



## A Dual View on IT Challenges in Corporate Divestments and Acquisitions

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# A DUAL VIEW ON IT CHALLENGES IN CORPORATE DIVESTMENTS AND ACQUISITIONS

*Completed Research Paper*

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## **Abstract**

*Acquisitions of new businesses and divestments of existing ones are frequently components of large organizations' corporate strategies. In both acquisitions and divestments, corporate IT infrastructure plays a critical role for realizing business objectives. In this paper, we take a dual view of the IT-related challenges in divestment and acquisition strategies, studying them as a single integrated transaction between a buyer and a seller and investigating how the IT carve-out and IT integration strategies influence each other. The extant literature on the interaction between carve-outs and integration strategies is an empty set. Here, we begin to shed light to the limitations of the carve-out contract, the processes of carving out a business unit from one and integrating it into another multi-business organization, asymmetries in both parties' preferences for an IT transaction process and its influence on arising challenges and organization performance.*

**Keywords:** Divestment, IT Carve-Out, Acquisition, IT Integration, Strategy, Alignment

## Introduction

Acquisitions of new businesses and divestments of existing ones are frequently components of major organizations' corporate strategies. Acquisitions enable growth in complimentary business domains, creating synergies for both the acquirer and target. Divestments enable the vendor to focus on profitable core business units, freeing up financial resources for investment (Decker and Mellewig 2007).

In acquisitions and divestments, solutions to IT challenges are critical for realizing the potential value of the transaction. As most organizations are dependent on IT to carry out their business activities, they cannot function effectively post-acquisition until the IT of the acquired business unit is integrated into the acquirer's IT infrastructure (Evgeniou 2002; Mehta and Hirschheim 2007). The exception is when the acquisition is a financial or portfolio investment that is not to be integrated into the acquirer's organization. The counterpart to IT integration is the IT carve-out process, referring to the activities needed to separate two organizations (see page 4). Henceforth, we refer to the combined IT carve-out and integration activities as an IT transaction, emphasizing that the carve-out and integration processes can be regarded as the same process, seen from the vendor's and buyer's perspectives.

The extant literature on both IT integration in acquisitions and IT carve-out processes is limited. In addition, there is, to the authors' knowledge, no literature on their combined processes. Until today, this process has been studied from either a vendor's (Böhm et al. 2010; Buchta et al. 2010; Du and Tanriverdi 2010; Leimeister et al. 2008) or a buyer's perspective (Giacomazzi et al. 1997; Johnston and Yetton 1996; Mehta and Hirschheim 2007; Tanriverdi and Uysal 2011; Wijnhoven et al. 2006).

However, the extant literature does report some initial findings identifying interdependencies between the two processes. For example, Böhm et al. (2010) point out that the IT carve-out process is contingent on the nature of the buyer. Whether the business unit is to become a stand-alone business, acquired by a private equity fund, for example, or integrated into another multi-business organization is critical for the design of the carve-out process. Similarly Henningsson and Carlsson (2011) observe that the IT integration process is contingent on the acquisition target's pre-acquisition status, as a stand-alone business unit or fully integrated strategic business unit in a multi-business organization.

Given this initial evidence that the IT carve-out strategy and the IT integration strategy are dependent on the decisions and actions of the transaction counterparty, this exploratory study begins to shed light on *how* the relationship between decisions about the IT carve-out and IT integration contribute to value creation in organizational transactions. The question guiding this exploratory research is:

*How do the IT carve-out and IT integration strategies in organizational transactions influence each other?*

The general research on acquisitions and divestments describe the relationship between the two parties in the carve-out and integration as characterized by the presence of both competition and cooperation (see, for example, Dalziel 2008; Graebner et al. 2010; Lajoux 2006). Their joint effect is frequently referred to as co-opetition (Walley 2007). It is cooperative because there is a mutual interest in the organizational transaction. This is manifested by the organizations collaborating to successfully deliver an efficient IT transaction. On the other hand, the vendor and the buyer compete to defend their own specific interests.

Different situations motivate collaborative and competitive behavior. For example, including a production system specific to the divested business unit could increase the value for the acquirer and, hence, would justify a higher price for the vendor. Conversely, the vendor wants to discontinue its IT platform's support of the divested unit at the earliest opportunity, whereas the acquirer wants the maximum flexibility, while it prepares to migrate the new business unit onto its own IT platform.

As this example shows, both parties need to be aware of their competitive and cooperative objectives. As the path dependency literature highlights, decisions tend to persist over time, shaping and constraining future options (Ghemawat 1991; Porter 1991). Therefore, the buyer's integration strategy options are contingent on the seller's carve-out strategy. It follows that transaction success can be improved by negotiating the carve-out and integration strategies to align the activities. Misaligned activities increase transaction complexity and resource commitment. To foster the identification and negotiation of alignment between seller and buyer, an analytical framework is required.

To develop this framework, we begin by reviewing the extant literature on IT carve-out and integration strategies in divestments and acquisitions. Based on this review, we identify the interdependencies between the carve-out and integration strategies. We then describe our research methodology, a case study of carve-out and integration strategies in an organizational transaction, and the inter-dependences of those strategies from the perspectives of the vendor and buyer. Finally, we review the findings, evaluate their limitations and discuss their implications for theory and practice.

## **Related literature and theoretical development**

The domain of mergers, acquisitions and divestments is large and complex. Here, we restrict the analysis to the transfer of strategic business units from one multi-business organization to another. The IT transaction, the combined carve-out and integration process, involves a set of strategic actions in which business resources and capabilities are transferred from one organization to another (Sudarsanam 2003). Value is created by increasing the degree of complimentary of the resources and capabilities of the acquired business unit with the resources and capabilities of the acquirer, while reducing the cost to the divesting organization (Capron et al. 1998). In the carve-out, IT capabilities are disconnected and detached from the divesting organization. In the acquisition, IT capabilities are merged, reinvented and reused to support the acquired business unit.

We begin by briefly describing the role and use of IT in multi-business organizations. Specifically, we describe the IT alignment model of Reynolds et al. (2010) that was developed specifically for multi-business organizations. This is adopted as our point of departure to develop an analytical frame to integrate IT carve out and integration strategies. The Reynolds et al. model has been used to explain the divestment of strategic business units (SBUs) from the vendor's perception (Böhm et al. 2010; Fähling et al. 2010; Fähling et al. 2009) and integration by the acquirer (Henningsson and Yetton 2011) However, it has not been applied to the challenge how the two strategies influence each other.

