6a and 6b provide a summary of the state of alignment pre-merger and post-merger, respectively. We make three main observations: (a) the merger's goal to achieve cost saving synergies from economies of scale, the firms' view of IS in a support (overhead) role, IS sourcing, and IS structure are all in alignment as per our alignment profile illustrated in Table 1; (b) these three categories of alignment do not capture IS integration decisions related to issues like desktop standardization and choice of email platform; and (c) apart from the restructuring of the IS organization toward centralization and global standardization, many systems choices do not seem to be driven by strategic alignment. So, if business-IS strategic alignment was not a key concern in AmazonNile IS integration – then what drove the decision making? We take this up again in section 6, where we identify new categories to capture IS integration decisions (e.g., choice of Email platform) that are not accounted for by IS role, sourcing, and structure and data-emergent factors.

## 5.2 MEKONGINDUS

### 5.2.1 Corporate and Business Strategy

The MekongIndus merger was also classified as a horizontal integration because both of them were producing and marketing oil and gas. MekongIndus merged for the same reason as AmazonNile (See 7-1). Each wanted a partner who

<sup>14</sup> While our participants had a general idea about sourcing arrangement, they could not recall precise numbers or percentage of budget outsourced.

had both complementary properties and overlapping operations where they could take advantage of economies of scale. This argument was used to convince shareholders of the merger's synergy and value:

The whole focus of the merger is – we have promised analysts that we shall save \$ [x] billion dollars in six months after the merger (Indus IS Manager).

The business-level strategy was indeed cost leadership through complementary properties upstream and economies of scale downstream. (See 7-2).

Table 7: MekongIndus Corporate Strategy		
7-1	The CEO – the board of directors basically came to a decision that Indus was just not able to keep up with the big boys. We tried different things. Our CEO mentioned that “we looked around and we figured that Mekong was the right match – where we do business, they do business” (Indus IS Manager).	Motivation to merge: survival; Partner selection criteria: overlap in geographies
7-2	Well, I would say [the primary reason for the merger is] economies of scale... It was in response to market's consolidation among our peers. The gap in size – economies of scale argument – now Mekong and Indus were already doing their best and could not compete with the aggregation or the already inherent size of these other players (Mekong IS Manager).	Motivation to merge: To gain economies of scale; following competition to survive

### 5.2.2 IS Strategy

*Role of IS:* Pre-merger, both merging firms considered IS to be a support function (See 8-1, 8-2). This perhaps explains why neither CIO was involved in the decision to merge. However, having learned from a previous acquisition that poor IS integration can be very costly for overall merger success, Mekong was more attentive to the IS integration process this time. Thus, while in the pre-merger phase, the role of IS in the merger was non-existent; in the post-merger phase, the IS integration process was viewed to be quite important, if not critical, for the success of the merger. However, in the end, the role of IS still did not rise above that of a support function (See 8-2). A Mekong IS manager observed that IS was not strategic enough to require a “clean” team:

If the merger doesn't go through the employees dedicated to those ‘clean’ teams would have to separate from the company because they would have competitive information about the other company. There weren't any of those in IS. IS was not deemed as a significant competitive asset. How many PCs you got – they don't care.

However, it does seem that the managers of Indus' IS function had intentions to achieve better strategic alignment as the merger progressed (8-3). This remains to be seen.



**Table 8: MekongIndus IS Strategy**

8-1	In the petroleum industry, the focus is on physical assets (pipelines, ground and gas stations) and IS is not a differentiator (Mekong IS Manager).	Role of IS: support
8-2	I would say that the interest of the senior management on IS in the next phase is much greater than it was during the Mekong-EN3 merger. They are more than curious about the costs of IS integration. They are setting up mechanisms to find out what those costs are going to be. They have heard the other piece of industry evidence that 75 percent of the merger run into substantial problems of IS integration. It frequently <i>doesn't</i> go well. It <i>does</i> need to be managed as a pretty significant project. Clearly the expectation is that we want to do it better than the Mekong-EN3 merger. That was a 4-5 year project to complete the entire IS integration... It is not job one, but it is a job that executives are clearly paying more attention to right now and how they set up this transition phase with teams (Mekong IS Manager).	Role of IS: whether senior management is concerned about IS integration in each phase of the merger process
8-3	We need to show IS as a professional integral part of the organization: (Indus IS manager) Assert that the budget is under control (and HAVE the budget is under control) Be technically astute and be aware of emerging trends Act as peer to Business (be able to talk about the business budget, not just the IS costs saved – but the overall business costs saved)	Role of IS: how business <i>should</i> perceive IS (as a 'business')
8-4	But we did not do that [outsource application development] in the initial step – we are doing that only later. And in that case, the outsourcing model is global. Look at – ASD [country]... The relationship with ZZZ [outsourcing vendor located in ASD] we have had over the last couple of years, based on that positive experience, more and more projects are being looked at (Mekong IS Manager).	IS sourcing: moving from insourcing to selective sourcing
8-5	IS structure – its a hybrid... Could IS be more efficient as a centralized organization? Yes. But then the business units would have to give up some authority... So the IS organization... mirrors the business organization... We [do] have that shared services kind of a thing. (Mekong IS Manager)	IS structure: hybrid; maps to hybrid business structure

**IS Sourcing:** Both Mekong and Indus outsourced certain IS capabilities before the merger, which accounted for less than 25 percent of their respective IS budgets. Post-merger the proportion of IS outsourced remained at 25 percent, according to one Mekong manager. Mekong had outsourced operations, while Indus had retained operations services in-house. Mekong had retained desktop design and support in-house, while Indus had outsourced desktop support. Mekong had outsourced network design and telecommunications, while Indus had insourced it. A decision was made to outsource what Mekong had outsourced pre-merger. Managers performed a market evaluation to identify “credible sourcing alternatives” with respect to Mekong’s outsourcing arrangements. The choice of a vendor was more of an economic consideration and not a strategic one, simply because IS didn’t play a strategic role in MekongIndus:

M1 was a manufacturer for Indus’s choice of desktop servers, M2 was Mekong. Just lined them up, made them bid again and they had to win it on economic terms – could have been either (Mekong IS Manager).

At the time of data collection, the merged IS function was also looking to outsource and offshore application development in the future, something that neither of the two partners had done in the pre-merger phase. (See 8-4).

