Research in Economics and Management
ISSN 2470-4407 (Print) ISSN 2470-4393 (Online)
Vol. 3, No. 4, 2018
www.scholink.org/ojs/index.php/rem

Original Paper

Technology Acquisitions: A Process Perspective on Search, Selection and Implementation

Annelies S. A. Bobelyn[1*]

[1] Department of Industrial Engineering & Innovation Sciences, Eindhoven University of Technology, Eindhoven, Netherlands

[*] Annelies S. A. Bobelyn, Department of Industrial Engineering & Innovation Sciences, Eindhoven University of Technology, Eindhoven, Netherlands

Received: October 18, 2018 Accepted: November 10, 2018 Online Published: November 14, 2018
doi:10.22158/rem.v3n4p344 URL: http://dx.doi.org/10.22158/rem.v3n4p344

Abstract

Technology acquisitions have become an important external source of innovation. But notwithstanding the abundant literature on the topic, relatively little is known about the acquisition process itself and how it impacts acquisition performance. Some papers have used a process perspective as point of departure, but these studies focus at one component of the acquisition process and neglect to question how these different process components interact to influence acquisition performance. To address this gap, we carefully scrutinize each process component for its influence on the subsequent acquisition stages and performance. Using a case study design, we find that the decisions and managerial actions taken in the search and selection phase have an important impact on the success of implementation. We identify search and involvement of the client department as crucial mechanisms in the acquisition process and reveal their implications for the structure and composition of the team managing the acquisition.

Keywords

technology acquisitions, process, learning, knowledge transfer

1. Introduction

The acquisition of technology and more specifically the acquisition of pioneering ventures has become an increasingly important means to obtain access to innovative technologies (Hitt et al., 1991; Vanhaverbeke et al., 2002). But despite their growing popularity, there are still many acquisitions that have failed to achieve their objectives (Graebner, 2004; Ranft & Lord, 2002).

Ever since the publication of the work of Jemison and Sitkin (1986), it is widely accepted that the acquisition process itself is an important determinant of acquisition success. Yet, if we take a closer look at the existing literature on acquisitions in general (King et al., 2004) and technology acquisitions in particular, we have to conclude that the number of process studies is rather limited. Those process studies that do exist (Birkinshaw et al., 2000; Jemison & Sitkin, 1986; Ranft & Lord, 2002) focus predominantly on one component of the acquisition process, mainly the post-acquisition integration process. The pioneering work of Haspeslagh and Jemison (1991) resulted in an extensive stream of research that focused on managing the integration process, with the dilemma coordination versus autonomy at the forefront (Puranam et al., 2006; Puranam & Srikanth, 2007; Ranft & Lord, 2002). The central question in this stream of research is whether the acquirer should integrate the target or maintain its independence to realize the synergy potential.

Although effective post-deal implementation is crucial in capturing value from acquisitions, the process of managing acquisitions is much more wide-ranging than this integration dilemma. In fact, researchers have long understood that the value creation following an acquisition must be studied by examining the actions that lead up to the acquisition decision along with the integration and management activities that follow the decision (Jemison & Sitkin, 1986). However, in reality the number of process studies that capture the whole acquisition process from search and selection through implementation is relatively limited. This paper tries to fill this gap by scrutinizing the complete acquisition process from defining the acquisition strategy to the acquisition outcome. The empirical fieldwork reveals that every process component has an impact on the eventual acquisition outcome. Each process component not only affects the acquisition outcome but also has an impact on the subsequent process stages. The contribution of this paper is twofold. First, we add to the literature on technology acquisitions that predominantly has been focusing on the integration dilemma by complementing this organizational view with the economics on information view. This paper makes the connection between pre-acquisition literature and post-acquisition literature by looking at the whole acquisition process. Our framework illustrates how implementation problems may be caused by mistakes made in the preceding stages of search, selection and due diligence and how this affects team management. Furthermore, we extend the literature by providing evidence that acquirers not only learn from their previous acquisitions, but learning also plays an important role within the acquisition process. Effective search allows the acquirer to learn from the target before the actual action and smoothens both the selection and implementation process. Furthermore, the results indicate that in each stage valuable knowledge is gathered and that it is important to share this knowledge with all employees involved in the acquisition process: employees involved in the post-acquisition stage should learn from the knowledge gathered by the employees involved in the pre-acquisition stage. A second contribution of the paper is empirical. This paper addresses the call for more case studies in the field of technological acquisitions. The case study provides a deeper insight in the process of technology acquisitions and identifies a number of mechanisms that are crucial in the search and selection phase as they influence the implementation and eventually the acquisition outcome.