### ***Alignment in multi-business organizations***

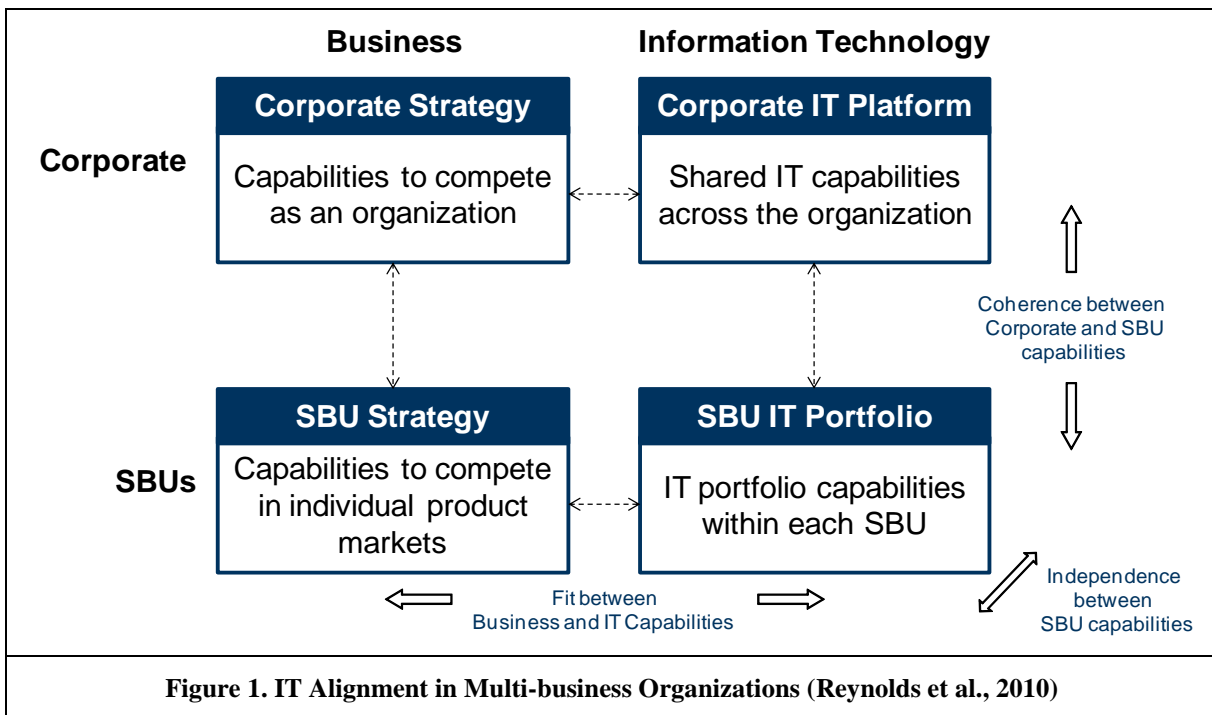
Multi-business organizations, the dominant form for large organizations, involve multiple strategic business units (SBUs), each of which competes in its own market. Also referred to as multi-divisional or M-Form organizations, superior performance in these organizations is achieved by establishing a number of semi-independent SBUs that allow the organizations to grow and diversify (Chandler 1962; Williamson 1975). In these organizations, strategies are formed at both the corporate and business unit levels (Grant 2002). Corporate strategy specifies how to compete as an organization. This includes the choice of markets in which to compete, the level of sharing of resources across the organization by the SBUs, and the acquisition and divestiture of business units. Strategies at the SBU level specify how to compete in each of those markets (Grant 2005).

Managing multi-business organizations requires that their corporate strategies generate and capture synergies by sharing resources across the SBUs. Otherwise, corporate performance would be simply the sum of the individual SBU performances (Dosi et al. 1992; Teece and Pisano 1994). Nevertheless, the extant models of business and IT alignment (see, for example, Henderson and Venkatraman 1993) do not distinguish between corporate and SBU business strategies to align these business strategies with the relevant IT strategies.

Reynolds et al. (2010) extend those models to include the differences between corporate and SBU level business strategies, and their integration with IT strategies at the corporate and SBU levels, respectively. The result is the two-dimensional framework presented in Figure 1, identifying four alignment components (Corporate strategy, SBU strategy, Corporate IT platform, and SBU IT application portfolios) along the two dimensions of functional (Business vs. IT) and organizational (Corporate vs. SBU level) alignment.

The Reynolds et al. (2010) model draws on the resource based-view of strategy (see, for example, Peteraf 1993). Value is created by building IT-based capabilities that complement business capabilities at both the corporate and SBU levels. As shown in Figure 1, organizational alignment requires complementarity between business and IT capabilities at the corporate and SBU levels, coherence between the corporate and SBU strategies, and fit between the IT platform and individual SBU IT portfolio capabilities, while

maximizing the independence across SBU IT capabilities. The IT platform capabilities support corporate business strategies and SBU IT portfolios capabilities, and the SBU IT portfolio capabilities support their corresponding SBU strategies and leverage the IT platform capabilities.



### IT Carve-out strategies

Within the domain of mergers and acquisitions (M&As), the term divestment refers to the separation of an organization into two or more stand alone assets (Cascorbi 2003). According to Cascorbi, the major characteristic of a demerger is the disintegration of an organization, where the term disintegration functions as a generic term that covers all legal, business, process and organizational related activities of a demerger. Disintegration can be considered as the counterpart of the term integration during an M&A transaction. The term divestiture is often used interchangeably for divestment. In some cases, the term carve-out is also defined to include financial and legal aspects of a demerger (see, for example, Michaely and Shaw (1995) and Taub (2006)).

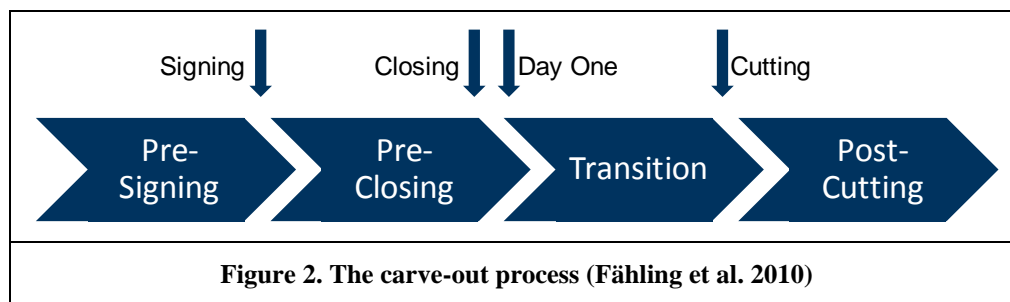
Instead of the above financially oriented definition, Broyd and Storch (2006) and Buchta et al. (2010) define a carve-out as the operational activities needed to conduct a demerger, in which the carve-out object is established either as a stand-alone organization or merged with another organization. A carve-out typically includes the actions required to de-integrate the IT systems of the carve-out object from its parent organization. Similarly, Leimeister et al. (2008) define the IT carve-out process to include the separation of all shared information and communication technology related activities.

In this paper, we draw from both the financial and operational M&A literatures. Demerger is used as a general term for the overall process of separating a business unit from its parent organization. Divestment or divestiture refers to the financial or corporate strategic aspects of a demerger. Carve-out covers all operational activities needed to implement a demerger. Finally, the term IT carve-out refers to the activities needed to separate a carve-out object's IT assets from its parent.

Typically, the carve-out process can be organized into 4 phases (Fähling et al. 2010; Leimeister et al. 2008). These begin with 'preSigning' and 'preClosing', which occur before the carve-out object is handed over to the new owner, and the subsequent phases of 'Transition' and 'postCutting' (see Figure 2). The preSigning phase includes all preparations before a legally binding contract is finalized. The critical activity in this phase is the due diligence process. This is an audit in which the prospective buyers get

access to interviewees and a data room to assess the target company (DePamphilis 2009). The data room is a physical or online document repository, which contains selected information made available to prospective buyers.

The separation of the carve-out object starts with the signing milestone. It may start earlier, if the seller is confident that the carve-out will be completed. In the preClosing phase, all separation tasks should be completed before Day One. At that time, the carve-out object becomes a legally independent entity, the property of the acquirer. This is, therefore, the most disruptive change to its pre-separation parent's operations. Typically, it is only possible to separate the most critical IT systems before this date (Buchta et al. 2010). Leimeister et al. (2008) distinguish between logical, step-wise and physical separation. Step-wise separation describes a gradual process that initially uses logical separation on the same hardware and is later completed by a complete physical separation. For the carve-out object's network, this process begins with establishing a carve-out firewall as the first level of logical separation.