**IS Structure:** The IS organization structure for the merged firm is a hybrid of central and regional/local IS units. Before the merger, Mekong had a hybrid IS structure, while Indus had a relatively decentralized IS structure:

[In Indus,] there is an upstream IS and there is a downstream IS – each of the major areas within the company has a focus on IS as well. In the Indus organization, the IS people that work in upstream are upstream employees (Indus IS Manager).

After the merger, MekongIndus maintained its hybrid structure. A Mekong IS manager actually agreed that the new MekongIndus IS structure should be centralized enough to achieve cost savings synergies from the merger, but noted that the structure’s driver was not just the efficiency achieved from having a centralized IS structure, but also the corporate governance structure. He argued that the IS structure must mirror the corporate structure – if a centralized corporate model was suggested for the merged MekongIndus, then the IS would have reorganized itself accordingly. Instead, the business units were more of a “federation” rather than under hierarchical control of a central corporate unit. Hence, there was a need for a balanced IS structure in the merged IS function (See 8-5).

Table 9a: Pre-Merger IS Strategy for Mekong and Indus						
	Mekong (Acquirer)			Indus (Target)		
Corporate Strategy: Horizontal Integration	IS Role	IS Sourcing	IS Structure	IS Role	IS Sourcing	IS Structure
<b>Business Strategy for both Mekong and Indus:</b> Cost leadership	Efficient/Support	Selective sourcing – about 25 percent outsourced	Decentralized (to match business structure) + centralization => Hybrid	Largely seen as a support organization, but technical computing is a core competency. IS is considered more important in Indus than in Mekong	Selective sourcing – perhaps 25 percent outsourced	Largely decentralized (with some elements of a hybrid structure)

Table 9b: Post-merger IS Strategy for merged firm MekongIndus			
Corporate Strategy: Horizontal Integration	MekongIndus		
	IS Role	IS Sourcing	IS Structure
<b>Business Strategy:</b> Cost leadership	Support/Efficiency	Selective sourcing – 25 percent outsourced – looking to outsource application development	Standardized, Hybrid

Tables 9a and 9b provide a summary of the state of alignment pre-merger and post-merger, respectively. By comparing these tables to Table 1, we make three observations: (a) while the role of IS seems to be aligned with the merger’s goal of cost leadership through economies of scale, it doesn’t seem to fit with the hybrid (federal) IS structure; (b) our initial IS Role, structure, and sourcing categories do not capture IS integration decisions such as ERP choices and (c) apart from their drive to standardize the systems and business processes globally, few integration choices were driven by the need to align IS with business needs initially. Once the synergy targets had been delivered, MekongIndus went back to adopt new ERP versions that it had previously discarded in the interests of time and risk. If business-IS strategic alignment did not cross the minds of the IS integration task force in the first 18 months, what did? We shall explore this further in section 6.

### 5.3 SEINELENA

#### 5.3.1 Corporate and Business Strategy

As discussed earlier, Seine acquired Lena largely for Lena’s well-branded products in the OP and CP businesses<sup>15</sup>:

The business prospective prevailed: ‘why am I buying [Lena]?’ Well, they understand the [OP] business [because] they have market share. Why would I buy them and make them look just like us? Wouldn’t I want to preserve the value of purchasing this organization? And do I lose that if I try to make them look like [us]. If you look at [Seine’s] [OP] business, it’s primarily driven like the fuels business. [Lena] is much more like a consumer products (CP) business (Seine’s lead on integration team).

Even so, Seine had justified the acquisition premium by promising to deliver many million dollars in cost savings synergies by removing redundancies in the small overlap between Seine’s and Lena’s OP businesses. Thus, gaining economies of scale was also part of the merger goals. The corporate strategy was horizontal integration because the merger involved two direct competitors’ Seine’s OP business and Lena. At the business level, the strategy was actually that of product differentiation through the addition of Lena’s branded OP and CP products.

<sup>15</sup> This was also corroborated by analysts-CFO interview transcriptions on SeineLena’s website.

### 5.3.2 IS Strategy

*Role of IS:* In Seine, IS was viewed as an overhead support function; in Lena, IS was referred to as a “low-cost enabler” or a “successful support function”. In Lena, speed of delivery could not be compromised. Consistent with the consumer products business it was running, IT enabled the delivery of hundreds of new products per year at Lena. At Seine, consistent with the commodity fuel business it was largely running, IT was supposed to keep costs low, rather than respond quickly to customers’ needs. Post-merger, IS was viewed as a support function again:

[Seine] is not of that [enabler] mind-set... [At Lena]...IT is an enabler. I can get what I need from IT at the speed I need it at. When the acquisition [was announced], it was still the same, nothing changed... As the merger was finalized... the customer saw different changes, different cost structures, [and] different service levels... Now you have to tell them [customer], “I am sorry, I have to follow this procedure. I can get it to you next week.” Since [Day One], they have just seen less freedom...more governance, [which means] longer processes, more approvals. [Lena’s business managers] have seen their costs sky-rocket [Lena’s infrastructure expert].

[Lena] way was ... customer-satisfaction through prompt service and the down side is that I might not have tested everything. [In] Seine, it has to go through a quality assurance process, and that can’t happen immediately (Seine’s integration lead).

Essentially, in the post-merger phase, Seine’s slow, process-oriented approach to handling customer requests was adopted in the new IS function. Seine’s chargeback policies ensured that while IS reduced its budget and became more efficient, Lena’s business managers saw their costs sky-rocket, now that they were part of Seine. Priorities had changed – now it was important to ensure quality and process control in software development; speed of delivery and customer needs had taken a back-seat, fitting with the role of IS as a support function.