2. Literature Review

During the past decades, the acquisition of small technology-based firms has become an important means to obtain valuable resources such as technologies and innovation capabilities (Ahuja & Katila, 2001; Ranft & Lord, 2002; Wagner, 2016). Yet, despite this increasing trend, there are still many technology acquisitions that fail to achieve their objectives and result in poor performance (Graebner, 2004; Ranft & Lord, 2002; Schweizer, 2005). First, potential causes for poor acquisition performance are attributed to bad selection behaviour and paying high acquisition premiums (Porrini, 2004). Second, the reasons for failure are also attributed to long and costly integration processes of these acquired firms. Capturing value from acquisitions depends on the effective management of the post-deal implementation (Graebner, 2004; Ranucci & Souder, 2015; Schweizer, 2005). Within this line of research, the focus has primarily been on managing the organisational dilemma of coordination versus autonomy.

Concluding, the literature distinguishes between two stages: the pre-acquisition stage and the post-acquisition stage. Whereas pre-acquisition misjudgements are usually explained by economics of information, post-acquisition integration issues are explained by organisational theory. In the following paragraphs, we first shed light on the acquisition process, discussing the different steps in the pre- and post-acquisition stage. Second, a literature review is provided on pre-acquisition problems caused by information asymmetry. Finally, we elaborate on the organisational causes of acquisition failure, discussing both the problems and suggested solution in the post-acquisition implementation phase.

2.1 The Acquisition Process

Roughly, the acquisition process can be broken down in two stages, the pre-acquisition stage and post-acquisition stage, with in between the actual acquisition, i.e., the consummating of the deal. Each acquisition starts with the formulation of an acquisition strategy. This strategy presents a clear set of objectives that serve as a foundation for the following stage: the search and screening stage. In this stage potential acquisition targets are identified and prioritized. Subsequently, in the selection stage, the potential targets are evaluated and one target is selected for acquisition. In the acquisition stage, the acquirer enters into negotiations with the target until an agreement is reached. Next to the price and method of payment, also the retention of key personnel and physical integration constitute an important part of the negotiations. Once the deal is consummated, one enters the post-acquisition or implementation stage. In this stage, the business potential created in the previous stages is now realized by transferring and combining resources and capabilities to create competitive advantage.

2.2 The Economics of Information View

Acquisitions in general and technology acquisition in particular allow organizations to obtain access to knowledge that is of high strategic importance but of low familiarity (Leonard-Barton, 1995). However the quality of this knowledge is hard to assess, leading to information asymmetry between acquirer and target and adverse selection (Coff, 1999). As a result of this information asymmetry, acquirers may struggle with assessing the true synergy potential of acquisition candidates. Several M&A studies have noted that information asymmetry may have a significant impact on the likelihood and performance implications of acquisitions (Eckbo et al., 1990) as it can lead to adverse selection and/or hidden action. In the literature on technology acquisitions, a number of factors have been analysed which enable the acquirer to reduce information asymmetry. Coff (1999) for example demonstrates that buyers cope with this information asymmetry and related uncertainty by (1) offering lower bid premiums; (2) using contingent payment such as earn outs and stock payment, and (3) increasing information both through lengthy negotiations and by avoiding tender offers. Alternatively, the acquirer may rely on signals of quality disseminated by the target such as university affiliation (Bonardo et al., 2010; Cattaneo et al., 2015), inter-organizational relationships (Reuer et al., 2012) or technical quality (Heeley et al., 2006). Finally, also acquisition experience (Cuypers et al., 2017; Fowler & Schmidt, 1989) and previous alliances (Porrini, 2004; Reuer & Ragozzino, 2006) may help moderate information asymmetry.