**Figure 2. The carve-out process (Fähling et al. 2010)**

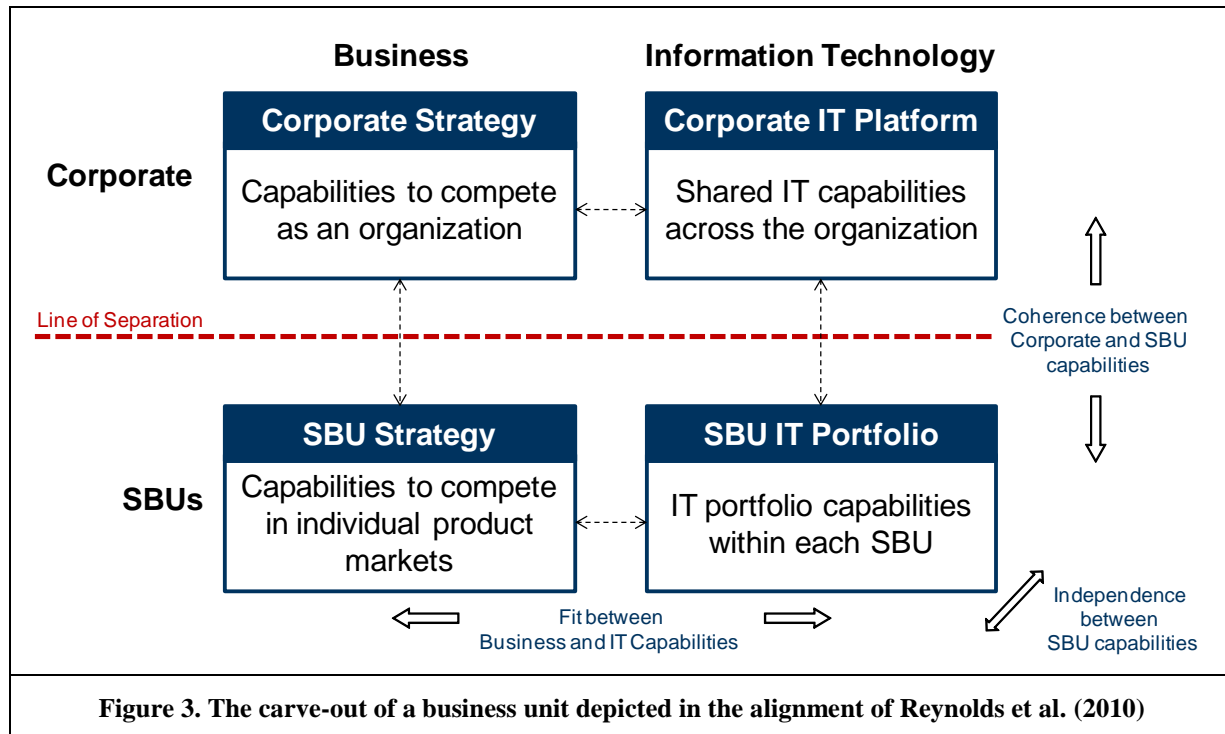
Transition is the longest phase during which most of the separation work takes place. With increasing time after Day One, the dependency of the carve-out object on its parent organization is reduced. Until full physical separation is achieved, transitional service agreements (TSAs) are used to ensure and control the service provision by the parent organization to the carve-out object. For example, after Day One, the parent organization could act as service provider for the wide area network connections. It is important to note that in comparison to full physical separation, TSAs are a suboptimal, temporary solution (Coury et al. 2009; Du and Tanriverdi 2010).

TSAs simply allow the involved parties to delay the physical full separation. Where possible, these agreements are avoided because they constrain the strategic flexibility of both parties and the costs can be substantial (Buchta et al. 2010). Finally, with the cutting milestone, the carve-out object ceases to have any relationship with its former parent. Therefore, the overall success of an IT carve-out can be assessed by the achievement of the project's specific objectives and the degree of separation obtained at the Cutting milestone. As a full separation of the IT Systems, in contrast to the other carve-out work streams, can often not be achieved until Cutting, TSAs and the final separation activities are frequently continued in the postCutting phase.

Figure 1 above presents the Reynolds et al. (2010) analytical frame adopted here to research the IT transaction. In Figure 3, Reynolds et al.'s (2010) model is adapted to show the line of separation between the seller and the buyer. On the left hand side, Figure 3 shows the disentanglement of the SBU's strategy from its corporate parent's strategy. The focus of this paper is on the right hand side of the model, the separation of the SBU IT Portfolio from the services provided by the SBU's parent's corporate IT platform. As described in the next section, these links are replaced with links to its new parent during the integration project.

From an alignment perspective, the fit between business and IT capabilities of the carve-out object should remain high throughout the transaction process, unless the transaction leads to a significant change in the SBU's business strategy. The coherence between corporate and SBU capabilities on the other side becomes irrelevant during the carve-out process, as the links to the former parent are cut. However, this is an important issue during the integration phase, when coherence has to be established with the new parent (see below), because the coherence between the former corporate and SBU capabilities might have an influence on the challenges that arise during the cutting process, as capabilities (i.e. information systems or IT knowledge) formerly sourced from the parent's corporate IT platform need to be identified and replaced. In addition, the independence between SBU capabilities in the former parent has an

influence on the challenges arising in the carve-out process. Highly dependent capabilities at the SBU level (e.g. the carve-out object provides information systems for another SBU) increases the complexity of the carve-out as dependencies have to be identified and new capabilities have to be developed within the former parent organization (Böhm et al. 2010).



Carve-out strategies take one of two forms. In one, an organization divests a business unit by spinning it off to establish a stand-alone company. In that case, the carve-out project is completely separated from any future integration project. In the other strategy, which is the focus of this paper, one or more buyers exist at the beginning of the carve-out project and the project to integrate the business unit into its new parent organization is managed in parallel with the carve-out project. In this case, the buyer's and seller's objectives for the future use of IT are likely to exhibit both mutuality and competition.

Due to legal restrictions, common across different countries, collaboration is restricted until the contract is signed. Legal restrictions also affect the transfer of information systems. For example, applications with a fiscal or legal relevance, such as accounting systems, must be separated by the closing milestone. This is where the legal and economic ownership of the business unit changes. Other activities, such as the separation of infrastructure can be delayed and completed later. For these and other reasons, IT carve-outs are typically conducted sequentially for applications and infrastructure. Leimeister et al. (2008) describe the process as follows:

- **Logical application separation:** Fiscally and legally relevant applications are logically separated by installing a copy of the software on the same hardware. Then, all data that is no longer relevant to the business unit is removed. Here, the separation of the master data is critical. The cost and time required to do this is often underestimated. This logical separation meets the legal requirements and must be certified by an auditor.
- **Logical infrastructure separation:** By means of firewalls and VPN tunnels, network connections are separated logically to allow secure access to the separated applications. Here, security is of special interest for the seller. Otherwise, the buyer might be able to access sensitive data within the network of the seller's organization.

- Physical separation: Following the logical separation, the IT infrastructure is physically separated. The applications run on separate physical machines and in physically separate networks.
- Stepwise separation: This approach is often applied due to ambitious schedules for the Closing and a very short timeframe between the announcement release and the Closing milestone. In this case, the logical separation is used as an interim solution for the provision of hardware.

The major distinction is between logical and physical separation. Physical separation refers to a clean cut on a hardware level, meaning that all information systems required by carve-out object run on physically separated machines. This includes applications as well as data. The network connecting the machines is also physically separate from the network of the former parent. In contrast, logical separation only virtually encapsulates data, applications, or infrastructure. Physically they remain on the same hardware. Logical separation can be achieved by creating separate instances of an application, virtual machines or firewalls separating networks.

