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Exploring sources of value destruction in international acquisitions: a synthesized theoretical lens

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Exploring sources of value destruction in international acquisitions: a synthesized theoretical lens

Abstract

By synthesizing two complementary theoretical perspectives – resource dependence theory (RDT) and the resource-based view (RBV) – this study explores why acquirers destroy the acquisition value in international acquisitions in high-technology industries. Using a multiple case study approach, we develop a two by three matrix to present the sources of value destruction from two dimensions: environment dynamics and strategic resources, which are drawn from the RDT and RBV, respectively. Our study contributes to the acquisition literature in three respects. First, it answers the call to integrate several theoretical perspectives to examine sources of value destruction, particularly in international acquisitions. Second, it attempts to unlock the black box of why value destruction exists in post-acquisition integration. Third, it advances understanding of the basis of value destruction in terms of non-financial measures.

Key words: resource-based view, resource dependence theory, post-acquisition integration

1 INTRODUCTION

Post-acquisition integration has been viewed as a key determinant in resolving the enduring mystery in international business research of why performance benefits from acquisition remain elusive, while firms' appetite for acquisitions remains high (Haspeslagh & Jemison, 1991; Heimeriks et al., 2012; Sun et al., 2012). Over the last three decades, integration approaches, which manipulate resources to achieve acquisition performance (King et al., 2008), have inspired numerous works on the operational level (Ellis, 2004; Haspeslagh & Jemison, 1991; Marks & Mirvis, 2000; Weber et al., 2009) and on the capabilities of acquirers in redeploying resources post-acquisition (Sirmon et al., 2007; Zollo & Singh, 2004). However, even given these contributions to the improvement of acquisition performance, these existing studies fail to reveal why value destruction when integrating target firms emerges post-acquisition as an impediment to achieving the expected acquisition performance. Externally, according to resource dependence theory (RDT), firms are open systems that are dependent on contingencies in the external environment (Pfeffer & Salancik, 1978). This explains how (although constrained by the external environment) firms strive to reduce their environmental interdependence and uncertainty by adopting strategies that, at least partially, enact their environment (Gaffney et al., 2013). Through mergers and acquisitions, acquirers manage their resource dependency on their environment by absorbing the needed resources from the target firms (Pfeffer, 1972). Environment dynamics, which represent the tremendous risks in the market and industry in which firms operate (Luo, 2004) are therefore closely related to the

strategic resources that acquirers aim to absorb through acquisitions.

Internally, from a resource-based view (RBV), the success of a firm depends not only on a bundle of rent-earning resources but also on the way in which these resources are allocated, deployed, and utilized (Teece et al., 1997). RBV can readily be used to explain how the integration of the acquirer and target firms is planned and implemented (Wei & Clegg, 2014). Strategic resources, which are commonly defined according to a firm's distinctive competency (Hitt & Ireland, 1985), are critical to acquisition performance and are expected to be acquired by the target firms (Barney, 1991). As such, integrating target firms means acquiring different bundles of strategic resources and redeploying them post-acquisition.

In the process of resource redeployment post-acquisition, acquirers face the risks of failing to capture the expected value of acquirers' shareholders (Cording et al., 2008; Datta, Pinches & Narayanan, 1992). Scholars have focused on how issues that arise during acquisition integration contribute to poor acquisition performance (such as Jordao et al., 2014; Larsson & Lubatkin, 2001; Lin, 2014). However, the existing literature has been criticized for not clearly identifying the variables affecting acquisition performance (King et al., 2004) or discrete variables from multiple disciplines to unlock the underrepresented post-acquisition integration (Gomes et al., 2012). Part of the reason is that inadequate theoretical frameworks lack the explanatory power to reveal the nature of value destruction (Cording et al., 2008; Datta & Grant, 1990; Hitt et al., 1998).

In our study, with a focus on the strategic resources identified within the target firms

that are redeployed after the acquisition, we build our insights from the synthesized theoretical lens of RDT and RBV. Specifically, we explore sources of value destruction post-acquisition, confronting the complexity of the combined role of environment dynamics and strategic resources. Our central research question is therefore “why do acquirers destroy the acquisition value post-acquisition from a synthesized perspective of RDT and RBV?”

In order to reflect our research focus, we select high-technology industries as our research context. This group of industries was chosen for reason of its reflections on two theoretical lenses of our study. The research design employs ten cases from within this industrial grouping. The theoretical framework was developed starting with six cases drawn from the Medical Technology Industry, as a representative of high-technology industries to obtain comprehensive insights to develop the theoretical framework (Figure 2). Further case data collection followed from another four industries, also within the high-technology industry grouping, to provide confirmatory support to the generalization to theory of our framework for the high-technology industries.

Our study contributes to the existing literature in three respects. First, our study synthesizes two complementary theoretical views (RDT and RBV) to systematically understand why acquirers destroy the acquisition value (i.e., the comprehensiveness of sources of value destruction). Second, we contribute to clarifying the causal relationships between acquisition motivation and acquisition performance by exploring sources of value destruction within three different contexts. Third,

answering the call for non-financial variables, our study proposes two strategic variables to measure value destruction.

The paper is structured as follows. In Section 2, we explore the theoretical foundations of this study on RDT and RBV in post-acquisition integration and review the existing literature on value destruction post-acquisition. It concludes by identifying the constructs for the data collection and case analysis. In Section 3, we discuss the research design, including an explanation of the data collection and data analysis. In Section 4, we present a within-case analysis in this multiple case research and conduct a further analysis of the relationships among the constructs in the context of three propositions. In Section 5, we discuss the findings, and contributions to existing literature. In Section 6, we summarize this study by highlighting our major findings.

2 ENVIRONMENT DYNAMICS AND STRATEGIC RESOURCES IN POST-ACQUISITION INTEGRATION

2.1 Environment dynamics in high-tech industries: RDT

RDT has become a dominant theoretical rationale in explaining the motivations of firms that engage in mergers and acquisitions (Yin & Shanley, 2008). It offers an external perspective on why firms acquire other firms (Haleblian et al., 2009). Pfeffer (1976) proposed this theory, offering three reasons for acquisition: “First, to reduce competition by absorbing an important competitor [sic] organization; second, to manage interdependence with either sources of input or purchasers of output by absorbing them; and third, to diversify operations and thereby lessen dependence on

the present organizational with which it exchanges.” Similarly, it has been argued that one of the managerial goals of acquisitions is to reduce firm dependence on other firms in their environment (Barney, 1991).

Environment dynamics create enormous appropriability hazards when deploying distinctive resources or proprietary knowledge (Luo, 2004). It strongly influences the dependence of firms on other firms in the competitive environment (Rosenzweig & Singh, 1991). The uncertainty of the market or industry generates the biggest risks for acquirers (Luo, 2004; Oxley, 1999) and therefore should be considered as an antecedent of acquisitions (Haleblian et al., 2009). According to RDT, firms should acquire different strategic resources to reduce their dependence on each of them.

2.2 Strategic resources in post-acquisition integration: RBV

Building on the earlier work by Penrose (1959) and Nelson and Winter (1982), RBV examined the economic returns to resources that a firm owns, acquires, or develops (Barney, 1991). In order to facilitate the exploration of an opportunity in the business environment or neutralizing a threat, resources must be valuable, rare, nonsubstitutable, and imitable (Barney, 1991).

According to RBV, acquisition is one of the strategies that acquire and deploy resources to increase the competitive advantages of acquirers (Capron, 1999; Capron & Pistre, 2002). It has been viewed as a means of facilitating the redeployment of assets and competency transfers to generate economies of scope (Haleblian et al., 2009), thereby leading to significant resource realignment between acquirers and target firms (Capron et al., 1998). Essentially, among all the different types of

resources possessed by the target firms, only strategic resources have a discernible influence on integration (Capron et al., 1998; Song et al., 2005; Wei & Clegg, 2014). Therefore, the redeployment of strategic resources that are determined by RDT and acquired from target firms is essential in order to achieve the expected acquisition performance post-acquisition.

