

# Expanded Understanding of IS/IT Related Challenges in Mergers and Acquisitions

## Methods & Research Context

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# EXPANDED UNDERSTANDING OF IS/IT RELATED CHALLENGES IN MERGERS AND ACQUISITIONS: METHODS & RESEARCH CONTEXT

*Complete Research*

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## **Abstract**

*Organizational Mergers and Acquisitions (M&As) occur at an increasingly frequent pace in today's business life. Paralleling this development, M&As has increasingly attracted attention from the Information Systems (IS) domain. This emerging line of research has started form an understanding of the challenges exacerbating related IT integration and the requirements on participating organizations to address these challenges. Extant literature has two limitations; the first limitation is that it has studied IS/IT issues in M&As in a limited set of industrial domains, the second limitation is that it has relied almost exclusively on two research methods: case studies and surveys. This research has the potential to improve our understanding of challenges and solutions in M&A activity, we attend to this potential through an explorative research approach.. In this paper, we adopted the focus group gathering technique (new method), specifically a 'less-structured' focus group process as well as the KJ method for analysis. We also used technology intensive companies as the research context (new industry domain) as they represent an unexplored industry with the potential for new knowledge according to Toppenberg & Henningsson (2013). Based on the analysis we identify gaps in the extant literature and suggest directions for future research.*

*Keywords: Acquisition, Integration, Post-Merger, Strategy, Merger, Focus Group, KJ Method.*

## **1 Introduction**

Organizational Mergers and Acquisitions (M&As) occur at an increasingly frequent pace in today's business life. Paralleling this development, M&As has increasingly attracted attention from the Information Systems (IS) domain and more specifically the Information Technology (IT) domain within IS. This emerging line of research has started form an understanding of the challenges exacerbating related IS/IT integration and the requirements on participating organizations to address these challenges.

However, reviewing the extant literature on IS/IT integration in M&As, Toppenberg & Henningsson (2013) concludes that although significant progress have been made, extant research has only started to explore the IT-related challenges of M&As. Specifically, the authors points to two specific limitations in the way that research has been carried out, that may have impacted the emerging understanding. The first limitation is that the extant research has studied IS/IT issues in M&As in a limited set of industrial domains, suggesting new research in innovation-driven acquisitions which are predominantly in technology intensive industries such as the high-technology industry. Common for the indsturies already investigated in extant literature are the strategies pursued by companies who motivated by product extension, market extension, vertical (supply chain/operations consolidation) and horizontal (business consolidation), which each is indicative of the rules of competition in these commodity markets that are driven by different competitive dynamics. The industrial context generally frames challenges and solution related to any strategic initiatives (Chiasson & Davidson, 2005). For M&A, specifically, different industrial contexts have been found highly correlated with the underlying reasons for

M&As. For example, in the financial sector banks are typically engaged in horizontal M&As motivated by economies of scale, while vertical M&As to 'move up' in the value chain has been common on European and North American manufacturing industries (e.g. H&M and SolarCity). The second limitation is that the extant research has relied almost exclusively on two research methods: case studies and surveys.

Addressing these limitations in the extant research on IS/IT issues in M&As, this paper presents a study of IS/IT integration issues in the high-technology industry, specifically focused on large US-based companies, and is based on a focus group research method. For companies in high-technology industries (software, hardware, ecommerce, internet), IS/IT is not only a support function but also the product or solution being acquired, and acquisitions are motivated by very different reasons than those mentioned earlier (eg. to complement innovation management). In addition, the competitive dynamics with fast innovation cycles and transient rather than sustainable competitive advantages are different we expect that M&As will reveal new insights. To study IS/IT integration challenges in this industry context, we adopted the focus group gathering technique, specifically a 'less-structured' focus group process. Less-structured approaches to focus groups are especially useful for exploratory research (Morgan, 1997). Given the interest in understanding the participants' challenges while leading the acquisition integration process, the less-structured focus group was an ideal format as it allows the participants to surface new challenges and issues based on their experience, which is a useful way of avoiding researcher bias. The formal research question guiding the research is:

**RQ:** What firm-level M&A integration issues exist in high-tech companies that can motivate an extension of the research agenda of IS/IT in M&A?

As where and how a phenomenon is studied impacts the conclusions that can be drawn about it, these we hope that this new take on the phenomenon of IT integration in M&As can bring our attention to new challenges implies that current research has only given attention to a minor subset of all IS/IT related challenges associated with M&As (Toppenberg & Henningson, 2013).

The chapters that follow are divided into six sections. The next section covers a review of the literature included in the research and its relation to the research question. Following is the research method section which details the data gathering methodology, data analysis methodology and research context. The findings section lays out the data analysis results from the focus group at the firm level. The next section connects the firm level issues with IS/IT relevant issues finally we discuss the contributions to theory and practice, research limitations, directions for future research, and present a short conclusion.