### **IT integration strategies**

While the IT-based literature on acquisitions is limited, the evidence strongly supports the general conclusion that IT integration post-acquisition is necessary to capture the anticipated IT-based benefits (Giacomazzi et al. 1997; Johnston and Yetton 1996; Mehta and Hirschheim 2007; Wijnhoven et al. 2006), unless the acquisition is a financial or portfolio investment that is not to be integrated into the acquirer's organization. Johnston and Yetton (1996) analyze this issue at the technical, IT function and organizational levels. Giacomazzi et al. (1997) identify factors that influence IT integration success and propose a normative model for IT alignment employing the three categories of full, partial and no integration. Wijnhoven et al. (2006) combine those three categories with four types of integration modes to develop a variant on Henderson and Venkatraman's (1993) Strategic Alignment Model. Mehta and Hirschheim adopt the IT alignment framework of Hirschheim and Sabherwal (2001) to and identify factors such as acquirer-target power struggles, prior merger experience, and overarching synergy goals, that shape IS integration decisions in a merger context.

Taken together, the extant literature highlights the importance of IT integration in acquisitions. The acquiring organizations need to align business and IT strategies at both corporate and SBU levels post-acquisition to realize the potential benefits from the acquisition (Reynolds et al., 2010). The IT integration strategy is the route to establish IT capabilities that match the needs of both the acquired business unit and its new parent (Giacomazzi et al. 1997; Johnston and Yetton 1996; Wijnhoven et al. 2006). The appropriate IT integration strategy is contingent on pre-acquisition IT capabilities in the acquirer and target business unit, and the expected benefits from the acquisition (Wijnhoven et al., 2006; Mehta and Hirschheim, 2007; Johnston and Yetton, 1996; Giacomazzi et al., 1997; Henningsson and Yetton, 2011).

The acquisition literature outlines three basic business integration strategies for consolidating resources and capabilities (Capron et al. 1998; Haspeslagh and Jemison 1991; Sudarsanam 2003):

- Absorption: The target unit is absorbed by the acquirer. The business benefits are contingent on resource rationalization by redeploying resources from the acquirer. The absorption strategy requires full incorporation of both business activities and supporting functions.
- Symbiosis: This strategy seeks to combine the strengths of both parties in the consolidation. Essentially, it is a best of breed approach. For example, complimentary capabilities to support sales across geographical markets in the acquired unit are employed in the acquirer to support a general geographical market business strategy. Alternatively, the combined organization provides a one-stop shop for the combined customer base. In this approach, the strategic processes specific to the acquisition and the acquirer are retained, while the replicated processes are merged.
- Preservation: The target business unit is left to act independently, at least, from an operational perspective. Financial resources, managerial capabilities or specific knowledge might be introduced to develop the target, but business processes in the acquisition and the acquirer are not integrated.

Each of the three business integration strategies are complemented by different IT integration capabilities and objectives (Giacomazzi et al. 1997; Wijnhoven et al. 2006). The absorption strategy corresponds to a *complete IT integration* objective, where the acquisition's business capabilities are supported by the acquirer's IT capabilities. Symbiosis acquisitions are matched by *partial IT integration*, in which IT

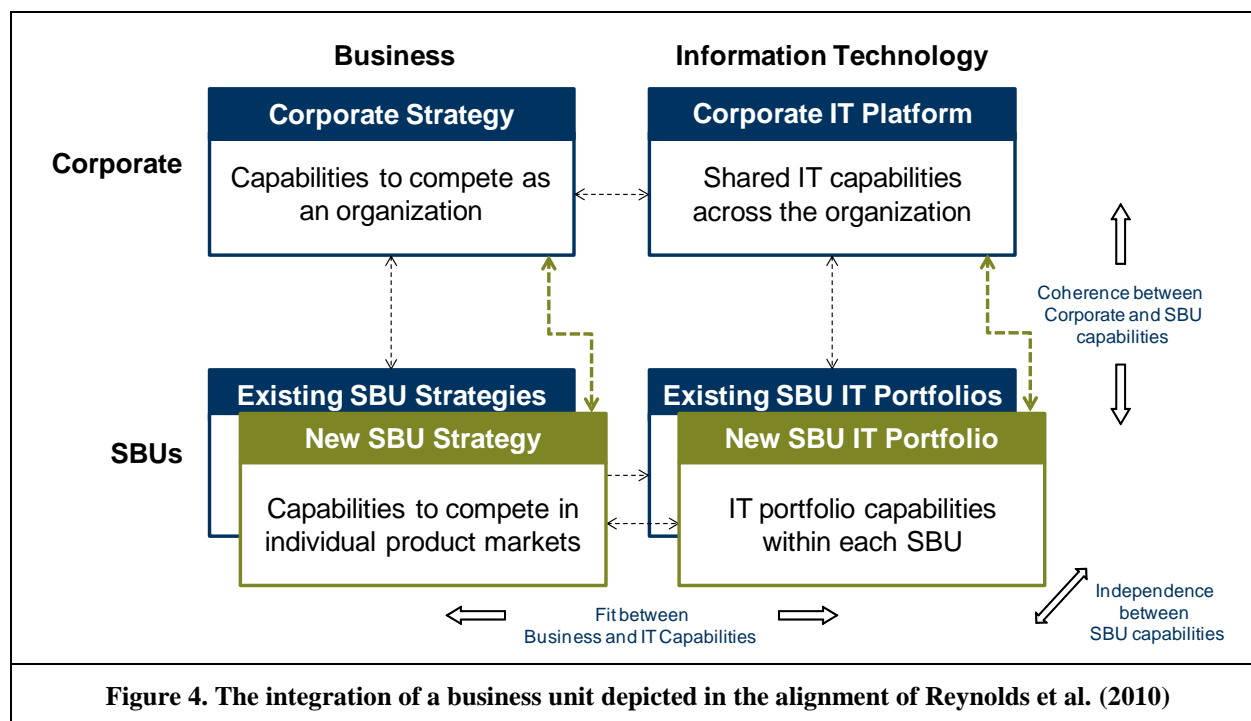


capabilities supporting the replicated and, therefore, redundant processes are integrated, and IT capabilities unique to the acquisition and the acquirer are retained as independent capabilities. Preservation acquisitions are matched by a *co-existence IT integration* strategy, in which IT integration is limited to the minimum integration needed to satisfy accounting and regulatory requirements.

Figure 4 illustrates the integration process within our analytical framework, assuming that the new parent is aligned (blue arrows). Co-existence strategy is simple to achieve by replacing the corporate level capabilities provided by the former parent. The simplest way to achieve this is to duplicate the former parent's information systems. Links to the new parent would be established where necessary, such as for accounting and financial controlling (this would result in weak links represented by the green lines in Figure 4). This strategy tends to create misaligned organizations, as the coherence between the acquirer's corporate capabilities and the capabilities of the new SBU is typically low.

Following a partial or complete IT integration strategy, a major challenge is to establish coherence between corporate and SBU capabilities (green lines in figure 4) in order to achieve a well aligned organization post-acquisition. From an IT perspective, this is because it is likely that the IT capabilities to be merged are located at both corporate and SBU levels. Hence, independence between SBU capabilities has to be established first by decomposing the acquired organization's IT capabilities into platform capabilities and SBU specific IT capabilities. Following Reynolds et al.'s (2010) alignment model, shared capabilities should be provided by the new parent's IT platform and only SBU-specific IT capabilities should remain at the new SBU.