2.3 The Organizational View

The organizational view focuses on the problems that arise during the implementation phase. One of the most prevalent problems during implementation is the autonomy versus coordination paradox. Post-acquisition integration both hinders and facilitates the efforts of the acquirer to leverage the knowledge and technology of the target and realize the expected synergies (Birkinshaw et al., 2000; Chaudhuri et al., 2005). Puranam et al. (2006) argue that the key to resolving the coordination-autonomy dilemma is considering the development stages of the target’s innovation trajectory. Structural integration is recommendable when the target has already launched products, while autonomy seems to be advisable when no products are launched yet by the target. Similar conclusions are found in another paper of Puranam and Srikanth (2007). Schweizer (2005) on the other hand proposes a hybrid integration approach: R&D related activities should retain a high degree of autonomy, while the non-R&D-activities should be integrated. Besides the choice for integration or autonomy, researchers have studied the mechanisms and strategies that foster coordination and knowledge transfer and thereby help resolving the integration paradox, such as the role of the acquired leaders (Graebner, 2004), the retention of key personnel (Kiessling & Harvey, 2006) or rich communication and speed of integration (Ranft & Lord, 2002). Finally, Kapoor, and Lim (2007) underline the importance of similar routines and skills to smoothen coordination, however too much overlap in routines and skills may limit the cross-fertilization of ideas.

The literature described in the previous paragraphs gives an overview of the determinants of failure and success in technology acquisitions. Part of the literature has looked at the pre-acquisition knowledge and activities and a more recent stream of research has focused on the post-acquisition integration aspect. Despite this abundant literature, relatively little is known about the acquisition process itself and its impact on failure and success. Where previous process studies mainly focus on the implementation phase, this paper looks at the acquisition process as a whole, carefully scrutinizing each process component and its impact on the acquisition outcome.

3. Method and Data

3.1 Methodology

To address this research gap, a qualitative case study design is used, in particular a process research approach is adopted. The process perspective frames acquisitions as a series of decision-making steps each of which has an impact on the final outcome of the full acquisition process (Jemison & Sitkin, 1986). A case methodology is particularly useful when studying the process of M&A's, as it enables the researcher to explore the processes through which synergies are identified and actualized (Larsson, 1993). In spite of Larsson's advocacy, a case study methodology has only been used in a limited number of M&A research studies. Therefore, to address the research question, we will combine a case study design and inductive empirical investigation. This is the most appropriate research design, as the main goal of this paper is to further extent the existing theory on technology acquisitions. The first step consisted of selecting an appropriate case. The organization we studied was a leading telecom operator, we call TelCo. We studied the acquisition of Mobile Everywhere by Telco.

To select the interviewees we use the snowball technique. The sampling should begin with top managers as they are critical players in perceptions about change in organizations and are therefore identified as key informants (Kumar et al., 1993). Hence, top managers that were involved in the acquisition process were interviewed. After each interview we asked the interviewee who else was involved in the process and could provide us with relevant and important information on the topic. We continued this procedure until no new names came to the surface. In total we conducted nine interviews. We interviewed both managers and lower-level employees. The interviews were conducted by two interviewers and took on average between one and two hours. All interviewees were recorded and the tapes were transcribed verbatim to increase to reliability of the results. Besides the interviews, access was given to more than 300 pages of internal PowerPoint presentations, financial sheets, annual reports and press releases to back up the story. Altogether, these documents provide over 500 pages of secondary data sources and are useful for the following reasons. First, they make it possible to construct a quantitative picture of the process under study (Burgelman, 1983). Second, they allow checking for potential systemic bias due to retrospective thinking (Golden, 1992). Afterwards, each interview was discussed by the two interviewees and a third independent person in order to increase the validity of the data. The interview transcripts serve as main source of data and basis for analysis, however observation and documentation data were included as triangulation and supplementary data sources (Miles & Huberman, 1994). Each interview report was coded independently by the two interviewers. Afterwards, the coding was put together and compared. Whenever the coding differed, a discussion followed until agreement was reached.