10-1	IT at Seine, previous to the merger, unrelated to the merger, was on the hook for big IT savings. You pull them out of the business – centralize - then there is no connection to the business then you can send them off to the Third World and get cheap labor... They [won’t] call it outsourcing because it’s a Seine shop being set up there (Lena’s CIO).	IS offshoring in SeineLena post-merger
10-2	At Seine, theoretically businesses make the decisions... The problem with that is that they don’t understand the decision in many cases. Its also hard work and they have other jobs to do so they turn to the IT people and ask them what they should do...in theory, the business makes the IT decisions. In practice, they are not. (Lena’s CIO)	IS structure in Seine (‘weird’ hybrid)

*IS Sourcing:* Lena’s IS organization, consistent with its low-cost enabler/successful support role, had outsourced help-desk and data-center operations. Since only 30 percent of its budget was outsourced, we can argue that Lena engaged in selective sourcing pre-merger. In contrast, Seine’s IS organization had been spun-off long before the merger came along. This spin-off provided services to Seine as an outsourcing vendor. Later, the IS organization was brought back in house:

We (Lena) had helpdesk and data center operations outsourced. The usual suspects. Seine didn’t outsource anything. Seine was very heavily in-sourced (Lena’s CIO).

Post-merger, SeineLena’s intention was to offshore its infrastructure maintenance. This was not, however, technically outsourcing. Instead, SeineLena was merely planning to set up its own shop offshore (See 10-1).

*IS Structure:* Pre-merger, each of Seine’s business units had its own CIO. Seine’s IS structure was fairly decentralized, as was pointed out by Lena’s CIO earlier. Later, he termed the structure of Seine’s IS organization as a “weird hybrid” in that it wasn’t really clear where the decision-making authority lay. In theory, the business units made their IT decisions; in practice, they didn’t (See 10-2). On the other hand, Lena’s IS structure was centralized before the acquisition. Post-merger, the new OP business unit (and eventually all of SeineLena) moved toward a centralized business structure, which the IS organization dutifully followed:

So we have trucks that need to be scheduled... Now, with the big push towards centralization and standardization, that [scheduling] application choice is being done by a group in [headquarters] (Seine’s integration lead).



**Table 11a: Pre-merger IS Strategy for Seine and Lena**

	Seine (Acquirer)			Lena (Target)		
	IS Role	IS Sourcing	IS Structure	IS Role	IS Sourcing	IS Structure
<b>Corporate Strategy:</b> Horizontal Integration						
<b>Business Strategy Seine:</b> Cost-leadership in the Fuels Business <b>Lena:</b> Product Differentiation	Support/Efficiency	Insourcing	Decentralized or 'weird hybrid'	'Successful support' or 'low-cost enabler'	Selective sourcing – 30 percent outsourced	Largely Centralized

**Table 11b: Post-merger IS Strategy for SeineLena**

	SeineLena		
	IS Role	IS Sourcing	IS Structure
<b>Business Strategy:</b> Product extension	Support/Efficiency	No outsourcing – but offshoring	Completely centralized

Tables 11a and 11b provide summaries of the state of alignment in Seine and Lena pre-merger and in SeineLena post-merger. Four observations are worth noting; First, while infrastructure decisions were largely governed by the Big Rules of moving all Lena operations to Seine's infrastructure, business applications and ERP decisions were indeed driven by business-IS strategic alignment concerns. Specifically, Lena's systems were adopted into Seine, precisely because Lena's systems fit the consumer products and oil products businesses better than Seine's systems. Second, pre-merger, Lena managed to centralize its business structure, keep its IS budget and business-costs low, and respond very quickly to the customer and the market. This seems counter to the current alignment literature and our research framework, which argues that a centralized IS organization loses its ability to respond quickly to customer/market demands. Third, by comparing it to our alignment profile outlined in Table 1, we observe that Seine's pre-merger IS organization was misaligned in terms of role and decentralized structure of IS and its sourcing arrangements. Post-merger, SeineLena's support role of IS and centralized structure were aligned with one another, but did not match the business goal of product extension/differentiation (see first row of Table 1)--the primary goal of the merger. Instead of outsourcing, SeineLena was offshoring its IS components--an arrangement that the firm believed could still deliver lower costs (as per the data), but was not part of our alignment framework. Fourth, our framework is not able to capture all of the participants' terms, e.g. "weird hybrid". These observations become the bases for our questions about what generated this misfit or misalignment during these mergers.

## 6. Discussion – Theorizing Is Integration And Alignment

As noted in section 5, many integration choices were not driven by the concern to realize business-IS alignment, particularly in the pre-merger and early post-merger phases, until synergy targets were delivered within the expected timeframe. Much later, AmazonNile and MekongIndus revisited their newly inherited systems and re-programmed them to make them more efficient or to build capabilities they had previously discarded in the interests of delivering synergies in time. Many integration choices are not captured by the three initial categories that our alignment framework limited us to--viz., IS role, sourcing and structure.

In this section, we address our second objective, i.e. to explain the factors that shape IS integration decisions, some of which are business-IS alignment decisions. Simultaneously, these analyses offer new categories of alignment, which we hadn't considered *a priori*. There are several factors such as prior merger experience, integration team dynamics, and scalability of systems options, which were factored into the merger integration decisions. However, we focus on the ones, that overshadowed the others. As discussed earlier, our data-emergent findings are also accompanied by "enfolding prior literature" (Eisenhardt, 1989).

*Theme #1: What explains the Role of IS Decisions?* Both pre- and post-merger, all merging organizations (except Lena) viewed the IS function as an overhead with many avenues for cost savings. When it came to pre-merger IS integration planning, the business assumed that "IS would make it happen". In short, unlike physical assets and geographical markets, the IS application and infrastructure portfolio did not make or break the deal in a mature commodity industry like oil and gas. Thus, in all three cases, the CIOs weren't included in the pre-merger negotiations. Adding CIOs to these secretive

merger negotiations meant more people could potentially break the FTC's (Federal Trade Commission) non-disclosure agreements. Instead, these organizations were willing to risk that their IS cost and synergy estimates were well off the mark. Any variance in the IS budget would not materially affect mergers in an industry where the largest proportion of capital expenditure is on properties and refineries. Thus, the two main factors that explain the minimal role of CIOs in pre-merger planning were: (1) the industry context and (2) FTC constraints.

Finally, at SeineLena, when the acquirer's management replaced the Lena management, the role of IS automatically changed from enabler to support function. This automatically brought the low customer service levels in alignment with the new support role of IS, as elaborated in the following quote:

Did they choose a particular infrastructure because it fits the business needs? [Lena Infrastructure expert]: No. They are not geared [for that] ... [Lena] upper management [said], "I need IT to do this for me" [Seine] upper management would say, "Uh-huh, I don't think so." So the only way alignment truly occurred was when they replaced the [Lena] upper management with [Seine] upper management, who were already used to the way [Seine] was doing IT. So they more or less forced the alignment by changing the leadership.