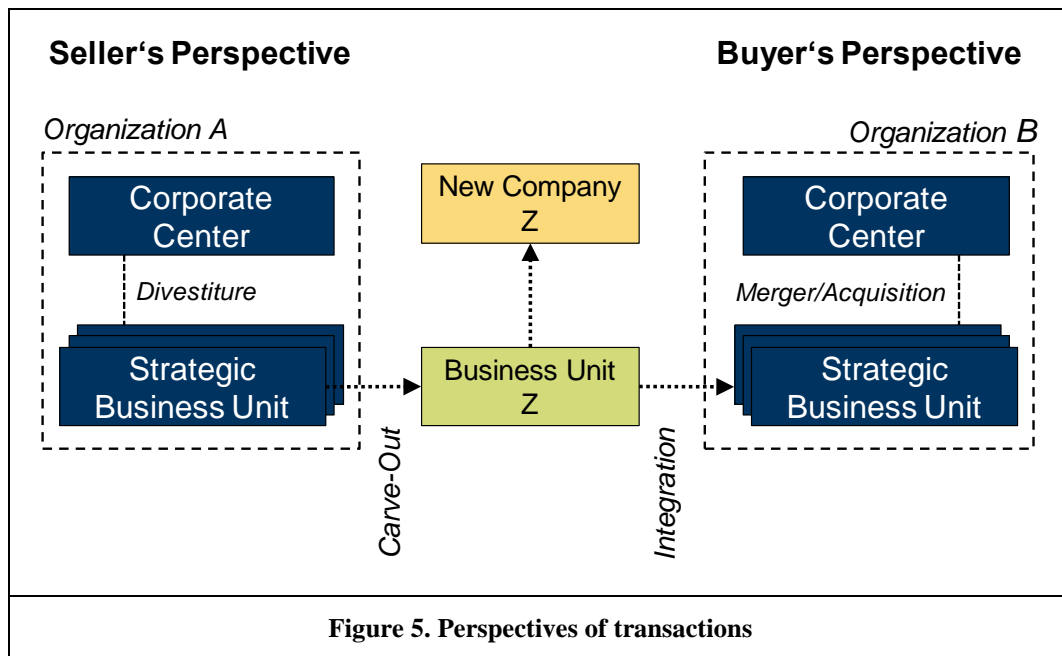
Unless the acquisition implies a significant shift of the carve-out object's business strategy or the new corporate IT platform lacks major capabilities, the fit between business and IT capabilities at the new SBU remains high if the acquirer was aligned pre-acquisition.



### ***IT carve-out's and integration's mutual influence***

Figure 5 presents the different perspectives of the acquisition by the seller and buyer. The seller takes the strategic decision to divest a business unit. This leads to a carve-out project to separate the business unit from its parent organizational structure. Various sub-projects are responsible for different aspects such as legal, financial, tax, human resource, production and IT requirements. The project outcome is an

independent, viable unit that can then be integrated into the buyer's organization (Broyd and Storch 2006; Buchta et al. 2010; Müller 2006). For the buyer, this involves a post acquisition integration project to realize synergies from integrating the business unit into its new parent organization.



The risk with multifaceted relationships characterized by both collaboration and competition is that it may lead to suboptimal consequences for all parties (Dowling and McGee 1994; Pearce 1997; Seung Ho and Michael 1996). If too much focus is on the competitive aspects of the relationship, opportunities for effective solutions are foregone. On the other hand, if the relationship over emphasizes the need to cooperate, this can lead to exploitation of one party by the other. Therefore, these relationships are characterized by tension between competition and collaboration. In alliances and strategic partnerships, mutual trust may over time moderate the suboptimal effects resulting from this tension. However, in the single period event of divestment, trust is frequently low, at least initially.

Combining the analytical frameworks for IT carve-out and integration in Figures 2 and 3 results in an analytical framework for addressing the interdependence between IT carve out and integration strategies. This analytical framework is presented in Figure 6. The analytical framework can be used to analyze the seller's and buyer's corporate strategies, their influence on the existing IT landscape and, thus, draw conclusions about their objective for the carve-out or integration project, respectively.

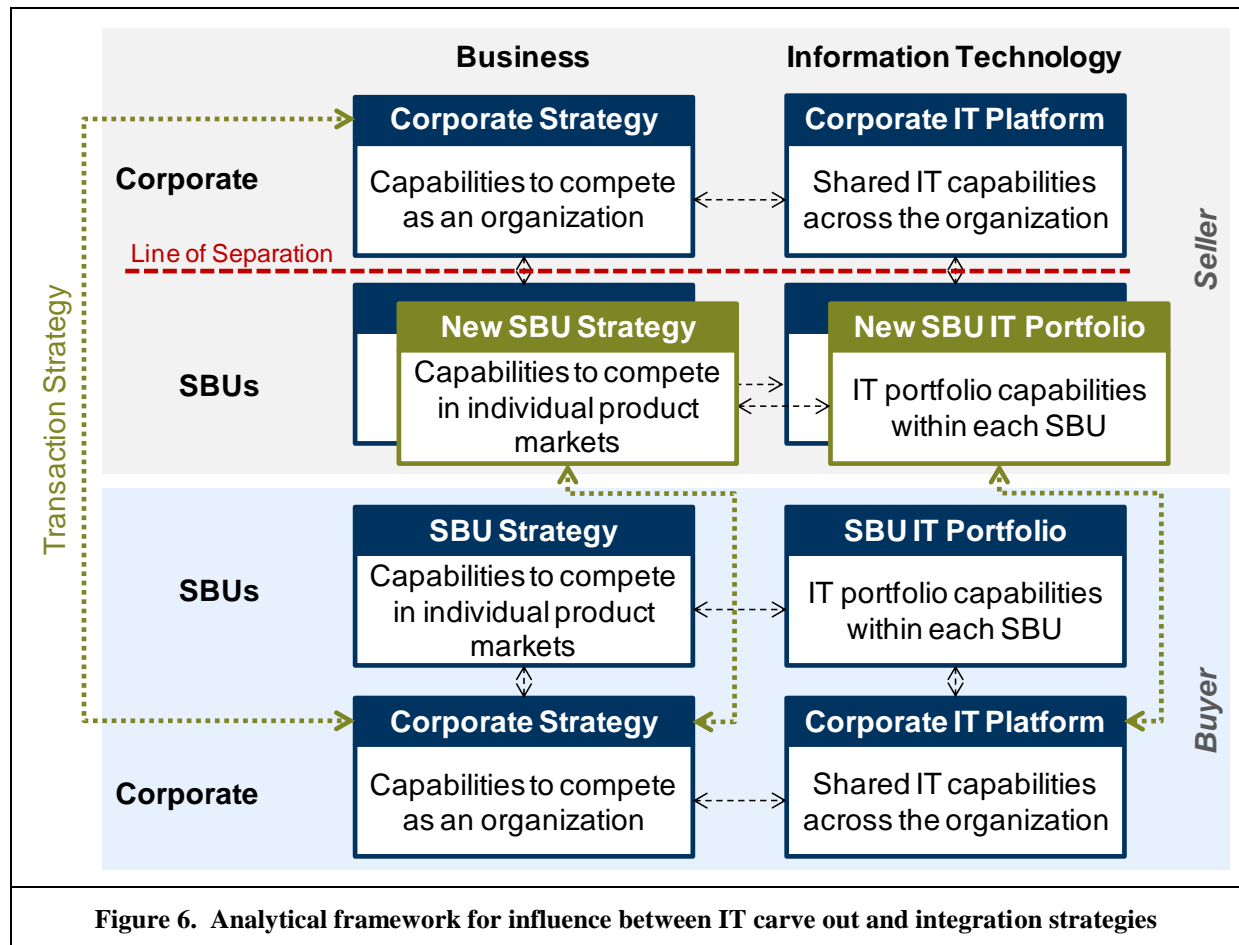


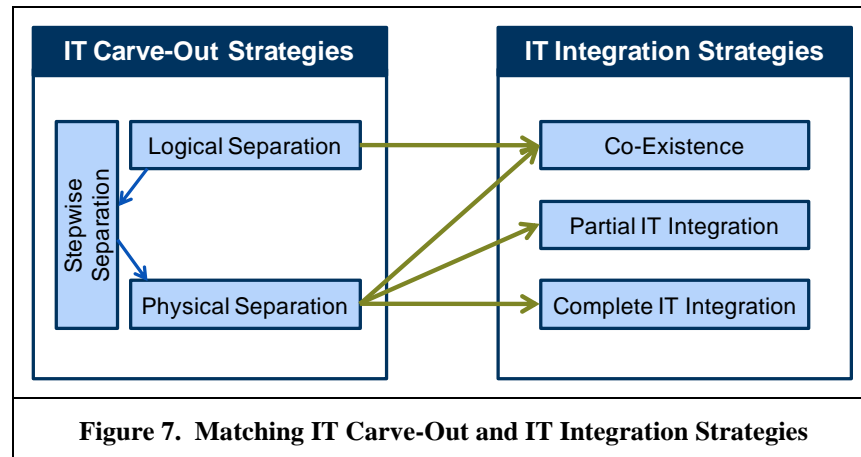
Figure 6 highlights, the need to realign the carve-out object in order to integrate it into the buyer. Formerly the carve-out object has been aligned to the seller's corporate strategy and corporate IT platform. This alignment is 'cut' during the carve-out project and is then realigned with the buyer's corporate strategy and corporate IT platform (green lines). A co-existence strategy can be interpreted as requiring minimal re-alignment and a complete integration strategy as requiring the maximal post-acquisition re-alignment..