## 2 Background

Definition: in much of the research on IS/IT integration issues in M&As, no distinction is made between merger and acquisitions. The distinction is claimed to be only legal and not relevant from an IS perspective. To maintain terminological consistencies, this paper uses the term post-merger IS/IT integration with reference to the process of integrate the IS/IT of the two parties in the organizational combination, regardless of the juridical definition is acquisition or merger.

Extant literature has highlighted three knowledge domains of relevance to understand challenges and solutions to post-merger IS integration; they are integration capabilities, integration process and method, and integration outcomes (Table 1). Following is a brief review of the research that has its primary contribution in one of these knowledge domains and summarized in figure 1.

### 2.1 Integration capabilities

This knowledge domain represents the collective theoretical body of knowledge on the capabilities managers employ to manage the diagnosis and implementation phases of IT integration.

Diagnosis of IT integration is the focus of four papers in the extant literature. The strategic positioning and alignment is the focus of two papers specifically (Merali & McKiernan, 1993; Mehta & Hirsch-

heim 2007) they contribute to the extant literature by highlighting the decisions managers must make in the post-acquisition phase. Two additional papers focus specifically on the value creation and synergy diagnosis of M&As (Engert et al., 2010; Tanriverdi & Uysal, 2013) the researchers provide a perspective on finding and prioritizing synergies and acquirer value creation. Lastly, Yetton et al. (2013) provides a contribution to the extant literature that helps to get acquirers ‘Ready to Acquire’, with a focus on integrating IT Resources for a ‘growth-by-acquisition’ strategy.

<b>Table 1. Knowledge domains of extant literature</b>		
<b>Knowledge domain</b>	<b>Description</b>	<b>Papers in category</b>
<b>Integration Capabilities</b>	This knowledge domain represents the collective theoretical body of knowledge on the capabilities managers employ to manage the diagnosis and implementation phases of an integration	Bannert & Tschirky (2004), Merali & McKiernan (1993), Mehta & Hirschheim (2007), Wijnhoven et al. (2006), Robbins & Stylianou(1999), Mehta & Hirschheim (2004), Johnston & Yetton (1996), Engert et al. (2010), Tanriverdi & Uysal (2013), Yetton et al. (2013)
<b>Integration Process &amp; Methodology</b>	This knowledge domain represents the collective theoretical body of knowledge on the processes that managers follow in the integration.	Engert, Kelly & Rosiello (2010), Goedhart et al. (2010), Henningsson & Carlsson (2011), Davis (2012)
<b>Integration Outcomes</b>	This knowledge domain represents the collective theoretical body of knowledge on the capabilities managers use to measure the outcomes of the integration and address any issues that emerge relating to the performance, specifically the value created from the acquisition.	Lin & Chao (2008), Rothaermel (2008), Haspelaugh & Jemison (1991), Epstein (2004), Tanriverdi & Uysal (2011), Sarrazin & West (2011)

**Table 1. Knowledge domains of relevance in extant literature**

Capabilities focused on the implementation of an integration is the focus of six additional papers in the integration capabilities knowledge domain. The capability of determining the most suitable implementation strategy and assessing capability fit is the focus of four papers. Alaranta & Henningsson (2007) & Wijnhoven et al. (2006) both focus on the process of shaping IS integration Strategy. Mehta & Hirschheim (2004) presents a framework for assessing IT integration decisionmaking in M&As, while Johnston & Yetton (1996) contribute with and with a framework that focuses on fit, compatibility and models of change. Two additional papers here (Robbins & Stylianou, 1999; Bannert & Tschirky (2004) look at the impact on IS capabilities and highlight challenges specific to technology intensive acquisitions.

## 2.2 Integration process and methods

This knowledge domain represents the collective theoretical body of knowledge on the processes that managers follow in the integration. The body of knowledge is divided into three areas; the operational processes, the offering processes and the development processes. Four papers make a contribution with a focus on the integration process and methods. The focus in this knowledge domain is on the operational aspects of the integration process (3 papers) while only one paper focuses on the offering aspects (i.e. the business value, the customer, business models and the sales process) and the development aspects (i.e. research & development and innovation management).

Three papers focus primarily on the operational aspects of the integration process and methods. Engert, Kelly & Rosiello (2010) present findings from their research on the topic of organizational culture in M&A. Goedhart et al. (2010) present five types of successful integrations with a focus on the operational aspects of these integrations. Henningsson & Carlsson (2011) contribute with the DYSIIM model for managing IS integration in mergers and acquisitions. In addition, one paper has a focus on the offering & development aspects of integration; these are focused on the business success. Davis (2012) looks at M&A Integration, a practical guide for planning and delivering M&A integration for business success.

## 2.3 Integration outcomes

This knowledge domain represents the collective theoretical body of knowledge on the capabilities managers use to measure the outcomes of the integration and address any issues that emerge relating to the performance, specifically the value created from the acquisition. The body of knowledge is divided into two areas; the acquisition performance and the organizational performance. Six papers make up this knowledge domain, with a focus on acquisition performance (4 papers) and organizational performance (2).