3.2 Research Setting

The TelCo group is a European telecom operator and is active in three main fields: fixed-line services, mobile communication services and international services. As competition was becoming fiercer and margins were dropping, TelCo was facing severe challenges to maintain its profitability. Consequently, it decided to move up the value chain, integrate vertically and enter the business of mobile applications. It is in this context that the acquisition of Mobile Everywhere should be situated. The company specialized in the development of mobile solutions and synchronization of data between the mobile phone and the traditional ICT-system of the company, like, e.g., ERP and CRM. The founding team consisted of three men in their early thirties who realised they operated in an immature business. Only a handful of companies were specialized in this business. At the moment of acquisition, Mobile Everywhere had more than 40 clients. The company mainly focused its activities on mobile sales people in two well-defined industries, Fast Moving Consumer Goods—Food and Non-Food (distribution, hotel and catering industry)—and Pharma (medical sales, OTC). At that time, Mobile Everywhere had 26 employees.

4. Findings

Each phase of the acquisition process not only has an impact on the eventual outcome of the acquisition but also affects the next stage in the process. As a consequence all these stages are interrelated and jointly shape the acquisition outcome. In the next paragraphs, we examine the mechanisms through which each stage has an impact on the subsequent stage and the acquisition success or failure. More specifically, we study the extent to which search and selection practices in pre-acquisition process affect the subsequent stages of acquisition process. For each phase, one or several mechanisms are discovered that affect the subsequent stages and the eventual outcome of the acquisition.

4.1 Acquisition Motives

The main activity of TelCo was to provide mobile communication services. However, as margins were dropping, a new strategy was launched by the Strategy and Business Development department in order to materialize the opportunities offered by mobile IT. TelCo decided it needed to move up the value chain and integrate vertically. In the future, TelCo wanted to become a prime contractor of mobile solutions. Since TelCo has no real internal R&D activities, it opted to look outside its boundaries for potential mobile applications. In the past, TelCo had set up a wide range of partnerships with the players in this field. However, TelCo decided to acquire a company instead of relying on partnerships, as this allowed them to move up the value chain much faster and capture more value in comparison to partnerships. The Strategy and Business Development department was responsible for the first four phases in the acquisition process, namely the definition of the acquisition strategy, the search process of identifying and valuing potential targets, the selection process and the negotiations. The main objective of the Strategy and Business Development (S&BD) department is to monitor the environment to detect opportunities and partner with those small markets that have the opportunities to become big. To accomplish this objective and spot opportunities, the department attends conferences, uses trend watching tools and calls on external consultants. Since it was clear that the future of TelCo is in the business of mobile ICT, it was the job of S&BD to select those opportunities with the highest potential. After scanning the market of mobile IT, the S&BD decided that mobile sales and field force, email and personal information management are those IT-applications which were likely to be mobilized first. However, the mobile applications email and personal information management were considered to add low value. Mobile sales and field auditing on the other hand, were the markets with the highest growth potential. Therefore the acquisition profile was set at a mobile solution provider of sales and field auditing services, targeting the mid-company size market. All small players in this market were identified and contacted to discuss future collaboration. In this step, the alliance team was involved as well. They already had a good understanding of the players in the market, since they were responsible for creating partnerships that allow selling the own products. Consequently, the alliance team knew the ICT market very well and was able to identify all relevant players in the market of mobile sales and field auditing. A due diligence of all these players was carried out taking into account technical competences, business competences, track record and organizational fit. Based on these analyses, two targets were identified, one of which is acquired: Mobile Everywhere. With the acquisition, TelCo hoped to realize some cost synergies like common marketing and IT. However, the emphasis was on the creation of revenue synergies. TelCo expected that they were able to increase the sales to 150% of the sales generated by Mobile Everywhere, by linking the TelCo brand and customer base to the Mobile Everywhere products.