Both the seller and the buyer choose among different carve-out and integration strategies, respectively, to suit their objectives. These objectives are shaped by their corporate strategy. As discussed previously, these objectives can be competitive (e.g. discontinue IT platform support vs. gain time to prepare migration) or collaborative (e.g. increasing value and thus sales price with a specific production system). However, IT carve-out and integration strategies are frequently not mutually coherent (see discussion below; Figure 7). Therefore, transaction strategies need to be aligned (green line in figure 6) to avoid suboptimal intermediary states resulting in increased complexity and cost, and lost opportunities to co-create value during the transaction.

In the previous sections, we discuss different IT carve-out and integration strategies. When these strategies are compared, they do not necessarily mutually reinforce each other. In the case of a logical separation, the only feasible integration strategy is co-existence, preserving the status quo. This is because the buyer has very limited influence on the logically separated information systems, which are still operated by the seller. Nevertheless, logical separation is often just a first step within a stepwise separation strategy that eventually leads to the physical separation within a time frame of months or even years (Leimeister et al. 2008). However, during that time, this first step restricts the buyer from integrating the carve-out object into its own IT platform, restricting its flexibility and leaving it with the current operational costs. Thus, it inhibits the options to co-create value by leveraging synergies or

including other IT benefits. On the other hand, the buyer gains time to build a new and optimized IT platform.

In contrast, physical separation provides the option for all three integration strategies as the buyer has full control over the systems. Figure 7 summarizes this and illustrates how specific carve-out strategies influence subsequent integration strategies.



Based on this rationale underlying our discussion about IT carve-out strategies' influence on subsequent IT integration strategies, we propose:

*P1: IT Integration strategies are contingent on IT carve-out strategies.*

The contingency between IT integration and carve-out strategies is critical for the overall success of a transaction project, in terms of complexity and resource commitment. The buyer's integration options can be constrained by the seller's decision for a particular IT carve-out strategy. Therefore, early negotiations about the IT carve-out and integration strategies, and the respective alignment of activities throughout the transaction process are critical to avoid challenges and redundant work.

Formally, we propose:

*P2: Misalignment between the IT carve-out strategy and IT integration strategy leads to suboptimal IT transactions.*

It then follows that aligning IT carve-out and integration strategies would foster transaction success. Formally:

*P3: IT transaction success is improved by aligning IT carve-out and integration strategies.*

## Case Study: The MD SBU carve-out and integration

### Research Methodology

We conducted a single critical case study of the divestment of the Mobile Device SBU (MD SBU) from OldTech to MuXi. The unit of analysis is the combined IT carve-out and integration project. IT integration in the context of acquisitions and IT carve-outs is a novel areas of research. Therefore, case study research is an appropriate methodology to develop and test new theory (Yin 2009). The theoretical frameworks discussed above provide a rich analytical framework to guide our research. The contemporary status of the events researched here also supports the use of a case-based research methodology (Yin 2009). To guide our research process, we follow Eisenhardt's (1989) and Yin's (2009) suggestions for conducting case study research. For the data analysis, we draw on Mayring (2008).

The case was chosen, based on its theoretical richness (Eisenhardt 1989), because it highlights how the competing objectives of the seller and the buyer both influence the IT transaction process and the conflicts arising in the buyer-seller-relationship. Another rationale for choosing this case was its criticality (Yin 2009), highlighting the detrimental effects of incompatible transaction objectives and the resulting misalignment of IT carve-out and integration strategies. Therefore, case study research is especially useful to study the underlying rationales and their effects, for which the chosen case provides rich insights and represents an 'unsuccessful' example.

The data collection relied on the triangulation of five semi-structured interviews, complemented by three more general interviews, with documents and public sources. The Interviewees had extensive knowledge of the transaction, typically holding a leadership position. Two interviewees were part of the carve-out project on the seller's side. Two interviewees worked for the carve-out object and switched to the buyer during the transaction. Another interviewee was from the buyer side. Three additional interviews were conducted with people being involved in the seller's carve-out project. However, these interviews did not solely focus on the case presented in this paper. These interviewees shared their impressions and lessons learned about the carve-out and integration. Besides internal project members, we also interviewed consultants participating in the project, to also obtain an external and more neutral perspective. Put together, the interviews resemble all important perspectives of the carve-out and integration project. Table 2 summarizes the interviews and secondary sources. Five interviews were conducted on-site. At the interviewee's request, three were conducted by telephone.

<b>Source</b>	<b>Role / Type</b>	<b>Perspective</b>	<b>Length</b>
Interview 1	Project Manager: Infrastructure Carve-Out	Seller	31 minutes
Interview 2	Project Manager: Infrastructure Integration	Buyer	45 minutes
Interview 3	CIO of Carve-Out Object	Carve-Out Object	35 minutes
Interview 4	Consultant (Partner,PM): IT Workstream Carve-Out	Seller	37 minutes
Interview 5	Consultant (Manager): IT Carve-Out & Integration	Carve-Out Object	47 minutes
Interview 6*	Regional Coordinator IT Workstream	Seller	50 minutes
Interview 7*	3 Consultants	Seller	98 minutes
Interview 8*	Head of Labor Relations	Seller	80 minutes
Document 1	Master project plan	Seller	12 pages
Document 2	Collection of various press releases	Seller & Buyer	43 pages
Document 3	European Commission: Regulation report	Seller & Buyer	6 pages
* these interviews did not exclusively focus on the case			

The data was analyzed using a category coded content analysis technique (Mayring 2008). The coding categories were derived from the analytical framework. Coding categories included, for example, 'buyer-seller relationship', 'business IT alignment', 'transaction objective', 'carve-out strategy' and 'integration

strategy'. Additional categories were used for events in the transaction, challenges or reflections about the success of the project. The unit of analysis was defined, with reference to Mayring (2008), as a statement of the interviewees that contained impressions, experiences or judgments related to the coding categories. Based on the literature review, the findings of the coding process were related to the theoretical concepts that underpin each category.

To guarantee a high quality of our research design, we followed Yin's (2009) case study tactics to ensure construct, internal and external validity as well as reliability. Our measures included the triangulation of multiple sources of evidence by interviewing people from all three stakeholders as well as internal and external project members. Additionally we included internal and public documentation (see table 2). Important and ambiguous explanations have been discussed in the researcher team and cross-checked with other sources of evidence. For data analysis and archival purposes, interviews have been recorded, transcribed and coded using Atlas.TI. Eventually we reflected our empirical findings in theory.

### **Case Background**

The OldTech Group is a European-based global organization. It operates in more than 170 countries with over 100,000 employees, generating €70 billion in revenues. Its business is divided into more than 10 divisions, including, for example, communications, IT service provision, automation technology and medical solutions.