Acquisition performance is the focus of four papers. The strategic value of IT in M&A and the role of technology competitive advantages is the focus of two papers (Rothaermel, 2008; Sarrazin & Wet, 2011). While Epstein (2004) focuses on the drivers of success in the Integration process and Tanriverdi & Uysal (2011) investigate how IT capabilities are not scale-free M&A integrations.

Lastly, two papers investigate the organizational performance factors in IS M&A. Lin & Chao (2008) look at post-merger IT integration: with a focus on IT culture conflict perspectives and Haspelagh & Jemison (1991), a seminal article in the domain of IS/IT in M&A look at how to create value through corporate renewal.

The frameworks and models chosen for this conceptual review represents the comprehensive and cross-disciplinary work across IS/IT, strategic management, and organizational design of 19 researchers or research teams. At an aggregate level the extant papers are aligned into the following figure 1. This view represents the extant literature across all investigated industries and utilizing primarily case study research, given the research question the next area of focus is to determine if gaps exist in our knowledge base when looking closer at the high-tech industry.

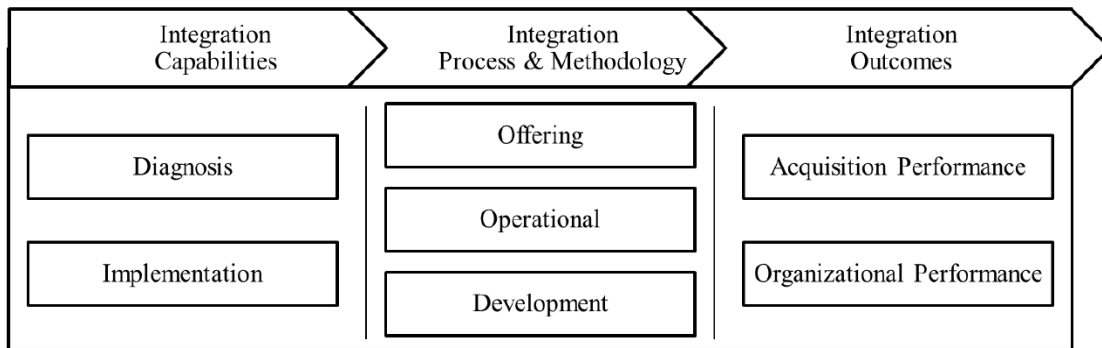


Figure 1. Knowledge domains and subsequent focus areas of the extant literature

## 3 Research Method

Given the motivation of seeking an expanded understanding of IS/IT related challenges of M&A through the process of interacting directly with practitioners through action research; we used a less-structured focus group process. This approach to focus groups are especially useful for exploratory research (Morgan, 1997) and specifically for identifying new problems/issues that may result in gaps

in the extant literature. Alternative methods can be used to identify gaps in extant knowledge (Sandberg & Alvesson, 2011) however, since this is an industry that likely is significantly different in its way of managing the acquisition integration process it is also likely the IS/IT challenges are sufficiently different. Therefore the decision was made to first understand the gaps based on the focus group approach in an exploratory manner and then compare the findings to the extant literature before proceeding with the development of new research questions and advance to the point of explanatory research. Given the interest in understanding the participants' challenges while leading the acquisition integration process, the chosen focus group approach was an ideal format, a format of research that has been used in previous IS/IT related research but is a new method in the domain of IS/IT in M&A (Toppenberg & Henningsson, 2013). As in this case, when the basic issues are poorly understood or existing knowledge is based on researcher-imposed agendas, then an unstandardized interview guide will provide the opportunity to hear the interests of the participants themselves in each group. In addition, minimizing the moderator's involvement in the discussion will give the participants more opportunity to pursue what interests them.

According to Fern (2011, pg. 5), "Exploratory tasks include creating new ideas; collecting unique thoughts; identifying needs, expectations, and issues; discovering new uses for existing products or discovering new products; and explaining puzzling results from quantitative research." Given the exploratory nature, the phase of the research, and the desire to learn something new, the less-structured focus group was ideal. The researchers letting the participants speak freely without an agenda and without much guidance from either the researchers' questions or the moderator's direction allowed the participants to explore the challenges in the acquisition integration process. The focus group process used is based on Kirk and Miller's (1986) general description of the four phases of qualitative research: planning, observation, analysis, and reporting.

### **3.1 Planning phase**

The decision was made to utilize a 'less structured' focus group, as the approach to focus groups is especially useful for exploratory research, where basic issues are poorly understood or existing knowledge is based on researcher-imposed agendas. The approach was chosen as it encourages the use of an unstandardized interview guide that will provide the opportunity to hear the interests of the participants themselves in each group. Participants were chosen because of their specific knowledge and skills in leading and managing mergers and acquisitions in technology intensive organizations. According to Morgan (1993) there are several "rules of thumb" when conducting focus group interviews. According to these rules of thumb, focus group projects most often have 6 to 10 participants per group and have a total of three to five groups per project. Following in Table 2 is a representative sample of one of the three focus groups conducted. The list includes information on participants by role, company type, and number of acquisitions.