However, during the interviews it became clear that the acquisition was not an unqualified success and the expected synergies were not realized. Although the strategy behind the acquisition is clear and everyone agrees that mobile ICT applications were indeed the future of TelCo, the acquisition could not realize its full potential. Based upon the interviews, we ascertained a number of reasons why the acquisition fell short on expectations. First, the market for the product of Mobile Everywhere was not as developed as expected. All the representatives of the sales department confirmed that the market "is still in its early adopter phase". Especially the market of small and medium companies is not ready to adopt the technology. The sales representative of the SME market admitted "My experience for SME is negative, but that doesn't mean that there is no potential. I do think there is a potential market, but the product should first be sold to Corporate and Large. And later on, SME will follow". It appeared that TelCo was a bit too optimistic with respect to the expected synergies. TelCo thought that synergies could be realized by simply linking the customer base and brand of TelCo to the Mobile Everywhere product. Reality however, was more complicated.

Second, moving up the value chain was more difficult than expected. The sales cycles of the two companies were totally different. The sales process for a TelCo product was rather reactive and sales cycles are short. The sales process for Mobile Everywhere' product on the other hand was pro-active; it was about knowing the company and addressing its needs. As a consequence the sales cycle was longer. Selling Mobile Everywhere' product required a different mind-set, different contacts, and different sales talks. Finally, there were some problems relating to the team that managed the acquisition. In the whole process, several teams succeeded each other in the management of the acquisition. Obviously, the hand-over of the acquisition file from one team to another implies the loss of a lot of information. Overall, the acquisition could have benefited from a better preparation of the implementation phase.

In the following paragraphs, we dilate upon the root causes of these problems and try to unravel how they could have been averted. We investigate how each process component has an impact on the subsequent processes and the overall success or failure of the acquisition. In particular we investigate how managerial actions and decisions taken in the search and selection phases of the process interact to influence the realization of the expected synergies and the acquisition outcome.

4.2 The Impact of Search

Once the acquisition strategy is defined the search for potential acquisition candidates can begin. In business literature this search process is defined as the identification process of potential acquisition targets that fit the acquisition profile (Depamphilis, 2009). More generally, search in organizations is an important part of the organizational learning process through which firms attempt to solve problems (Huber, 1991) and can be seen as a dynamic capability that enlarges the knowledge base of a firm and therefore allows firms to sustain their competitive advantage over time. Accordingly, due to path dependency, most firms that seek to enlarge their knowledge base restrict their search process to familiar and proximate areas (Rosenkopf & Almeida, 2003). This local search process is especially beneficial to create incremental innovation, as firms become more expert in their current domain (Rosenkopf & Nerkar, 2001). Recent literature, however, emphasises that sustainable competitive advantage relies more heavily on the firm's dynamic capabilities to move beyond local search and reconfigure its knowledge base (Rosenkopf & Nerkar, 2001; Stuart & Podolny, 1996). Similar results can also be found in the study of Katila (2002). Her results point out that old intra-industry knowledge hampers innovation, while old extra-industry knowledge stimulates innovation.

These findings imply that organizations looking for technology acquisitions need search mechanisms that enable them to learn from the knowledge residing outside the firm. EIRMA (2004) distinguished the following modes for accessing external information: purchase of technology, joint venturing and alliances, joint development, contract R&D, licensing, collaborations with universities, equity in university spin-offs and equity in venture capital investment funds. All these mechanisms may serve as search strategies as they allow building up knowledge on a certain technology. Therefore, we define search strategies in the context of technology acquisitions as mechanisms to access external knowledge and information such as alliances. Alliances, corporate venture capital, university-industry links and joint ventures.