In 2004, several business units were merged into the communications division, creating one of the world's largest suppliers of telecommunications equipment and services. The product offerings and services ranged from network infrastructure, cordless and mobile devices, and services to integrated communications solutions. In 2005, the communications business revenue was more than €10 billion. However, the consumer mobile devices division generated a loss of more than €1 million per day.

Although OldTech had played a major role in the research and development of, and the market creation for mobile phones, its success was concentrated in a few geographical regions. Despite efforts to enter other markets, including the US, the products were seen to be less innovative and trendy than the devices from competitors from Asia.

To focus on its core competencies, OldTech began in 2005 to restructure the communication division, beginning with the divestiture of the consumer mobile device business. The business unit was sold to MuXi, an emerging Asian-based competitor. As a contract manufacturer for other mobile phone manufactures, MuXi's strategic intent behind the acquisition was to capture increased economies of scale and access to technology and production know how.

### **Integrated Case Analysis: The IT Transaction Process**

Prior to the divestiture, OldTech had merged several business units into its communications division seeking to realize synergies. They had also integrated the information systems into the parent's shared services center. This is consistent with Reynolds et al.'s (2010) alignment model of having a corporate IT platform that leverages the SBUs IT portfolio. With this move into shared services, the people and with them the skills to operate and maintain the systems moved to the shared services provider.

Given their experience of success from prior IT carve-outs, OldTech had adopted a stepwise separation strategy (Leimeister et al., 2008). Beginning with kick-off meetings in May 2005 to provide initial briefings for the involved people, logical application separation had been launched before the formal signing of the contract with MuXi. According to the carve-out manager, this was necessary to meet the legal requirements for fiscal and legal relevant IT to be physically separated by the closing milestone. According to the carve-out strategy, the logically separated applications would run on a logically separated infrastructure provided by OldTech's shared services provider and be billed as an outsourcing contract to MuXi. The rationale behind this strategy was to keep the costs of the carve-out as low as possible.

The contract between OldTech and MuXi regarding the acquisition of MD SBU was signed in June 2005. The closing milestone and with it, the legal and economic transfer of ownership, was set for October 2005. Importantly, information technology aspects were not treated as critical issues and specified formally in the acquisition contract. This left open the question of the IT carve-out and IT integration strategies.

*“For the alignment between [OldTech] and [MuXi] only the most basic issues were subject to negotiation. These included, for example, the time frame, how to deal with services after the carve-out and SLAs. At the project level, there was no evidence that [MuXi] was involved in the design of the guidelines for the carve-out.” (Int4, p. 67, IT Carve-Out Project Manager)*

The managers responsible for the IT carve-out and IT integration work streams for the two parties met for the first time in July to discuss the IT transaction strategy. This did not result in aligned IT carve-out and IT integration strategies. Consistent with MuXi’s strategic intent to increase economies of scale, its major objective for the IT integration was to cut costs. They didn’t agree with OldTech in running a stepwise separation strategy that would require MuXi to rely on OldTech’s shared services provider as their outsource provider.

Instead, MuXi wanted to operate the systems. However, as OldTech’s major objective was to get rid of the loss generating MD SBU, it did not want to do anything that would potentially increase their costs of the IT carve-out project. The project escalated. The responsible IT managers, including the CIO of MuXi, met for a two week intensive workshop. This did not resolve the issue.

*“It took [OldTech] quite a long time to understand that we would not sign any of these [outsourcing] contracts.” (Int2, p. 125, Integration Project Manager)*

*“One would have had to design the carve-out differently. Together with the partner who receives [MD SBU]. Basically [OldTech] conducted a stand-alone carve-out, they had their plan, defined packages to handover, and [the outsourcing provider] assigned prices to them and said we would operate them for you. [MuXi] had a look on it and said ‘you are crazy’. We want to operate it our selves’. [OldTech] replied that they couldn’t give them the hardware and that they couldn’t provide this and that. Basically, we had to start integration again. Twice the effort” (Int2, p. 113, Integration Project Manager)*

The major challenges resulting from the failure to align the carve-out and integration strategies were:

- Conflicting objectives which influenced the IT transaction process, raising the transaction costs and, effectively, lead to a second carve-out for MuXi:

*„OldTech moved the systems from one OldTech hardware to a second OldTech hardware. We basically moved from there to our own hardware. (Int2, p. 121, Integration Project Manager)*

- A lack of competencies due to the initial outsourcing setup:

*„OldTech’s outsourcing stratgey [in 2004] meant that IT staff has relocated to the shared services provider. Only business people, controllers, purchasers and project managers remained at the [MD SBU]. MuXi’s strategy shift towards self-operation meant that the right team [of technically skilled people] wasn’t on board [of the MD SBU].“ (Int2, p. 53-65, Integration Project Manager)*

- A lack of transparency:

*“Responsibilities were not clarified. The communication between both parties [OldTech and MuXi] didn’t work very well. [...] Therefore, problems arose [...]. It was not clear, who was doing what.“ (Int3, p. 201, Regional IT Manager MD SBU)*

Despite severe challenges and the significant additional costs imposed by the misalignment of seller and buyer objectives, the IT transaction was considered as a success by both the IT carve-out and IT integration managers. This might appear contradictory regarding the higher goal of an integrated IT transaction, as discussed in this paper. Nonetheless, seen as a single project of each IT work stream project manager, it can be understood in terms of meeting their individual objectives. For OldTech’s IT workstream this was carving MD SBU without significant cost involvement within reasonable time. For MuXi it was to eventually completely integrating MD SBU, achieving lower operational IT costs.

Nevertheless, judged as an integrated transaction project, from carve-out to integration, the project was suboptimal. For both parties the transaction incurred higher resource commitment as unsettled responsibilities lead to redundant work and various project escalations required time and top

management involvement. For MuXi it was suboptimal as they had to commit additional resources to conduct the 'second carve-out'. This left them with higher costs and lower flexibility to immediately start off with their intended IT platform strategy. Besides higher resource commitment, OldTech suffered from a bad public reputation as well from various legal claims. This included for example the violation of Transitional Service Agreements (TSAs).

As a result of this suboptimal transaction OldTech has further evolved its carve-out practice. Their key learnings were to involve IT responsables earlier in negotiations and to be careful about long term engagements e.g. with TSAs. This also led to a blacklist of issues that should be strictly avoided in future carve-outs and thus not be offered during negotiations.

## Discussion

### *Explaining buyer-seller relationship and emerging challenges*

Figure 6 provides a framework within which to analyze both organizations corporate strategies, their influence on the existing IT landscape and their objective for the carve-out or integration project, respectively. Hence it helps to identify the critical links between corporate and IT strategy as well as the resulting conflicts from competitive objectives and misaligned activities.

OldTech was a large, diversified industry conglomerate. Part of its corporate strategy was to acquire and divest business units on a regular base. Prior to the divestiture of MD SBU, OldTech had restructured its communications division. This restructure had led to a shared services center and a centralized IT infrastructure for the business units in that division. However, with OldTech being a large industry conglomerate, the range of shared services was large and the IT components in the infrastructure were strongly interdependent. Only specific IT components, such as software development environments for devices, were operated by the individual SBUs. This is consistent with Reynolds et al.'s (2010) propositions described in the analytical framework.

Continuing the restructuring project, OldTech's corporate strategy was to divest the loss-generating MD SBU. The objective was, naturally, to get rid of this business without committing more money than necessary to the IT carve-out project. Consequently, OldTech had adopted a stepwise separation strategy to meet the tight transaction schedule and to minimize its IT carve-out costs. As a consequence, they had logically separated all former shared services of the MD SBU and prepared a plan to have it operated by OldTech's shared services provider. The shared services were later ported to a physically separate infrastructure that mirrored the initial logical separation.