2.3 Post-acquisition integration and a synthesized theoretical lens

The post-acquisition integration phase has been widely recognized as a critical part of the acquisition process and a main source of value creation (Angwin & Meadow, 2015; Gomes et al., 2011). To scientifically investigate observation that, on average, acquisitions fail to create expected value for acquiring firm shareholders, numerous theoretical and empirical works have made attempts to explain the sources of value destruction, where value destruction is defined as “*destroying bidder’s value*” (Masulis et al., 2007), in post-acquisition integration (e.g., Cording et al., 2008; Datta, 1991; Epstein, 2004; Howell, 1970; Schweizer & Patzelt, 2012). However, why value destruction exists (and is prevalent) remains elusive and requires further research (Gomes et al., 2013).

First, scholars have not clearly identified, nor been able to reproduce, variables that impact value destruction in post-acquisition integration (King et al., 2004; Gomes et al., 2013). Value destruction is depicted in financial approaches mostly in terms of the shareholder wealth creation, including short-term market returns (Cornett & Tehranian, 1992; Kaplan & Weisbach, 1992), annual buy and hold returns (Loughran & Vijh, 1997), or accounting measures (Krishnan et al., 1997; Zollo & Singh, 2004)

over the long term. From its definition, which therefore involves the action or process of destroying the bidder's value (Aybar & Ficici, 2009), the nature of value destruction is only partly captured within an exclusively financial perspective. This explains the call for research into non-financial variables that determine value destruction (Gomes et al., 2013; King et al., 2004).

Second, due to value destruction's multidisciplinary nature, scholars have examined the sources of value destruction in post-acquisition integration, but the results are fragmented, for example, integration approaches (Colombo et al., 2009), acquisition experiences (Haleblian et al, 2006), target firm characteristics (Ellis et al, 2011; Reuer et al., 2012), cultural differences (Puranam et al., 2006), communication (Schweiger & DeNisi, 1991), and integration speed (Homburg & Bucerius, 2005). The multidisciplinary and conflict nature of empirical findings calls for an integrated theoretical lens with which systematically to provide theoretical explanations for the phenomenon of value destruction.

Due to RBV's and RDT's complementary focus on resources, integrating these two theories may be particularly productive in offering new insights (e.g., going beyond a financial perspective) into international acquisitions (Haleblian et al., 2009). Comparing these two theories, combined consideration would allow both an externally focused perspective on how organizations obtain these resources and an internally focused perspective on how organizations specify their resource needs in acquisitions. Therefore, a synthesized approach may strategically offer fresh insights on how environment dynamics determine the strategic resources obtained by

acquirers and how acquirers absorb these from various target firms to achieve competitive advantages.

In our study, we adopt the high-technology industry as our research context due to its reflections on two theoretical lenses of our study. First, it perfectly represents the external focus (RDT) of our research. The environment dynamics become a dominant industrial feature that heavily affects acquisition in high-technology industries (Ahuja & Katila, 2001; Kapoor & Lim, 2007; Terlaak & Gong, 2008). Numerous works seek to reveal the intrinsic uniqueness of acquisitions through comparisons in high-technology industries with two polar rates of technology change: rapidly changing technology and stable technology (Choi & Sethi, 2010; Hill & Jones, 2012; Klimenko, 2005; Panzar & Willig, 1977).

Second, it also epitomizes the value destruction that occurs in post-acquisition integration, which is the internal focus (RBV) of our study. Compared with other industries, the high-technology industry prefers to adopt structural integration, which is the combination of formerly distinct organizational units into the same organizational unit following an acquisition (Haspeslagh & Jemison, 1991; Puranam et al., 2006). Value destruction is therefore exacerbated due to the high degree of disruption and productivity loss (Paruchuri et al., 2006), acquired innovative capability maintenance (Puranam et al., 2009), coordination-autonomy management (Puranam et al., 2006), short- and long-term focus (Puranam et al., 2003), and integration versus autonomy choices (Zhu et al., 2015).

In sum, to draw out this overlooked theoretical mechanism, we use the RDT and RBV

to investigate why acquirers destroy the acquisition value post-acquisition in the context of high-technology industries. Using in-depth case studies, our analysis yields a two by three matrix for integrating target firms under the conditions of environment dynamics and acquired strategic resources.

3 CASE STUDY METHOD

3.1 Justification of the research method

In the light of our review of the existing literature, it is clear that progress in post-acquisition integration requires the disclosure of complexity that, to date, has been obscure, but nevertheless is inherent to the natural setting of international acquisitions. Such complexity demands the use of the case study method if we are to generate richer insights than those that can be gained through de-contextualized research (Napier, 1989; Schweizer, 2005). We select a multiple-case design with the potential for discerning the acquisition process at work in the contrasting contexts that we argue will reveal the nature of post-acquisition integration. This type of case design also offers the greatest potential for generalization to theory (Eisenhardt & Graebner, 2007; Yin, 2009).

Previous research on acquisitions has found that it is difficult to conduct a deep analysis while, at the same time, generalizing the findings to fit all types of acquisitions in all industries (Schweizer, 2005). Therefore, because we wish scientifically to investigate the post-acquisition integration, we argue that the best means of doing so is to make an instrumental selection of a high-technology industry in which international acquisitions are critical. The medical technology (MT) industry

is selected for three reasons. First, with referring to Organization for Economic Co-operation and Development (OECD), the medical technology is classified as one of the high-intensive R&D investment industry. It is one of the high-technology industries which reflect the high-technology focus of our study. Second, compared with other high-technology industries, the environment of the medical technology industry is more changeable due to the dynamic regulations across countries and rapidly increasing caring of people on their health. It therefore reflects the RDT perspective of our study. Third, due to the technology barrier, the premium paid to the target firm is relative higher than that in other industries. Acquirers in the medical technology desire to create more value from the post-acquisition integration. Thus, it is possible that more resource redeployment activities involved in integration phase, which presents the other theoretical lens of our study: RBV. The MT industry therefore provides a typical example with which to explore the appropriate integration speed for acquisition success.

In order to be critical and comparable, we think it important that the selected cases should both cover the critical features of the industry and maintain the similarities between the cases. We select cases from three major industrial sectors (Surgical and Medical Instruments, Orthopedic Devices and Hospital Supplies, and Electromedical Equipment), which account for more than eighty percent of the market in the medical technology industry (United States International Trade Commission, 2007). Even though these industrial sectors provide distinct products, they share similar value chains (all are manufacturing sectors) and face the same institutional environment

(external contexts), which both heavily affect the operations of a firm. Therefore, selecting cases from these three industrial sectors not only satisfies the coverage of critical features of an industry but also maintain the similarities between the cases for comparison in case analysis.

Findings derived from an initial focus on the medical technology industry were then explored, with a view to strengthening their theoretical robustness, through careful selection of cases from a further four high-technology industries. According to OECD, high-technology industries are classified into three broad categories according to their total R&D intensity: high-intensive R&D investment (“Biotechnology & Pharmaceuticals”, “Aircraft & Spacecraft”, “Medical, Precision & Optical Instruments”, “Radio, Television & Communication Equipment” and “Office, Accounting & Computing Machinery”), moderate-intensive R&D investment (“Electrical Machinery & Apparatus”, “Motor Vehicles, Trailers & Semi-trailers”, and “Railroad & Transport Equipment”), and low-intensive R&D investment (“Chemical & Chemical Products”, and “Machinery & Equipment”). In order to be representative, our selected industries cover all these three broad categories. Particularly, the first category (high-intensive R&D investment) comprises a greater number of industries than the other two categories. We thus select two industries in the first broad category while one industry each for the other two broad categories. Details of the selected industries can be found in Table 1.

Insert Table 1 here

3.2 Case selection

Case study firms were selected on the basis of criterion sampling (Patton, 2002). To begin, a case pool was created from an extensive list of possible case firms constructed using multiple personal social networks in the three major segments chosen within the medical technology industry. As the nominations of firms converged and the list reached a maximum, this yielded confidence that the population was approximated. The greater numbers ensure a better choice of cases exhibiting the desired level of similarity. These firms constitute the case pool, to which we apply further case selection criteria to filter the acquisitions and to arrive at the final choices.