Searching for and valuing entrepreneurial targets is often problematic because entrepreneurial firms are difficult to locate as exchange partners (Deeds & Hill, 1999). While at the same time, entrepreneurial firms tend to find it more difficult to signal their business prospects to investors (Cassar, 2004). Moreover, private companies tend to involve higher transaction costs in the presence of search and valuation problems than their public counterparts (Eckbo et al., 1990; Ellis et al., 2004).

When investigating the case, we discovered that search is indeed more than identifying and valuing potential targets. This phase may also comprise an important learning aspect as the acquirer tries to access external knowledge on potential targets. The case study revealed that existing partnerships were a very important source of information. These partnerships not only smoothen the process of identifying potential targets, the knowledge gathered through these partnerships also serves as a valuable input in the selection phase and in the subsequent acquisition phases. TelCo was able to identify all relevant players that fitted the acquisition profile thanks to the co-selling agreements it had with most of the relevant players in the market. When entering new businesses, TelCo "*always first tries to work with partners to develop this new business, these collaborations serve as a window on new technologies and the herewith related opportunities*". The interviews revealed that the search activities in the form of co-selling agreements affected the acquisition outcome through two separate mechanisms. First, the search stage increased the market and technological knowledge on mobiles sales and auditing. The information gathered during the search phase was a crucial input in the selection phase and in the negotiations as it allowed the acquirer to assess the combination potential of the opportunity. The target-specific information gathered during the collaboration reduces the information asymmetry. This reduced information asymmetry in turn smoothens the progress of the selection and due diligence and contributes to the overall acquisition performance. This mechanism is also illustrated in Figure 3. Several M&A studies have pointed out that information asymmetry may indeed have a negative impact on acquisition performance (Eckbo et al., 1990). Thanks to these partnerships, TelCo was able to scan the market of technologies and choose those technical solutions with the highest potential, as confirmed by one of the interviewees: "*The advantage of having an alliance team is that it enabled us to get in touch with the mobile ICT market… We of the alliance team knew that we were given the space to set up these partnerships because sooner or later TelCo would acquire one of these partners*". Also Porrini (2004) her findings confirm that alliances allow to build up target-specific information and experience, benefiting selection, valuation and integration of acquisitions. Search is not only a facilitator of the acquisition process because of its knowledge generating impact, it has also an impact on the quality of the relationship between acquirer and target, i.e., the second mechanism through which search affect acquisition performance. During the search phase, TelCo contacted all its partners in the market and asked in all openness "how can we collaborate better in the future?". This approach created a climate of trust and stimulated a friendly environment in which the negotiations took place. "*The negotiations were very intense, but always civil. I had a lot of respect for them and they had a lot of respect for me*". It also decreased the resistance of the employees of the target to the acquisition. In fact, most of the employees were happy to become part of TelCo, since they worked so well together in the past: "*The moment the acquisition was completed, the CEO of Mobile Everywhere started communicating this to his employees; at that point in time they were very happy to become part of TelCo*". The fruitful collaboration before the acquisition created a climate of trust that had a positive impact on the negotiations and implementation phase. Several studies confirm that high levels of trust between partners stimulate people to engage in social exchange and by doing so share more knowledge and information (Ring & van de Ven, 1992). Since effective knowledge transfer is crucial for the success of technology acquisitions, trust contributes to a considerable extent to the performance of the acquisitions. Trust increases the willingness of partners to share knowledge and information (Inkpen & Tsang, 2005), because it alleviates the fear for opportunistic behaviour from the other partner(s) in the collaboration (Bradach & Eccles, 1989). Moreover, trust facilitates the process of exchange tacit and difficult to codify information, which is by definition hard to communicate and to trade by markets (Kogut & Zander, 1992).