MuXi's corporate strategy on the other hand was focused on cost leadership and economies of scale. Capturing increased economies of scale was the primary reason that MuXi acquired MD SBU. This translated into a sleek, self operated corporate IT platform. Hence, their IT transaction objective was to maintain this cost-efficient IT environment by absorbing MD SBU's IT infrastructure following a complete IT integration strategy.

The two organizations' corporate IT platforms were significantly different, leveraging their specific corporate strategies. Therefore, the absorption of MD SBU's IT infrastructure by simply replacing the corporate IT platform did not work. In order to immediately align MD SBU's IT portfolio with MuXi's corporate IT platform major revisions would have been required during the transaction process. However, as both parties had very competitive objectives for the transaction, they did not align their transaction strategy. As a result the IT transaction was unsuccessful judged from the perspective of an integrated IT transaction approach. OldTech simply stuck to its proven carve-out strategy, which was also in line with its corporate strategy. However additional resource commitment was required as MuXi would not agree with this approach. MuXi eventually began their integration project when the IT carve-out of MD SBU from OldTech has been completed.

For OldTech, the optimal situation would have been a carve-out process that ended in a stand-alone SBU without involving the buyer. OldTech's preferred carve-out strategy would have matched a preservation IT integration strategy by the buyer. Everything else complicated matters for OldTech. In order to keep their transaction costs low, they did not want to align their carve-out strategy with the buyer's integration strategy. On the other hand, the acquirer's preferred integration strategy was absorption to fully integrate



the acquired business unit into their corporate IT platform and align it to their corporate strategic objectives. As both parties' corporate IT platforms would not match, a realignment of the carve-out objects IT portfolio would have been required for an optimal transaction. However, as OldTech did not intend to get involved in the integration project, they continued their stepwise separation strategy and eventually provided a physically separated IT environment, temporarily operated by their shared services center. This gave MuXi the time to subsequently pursue its absorption strategy, porting the IT infrastructure into their IT platform. For MuXi and the overall objective of an integrated IT transaction process, this was a suboptimal compromise since it basically resembled the spin-off type of a divestment. As described earlier, this means that the carve-out project is completely separated from any future integration project by establishing a stand-alone company first.

Our discussion shows that the analytical framework presented in this paper (figure 6) is a versatile tool to study challenges arising in combined transactions, integrating vendor and buyer perspectives. In the presented case it was obvious that both parties' corporate IT platforms were significantly different as they supported different corporate strategies. As the carve-out objects IT has been aligned for a very different corporate IT platform, major integration efforts were required to realign the SBU portfolio to the acquirer's corporate IT platform. However, competing objectives which were not settled and negotiated in the pre-signing phase inhibited the alignment of both parties' transaction strategies.

The case presented above also supports our first proposition that IT Integration strategies are contingent on IT carve-out strategies. MuXi has not been able to immediately integrate MD SBU's IT portfolio into their corporate IT platform as it was still under control of OldTech, following a logical separation strategy. Thus, MuXi had to remain with a co-existence strategy until physical separation was achieved in the 'second carve-out'. From then on, MuXi could follow their initially intended complete integration strategy.

Furthermore, our second proposition, saying that misalignment between the IT carve-out strategy and IT integration strategy leads to suboptimal IT transactions, is supported. The case has shown that for both parties project complexity and resource commitment were increased due to redundant activities, project escalation and claims. This can be traced back to misaligned transaction strategies as both parties' transaction strategies did not match. This eventually impeded higher overall costs than actually necessary.

### ***Addressing suboptimization and misaligned transaction strategies***

The case analyzed above reports a suboptimal IT transaction process from both the acquiring and divesting organizations' perspectives. One reason for this was the failure to recognize the mutual dependencies and, consequently, the mutual influences of IT carve-out and integration strategies. This was the case during the planning of the transaction, as indicated by the absence of IT conditions in the transaction contract.

A relevant question is: Would including IT-based clauses in the transaction contract have helped to solve this problem, or are other mechanisms required? To understand this, we take a second look at the contract and its consequences. A more extensive contract would not have resolved the fact that the seller and acquirer had preferences for different IT transaction processes. Nevertheless, it could potentially have ensured that a) the IT carve-out work did not need to be re-done, and b) regulated the additional cost associated with the compromise in the transaction process. In the case above, this very substantive cost was not considered when finalizing the deal. As presented above, this was also a key learning for OldTech's carve-out practice.

However, contracts regulating IT projects have major limitations and are typically incomplete (Richmond and Seidmann 1992; Sakthivel 2007). Consider the IT transaction as a joint, time-limited venture, where costs for carve-out and integration are allocated to the temporary transition organization. Then, there are lessons to be learned from experiences with joint ventures. In joint ventures, the shared sovereign and incomplete contracting are known obstacles that need careful attention for assuring transaction success. We speculate that the co-optition relationship in IT transactions needs the same careful considerations in order to firstly reduce suboptimization in the process, and, secondly, to ensure that compromises to the optimal path are recognized when finalizing the deal. Here, the analytical framework presented in figure 6 might help to become aware of competing objectives and alignment issues at an early stage to sufficiently negotiate about them.

## **Implications for theory**

This paper makes two theoretical contributions to the area of post-acquisition IT integration. First, it models the IT transaction as the combined action of IT carve-out and IT integration. Drawing on the derived dependencies between IT carve-out and integration strategies, a case study illustrates the mutual influence between the two strategies and their effects on the combined IT transaction process. Second, we develop a transaction alignment model that explains the mutual influence between IT carve-out and integration strategies. This paper is to our knowledge the first to analyze transactions from an integrated buyer-seller IT alignment perspective.

The study presented in this paper suggests that, as indicated by previous research (Böhm et al. 2010; Henningsson and Carlsson 2011), there exist inter-dependencies between the IT carve-out and integration strategies that can increase complexity and costs associated with transferring a business unit from one organization to another. The explanation from an IT alignment perspective is that for meeting the respective corporate and SBU business strategies, the organizations participating in the transfer have assigned their IT capabilities differently. Not considering this asymmetry in their IT corporate strategies and proactively dealing with the problem caused tension between acquirer and seller. This led to a suboptimal IT transaction process.

## **Implications for practice**

The findings enable practitioners to better understand the link between the IT transaction and value creation in organizational transactions. For organizations involved in divestments and acquisitions, understanding the strategic configurations of business and IT capabilities that lead to symmetry or asymmetry in the IT transaction process provides help in two areas. One is that it identifies those SBUs that would be either easy or difficult to integrate for the potential acquirer. Rather than accept the high integration cost of business unit acquisitions that do not satisfy the conditions for alignment developed above, acquirers' may find other targets or develop other growth strategies.

The other area in which this paper provides help is to identify the challenges to be overcome when a potentially problematic transaction occurs. Asymmetry in a preferred transaction process should be considered and addressed prior to signing the transaction deal. The integrated buyer-seller alignment perspective helps practitioners to identify interdependencies between the seller and the buyer regarding their underlying corporate, IT portfolio and transaction strategies.

## **Limitations and future research**

One limitation of this analysis is its restriction to the transaction of a business unit by a multi-business organization. It does not include the acquisition of a multi-business organization by another multi-business organization, or the merger between two such organizations. Both are much more complex events than the acquisition of a business unit that is analyzed in this exploratory research study. However, these forms of acquisitions include a large proportion of the merger and acquisition market.

Another limitation is the restriction to a single case study. However, as qualitative research does not follow induction logic, the number of cases is irrelevant. Instead it is more important to choose good cases for theory development or falsification. The case selected was chosen purposefully to highlight challenges arising from the asymmetry in the parties' preferences for IT transaction processes, leading to major challenges. However, our third proposition, saying that IT transaction success is improved by aligning IT carve-out and integration strategies is not yet directly supported. To close this gap, subsequent research should address the research question with another extreme case of a particularly successful case to show the influence of symmetry.

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