Even though our primary focus is the post-acquisition stage, our research focus is the overall acquisition process to obtain a holistic view. Our first criterion is that the selected cases should have completed their major integration practices. Generally, this is satisfied if at least one year has passed since the acquisition. Furthermore, integration should not have been interrupted by extraneous factors. Here, a typical case is that in which an external firm took ownership of an acquiring firm (located within our pool) just six months after the acquisition – a time at which the acquiring firm was just beginning integration. Second, although the industry was controlled, several other factors may influence the comparison between the cases. We stipulate that the two firms in question should not have had an equity-based relationship prior to the deal in order to ensure that all the cases have the same initial degree of connectedness. Third, it was expected that face-to-face interviews would prove more effective than telephone ones (Yin, 2009). The leading persons involved in the

acquisitions were based in the U.K., thereby ensuring the direct accessibility of the informants. Fourth, the elements of similarity and variance between the cases play a key role in the cross-case analysis (Patton, 2002). By choosing several cases from each industrial sector, similarity can be better assured. At the same time, the desired variance between the selected cases is best assured by the fact that they span three major sectors and four different acquiring companies.

Research maturity refers to the situation in which data collection becomes exhaustive and the key concepts that emerged from the analysis are repeated (Yin, 2009). Normally, four to ten cases are sufficient to be considered as typical (Eisenhardt, 1989). In our study, three case studies and preliminary analyses were conducted at the outset of the research, the results of which indicated that further cases were required. Only after completing the sixth case did we find that we were unable to gather any further insightful knowledge from the collected data, and the results became repetitive.

As indicated in Section 3.1, in order to be more representative of the high-technology sector, and to provide a better, holistic and inclusive account of post-acquisition integration, we collected additional case data from four other industries within high-technology industry. Also, three of these four cases are recent acquisitions (Case E [2008], Case G [2015] and Case H [2016]), which indicate that our findings are possible to generalize to acquisitions after the economic crisis. Accordingly, this study comprises ten cases. General information on data collection of each case is presented in Table 2.

Insert Table 2 here

From Table 2, it is easy to identify that some of data were recently collected that may have issue respondents cannot exactly remember what happened after the acquisition. In order to overcome the obstacles for faded memory, we use secondary data (documentation, and archival data) to triangulate the data collected from interviews. Besides, for those important questions, we asked multiple informants in the case firm as a cross-validation. These two approaches improve the quality of the data. In addition, due to our research focus on sources of value destruction, for Case D1, which took place in 2008, we collected data on value creation after four years of our first-round data collection in 2014.

3.3 Case data

We employed multiple data sources for this study, including semi-structured interviews, archival data and written communication. Not all the case firms were willing to grant access to their archival records (namely, Cases B & D). Thus, the level of documentary detail varies from case to case (Table 2).

Semi-structured interviews with principal informants. Our principal informants were executives who, in each case, had direct experience with the acquisition in question. We conducted at least two face-to-face interviews with the principal informants, each lasting two to three hours. Following this, each informant was sent a case report and given the opportunity to comment on its accuracy. Only in one case did an informant request a change on the grounds of commercial confidentiality; this had no bearing on the research, as it was circumstantial to our inquiry. Subsequently, several telephone

interviews were conducted for each informant to find any missing details. For any assertion made during the interviews, the informants were asked to provide evidence to support their judgement of the facts. For instance, the informants were encouraged to provide data, wherever possible, as evidence of the value expected during the pre-acquisition period.

The main portion of the data was generated originally through acquirers' acquisition motives and post-acquisition processes in relation to each functional area involved in the acquisition. We asked two types of questions related to value destruction: "problems" and "synergies". The first question is directly related to value destruction while the second one is indirectly related, but used as double-check question. Example questions include "What were the difficulties experienced during integration of the **¹ area?", "What were the quick wins and how were they realized?", and "Did you realize/achieve planned benefits? Why not?" This yielded an estimate of the value captured from each resource (in manufacturing, marketing, R&D, for example) according to each informant's perspective. Since technology change is a critical element in this study, our data also comprise pertinent industry characteristics involved in acquisition. The semi-structured interview protocol sought the collection of these data and was first tested on practitioners with experience with many international acquisition deals to ensure that the questions posed were meaningful within business practices. The protocol was also examined by academics

¹ ** refers to "R&D/Design", "Procurement", "Production", "Marketing/Sales", "Distribution", and "Aftersales Services"

knowledgeable in the subject area to improve the assurance that the questions asked could elicit the data required for this study. Revisions were made in light of the feedback received, and the protocol was piloted on a medical technology company that had undertaken two international acquisition deals in recent years.

Archival data and written communication. Archival data include press releases, website information, and financial reports. They were collected for each case. Written communication was accessible in cases A1, A2 and C in the form of their due diligence reports. Company A produced the reports for cases A1 and A2, while that for Case C was provided by a consulting company. Following the interviews, we used both archival data and written documents to “triangulate” the interview data and to identify further promising issues to explore.

3.4 Data analysis

Our data analysis is designed to find information-based linkages and to identify the patterns linking the constructs under investigation (Eisenhardt, 1989; Yin, 2009). We explored the data via inductive, thematic analysis (Miles & Huberman, 1994; Strauss & Corbin, 2007), coding each interview according to common themes (Figure 1).

Insert Figure 1 here

Our data exploration involved three steps (Pratt, 2000; 2008; Pratt et al., 2006), which are presented in Figure 1. In the first step, we began with open coding in order to better to understand the acquisition from initial motivation all the way to integration activities (Locke, 2001). The common statements formed provisional categories, which we then developed into first-order constructs. For example, we identified

several data segments related to the “regional dynamics”. After identifying the first-order constructs, we reviewed the data again to see if the codes fitted the statements. Where they failed to fit well, we revised, abandoned, or combined the existing construct(s) to create a new one. This iterative process refined our first-order constructs. We continued the iteration in this manner until we could ascertain no further distinct and meaningful constructs.

In the second step, we consolidated the first-order constructs to raise the level of abstraction and render them more theoretical. We moved from open to axial coding (Strauss & Corbin, 2007). To illustrate, we discovered that the second-order theme of “market obstruction” consolidated issues present in “regional dynamics” and “marketing incompatibility”. The second-order themes we identified have a close relationship with the literature discussed in Section 2.

In the third step, we identified the dimensions underlying our theoretical themes. We noted that the second-order themes could be further aggregated into three groups. Comparing the results with the existing literature, we found that each of these groups provides a more comprehensive understanding of their corresponding body of work. Details can be found in Section 4. During the analysis, we paid particular attention to the linkages between the constructs and the themes. These relationships underpin our later discussion.

4 INTEGRATING TARGET FIRMS: THE COMBINED ROLE OF ENVIRONMENT DYNAMICS AND STRATEGIC RESOURCES

4.1 Clarifying two dimensions from RDT and RBV: environment dynamics and

strategic resources

As discussed in Section 2, according to RDT, environment dynamics are represented by technology change in high-technology industries. It is divided into two statuses: rapidly changing technology and stable technology. In contrast, according to RBV, strategic resources from target firms are related to acquisition motivation. Accordingly, the basis for our analysis is the accurate categorization of the cases according to strategic resources and to the technology change within their respective industrial sectors.

We proceed by first classifying the selected three industrial sectors under study according to the rate of technology change. Industrial sectors with rapidly changing technology are categorized by informants as being (1) “technology-led”, (2) under the “threat of new start-ups”, and (3) characterized by “fast-growing new technology”. Accordingly, as stated by the Director of Business Development of Company A, the radiotherapy sector is rapidly changing. The niche sector of Company H in Machinery & Equipment Industry also has rapidly changing technology. The Director of R&D of Company H commented on the acquired technology as “a technology that will be overwhelming in the near future”. Conversely, Orthopaedics Industry and Surgical and Medical Instruments Industry exhibit stable technology. In the words of the Vice President for Global Concept Development in Company B, the Orthopaedics Industry is a “conservative” and “mature industry”, while the Director of Strategic Programmes of Company D characterizes Surgical and Medical Instruments Industry as “Not high-level, rapidly changing technology”. Similarly, Aircraft, Motor and

Communication Equipment Industry also employ stable technology. The technology embedded in Aircraft and Motor Industry has been described as “slowly developed but critical to the development of the industry”, while the Communications Equipment Industry has experienced technology that is “incrementally improved and with a relatively stable rate”.

Second, in acquisitions, strategic resources broadly fall into five sets: R&D, manufacturing, marketing, managerial and financial (Capron et al., 1998). The first three are primary resources and attract the most attention from scholars (Eschen & Bresser, 2005). We adopt a similar typology to understand the strategic resources acquired in each case. Details in capturing the emergent constructs of strategic resources are presented in Section 4.2.