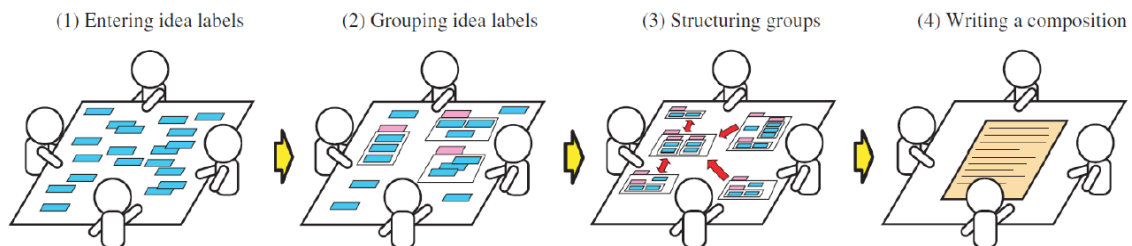
**Table 2. Focus Group #1 Participants Summary**

Company ID#	Company type	Job Title/Role of Interviewees	# of acquisitions (as of November – 2014) <sup>1</sup>
1	Hardware & Software	SVP & Director - Head of Acquisition Integration	161
2	Networking	Director - Head of Acquisition Integration	160
3	Internet	Director - Head of Acquisition Integration	147
4	Hardware & Services	Director - Head of Corporate Development	135
5	Hardware	Director - Head of Acquisition Integration	111
6	Internet	Director - Head of Corporate Development	102
7	Software	VP & Director - Head of Acquisition Integration	90
8	Technology Vendor	Principal/Partner - Head of Acquisition Integration	60
9	Chipmaker	Director - Head of Acquisition Integration	60
<b>Total:</b>			1026

**Table 2. Focus Group Participants**

### 3.2 Observation, analysis and reporting phases

Given the exploratory nature of the focus group and the availability of a professional focus group moderator the researcher chose to follow the steps of the KJ method of observation, analysis and reporting. The KJ method was developed by, and named after, Jiro Kawakita<sup>2</sup>. The KJ method is known as a method for establishing an orderly system from a chaotic mass of information. The KJ method involves the systematization and converging of brainstorming. The feature of the KJ method is cooperative work toward insights. The KJ method consists of four steps which were employed by the researcher in the focus group, see Fig. 1 for process details and table 3 for the steps.



**Figure 1 – The process of the KJ method – (Shigenobu & Munemori, 2007)**

Extending this process the researcher utilizes the compositions and the material from the focus group to identify the core focus areas that have the highest affinity for the focus group, this process is highlighted in figure 2. In this paper we will focus on the firm level issues (table 4) identified first then identify gaps in the extant literature (table 5) then extrapolate the IS/IT impacts and issues (table 6).

<sup>1</sup> Acquisitions from each company – <http://www.wikipedia.org>, <sup>2</sup> Jiro Kawakita - [http://en.wikipedia.org/wiki/Jiro\\_Kawakita](http://en.wikipedia.org/wiki/Jiro_Kawakita)



Table 3. Steps of the KJ method		
Step	Description	Results
Entering ideas	In the first step, participants can write ideas on paper labels freely. One label represents one idea. Participants enter their ideas on a theme, and they write down each idea on a tag (a small piece of paper, e.g., Post-It note) and put them on a table. Participants must propose their ideas without hesitation. This step corresponds to brainstorming.	Each focus group entered ideas based on their current knowledge and experience; they were left to enter ideas in silence and produced an average of 150 tags. Introductions were not conducted until following this step for the purpose of eliminating the possibility of identifying 'experts' in the room
Grouping ideas	In the second step, participants examine these tags and group them into groups through discussion. The criterion for this grouping is not the category of ideas but their similarity. Each group is called an island and given a representative title. The island is a technical term in the KJ method, and the set of similar ideas.	Each focus group grouped the ideas based on their similarity and were encouraged to discuss and question the different tags as they negotiated the appropriate alignment to a category.
Structuring groups	In the third step, participants look for an arrangement that expresses the mutual relations of the representative titles spatially. Then they connect the related representative titles together in a certain line	Each focus group structured their tags into unique groups; most groups however identified the same categories across focus groups but named them slightly differently.
Writing a composition	In the last step, participants write a summarized composition. They should not express their opinions but should write it based on the data itself.	To provide the research team with a narrative format of the categories the focus groups created a high-level narrative and presented the findings to the moderator of the focus group while the researcher observed silently.
Identify core focus areas	In this additional step the researcher utilizes the compositions and material from the focus group, identifies core areas of focus, then compares them to extant literature and determines gaps and opportunities for future research	The researcher identified several areas of firm level issues, then compared them to extant literature and determined the gaps and opportunities for future research.