Here, Seine imposed itself by re-fixing or re-establishing the 'Role of IS' from an enabling partner to a support function. The acquirer's way resulted from the acquirer's senior management replacing the target's senior management. We shall explore Seine's influence further in theme 4: "the acquirer's way."

*Theme #2: What explains IS Structure Decisions?* Pre-merger, Amazon, Seine, Mekong, and Indus were operating either in a decentralized or a shared IS structure. Nile and Lena were more centralized. Post-merger, the focus on cost savings and efficient systems was more pronounced than before. The IS structure in AmazonNile and SeineLena moved toward higher centralization to realize the promised cost savings synergies through standardization of IS-enabled business processes.

In this paper, we assumed IS structure would automatically align with business structure if it was first aligned with business strategy. However, we found that relative to strategy, business structure is in fact a stronger influence on IS structure choices:

Early on, they were not looking at systems at all. They were thinking, "do you want to have a global organization and have global processes or do we want to have regional... responsibilities"? So the businesses reorganized themselves and we reorganized ourselves to match. (Amazon Senior IS Manager).

IT structure [is]... a hybrid. The reason for that is corporate structure. I actually agree that more centralization would be more efficient for IT but in the end...that's not the most important driver. The most important driver is the corporate governance [and] the business unit autonomy (Mekong Senior IS Manager).

They chose to map the IS structure to the business structure first, regardless of how it aligned or misaligned with the role of IS (e.g. efficiency), business strategy, and sourcing. For example, MekongIndus continued to align its IS function structure with the shared business structure<sup>16</sup>, which didn't fit with the corporate strategy to realize global economies of scale. When asked whether it made sense to centralize IS in order to go global, a senior Mekong IS manager on the integration team responded:

The end answer was the Mekong way [i.e. adopting federal IS structure for MekongIndus].

[Researcher]: But wasn't it probably more logical to go the global-way?

Not according to Mekong. Try to go up to somebody and say, "that's not logical". You will end up getting a [severance] package!

Two interesting questions arise: (1) what is the association, if any, between a centralized and a global structure; and (2) what is "logically aligned" seems to be decided by those who have the power to hand out severance packages! We shall return to this acquirer's influence later in Theme 4.

The case of Lena was also somewhat anomalous. Pre-merger, Lena had managed to nimbly respond to customer and market demands despite its role of IS (low-cost enabler) and centralized IS structure. This may be explained by Brown and

<sup>16</sup> Past literature (Brown, 1999) suggests that organizations use horizontal mechanisms in order to coordinate between corporate IS and business units. From our data, we know that MekongIndus implemented two governance mechanisms – 1) the funding structure, which ensured that IS budget was funded by the business for specific needs, and 2) by an organization wide IS committee that agreed to projects that needed sponsoring from more than one business unit. Thus, to claim that MekongIndus business and IS organizations were 'misaligned' is somewhat of a simplification.

Magill (1994), who offer a variety of antecedents that explain business-IS alignment profiles. In Lena, speed-to-market was non-negotiable. This was crucial to deal with competitors who generated hundreds of new consumer products every year.

In Lena's culture, pre-merger, speed was critical. We were [leaders], not because we were big, but because we could out-execute anybody. It was a competitive weapon for us. In the IT space... if you are off the budget, we will work with it. If you got to move a spec, we will deal with it, but you will not be late [Lena's CIO].

Thus, in some cases, non-structural factors such as organizational culture (*viz.*, "speed is non-negotiable") are able to compensate for the weaknesses of vertical mechanisms (*viz.*, centralization) (Brown, 1999).

In addition, a number of our participants had difficulty explaining IS structure in terms of the centralization-decentralization typology we had offered. Instead, they repeatedly referred to IS structure decisions driven by geographical locations. In fact, one Amazon manager used the term "centralize" to imply senior IS management in one geographic location. Geographical idiosyncrasies seem to triumph over the business units' idiosyncrasies in almost all of the six organizations pre-merger, perhaps as a result of having grown along regional lines before becoming large multinationals. For our participants, the local-global distinction seemed to take on more *meaning* than the centralized-decentralized distinction we had offered. The following data show how the centralized-decentralized continuum is an oversimplification. Including a local-global continuum can easily complement this. Here, "global" implies (a) one set of business rules world-wide that ignores geographical idiosyncrasies, and therefore (b) the IS reporting structure is not geared to meet the specific needs of a single country:

No, [global] is not [centralization]. But they are centralizing it and globalizing it at the same time. Global – it means there are one set of business rules ...I am taking about the reporting structure, the organization, everything. There is no such thing as SeineLena-OP-US as an entity anymore. Now its just SeineLena-OP... There would have been an IT org. for US, IT org for Europe and for Pacific. No more. (Lena's CIO)

[Post-merger,] they decided to have a global functional structure. [Pre-merger,] on the Amazon side on each of the major areas had an IT organization associated with it. Mainly based upon geographic lines. There was no corporate CIO, so each one [country/region] had their own... (Amazon senior IS manager).

Therefore, we believe it necessary to reconceptualize "structure" to reflect the complexities of multinational firms to include two dimensions: (1) the extent of *business units' control* over IS reporting and decisions along the centralization-decentralization continuum; and (2) the extent of *geographic locations' influence* over IS reporting and decisions along the local-global dimension as simplified in the form of a 2x2 matrix in Table 12. This also addresses the question: "what is the association between a centralized and a global structure?" and gives rise to four different types of IS structures: (1) *dictatorial* (centralized-global), (2) *city-states* (centralized-local), (3) *federal* (decentralized-global), and (4) *tribal* (decentralized-local). In the dictatorial arrangement, IS staff would report to a corporate IS unit and not to business units. Instead, there would be one corporate IS function making IS decisions for all regions/countries and ignoring geographical idiosyncrasies. In the city-state arrangement, IS would report to a corporate IS unit, with each major region or country having its own corporate IS unit. In the federal arrangement, IS would report to each business unit or line function, but these business units would not identify themselves according to regions or countries. In the tribal arrangement, IS would report to business units, and each country or region would have its own authority over each business unit.