4.2 The effects of environment dynamics and strategic resources on post-acquisition integration in high-technology industries

Before moving to analyse the case data on acquisition processes, we start by analyzing the data on value destruction, to ensure that every case indeed failed to capture the value expected from acquisition. Surprisingly, nearly all the informants reflected that they did not use the financial index as the only criterion for assessing the success of the acquisition. They tended to pay attention to whether they had fulfilled the integration plan, which stipulates that they should achieve a certain value within a certain time. Their assessing criteria are consistent with recommendations by strategists. Whether the acquisition outcomes meet expectations is highly related to the perception of the acquisition leaders on the balance between value expectation

pre-acquisition and value creation post-acquisition (Haleblian et al., 2009). Therefore, from the perspective of the integration leaders of acquirers, both the shortfall in value expected and the delay to achieve the expected value are recognized as value destruction. All the cases in our study exhibit at least one aspect of value destruction. Details are presented in Table 3.

Insert Table 3 here

We then move forward to further case analysis. We found that specific strategic resources provided by small and large target firms in two contrasting contexts and integration risks prevent the value creation post-acquisition (Figure 1). We discuss each of the derivative nine second-order themes and first-order constructs, which are presented in tables 4 and 5. Below, we turn to analyse the outcomes that transpire in this study.

Insert Table 4 here

Insert Table 5 here

4.2.1 Pioneering technology as acquired strategic resources in the context of rapidly changing technology

Target A1, A2 and H are classified as acquiring pioneering technology within a rapidly changing technology sector, and therefore, our analysis here is based on these three cases alone. We find that, here, the strategic resources for acquirers are the pioneering technology accessible through acquisitions. However, such target firms carry integration risks for acquirers in terms of product inefficacy.

4.2.1.1 Strategic resources: pioneering technology

Pioneering technology transpires to be a distinct, novel and critical technology that has the potential to lead the market and create a threat to firms that do not own it. The motivation of the acquirer is to secure technology that will be decisive in enabling it to create or expand its market position in the future. Failure to acquire such a resource necessarily places the business of the firm in a risky situation. Such an adverse situation might lead to the would-be acquirer forgoing a rapidly growing market or to products of the target supplanting those of the failed acquirer. These effects of pioneering technology are evident from analysis of statements by the Director of Strategic Projects of Company A, “Target A1 is positioned in two of our most quickly growing and profitable focus areas: image guided radiotherapy (IGRT) and stereotactic radiotherapy (SRT).” He also addressed the growing customer need for the specific products and technology owned by Target A2, “We need add-on micro MLCs [multi-leaf collimators] to have an accurate positioning and treatment planning system that can interface with the hospital IT system. Our customers need more accurate products.” The Director of R&D of Company H commented on the acquired technology, “3D technology leads to the future development of our sector. It relies on the calculation speed of the embedded chip. It may also be influenced by artificial intelligence.”

4.2.1.2 Sources of value destruction: product inefficacy

Product inefficacy is associated with buying a target firm that has not already proven that it can successfully sell its products in the market. Acquiring a target firm that has demonstrated its ability to achieve product efficacy can be presumed to have much

lower risks and uncertainties than those that have not. In our data, both cases chose to acquire a mature business, i.e., target firms that have products on the market. This is evidenced by statements about the risks associated with “market acceptance” and “regulatory dynamics”. For example, the Director of Business Development of Company A candidly said, “We have shown a very conservative policy on acquisition. We have not acquired any speculative start-ups and would like to acquire a firm with established products and revenues”. Company H also worried whether customers in China can afford the high price of the new products incorporating the acquired technology. The Director of Sales of Company H reflected, “The price of the product will be doubled if integrating the 3D technology. Only the high-end customers can afford it...We expect that the cost of the product will be reduced if we have more customers in the future”. Relevant testimony is also evident in statements on product regulation in the form of “regulatory dynamics”, which refer to data showing that regulations covering the sale of products in different countries are incompatible. For example, the Vice President of Research & Development of Company A invoked the obstacles to selling the so-acquired products in the acquirer’s existing markets, in Case A2, “It is harder than we expected because they are all medical products and we have applied the C mark ourselves, which requires us be audited...but actually, they were using another version that we didn't express to our auditing system”.

In summary, in acquiring pioneering technology in conditions of rapidly changing technology, acquirers tend to focus on the pioneering quality of the technology of the target. From this we infer that acquirers do not seek targets with their products already

in the market in order to avoid product inefficacy in the future.

Proposition 1: When acquiring pioneering technology under conditions of rapid technology change, acquirers face product inefficacy, contingent upon market acceptance and regulatory dynamics, as the source of value destruction.

4.2.2 Market as acquired strategic resources in the context of stable technology

There is also the possibility to acquire market in sectors with stable technology (cases C, D1 and G). We find that this acquisition motivation has two primary categories: product portfolio and/or market share. However, due to limited size, such targets bring risks to the acquiring firm through market obstruction.

4.2.2.1 Strategic resources: product portfolio (small target) and/or market share (small target)

Product portfolio (small target) captures the motive in acquiring a small firm to secure a full line of products or services for customers. Informants refer to the attainment of a “complete product portfolio” or the quality of being “highly complementary” in the context of acquiring small targets. A complete product portfolio enables the acquirers to maintain their position with their customers and, at the same time, to increase their market power. In support of this, for example, the Director of Product Management of Company D outlined the complementarity of the product portfolio of the two firms as follows: “We already have our products on the Chinese market. But we haven’t sold many because they are too expensive. Our products have all the very complicated software... Target D1 has expertise in developing low cost products, highly complementary to us.”

Market share (small target) signifies the qualitative motive, via acquisition, to possess the market of a small firm. The first-order constructs of “new market (geography)” and “new market (product)” embody the relevant attributes, and both of these were highlighted within an acquired target by the Director of Strategic Programmes of Company D: “We looked at a firm that has 70 per cent market share in infusion pumps in China and is extremely profitable (a profit rate of 50 per cent).”

In Case C, product portfolio (small target) and market share (small target) occur jointly. However, they can also occur separately. For example, the Director of Strategy & Business Development of Company C reported the similarity of the product portfolio but the complementarity of the market of the two firms as follows: “Products are quite similar. There are lots of overlaps. The two functions are quite similar...We actually thought the fit in Europe was excellent because their primary market was Germany, where we were not very big.” Similarly, Company G and Target G were competitors in the South African market with similar product portfolios. The Director of Strategic Development of Company G articulated the motivation of their acquisition of market share, “we would like to acquire their market in South Africa and expect to expand that market to other areas in Africa. It is much easier for customers in these areas to accept products from South Africa than from China.”

4.2.2.2 Sources of value destruction: market obstruction

Market obstruction refers to a situation in which the acquisition fails to yield the market access expected by the acquiring firm. This is evidenced in statements concerning “regional dynamics”, which refer to various traditions and informal rules

in selling products in different countries or regions and to statements concerning problems of sales integration: “marketing incompatibility”, which is represented by “cross-selling”, and “quality conflicts”. For example, the Corporate Finance Director of Company C explained how failure to comply with the law and with specific industry regulation destroys value: “Unfortunately, we found out that in some European countries, before it was acquired, Target C was making payments to doctors in contravention of the guidelines...we stopped the payments and a lot of doctors went elsewhere...We basically lost the business in Greece overnight.”

The Director of Strategy & Business Development of Company C highlighted how the achievement of success is impacted by sales conflicts: “When the two businesses came together, the two sales forces fought each other and competed for a long time.”

China and South Africa have different traditions for long-term holidays (Christmas for South Africa but Chinese New Year for China). Three months after the acquisition, Employees in Company G made full effort to sell products in other areas in Africa with the aim of improving the annual sales to get higher bonus at the end of the year. However, employees in South Africa were busy preparing for Christmas and did not have any concerns about market expansion. Employees in Company G were not satisfied with the absence of work of sales people in South Africa to celebrate their statutory holidays, even though they understood that it is the legitimate right of employees in South Africa. The Director of Sales of Company G reflected what he did to reduce the conflicts between employees in two organizations caused by regional dynamics during that period, “I forced them to show respect not only in language but

also in face expressions. They should show respect at heart.” The employees in Company G had to follow his instructions as he was the leader. With the consistence of language and face expressions, Company G escaped from bullying at work place. Employees in Target G felt that they were fully respected and the tension between the two organizations was therefore largely reduced.