Table 3 – Steps of the KJ method

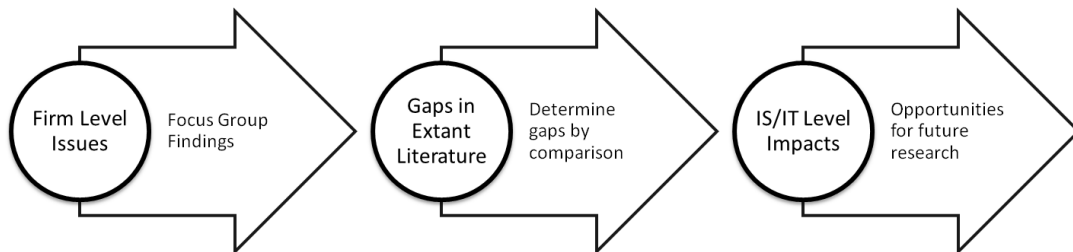


Figure 2. The process of narrowing down from the firm level to the IS/IT level challenges/impacts

## 4 Findings

Following the process above, the focus groups identified specific firm level issues. The firm-level issues identified by the focus group participants were then compared to extant literature and aligned to one of the knowledge domains; Integration capabilities, Integration process & methodology or Integration outcomes.

Table 4. Focus Group Findings			
Extant Knowledge Domain (Table 1)	Firm level-issue	Description	Potential Gaps in Extant Literature
Integration Capabilities	#1 - Diagnosis	Firm level issues on determining the target state and structural fit of organizational and operation components of the target company within the acquiring enterprise as well as how to identify and track synergies.	Findings in this area suggest that the speed of technological innovation is motivating high-tech companies to determine how they can leverage capability-based planning or enterprise architecture as a method of attaining speed to market for its acquisitions.
	#2 - Hand-offs	Translating the rationale of the deal, the value drivers, to the execution team, ensuring that the deal value would not be destroyed in the process of integration.	Findings in this area were consistent with the extant literature and does not motivate research in potential gaps
Integration Process & Methodology	#3 - Offering & development	A focus on the areas of the integration process of new business models, the go-to-market methods of a firm, the enablement of the sales force and the product life-cycle.	Findings in this area suggest some significant opportunities in the area of the integration process, specifically in the areas of sales enablement, the integration of research & development teams given motivation for technology acquisitions, and the product life-cycle processes such as supply chain.
	#4 - The core	Addresses the core element of integration, specifically the areas of leadership alignment, project management, communications and integration expertise.	Findings in this area were consistent with the extant literature and does not motivate research in potential gaps
Integration Outcomes	#5 - Stakeholders	Impacts on customers of both the acquiring company and of the target in the form of ordering, support, and service. In terms of the employee, the on-boarding, retention of talent, and the area of a global workforce were common themes in this area.	Findings in this area were consistent with the extant literature and does not motivate research in potential gaps

**Table 4 – Focus group findings**

The purpose of this section is to determine which of the firm-level issues are related to extant literature and which may lead new research opportunities for IS/IT researchers. Following is a narrative description of each firm-level issue and a table identifying the potential gaps (Table 4.)

#### 4.1 Firm-level issue #1 - Diagnosis

**Sub-Area 1.1: Structural Fit and Target State** – An acquisition integration team determines the architectural target state and structural fit of organizational and operation components of the target company within the acquiring enterprise. The challenge expressed was the ability to master this task while balancing the unique nature of each acquisition. Several participants did not employ this process and found it interesting.

*We use a software tool for the development of a target state that allows us to prioritize our efforts. Initially we used it to learn about previous deals by going through and rating and grading them retroactively. The first deal we used it on, we completely changed the deal strategy, so not just the integration strategy but the acquisition strategy. The original deal strategy came up with a medium score, showing us that the proposed deal would add major expenses*

*and complexity but add only incremental technology to our product offering. Allowing us to get a good idea of what the target state would look like helped us avoid a major investment that would have been a value destroyer from day 1; instead, we acquired only the technology from the target and not the entire company. – Focus Group #3 Participant #2*

**Sub-Area 1.2: Value Drivers/Cost Synergies** – The focus group identified this as a challenge, identifying and capturing value drivers and cost synergies that were objective and measurable throughout the life cycle of the acquisition integration. In addition, the challenge in this area was on tracking the delivery of fulfilment of these drivers and synergies.

## 4.2 Firm-level issue #2 - Hand-offs

**Sub-Area 2.1: Connecting deal team to integration team and transitioning ownership from integration team to Operations** – The focus group identified several cards in these affinity groupings, especially in the area of translating the rationale of the deal, the value drivers, to the execution team, ensuring that the deal value would not be destroyed in the process of integration. They also identified challenges in the handoff from the integration team to the business unit or operations unit in charge of the ongoing ownership and maintenance of the integration component.