Impact of Business Units	Decentralized	Tribal	Federal
	Centralized	City-States	Dictatorial
		Local/Regional	Global
		Impact of Geographies	

We believe that our new typology of structure is a more refined instrument for assessing IS structure in multinationals. For instance, a dictatorial IS structure may describe AmazonNile post-merger. The tribal structure can better illustrate Amazon's IS structure pre-merger, while MekongIndus' pre- and post-merger "shared" structure may be better qualified as partly tribal and partly city-state. Finally, SeineLena may be classified as moving toward a dictatorial IS structure, while pre-merger Seine's IS structure may be classified as a weird hybrid of tribal and city-state, but where geographical differences continue to matter in IS decision making. In general, our data-emergent findings agree with Agarwal and Sambamurthy (2002), who posit: "Aligning IT executives with multiple horizontal views of the firm (i.e., processes and geographic areas) and vertical views of the firm (businesses) ensures that the IT function is tightly woven into the business" (p. 15). Some past literature (e.g. Sambamurthy and Zmud, 1999) identified "geographic dispersion" as a contingency factor for IS governance, but did not identify the actual arrangements possible by taking geographic spread of a multinational into account. Sambamurthy

and Zmud (1999) argued that the IS function could either report to business unit or regional heads. But we offer four different possible arrangements, where IS could report to both business unit and regional heads, all of which easily account for our data now.

*Theme #3: What explains IS Sourcing Decisions?* The three mergers differed in the extent of their sourcing arrangements. Pre-merger, Amazon and Nile mostly insourced, Mekong and Indus selectively outsourced, and Seine insourced and Lena had selectively outsourced. Post-merger outsourcing decisions within MekongIndus were based on whatever Mekong had outsourced pre-merger--the choice was governed by the acquirer, rather than by the need for strategic alignment. The choice of the actual vendor was made purely on economic grounds. Three to five years after Day One, AmazonNile engaged in business process outsourcing offshore, MekongIndus was looking at aggressively outsourcing applications development offshore, and SeineLena planned to offshore but not outsource applications development.

AmazonNile argued that insourcing in such a large company offers the necessary economies of scale that are typically associated with outsourcing. Through cross-case analysis, we discovered that MekongIndus (comparable in size to AmazonNile) had considerable success with outsourcing and planned to outsource even applications development. Therefore, size does not appear to be a critical factor here.

We didn't have to look very far to find an alternate argument for why AmazonNile did not outsource. AmazonNile strongly believed in its Risk Management Framework (RMF) and by outsourcing, it would lose control of systems and the RMF embedded within. AmazonNile managers would have to ensure that the outsourcing vendors complied with the RMF too, thereby increasing contract-management costs. AmazonNile's insourcing (i.e. buy-in) arrangement was a way to: (a) deal with the sudden scale of merger integration projects, (b) release contractors after temporary needs are satisfied and not hurt full-time employees' careers, and (c) retain control over IS projects. Prior literature identifies two of the above three reasons for buy-in. We have identified the third--Amazon's culture which emphasized employees' career development and desire to control.

SeineLena's apparent disinclination toward outsourcing in the post-merger phase is interesting, for it does not fit with the support role of IS and centralized decision-making structure. However, it fits with the business strategy of product differentiation through Lena's brands. So why did SeineLena centralize? It was a way to separate the business from IS in order to follow the new industry trend of offshoring without outsourcing.

*Theme #4: Power- The Acquirer's Way:* Above, we noticed that role of IS (in SeineLena), IS structure (in MekongIndus), and IS sourcing (in AmazonNile) decisions were influenced by the pre-merger organizational context--acquirer's culture. In fact, the acquirer's influence on the target was so strong that many decisions went the acquirer's way<sup>17</sup> unless there was a significant reason (e.g., cost-savings from adopting target systems) not to do so. Thus, the acquirer's way precluded the IS integration team members from considering other alignment issues, at least in the short-term. For instance, even though many Nile systems were adopted into AmazonNile, they were "tweaked" until they complied with Amazon's Risk Management Framework (RMF) -- a strong cultural artifact (Schein, 1992). Often, tweaking the Nile systems proved too tedious to merit their adoption, in which case, the Amazon systems became the obvious choice:

"Your hormones would be all out of whack by the time you finished meeting those [risk management framework] demands [to modify a Nile system] -- you would rather go with the Amazon system instead!" (Amazon IS senior engineer)

We can view this RMF as a disciplinary technique (Foucaultian, 1979) that takes the form of surveillance, routinization, rewards and sanctions to control organizational members' behavior and disposition (Clegg, 1989). In this case, controls were embedded in either Amazon's applications or modified in Nile's applications. In short, the acquirer's way here was enacted through a set of rules (RMF) that were mandatory in all adopted systems.

Deeper analyses lead us to believe that Business-IS strategic alignment is not the innocent, objective concept it is made out to be in the current literature. In both MekongIndus and SeineLena, our participants believed that notions of alignment were governed by the acquirer's way. For instance, revealing the duality of structure and agency (Giddens, 1984), one insightful senior Mekong IS manager remarked:

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17 The 'Mekong way' implied Mekong's norms, management style, reward systems, security and control procedures, outsourcing decisions, IS structure, processes and policies.



The Mekong people decided on which business model they should move to, and then the IS followed that business model. So power decides the alignment decisions... [Later,] the power angle subsided, because once people had left, the people remaining were legacy Mekong. It is unclear exactly [when] the power angle subsided. But I can definitely say that power and alignment are related because a fall of one implies the rise in another (Mekong senior IS manager).

Thus, most of MekongIndus systems came from Mekong. Whilst Mekong managers justified their decision using alignment (viz., new IS structure mapped Mekong's business structure), the dispirited Indus managers reluctantly agreed. The Mekong way was further reflected in the company issuing severance packages to those who challenged its definition of logical, as noted earlier. This can well be interpreted as discursive power (Clegg and Hardy, 1996), where discursive activities influenced managers' thinking around what was logical or illogical. In addition, the large majority of the acquirer employees retained with MekonIndus reified the Mekong way. In sum, the acquirer decided (a) what was logical or rational, (b) which business structure the IS function would be aligned to, and (c) the Mekong way, or the acquirer's way, is in fact, the result of a power struggle, albeit a mild one, to constantly fix and re-fix rules and meanings (Clegg, 1989).