In summary, under conditions of stable technology, acquirers see the potential for value creation that is contained in the target’s product portfolio and/or in the conjoined markets after the acquisition. However, as set out above, problems of integration abound, making market obstruction particularly deleterious to value creation.

Proposition 2: When acquiring market under conditions of stable technology, acquirers face market obstruction, contingent upon regional dynamics and marketing incompatibility, as sources of value destruction.

4.2.3 Integral target firms as strategic resources in the context of stable technology

An “integral target firm” is one that offers all the acquirer’s required strategic resources to complete the acquirer’s complement of resources. We find that, in the context of acquiring such integral target firms in sectors with stable technology (cases B, D2, E, and F) acquirers seek a wide range of strategic resources – which are almost (or effectively) all the resources of the target firm, i.e., product portfolio (large target), market share (large target) and efficiency, but in so doing, they are exposed to the concomitant sources of value destruction as inefficiency.

4.2.3.1 Strategic resources: product portfolio (large target), market share (large target) and efficiency

Product portfolio (large target) encapsulates the motive to acquire large target firms and centres on the desire to secure a full line of products or services to offer customers. The informant interview data typically refer to a “complete product portfolio” or to the resources of the two firms as “highly complementary.” A comprehensive product portfolio assists acquirers in encouraging their customers not to switch suppliers and thereby to increase their market power. For example, the Vice President of Global Concept Development of Company B regarded the completion of the product portfolio as the basis for acquiring Target B: “We were a big player in the market but did not operate in hips [products], spine [products], trauma and sports medicine, so we only had a small part of the market. Target B has started, as a firm, to generate products in each of these areas. They perfectly complete our product portfolio in orthopaedics.” The Director of M&A of Company E described the importance of the products of Target E, “The part we acquired from Target E is manufacturing and engineering business...We did not have a component and assembly business in our industry at that moment.”

Market (large target) connotes the expansion of the market of the acquiring firm through both products and geographical space. It is therefore a major step in the growth of most acquirers. A number of informants in large acquired firms noted this motive in connection with their company, citing both “new market (geography)” and “new market (products)”. The Vice President of Global Concept Development of

Company B, who, at the time of the acquisition, was employed by Target B, described the geographical footprint of the target firm as follows: “Prior to being acquired, Target B had acquired geographical coverage...it had bought French firms to gain access to Europe. It had bought Firm X to access the English-speaking world. And it had a very big footprint, and a relatively large business, through its distributors in Japan.” The acquisition of Target E brings supply capacity to new customers. The Director of Sales explicitly said, “We change it into a commercial enterprise. We not only sell the products to their existing customers but also to others.”

Efficiency does not relate to specific resources but indicates the value created from the rationalization of resources with similar functions following acquisition. Informants usually use the terms “rationalization”, “integration”, and “centralization of operations” to express the value created through efficiency. The Director of Strategic Programmes of Company D candidly explained his firm’s rationalization of the sales forces of two companies in Case D2: “One of our rationales in this acquisition is that, if we bought this firm, we already have access to the market, so we can get rid of their sales force. There were larger savings from combining their sales force and products with ours because we already have sales access to the market.” The Director of Strategic Programs expressed the integration of the product portfolio after the acquisition, thus: “We thought the two machines [products from Company F and Target F] had the same size and performance. So we tried to replace one of their big machines with our own.” Company F also aims to achieve efficiency, an example of which is the centralization of manufacturing in Romania. An operation manager in

Company F remembered, “Romania remains one of the lowest labour wage rates in the world, cheaper than China. Sitting in the middle of European operations, it is a very low labour cost country...We started some work to build products in Romania.”

4.2.3.2 Sources of value destruction: conflict impediment

Conflict impediment relates to the obstacles hindering management attempts to rationalize, integrate, and centralize operations of large target firms post-acquisition. Based on the data, conflict impediment is represented by two groups of first-order constructs: “organizational conflict” and “strategic conflict”.

Organizational conflict refers to opposition at the group or individual level within an organizational context. This conflict has always been a serious consideration for acquirers, although firms habitually under-invest in thinking about and effectively dealing with the issue of conflict (Jordao et al., 2014; Lee et al., 2014; Vaara et al., 2012). In our study, this strife is apparent as power conflict and cultural conflicts at the national and organizational level. Some of our informants expressed their concern about “culture conflicts” by referring to corporate cultural barriers, that is, the poor corporate cultural fit that impairs post-acquisition performance (Cartwright & Cooper, 1992; Weber, 1996). For example, the culture of Company B is focused on the long-term, towards investing more in research and in product development, while the culture of Target B is focused on the short-term, and is very commercially aggressive. These two corporate cultures make Company B like “lead academics” and Target B like a “market trader”. The following quotation is evidence that, in some instances, regional operations of the target firm acceded to the culture of the acquiring firm,

whereas in others, the existing cultures prevailed. The Vice President of the Global Concept Development of Company B said, “There were lots of cultural barriers between the two companies [the acquirer and the target firm]. In certain countries, one company wins but, in others, the other does.” The Director of M&A of Company E states the importance of organizational conflicts in terms of culture and leadership, “If you have doubts about the culture of the target firm, you need to address that very quickly. You need to address that through the leadership team. You have to do it from the top down and change their mind-set.”

At the upper executive echelons of the two companies, there may be “power struggles” that reduce the value created by integration. The Director of Strategic Programmes of Company D described the value-destroying effects of a power struggle in Case D2: “Somebody who is running a bigger organization thinks he has a bigger job. In the acquiring company, they say, ‘No. That is not part of our plan. We don’t need you’. That person usually has a team around him, so they all go.” In this way, the entire team may be lost, regardless of its potential to create value.

Strategic conflict is that which the acquiring firm, according to its perspective, does not need, even though it may be obliged to acquire unwanted parts of the business in the acquisition. In Case D2, according to the Director of Strategic Programmes in Company D, such acquired parts of the business are not always value creative and should be removed after the acquisition but are actually kept in most cases, at least for the first several months. This director also regarded it as inevitable that, as the acquired business increases in size, the non-core parts unavoidably acquired become

more numerous: “Especially when you buy a big company, this is a big challenge. Maybe only 50-75 per cent is what you really want. The other 25 per cent is either rubbish or non-core, but we do not gain too much non-core business from small acquisitions.” In Case E, Company E considered the acquisition as an outsourcing deal, to which functions would have to be added to make it into an independent business. The new required mindset is different from what the acquired business operated before. The Director of Operations of Company E said, “It [the acquired business of Target E] is just a cost centre. We have to recruit commercial and financial people...It is just a more complicated starting point because you cannot immediately consider it as a business and they [the acquired business of Target E] should get used to the new operation style.”

In sum, we argue that, in sectors with stable technology, the competitive advantages of firms tend to reside in expanding their product portfolios, enlarging their market and improving efficiency, rather than in acquiring new technology. Thus, in such sectors, acquirers aim to secure a bigger market share and a full line of products in product space to leave as little scope as possible for rival entry. All the resources of target firms, which we term “integral target firms”, are necessary for the competitiveness of acquirers. However, the success of acquirers is impeded by varieties of conflicts.

Proposition 3: When acquiring integral target firms under conditions of stable technology, acquirers face the impediment of conflict, contingent upon organizational conflict and strategic conflict, as sources of value destruction.

4.3 An integrated framework

Theoretical development must specify not only the constituent constructs but also the linkages or relationships between those constructs in describing a phenomenon (Dubin, 1978). By assimilating the dimensions and themes displayed in Figure 1, in combination with the narrative on our findings up to this point, we develop a two by three matrix suggesting how acquirers integrate different target firms (Figure 2).