*The ability to hand-off from deal team to integration team has been evolving over the past four-five years. When I first started in this area of acquisitions, within 15 days after close, you could not even get the deal guys on the phone; they were just like thank you very much, have a nice life, good luck. We now generally have had good “deal leads” on the integration committee the first two years post-close. So they are still involved and still keep apprised on the status of the integration. They have a say on accountability and track what we are delivering, if we are successful, or if we are missing the mark. –Focus Group #1 Participant #7*

## 4.3 Firm-level issue #3 - Offering & Development

**Sub-Area 4.1: New Business Models and Go-to-Market** – The focus group participants focused much of the conversation and deliberation on this set of affinities as it represented one of the core elements of challenge for most of the organizations. Several of the organizations used the “acquire and integrate innovations” process to non-organically add innovations to their product portfolio by acquiring small companies for “tech and talent.” The companies represented a new or adjacent business model in many cases to the core product portfolio along with different go-to-market models that included new pricing and billing models such as pay-per-use or subscription models.

**Sub-Area 4-2: Sales Enablement** –The focus group participants also identified sales enablement as a challenge. The ability to bring the product to a new market segment or to capitalize on bringing an existing customer base a new product offering depends largely on the ability to train up the sales force of an organization. Focus group participants identified both business process and systems issues particularly as they related to the area of sales compensation.

*Integrating new business models that are dissimilar to our own is challenging. We start by planting our own resources in the target or the acquired business, so that we have a better idea of how they do business. What we’re finding is that these really unique businesses have very different business models. We realize that they have a very different way of doing business, and we want to understand this process so we don’t kill the business. - Focus Group #1 Participant #4*

**Sub-Area 4.3: Integration of research & development teams** - This was a concern identified across the focus groups. In technology intensive organizations and industries the impact of integrating the R&D team into the acquiring entity is critical to the ability to attain the value from the acquisition. This could be either as an early state product under development or a mature product being integrated into another offering.

#### 4.4 Firm-level issue #4 – The Core

**Sub-Area 5.1: Leadership** – In particular the focus group found aligning the leadership teams of the acquiring company and the acquired company as representing challenges in the acquisition integration process. Ensuring a strong alignment and on boarding the leadership team of the acquired company was identified as a success factor given the influence they have on the rest of the key talent of the acquisition.

*Leadership alignment is vital to ensure sustainable results from our acquisitions. It can be very difficult to ensure the leadership alignment when leaders in our business units do not stay in the same role for the duration of an integration. It is also important that we ensure the leadership team of our target is well aligned with the leadership team in our company and the business unit leaders in the overall strategy for the acquisition. - Focus Group #2 Participant #6*

**Sub-Area 5.2: Project Management, Governance, Planning, and Change Management** – These elements represent the most traditional and fundamental challenges, most of which have been extensively researched and theorized about across many other disciplines. They continue to remain one of the most difficult areas to address, however, by practitioners given how fractured and federated many of the integration teams are in these organizations. Ensuring a standardized approach of execution and experience is extremely difficult.

**Sub-Area 5.3: Scale and Agility** – Most of the organizations who participated in the focus group were identified as serial acquirers, those that acquire and integrate multiple companies in a calendar year. To most of the organizations, the ability to scale the back-office of the acquiring organization to accommodate new business units and the ability of the acquired company to scale its unique operational capabilities to support a new set of customers represent challenges both from a process and systems perspective.

**Sub-Area 5.4: Integration Expertise** – The ability for the integration team to continue to learn from previous acquisitions remains a challenge for organizations, though several focus group participants represented companies that have adopted organizational learning practices such as retrospectives and lessons-learned to capture key information that allows them to optimize the process and fine-tune specific elements of the process.

#### 4.5 Firm-level issue #5 - Stakeholders

**Sub-Area 3.1: Customer and Employee Experience** – Both were identified as representing challenges for the majority of the focus group participants and represented companies. The integration impacts on customers of both the acquiring company and of the target in the form of ordering, support, and service were the most common impacts. In terms of the employee, the on-boarding, retention of talent, and the area of a global workforce were common themes in this area.

#### 4.6 Impact of findings on IS & Opportunities for future research

Focusing specifically on the areas above in table 4 where the extant literature has not been developed the following firm-level issues that could be researched further as they have an impact on IS/IT level issues. These firm-level issues include; ‘offering & development’ as well as the ‘deal rationale’. Below we explore what the potential opportunities are for future research given this knowledge (table 5.)