In the above cases, we have seen the *mechanisms* through which the acquirer's way has manifested, through fixing and re-fixing of rules, often influencing the meaning of alignment that depends on the chosen frame of reference. Further exploration of organizational culture<sup>18</sup> and power and their relation to alignment and IS integration are beyond the scope of this paper, but should become an agenda for future research.

*Theme #5: External factor: Wall Street's Synergy and Timeframe Expectations (the Cost-savings Mantra):* In AmazonNile and MekongIndus, the overriding focus on achieving cost saving synergies promised to Wall Street within an expected timeframe may have come at the cost of temporarily ignoring alignment. The emphatic focus on short-term<sup>19</sup> cost-saving synergies began with the synergy forecast during due-diligence. Synergy forecasts depend on "assumptions concerning drivers of cash-flow" and historical industry averages, and are "subject to the vagaries of predicting revenues, costs, margins and investments" (Schweiger, 2002; Sirower, 1997). Instead of treating synergy as a forecast, these organizations viewed it as a goal to be achieved at any cost. Synergy expectations became written in concrete to justify a hefty acquisition premium that the acquirer paid over the target's fair market value. Thus, the synergy forecast became institutionalized as a symbol. The following two quotes reflect this cost-saving mantra embedded in rather myopic, but necessary systems integration choices:

Early on ...it is a fairly high level estimate and then make a statement [publicly] ... without knowing mechanically what the issues are going to be....Now is just more [of a] time crush thing and expectation by [certain time]. [You wonder:] can you deliver what's been promised at the high level by actually turning off the system? ... There wasn't going to be any less than that \$ [x] million. They were going to cut the *trees* unless they got to the estimate... Clearly this number drives what you have to come up with. "Don't stop till you fill it up!" And you *will* fill it up. No other answer is acceptable (Emphasis in original, Mekong senior IS manager).

That [Synergy estimate] then becomes non-negotiable. The street expects it; therefore you will find a way. Of course it does [cut into the quality of the decisions]! Of course it does. No question. But, it's a fact of life (Lena's CIO).

Thus, both synergy-estimation and synergy-realization come under intense time pressure, where the only option is to cut acceptable and even unacceptable corners.

Even in the case of SeineLena, where the merger's business strategy was product differentiation through Lena's brands, the concern for business-IS alignment surfaced only after six weeks of struggling to enforce "the Seine way". By chance, adopting Lena's systems could be justified from both alignment and synergy rationales. Hence, the pressure to deliver the synergies was not felt to be the key driver during the SeineLena integration. Still, no systems solution was viable unless it delivered the promised synergies within the short term of one year expected by Wall Street's analysts.

Well, you have to do both [short & long-term]. The first objective is [to] meet the Street commitment... Any solution that doesn't do that is not a viable solution. Within that what's the best [long-term] answer (Lena's CIO).

<sup>18</sup> We found that cultural boundaries differ from organizational boundaries. For instance Amazon Chemicals was actually akin to Nile – they both had a flatter organization structure. Similarly, Mekong and Indus managers in [city1] had met previously in conferences and 'bonded' 'against' their counterparts in [city2].

<sup>19</sup> This discrepancy between long-term financial progress and short-term financial performance is not new: The outsourcing literature also (Loh and Venkataraman, 1992) shows that when organizations outsourced IS, their stock prices went up, but after 10 years it could not be determined if those outsourcing arrangements resulted in long-term financial success.



To understand why synergy forecasts trigger extreme cost-cutting and short-term thinking, we can draw on institutional theory (e.g., DiMaggio and Powell, 1983) or symbolism – “what is right” (e.g., Astley, 1984; Mitroff, 1983). Haspeslagh and Jemison (1987) already question how merger synergies are estimated and how they impact integration decisions. Frommer (2001) introduces “expectation theory” where she alludes to business expectations (expected synergies) that drive integration decisions. Similarly, the financial literature discusses whether managers perceive the market to be myopic in rewarding short-term behavior at the cost of longer-term goals (e.g., Demirag, 1998). In fact, Australian banks’ short-term need to reduce complexity of integration (Johnston and Yetton, 1996) may have been symptomatic of similar underlying factors.

*Theme #6: IS Integration Dimension--Applications, Infrastructure, Processes:* Factors such as the acquirer’s way and Wall Street’s expectations explain not just the role of IS, IS structure, and IS sourcing, but also the choice of applications (e.g., email platform) and infrastructure. Our *a priori* categories did not preclude us from recognizing other data-emergent dimensions of integration decisions. This category as originally conceived by Henderson and Venkatraman (1992) could also have been part of our alignment framework. However, they had not outlined measures for identifying various IS applications and systems development methodology and IS-enabled business processes. Based on our data, we suggest a classification along a simple standardized-unique continuum, which can eventually be mapped to sourcing and structure profiles. Thus, standardization of Applications, Infrastructure, IS Processes, and IS-enabled business Processes (AIP) is not the same as IS structure. Hence the need for a separate category:

[To] backup their servers, if all of them are using different software, different procedures, different providers, backing up for different periods of time then the problem would be more complex than if you used consistent hardware, software, suppliers and processes. The inconsistency can become very expensive. Standardization typically means more efficiency (Amazon Senior IS Manager).

In the local operations, in Spain, we do credit differently – you have to give [customers] this kind of credit because our competitors are offering them this kind of credit etc. Now SeineLena says, no. Spain is just like France, which is just like US... The biggest implication is that they are doing away with local systems.

[Researcher]: Basically, does globalization mean standardization?

In this case, yes. For Seine, yes... one global [ERP] system.

[Researcher]: So does it make sense to have one dimension on standardization and another on local and global?

It makes perfect sense... [There could be something that is global but not standardized]...Or something that is not global but standardized. (Lena’s CIO)

From the above data, we can infer that IT-enabled standardization is used to ensure that business processes are standardized according to one set of global business rules. This standardization enables efficient management practices and purchasing power, which then lead to increase economies of scale. For firms like post-merger AmazonNile, MekongIndus, and SeineLena, following a global strategy can better coordinate global processes by enforcing centralization (Ives and Jarvenpaa, 1995). Efficiencies and economies of scale will be highest in merging systems where the degree of overlap and redundancy is high as a result of supporting almost identical products and business processes. This was the case in AmazonNile and MekongIndus.