Insert Figure 2 here

Compared with existing findings on exploring sources of value destruction, this integrated framework systematically provides a comprehensive understanding of why acquirers destroy the acquisition value from a synthesized theoretical lens: RDT and RBV. We have argued that the existing literature merely investigates additional discrete variables, and that this is not a sufficient basis for progress in our understanding of post-acquisition integration, as it falls into a single discipline (“specialization trap”) (Knudsen, 2003). In fact, acquisition is a multi-level, multidisciplinary, and multi-stage phenomenon (Angwin, 2007; Javian, Pablo, Singh, Hitt, & Jemison, 2004). Therefore, it requires a synthesized view to capture the dynamic and complex nature of the phenomenon (Meglio & Risberg, 2010). With RDT and RBV as our theoretical perspectives, our study links environmental dynamics and strategic resources to reflect the external and internal tensions in acquisition. We present the argument that sources of value destruction are affected by the external environment and internal resource demands, and are liable to emerge in post-acquisition. This holistic view of acquisition adds to the need for a

comprehensive approach to post-acquisition research.

This integrated framework also unlocks the black box of why value destruction exists from the post-acquisition perspective. Previously, numerous empirical works have attempted to explain value destruction by employing existing variables through quantitative analysis. However, existing empirical research has not clearly identified the “right” set of variables that impact on acquiring firm’s performance (King et al., 2004). Important variables are omitted and the connectedness among key variables is not clearly articulated (Gomes et al., 2013). Through an in-depth case study approach, our study explores sources of value destruction associated with each identified combination of environment dynamics and strategic resources. We have reasoned, and propose that, for example, in a rapidly changing technology sector, acquirers prefer to adopt a conservative strategy (inclining towards mature firms) to ensure that the acquired pioneering technology can create a new market. This is indicative of product inefficacy as the source of value destruction. An understanding of various sources of value destruction in each distinct context unpacks the mechanism of value destruction, through identifying the connections between the sources of value destruction and tensions both external and internal to the firm.

However, when closely reviewing our integrated framework, we find that the other three combinations do not exist, enabling us to infer theoretically that there are good reasons for this that weigh in the judgement of the acquirers. The rationale may rely on the high volatility of industrial sectors with rapidly changing technology and the uncertainty of acquiring immature businesses in industrial sectors with stable

technology. First, when the environment is highly volatile, the introduction of new technology requires firms to make a prompt response (Choi & Sethi, 2010) in order to maintain their existing market. Acquirers have to acquire target firms in their early stage (small target firm) to prevent them from developing into a potential competitor. Therefore, the other two dimensions of the condition of the rapidly changing technology naturally do not exist. Second, when the environment is relatively stable, the competition of firms rests more on economies of scale and scope (Klimenko, 2005; Panzar & Willig, 1977). Acquirers wish to absorb the market of the target firms in order to expand their business and achieve efficiency by obtaining similar resources. Small target firms with only pioneering technology cannot meet the demands of acquirers and are therefore excluded.

Our integrated framework also emphasizes the importance of the implementation of integration strategies. Most existing research on post-acquisition integration focuses on how to develop effective integration strategies (Angwin, 2012; Ellis & Lamont, 2004; Howell, 1970; Schweiger & Weber, 1989; Weber et al., 2011). We argue that only explore integration strategies to reduce the failure in achieving acquisition value is not enough. Each acquisition motivation can be associated with particular sources of value destruction. Recognition of the sources of value destruction in various contexts can greatly improve the effectiveness of integration approaches.

Finally, our study's integrated framework is premised upon not adopting the more common financial measurement of value destruction that is prevalent in the acquisition literature (Cornett & Tehranian, 1992; Gates & Very, 2003; King et al.,

2004; Zollo & Singh, 2004). Our study endeavours to explore value destruction from a strategic view (i.e., whether the acquisition outcomes meet anticipation). We identify measures using the perception of the acquisition leaders on the balance between value expectation in pre-acquisition and value creation in post-acquisition. Through interviews, we have identified two measures of value destruction – value gap and time delay – which complement the existing literature on the measurement of value destruction.

5 THEORETICAL IMPLICATIONS AND FUTURE DIRECTIONS FOR RESEARCH

5.1 Implications for theoretical development

This study contributes to the international acquisition literature in three important ways. First, it answers the call for integrating several theoretical perspectives to examine organizational interdependence (Hillman et al., 2009), particularly in international acquisition (Haleblian et al., 2009). Our study synthesizes the two complementary theoretical views on resources: RDT and RBV to provide both internal and external focuses on how to prevent value destruction during post-acquisition integration. Based on this joint theoretical lens, we identify two dimensions that are critical to the acquisition: environment dynamics and strategic resources. According to RDT, the environment dynamics determine the strategic resources that acquirers would like to obtain. On the other hand, according to RBV, these identified strategic resources are granted by the acquired target firms. This joint perspective provides comprehensive insights on acquisition.

Second, even though post-acquisition integration has been viewed as a primary determinant of acquisition success (Child et al., 2001; Heimeriks et al., 2012; Wei and Clegg, 2014), why acquirers destroy acquisition value remains unresolved (Ellis, 2004; Haspeslagh and Jemison, 1991; Marks and Mirvis, 2000; Weber et al., 2009). In this study, we focus particularly on the sources of value destruction associated with each context and develop a two by three matrix based on the two identified dimensions. This matrix indicates strategic resources and sources of value destruction in alternative contexts, thereby also contributing to our academic understanding of post-acquisition integration. The nature of these identified integration risks is to comprise the threats posed by the organizational growth of the unified firm following the acquisition. This can be understood as threats from organizational growth and changes along with target firm size, and it is exemplified by product inefficacy, market obstruction, and conflict impediment. From the case data, it is clear that the impacts of sources of value destruction range from organizational demise to organizational friction to organizational complexity.

Third, our study contributes to understanding value destruction from a strategic perspective in a qualitative way. It challenges the perspective that acquisition performance is used to assess the success of acquirers (Asquith, 1983; Cornett & Tehranian, 1992; Zollo & Singh, 2004) and answers the call for managers' retrospective assessment of acquisition performance (Halebian et al., 2009). We identify two qualitative categories of value destruction: value gap and time delay. These categories are consistent in nature with the quantitative methodology of

estimating cumulative abnormal returns (CAR) (Black, 1989; Carpron & Pistre, 2002, Eckbo, 2009), but go further to reveal detailed insights into value destruction, through their link with specific value destroyers.

5.2 Implications for practical implementation

In terms of the managerial relevance of this study, it offers guidelines for practitioners to select target firms in acquisitions in high-technology industries. Broadly, in acquisitions, strategic resources fall into five sets: R&D, manufacturing, marketing, managerial and financial (Capron et al., 1998). The first three are primary resources and attract the most attention from scholars (Eschen & Bresser, 2005). According to RBV, resources are closely related to firm growth (Penrose, 1959; Wernerfelt, 1984). It therefore can be inferred that the strategic resources possessed by small firms are different from those of large firms, particularly primary resources. As such, small and large target firms provide different strategic resources for their acquirers. Although our integrated framework is based on strategic resources acquired from target firms, practitioners can approximately employ firm size as a substitute for strategic resources in their target selection. In order to offer detailed guidelines to practitioners, we also give a general consensus definition of small firms. This definition is derived from Gaur, Mukherjee, Gaur & Schmid (2011): “two conditions that could be used: (1) the turnover of the firm should not be more than 1 billion Euros; and (2) the firm should not be listed on any stock exchange.”

In general terms, the managerial relevance of this study is that it offers guidelines for practitioners to select target firms for acquisition in high-technology industries, and

then manage them. Practitioners can integrate the findings into their target selection and post-acquisition integration according to the following three steps. First, the acquiring firm should have an understanding of technology change in its industrial sector, whether rapidly changing or stable. Second, it is an important prerequisite to decide whether to acquire small or large target firms. Based on the recognition of the state of technology change, the acquiring firm may choose small or large target firms in seeking different strategic resources. In a sector with rapidly changing technology, the preferred choice becomes clear: to acquire a small target for its pioneering technology. However, in a sector with stable technology, the choice is reliant upon the motives for the acquisition. If the acquiring firm aims to acquire the product portfolio and market, it may choose a small target firm. However, if the motive also includes efficiency, a suitable large target firm is indicated. Third, the acquirer should be aware of the integration risks associated with each firm size, contingent upon the acquirer's specific motives. For example, if it acquires a small firm with the aim of benefiting from the target's product portfolio and market, the acquirer should consider whether it could access the acquired market after the acquisition. These three steps provide clear guidance for acquirers to select appropriate target firms and avoid unnecessary risks in high-tech industries.