**Table 5. Impact of findings on IS & Opportunities for future research**

Firm Level Issue	Firm Level Sub-Issue	Description	IS/IT Level Issue & Impact
#1. Diagnosis	1.1 - Structural Fit and Target State	Determining the architectural target state and structural fit of organizational and operation components of the target company within the acquiring enterprise.	The challenge expressed was the ability to master this task while balancing the unique nature of each acquisition. For IS/IT integration managers the choice is how to leverage enterprise architecture to manage the integration.
	3.3 - Integration of research & development teams	In technology intensive organizations and industries the impact of integrating the R&D team into the acquiring entity is critical to the ability to attain the value from the acquisition. This could be either as an early state product under development or a mature product being integrated into another offering.	As new R&D teams with differing product development life-cycles and methodologies are integrated IS/IT teams will need to address the growing number of dependent systems for these teams, this includes the areas of agile & rapid development along with the need to ensure the high availability of these systems.
#3. Offering & Development	3.2 - Sales enablement	The ability to integrate the sales team from the acquired entity is critical to the success of realizing the value of the acquisition as well as the integration of product offerings into the current selling motion of the existing sales team.	As new sales teams are integrated the IS/IT managers responsible for integration will need to address the sales, compensation and marketing IS/IT capabilities to support these areas. The ability for a customer to order an integrated product or service is the most frequent metric for success by the focus group participants, the dependence on the IS/IT systems to make this possible is significant.
	3.3 - Integration of new business models	Technology intensive organizations utilize M&A as part of their innovation management program and therefore acquire non-similar business models or new business models. The integration of these cause issues in the areas of the product offerings, value propositions and other areas.	As technology intensive organization continue to acquire and integrate new and different business models there is an opportunity for the IS/IT team to determine the need for reverse integration of capabilities as well as manage th landscape of capabilities supporting these new business models and build out new capabilities if needed.
	3.3 - Integration complexities in Go-to-Market area	The acquisitions of new business models disrupt the areas in the go-to-market area, including pricing and billing models such as pay-per-use or subscription models.	As the shift from similar or known business models to new and different models occur the IS/IT managers also need to address the need to manufacture, ship, price and recognize revenue in different ways. Particularly the shift to “software as a service” can present an issue for traditional hardware or boxed software companies. The IS/IT capabilities will need to change to address these firm level changes.

**Table 5 – Impact of findings on IS/IT & Opportunities for future research**

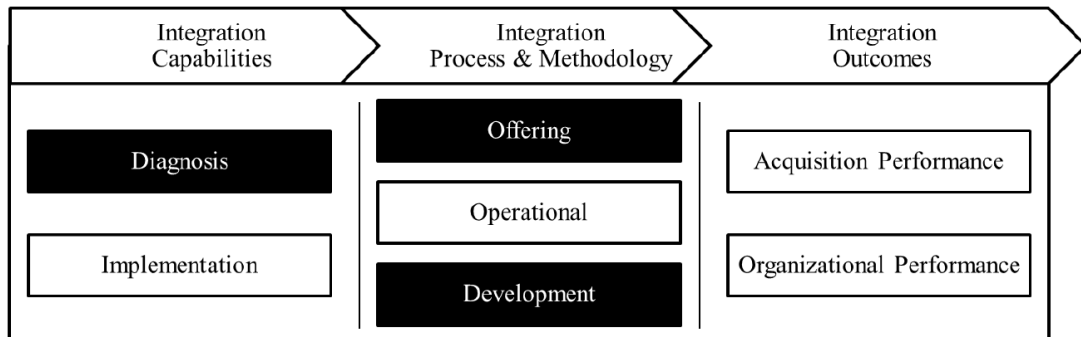
## 5 Discussion and conclusion

This paper presented a study of IT integration issues in the high-technology industry, based on a focus group research method. The focus group gathering technique, a research method not used in extant literature was chosen since it was especially useful for exploratory research (Morgan, 1997) given the interest in understanding the participants’ challenges while leading the acquisition integration process.

### 5.1 Discussion

The findings from the focus groups suggest a significant area of firm level issues that pertain to the area of the offerings & development as well as the diagnosis knowledge domains of an acquisition. Specifically, the areas of R&D team integration, sales enablement, new business models and the go-to-market /product-life-cycle were highlighted as well as the structural fit and target state. Each area has

a significant impact to the IS/IT managers and the five areas represent gaps in the extant literature. Figure 3 represents an updated view of the previously presented aggregate view of extant literature highlighting the areas with gaps identified.



**Figure 3 – Aggregate view of the extant literature & focus group findings**

The research presented in this paper is an initial step in the direction of extending the research agenda on IS/IT issues in M&A. It is motivated by the gap identified by Toppenberg & Henningson (2013) acknowledging that the high-tech industry is underrepresented and that further research in this area could reveal new areas of research.

## 5.2 Limitations and future research opportunities

The current research has multiple limitations; specifically the use of focus group limits the representation of the industry to only a few representatives. The focus group is explorative in nature and is therefore meant as an initial step in the process. Given the areas of IS/IT level issues based on the firm level issues identified there is now an opportunity to further investigate the IS/IT level issues as well as the firm level issues further through case studies.