In sum, several other factors surfaced in theorizing IS integration decision-making, such as scalability of systems, support for multiple international languages, acceptable risk of change in migrating to the selected system, and prior merger experience. However, there were two primary ones: system costs (cost-driver), and the system heritage (heritage-driver). The cost-driver was a direct result of the pressure to realize synergies expected by Wall Street. The heritage-driver<sup>20</sup> was a direct result of the power struggle between the acquirer and the target, often curtailed by the urgency to deliver the promised synergies within a given timeframe. These drivers simplified and quickened the pace of IS integration decision making. Together they described a common heuristic in the pre-merger and merger phases: “unless the target’s systems provide significant cost-savings, select the acquirer’s system.” As months went by, this heuristic gave way to questions such as “will our system do what the new business needs?” Thus, we believe that multiple theories (i.e., alignment, expectation theory, power) may together explain IS integration decisions during M&As, as depicted in Figure 4. Essentially, Figure 4 illustrates the interrelations amongst these factors. It also shows our *a priori* framework, juxtaposed against our data-emergent factors and alignment categories.

20 Ease of transition from one system to another was another heritage-driver. The acquirer, with greater number of users per system, found it more difficult to transition to the target’s systems.

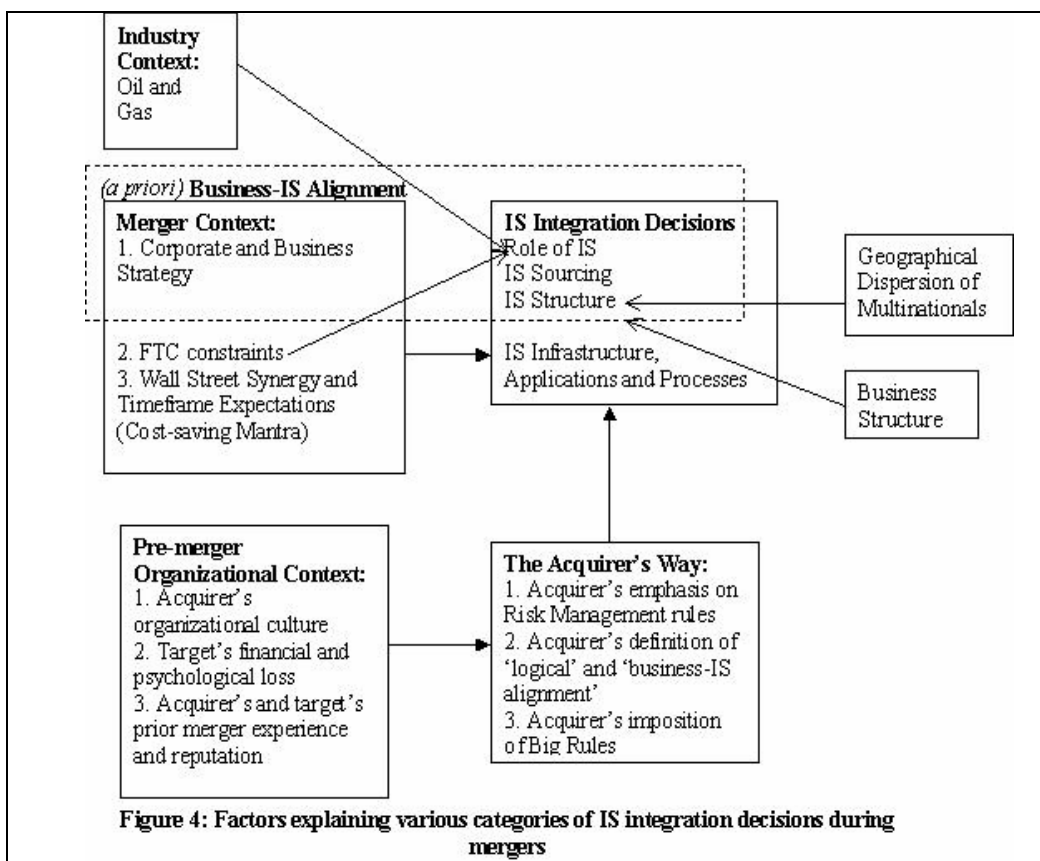


Figure 4. Factors explaining various categories of IS integration decisions during mergers

In Figure 4, the factors are organized further into industry, organizational and merger context--providing a broader framework into which we may enfold and compare prior literature. We will conclude the process of enfolded prior literature (Eisenhardt, 1989) by comparing our findings with Wijnhoven *et al.*, (2006), Brown *et al.* (2003) and Johnston and Yetton (1996) in order to address issues of generalizability (see Table 13).

In comparing our three U.S.-based mergers against Wijnhoven *et al.*'s (2006) small Dutch hospital mergers, we observe that in the Netherlands, the government plays a key role, while in the U.S. – it's Wall Street that plays the key role. In the Netherlands, the concept of user-participation is strongly woven into organizational cultures, but this is very much absent in the U.S.-based mergers observed. While government procedures slowed down the consolidation at one of the hospital mergers, the private-sector mergers moved with great speed. Many of these differences can be explained given the national culture and industry context. The emphasis on cost savings and integration speed were evident in the Sallie Mae acquisition (Brown *et al.*, 2003) – again U.S.-based and answerable to Wall Street. There, a key IS integration choice was resolved by McKinsey, which used a similar heuristic to that adopted by MekongIndus – “adopt the system of the dominant company to reduce the integration risk” (p. 18). This same risk-avoidance stance was initially lacking in the Australian bank merger (Johnston and Yetton, 1996), but crept in after the banks started losing their customer base. Both the Dutch hospital mergers and the Australian bank merger proceeded very slowly, perhaps due to the strong government involvement. In short, the emphasis on cost-savings and speed may primarily be expected (as of now) in U.S.-based publicly-held mergers.