5.3 Future research

This study seeks to understand post-acquisition integration from a joint theoretical perspective in high-technology industries. We select the medical technology industry to explore the phenomenon supplemented by four further high-technology industries

to validate the findings. Future research might focus on aspects and details not covered in this study. Technology change is just one prominent and important characteristic of high-technology industries. Other features can be explored, e.g., disruptive technology and incremental technology. As with technology change, strategic resources are only one issue that is controversial in acquisitions. More important aspects of target firms can be considered, for example, the speed at which the target firm develops technology. And, even though we have not found any instance – within our focal industry – of the acquisition of a large target firm under conditions of rapidly changing technology, clearly, such acquisitions do take place, and a case study approach would be appropriate to investigate this.

Finally, although far from being the only reason for conducting case research, our study falls into the classic category of being exploratory in nature and cannot provide a robust validation of our findings. The multiple-case study approach can be adopted to develop a more complete picture (Yin, 2009). It does not attempt to support the points or claims made with evidence; i.e., it cannot provide a robust validation of the findings. However, these findings may be investigated more extensively and tested through quantitative studies in order to establish their theoretical generalizability.

6 CONCLUSION

This study first investigates post-acquisition integration by synthesizing two complementary theoretical perspectives: RDT and RBV. Two dimensions that are rooted in these two theories are identified: environment dynamics and strategic resources. The elements of each dimension are further explored in the context of

high-technology industries. Second, a two by three matrix is developed to present the integration risks in three combinational contexts. We also provide the rationale for the excluded three combinational contexts. Third, we produce a new way of understanding value destruction, more deeply, using non-financial categories. These may, in due course, complement more conventional financial measures.

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Table 1 Description of cases and data collection

Case No.	Acquiring firm	Region	Target firm	Region	Time completed	Sector
A1	Acquirer A	UK	Target A1	Germany	2005	Radiotherapy (Electrometrical equipment)
A2			Target A2	Italy	2007	
B	Acquirer B	US	Target B	UK	1998	Orthopedics
C	Acquirer C	UK	Target C	Switzerland	2007	
D1	Acquirer	UK	Target D1	China	2008	Surgical and medical instruments
D2	D		Target D2	US	2004	
E	Acquirer E	UK	Target E	France	2008	Aircraft
F	Acquirer F	UK	Target F	Germany	2001	Motor
G	Acquirer G	China	Target G	South Africa	2015	Communication equipment
H	Acquirer H	China	Target H	Italy	2016	Machinery & equipment

Table 2 Data collection

Case No.	Collection method	Time period for interview	Respondents
A1	Interview/Documentation/Direct observations	2009-2010	VPs (2), Managers (2)
A2			VPs (2), Managers (2)
B	Interview	2009-2010	VP (1)
C	Interview/Documentation	2009-2010	VPs (2), Managers (2)
D1	Interview	2009-2010, 2014	VPs (1), Managers (4)

D2		2009-2010	VPs (2), Managers (1)
E	Interview/Documentation	2009, 2016	VP (1), Managers (2)
F	Interview	2009-2010, 2016	VP (1), Managers (1)
G	Interview/Documentation	2016	VP (2), Managers (1)
H	Interview	2016	VP (2), Managers (1)

Table 3 Data exemplars for value destruction

Value destruction	First-order themes	Examples
Value gap	Market loss	“So we stop making any of those payments. We basically lost the Greece business overnight. The Greek business went from 15 million Euros in 2007 to 5 million Euros in 2008... We have some major problems in China as well. China has gone through major exercises; I have asked a couple of years to try to clean up the medical device industry and pharmaceutical industry. So we have some issues in China. So, basically, we lost the Greek market completely and in some other European countries and less re-stand in China.” [Case C]
	Sales reduction	“Competitors refused to buy the acquired products. So the drop in sales and profits happened quicker than we thought it would.” [Case A2]
	Intangible asset loss	“One is the unrealistic expectation. I would characterize both overestimating our ability across selling in the first place and how difficult it would be to persuade Target C to train surgeons to start using our products the other way round.” [Case C]
	Reduced value creation	“We had challenges in creating value, as we were competitors in African market before.” [Case H]
Time delay	Delay due to market transfer	“So we retain local auditing systems and local certification for probably 6 or 9 months, longer than we expected.” [Case A2]
	Delay due to inadequate budget	“We learnt that lesson subsequently and always ensure that we have a central acquisition budget that could fund this extra work because the savings never occur in the same place as the costs. We have to relocate money from elsewhere to fund the extra work. That limited the speed at which things could move”. [Case A2]
	Delay due to conflict resolution	“They always compete with each other. We have sales in this country, and they have sales in this country. We didn’t work as effectively as we should be. They are still two separate businesses not one business. Only two years later, they started to be one business.” [Case D1]
	Recovery from integration problem	“At the beginning, we thought the two machines had the same size and performance. But later, we found that our machine is used for ships as a cooling machine while their product is used for some power station. It took a long time for us to realize our wrong expectation.” [Case F]

Table 4 Data exemplars for strategic resources

Strategic resources	First-order themes		Examples
Pioneering technology	New products		“These are really high-margin products and with a fast-growing market. The market for IGRT and SRT offerings (our primary products) is growing fast. It is estimated to grow by 25%-30%. And we can control their products and IPR.” (Case A1)
	New technology		“Their technical competence, particularly in developing treatment planning software, is useful to us.” (Case A2) “3D technology is expected to be dominant in our industry in the future.” (Case H)
Product portfolio	Complete product portfolio	Small target	“But they haven’t sold many. They are too expensive. After the acquisition, they have the combination of the two products in China’s market. They have lower-cost pumps, and for those hospitals that customers can afford, they have more sophisticated pumps; we also have that available.” (Case D1)
		Large target	“We went to the orthopaedics industry only with the business of knees. Their development capabilities are strong in most of fields in orthopaedics.” (Case B) “We have a small but fast-growing need for the safety business. Target D2 has safety catheters. They also have development capabilities on safety products. Their expertise is difficult to replace. And they have had an infusion business, which we already have.” (Case D2)
	Highly complementary	Small target	“We already have our products on China’s market. But they haven’t sold many. They are too expensive. They have all the very complicated software, and they don’t need to communicate with the hospital IT network. They have expertise in developing low-cost products, highly complementary to us.” (Case D1)
		Large target	“The reason for us to buy them is that we have a small but fast-growing need for a safety business. Put simply, we had a need for a syringe and protected cover to stop nurses and a need for security. They had safety catheters to meet our demands.” [Case D2]
Market	New market (geography)	Small target	“We took a look at it, and we actually thought the fit in Europe was excellent because their primary market was Germany, where we were not very big. It was just a really good opportunity... It fills in the gaps in our geographical coverage really well because they were much bigger in Europe, especially in some of the key countries.” (Case C) “We have not had many products sold in China. Target D1 has 70% market share in infusion pumps in China.” (Case D1) “They are the No.1 in the communication industry in South Africa. Our products were also sold there but with very small market share.” (Case G)

		Large target	“The reason for us to buy them is that we have a small but fast-growing need for a safety business. Put simply, we had a need for a syringe and protected cover to stop nurses and need for security. They had safety catheters to meet our demands.” (Case D2)
	New market (products)	Small target	“So they want the products worse but work well. And that’s what Target D1 does. That was the rationale behind the acquisition.” (Case D1)
		Large target	“We went to the orthopaedics industry only with the business of knees. We were a big player in the market but did not play in hips, spine, trauma and sports medicine. So we only had a small part of the market. Target B has started as a firm to generate products in each of these areas. As the required investment in research and development and sales was huge and will take a long time, we acquired Target B under our mission to be No.1 in the market at that time.” (Case B) “Our strategy is to grow our market share in the whole safety business. The market was pretty good because the US market is converting from non-safety products to safety products. They have the market for safety catheters.” (Case D2)
Efficiency	Rationalization		“We saw revenue opportunities from cross-selling and cost opportunities from the rationalization of the sales force, head office, administrative and back office functions across Europe that we saw duplications.” (Case C) “We had our suppliers before the deal, and they had their suppliers in the question that, if we can combine the suppliers, we can get a better price. Mixed decisions on sales channels. We both have direct sales in large territories and distributors in small countries. Large saving costs from combining their products with our products because we already have the sales access to market. In the safety market, you need scale.” (Case D2)
	Integration		“Manufacturing is remained. We have done small integration in manufacturing.” (Case D2) “We tried to replace one of their big machines with our own.” (Case F)
	Centralization of operations		“The central warehouse helped us to rationalize our supply network.” (Case C)