## 6 References

- Alaranta, M and Henningsson, S. (2007) Shaping the post-merger information systems integration strategy. System Sciences, 2007. HICSS 2007. 40th Annual Hawaii International Conference on Information Systems.
- Bannert, V. and Tschirky, H., Integration Planning for Technology Intensive Acquisitions. R&D Management, Vol. 34, No. 5, pp. 481-494, November 2004.
- Chiasson, M. & Davidson, E. (2005) 'Taking industry seriously in information systems research', MIS Quarterly, Vol. 29, No. 4 (Dec., 2005), pp. 591-605
- Engert, O., Kelly, E. and Rosiello, R. (2010) "A McKinsey perspective on getting practical about culture in M&A", McKinsey Quarterly
- Engert, O., Kelly, E. and Rosiello, R. (2010) "A McKinsey perspective on finding and prioritizing synergies", McKinsey Quarterly
- Epstein, M. (2004) "The drivers of Success in Post-Merger Integration", Organizational Dynamics - Organ Dyn 01/2004; 33(2):174-189.
- Fern, E. (2011) Advanced Focus Group Research, SAGE Publications, Inc; 1 edition (June 25, 2001)
- Goedhart, M., Koller, T. and Wessles, D.(2010) "The five types of successful acquisitions", Valuation: Measuring and Managing the Value of Companies (fifth edition, Hoboken, NJ: John Wiley & Sons, August 2010)
- Haspeslagh, P. and Jemison, D.B. (1991) "Managing Acquisitions: Creating Value Through Corporate Renewal", New York: Free Press. Accessed June 3 2012.
- Henningsson, S. & Carlsson, S. (2011) "The DySIIM model for managing IS integration in mergers and acquisitions." Information Systems Journal, 21 (2011) 441-476.
- Johnston, K. And Yetton, P. (1996) Integrating information technology divisions in a bank merger fit, compatibility and models of change. The Journal of Strategic Information Systems 5(3), 189-211.
- Kirk, J. and Miller, M. L. (1986), Reliability and Validity in Qualitative Research, London: Sage.
- Lin, F. and Chao, R. (2008) Post-Merger It Integration: An It Culture Conflict Perspective. PACIS 2008 Proceedings. Paper 17. <http://aisel.aisnet.org/pacis2008/17>
- Mehta, M. & Hirschheim, R. (2004) A Framework for Assessing IT Integration Decision-Making in Mergers and Acquisitions. 37th Annual Hawaii International Conference on System Sciences, 2004. HICSS 2004.
- Mehta, M. & Hirschheim, R. (2007) Strategic alignment in mergers & acquisitions: theorizing IS integration decision making. Journal of the Association for Information Systems, 8, 143-174.
- Merali, Y. & McKiernan, P. (1993), The strategic positioning of information systems in post-acquisition management. Journal of Strategic Information Systems, Volume 2, issue 2 (June, 1993), p. 105- 124.
- Morgan, D (1993) "Successful Focus Groups: Advancing the State of the Art", Newbury Park, CA: Sage Publications
- Morgan, G. (1997). Images in organizations (2nd Ed.). Thousand Oaks, London: Sage Publications.
- Robbins, S.S. & Stylianou, A.C. (1999) Post-merger systems integration: the impact on IS capabilities. Information and Management, 36, 205-212.

- Rothaermel, F. (2008) "Competitive Advantage in Technology Intensive Industries", *Technological Innovation: Generating Economic Results, Advances in the Study of Entrepreneurship, Innovation and Economic Growth*, Volume 18, 201–225
- Sandberg, J. and Alvesson, M. (2011) "Ways of constructing research questions: gap-spotting or problematization?" *Organization* January 2011 18: 23-44
- Sarrazin, H. & West, A. (2011) "Understanding the strategic value of IT in M&A." *McKinsey Quarterly*, 12, 1–6.
- Shigenobu, T. & Munemori, J. (2007) "Evaluation And Application Of Creativity Collaboration Support System Gungen Dx Ii For Consensus-Building Among Users", *International Journal of Information Technology & Decision Making (IJITDM)*, 2007, vol. 06, issue 03, pages 475-490
- Tanriverdi, H. & Uysal, V. (2011) "Cross-Business Information Technology Integration and Acquirer Value Creation in Corporate Mergers and Acquisitions", *Information Systems Research Journal*
- Tanriverdi, H. & Uysal, V. (2013) "When IT capabilities are not scale-free in merger and acquisition integrations: how do capital markets react to IT capability asymmetries between acquirer and target?" *European Journal of Information Systems* advance online publication 6 August 2013; doi: 10.1057/ejis.2013.22
- Toppenberg, G. and Henningsson, S. (2013) "An Introspection for the Field of IS Integration Challenges in M&A." *Proceedings of the Nineteenth Americas Conference on Information Systems*. Association for Information Systems. AIS Electronic Library (AISeL) 2013
- Wijnhoven, F., Spil, T., Stegwee, R. & Fa, R.T.A. (2006) "Post-merger IT integration strategies: an IT alignment perspective." *Journal of Strategic Information Systems*, 15, 5–28.
- Yetton, P., Henningsson, S. and Bjorn-Andersen, N. (2013) "Ready to Acquire": IT Resources for a Growth-by-Acquisition Strategy, *MIS Quarterly Executive*, 12 (1), pp 19-35.