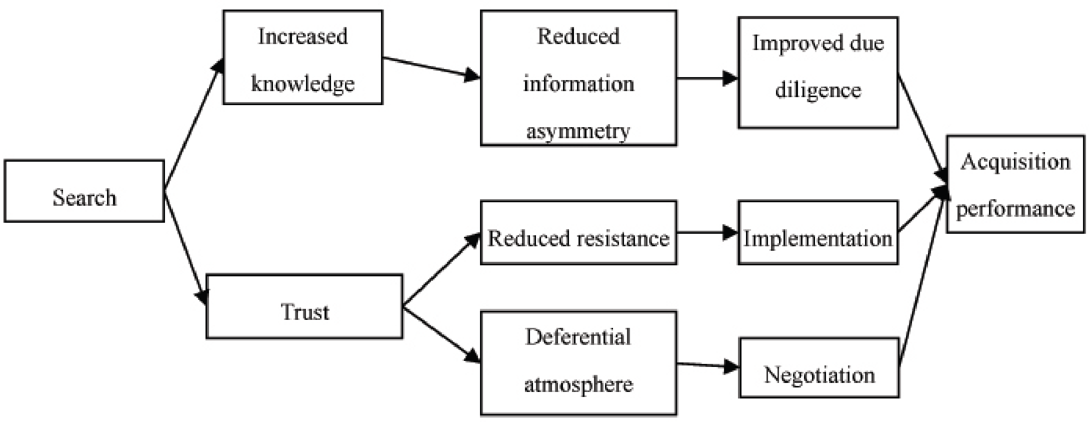

Figure 1. Impact of Search on Acquisition Process

4.3 The Impact of Selection

The search phase is followed by a selection phase, which comprises the selection of one acquisition target and a technical and market or business due diligence. The technical due diligence was done properly: TelCo did have a good understanding of the technology beforehand. They knew what the technology was about and what the application could do. The business or market analysis on the other hand, aims at assessing the business potential of the acquisition. Since technology acquisitions seek to create synergies by leveraging the technological knowledge of entrepreneurial ventures by linking them to the complementary assets of large companies in manufacturing and distribution (Puranam et al., 2006), the acquirer creates value by conquering and scaling up the market created by start-up companies. This implies the expected synergies are by nature revenue synergies. It was expected that synergies could be realized by coupling the customer base of TelCo (which consists mainly of small and medium enterprises) with the product of Mobile Everywhere. However, during implementation it became clear that this was not as easy as expected. One of the most important reasons why the acquisition failed to realize the expected synergies was a misjudgement of these expected revenue synergies. During the interviews it became clear that the market potential of the technology of Mobile Everywhere was somewhat misjudged for the following reasons. First, selling the product of Mobile Everywhere is completely different from selling traditional TelCo products. These differences in sales cycle limited the organizational fit between the two companies, which consecutively impedes the effective realization of the expected synergies (Jemison & Sitkin, 1986): "*We were box movers. Mobile Everywhere is not a box mover. It's a real application. This means that the sales cycle is longer than expected. We thought it would take about one month, but in fact it takes on average six months… This also means that we don't have discussions with the persons we are used to discussing with. Up to here we always communicated with the CIO or the Chief Telecom Officer and now all of a sudden we have to talk to sales people… Our people don't even have to sell the application. They just have to generate leads and the Mobile Everywhere sales people will do the rest. But our sales people are not at ease with this…*" Another interviewee adds: "*Selling a regular TelCo product is rather reactive. The customer needs something and we give them what they need. Since Mobile Everywhere focuses on sales people in Fast Moving Consumer Goods (FMCG) and Pharma, you need to know the world of FMCG and Pharma to determine their needs. The sales people at Mobile Everywhere actually come from FMCG and Pharma. They need to ask themselves: "How can my applications facilitate their processes?" The process is more proactive*". Several interviews with managers from sales confirm this: "*Our sales people can learn about the technicalities of this product but it' is far more important to know the business. You need to know what these sales people in FMCG and Pharma do day in day out in order to know how you can be of service to them. Maybe it would be a good idea to merge Mobile Everywhere and TelCo people so that they can learn this from each other*". Second, the current market potential of the product was overrated as it was still in its early phase: "*There are about 600.000 small and medium enterprises as potential customers. Some of them might be interested in the product, but for this type of applications, the small and medium enterprises are followers. They follow what happens in the corporate market. There may be some early adopters in that market segment but it's very hard to find them*". Someone else confirms: "*The acquisition took place too soon. The SME market is not ready. If you look at the references within Mobile Everywhere, you notice that most of them are large companies. There are a number of small companies, but they are active in the same market as the big companies*". The main reason why these misjudgements occurred is because the client department, that is the sales and marketing department, was not involved in this stage: "*The business case calculated during the due diligence phase does not correspond with reality. During the valuation of the opportunities, sales targets were set but they were never challenged with sales. What I mean is that they never checked whether sales could sell this product? … We should have been involved in the previous phase to prepare for the hand-over and implementation*". The sales and marketing department interacts on a daily basis with the customer and has a deep understanding of the dynamics, needs and preferences in that market. Based on this market knowledge, involvement of the sales and marketing department would have led to more accurate estimations of the expected synergies. This would in turn have affected the negotiations, since the stand-alone value of the target and the synergy value determine the upper and lower margin for negotiation the acquisition prices.