Table 5 Data examples for sources of value destruction

Integration risks	First-order themes		Data
Product inefficacy	Market acceptance	Mature business	“In order to be safe, we buy companies when they become mature.” (Case B)

		Established products and revenues	“We have shown a very conservative policy on acquisition. We have not acquired any speculative start-ups and would like to acquire a firm with established products and revenues.” (Case A1 & A2)
		Establishing new customers	“The new product that employs 3D technology can be accepted by our high-end customers at the moment. But we may have difficulties in accessing more new customers.” (Case H)
	Regulatory dynamics	Regulatory approval	“It took a month for our auditor to say that we don’t agree with and we won’t audit the new products coming in. The problem for this is that you have to document your procedures. You have to train people, and you have to do an internal audit and an external audit, which is many months of work... So we retain local auditing systems and local certification for probably 6 or 9 months, longer than we expected.” (Case A2) “If it had a huge risk in terms of regulatory approval, unless, if we missed this opportunity, it would be dangerous to us in terms of one of our competitors acquiring, we generally tend to wait.” (Case B) “Our products have difficulties selling in South Africa and other African countries, but their products are popular in these places.” (Case G)
Market obstruction	Regional dynamics	Healthcare commission	“Unfortunately, we find out in some European countries, the former Target C’s business was making payments to doctors not according to the guidelines in some European countries, mainly Greece but also certain parts of Europe. Obviously, as soon as we find that, we stop the payments and a lot of doctors went elsewhere.” (Case C) “We basically lost the Greece business overnight. The Greek business went from 15 million Euros in 2007 to 5 million Euros in 2008... We have some major problems in China as well. China has gone through major exercises; I have asked a couple of years to try to clean up the medical device industry and pharmaceutical industry. So we have some issues in China. So, basically, we lost the Greek market completely and in some other European countries and less re-stand in China.” (Case C)
	Marketing incompatibility	Cross-selling	“We also overestimate our ability to merge the commercial organizations to work as one team... They always compete with each other. We have sales in this country, and they have sales in this country. We didn’t work as effectively as we should be. They are still two separate businesses, not one business.” (Case C)
		Quality conflicts	“We have a global reputation for selling a high-quality product. While we recognize that this is a cheaper pump and there are some compromises you have to make in making a cheaper pump, there is a certain basic quality you have to have, and I think that basic level of quality wasn’t there in some cases.” (Case D1)
Conflict	Organizational	Cultural	“We have different ways of doing business. Acquisitions just ask everybody on board to make every change

impediment	nal conflicts	conflicts	happen. But changing is always difficult. It is much easier for people to do what they are doing.” (Case C) “We prefer buying small firms. You don’t need to worry so much about the culture. But if you talk about bigger acquisitions, there is a culture problem. We only now have recovered. We bought that in 2005. Only now can we see that we are above where we started. It takes three or four years to get to that point.” (Case D2) “We are a British company. They are a German company. It is social challenge. Some of the staff there cannot even speak English. All about culture.” (Case F)
		Power struggling	“The power struggle after the acquisition can be very disruptive. We acquired a big company before. We did more damage. Some of damages were particularly to the acquiring business. So much culture damage from the power struggle.” (Case D2)
	Strategic conflicts	Non-core business	“If 75% are core, you can buy the whole company, keep 75% and sell 25%. But often, people don’t get round to selling it or ending up the whole business. They spend a lot of management time, trying to make them more profitable and grow them.” (Case D1 & D2)
		Low-value business	“Part of the Target A2’s business is not profitable and we do not need it at all.” (Case A2)

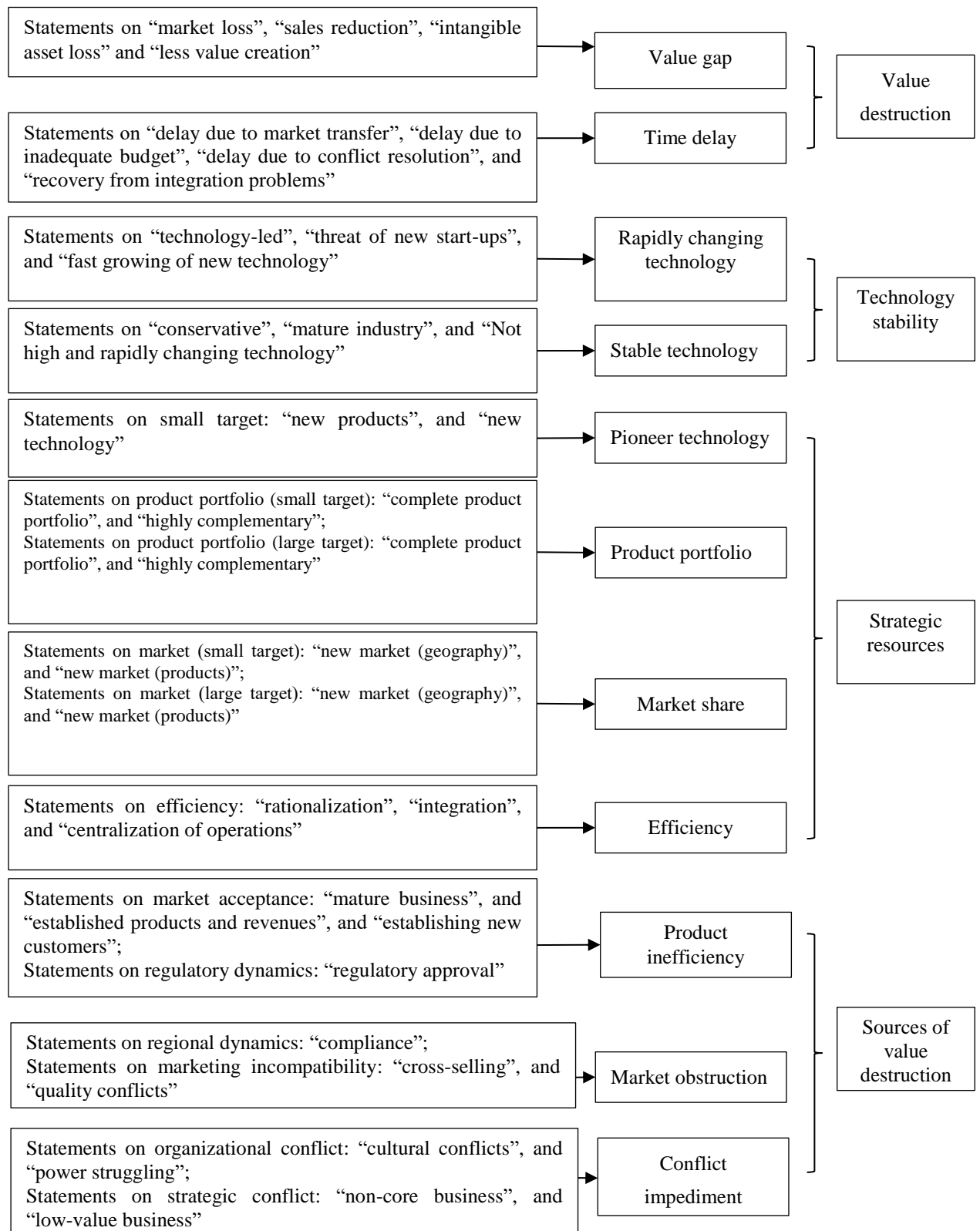


Figure 1 The structure of thematic analysis

Environment dynamics	Stable		Market obstruction <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Regional dynamics</div> <div style="border: 1px solid black; padding: 2px;">Marketing incompatibility</div>	Conflict impediment <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Organizational conflict</div> <div style="border: 1px solid black; padding: 2px;">Strategic conflict</div>
	Rapid	Product inefficacy <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Regulatory dynamics</div> <div style="border: 1px solid black; padding: 2px;">Market acceptance uncertainty</div>		
		Pioneer Technology	Market	All the resources
		Strategic resources		

Figure 2 Integrating target firm under the condition of strategic resources and environment dynamics