Table 13: Enfolding prior literature

Case/ Authors	National Context	Industry Context	Type of ownership	Merger Strategy	Key Factors Explaining IS Integration Decisions
Sallie Mae and USA Group (Brown <i>et al.</i> , 2003)	US	Student Loan	Publicly-held + Non-profit	Vertical Integration	- Scalability - Cost - Imminent loan season - Reduce integration risks
Three hospitals (Wijnhoven <i>et al.</i> , 2006)	Netherlands	Hospitals	Government	Horizontal Integration	- User Participation - Government Regulations - Time and cost-savings not urgent
CBA and SBV (Johnston and Yetton, 1996)	Australia	Banks	Federal and State Government	Horizontal Integration	- Need to reduce integration complexity - IT configuration incompatibility
AmazonNile & MekongIndus	Major US presence	Oil & Gas	Publicly-held	Horizontal Integration driven by economies of scale	- Short-term need to deliver on Street's synergy expectations - Acquirer's Way - Business Structure - Geographic Dispersion
SeineLena	Major US presence	Oil & Gas	Publicly-held	Horizontal Integration driven by product extension	- Motivation to merge ( <i>viz.</i> , product extension); - The Acquirer's Way - Short-term need to deliver on Street's synergy expectations - Geographic Dispersion

## 7. Concluding Remarks

In this paper, we have answered a recent call by Wijnhoven *et al.* (2006) for in-depth studies that aim at theory-building for IS integration decision making. Therefore, one of the objectives of this paper was to examine IS Integration decision making from a business-IS alignment perspective. We find that while the framework is robust in general, it does not address IS infrastructure and processes. Moreover, the proposed conceptualization of IS structure is not fine-grained enough to deal with complex multinationals. We therefore introduced the concept of geographic influence on IS structure in Table 6 and standardization-uniqueness of IS applications, infrastructure, and processes (AIP).

Our second objective was to identify factors that govern IS integration decisions. We find that: (1) Two mergers had a systematic IS integration logic, but couldn't afford to be driven by business-IS alignment goals in the pre-merger and early post-merger phases. (2) The industry context of oil and gas ensured from the outset that IS would function in a support role. (3) The FTC constraints embedded in the merger context ensured that CIOs were not included in initial synergy estimation. (4) Instead of corporate and business strategy, the key driver of IS structure was (a) business structure and (b) geographical dispersion of multinationals. (5) In general, sourcing, structure and applications/infrastructure choices were governed by the Acquirer's Way and Wall Street's Synergy and timeframe expectations. (6) Only in SeineLena, did business-IS strategic alignment play a key role in determining which business applications and ERP systems would be inherited. (7) Only after Wall Street's expectations had been delivered did these merging organizations return to ask themselves "Do our systems truly support the new business?" These factors build on those previously identified such as cost and scalability (Brown *et al.*, 2003), short-term need to reduce integration complexity (Johnston and Yetton, 1996), government (institutional) pressures, and hospital user associations (Wijnhoven *et al.*, 2006).

The alignment literature would lead one to believe that IS integration is successful when the new IS strategy and portfolio of applications, people, and infrastructure support the goals of the newly merged business. Our results suggest this belief is unrealistic – integration success is meaningful only if the promised synergies are realized in the given timeframe. As previously argued, the estimated synergies take on a life of their own once announced to investors and financial analysts. Under such extreme scrutiny by Wall Street, it is possible that organizations are forced to ostensibly ignore alignment goals for the sake of synergy goals in pre-merger and early post-merger.

## Limitations

Our theory-building would have been enriched had we found a case that focused on a combination of cost leadership and product differentiation as its business strategy. This would have completed case selection based on theoretical-variance. However, it is difficult to gain access to merger specifics, and we were unable to access such a site. Furthermore, in such sensitive contexts as M&As, willing study participants were few and far between. To better understand IS integration in the longer term, a longitudinal, possibly ethnographic study of a broad spectrum of M&A participants (including CEOs, or business managers) is called for. There were two drawbacks in the Hirschheim-Sabherwal framework--first, their IS structure category wasn't fine-grained enough for large multinationals; and second, it overlooked IS applications and infrastructure. Our data-emergent findings have specifically attempted to counter these limitations.

We must emphasize that our understanding remains limited to mergers of large, publicly held firms in the oil and gas industry, with a major U.S. presence, where IS functions in a support role. Theoretical insights on the relationship of alignment and power, and the institutionalized symbolic influence of synergy expectations from Wall Street may apply to non-merging contexts. However, a merger context accentuates the significance of such theoretical lenses, rendering them more noteworthy than non-merger contexts.

This study builds on the alignment literature by fine-tuning the IS structure category and by adding to our original alignment framework the standardization-unique continuum to assess an AIP category. It builds on M&A literature by providing a coherent explanatory theory of IS integration decision making through concepts such as the acquirer's way and synergy and time pressures. Not only does it suggest the strong role of the concept of power, it highlights the *mechanisms* through which it penetrates the process of alignment. Last, it cautions managers who may be too enamored by the acquirer-target business fit to heed the consequences of not planning for the true cost of IS integration. This could result in unrealistic acquisition premiums, justified by unrealistic synergies (Sirower, 1997).

Business-IS alignment is considered to be a critical phenomenon in both academia and practice. However, further research should explore the latent meaning of business-IS alignment and its relationship with power, rendering its understanding more political than objective. Moreover, when total IS restructuring which is driven by dramatic events (i.e., mergers), normal incremental changes and associated ideas of strategic alignment may not be feasible. Then, there may not even be an IS "strategy" to support cost leadership; if we view IS just as a cost, and focus on lowering costs, there is no need to align. In such cases, are the cost-savings realized from economies of scale strategic or excessive? Future research must address this question. It should also articulate IS integration success and its measures, and the appropriate speed of IS integration.

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## Appendix A

### Interview Guide

#### General M&A Background Questions:

1. What motivated you to merge?
2. Has the merger proved successful so far?

#### IS-specific questions:

1. What was the role of IS in the merger/acquisition, both before the merger and during the integration process?
2. What was your planned procedure to merge the IS component of your companies?
3. How do you make choices about IS infrastructure, IS processes and IS people and IS outsourcing?
4. How did you decide on centralization, decentralization, or hybrid structures?
5. What synergies were you expecting from IS integration?
6. How did you set up integration teams?
7. How was IS previously aligned with the business and what changes were necessary to ensure it was re-aligned in the merged companies?
8. Who made the decisions? Why?
9. How do you decide that you have a successful IS integration?

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