The involvement of the client department (i.e., the department that is responsible for the implementation, in this case the sales and marketing department) in the due diligence phase is also essential for another reason. After the deal was completed, the acquisition file was handed over the sales and marketing department, who now became responsible for the realization of the synergies. However, it soon became clear that there was a lack of commitment and buy-in to implement the synergies effectively. The persons who were responsible for the implementation of the deal, were not involved in the preparation of the file. As a result, the marketing and sales team was only involved after the closing of the deal. This implies that when the deal was closed the sales and marketing targets were not part of the marketing and sales roadmap of that year. One of the interviewees puts it as following: "*We expected that when TelCo would sell the product of Mobile Everywhere, sales would increase a lot. But this didn't happen the first year because it (the product) was not included in the sales targets of the sales guys. These things should have been prepared before the hand-over, before signing the deal. And the same applies for the marketing roadmap. After the deal was signed, I just received the file and they said: go and implement it! So the first thing I did was to check the contract we signed and what our commitment was. We checked with all the persons in charge how we could put into operation these targets. This went really slowly. This really was a change of mind-sets… The problem is buy-in. First you need buy-in from the management. This was very hard to obtain. The implementation should be a top-down buy-in process. However, after the hand-over we did a lot of work to get the targets operational. This really was a top-down process that took a lot of time, because both the marketing roadmap and sales targets were already set, it's very time-consuming to change this*". The responsible for the market of small and medium enterprises confirms: "*There was a lot of resistance to implement the case. This is not only the case for the small and medium sized market but also for the other market segments. If we include the product of Mobile Everywhere in our targets because it is of strategic importance, the people from strategy and business development will sure be happy, but they only have an advising role. They have no hierarchical power to say: go and implement it!*". These findings imply that if the client department was involved sooner in the pre-acquisition phase, the implementation would have went off more smoothly. The sales and marketing department would have had the time to translate the synergies into sales targets and a marketing roadmap which naturally increases the commitment of the sales and marketing department to the project. One of the managers of the Strategy and Business Department realizes that it was indeed important to effect the commitment of the client department: "*The problem is that we are not in charge of sales and marketing. It is hard for us to say: guys, you do it! We really need to try to involve those people in the file and motivate them to participate*".

To summarize, the client department should have been involved in the selection and due diligence phase for two reasons. First, the client department, which is the sales and marketing department, is best placed to check the assumptions made in the evaluation of the acquisition file, as this is the department where the market knowledge resides. Second, involvement of the client department during selection and due diligence secures the buy-in of this department and allows them to prepare for implementation. Large organizations are typically confronted with heavy processes. Involvement in the earlier phases allows them to translate in time the expected synergies in sales targets and marketing roadmaps.

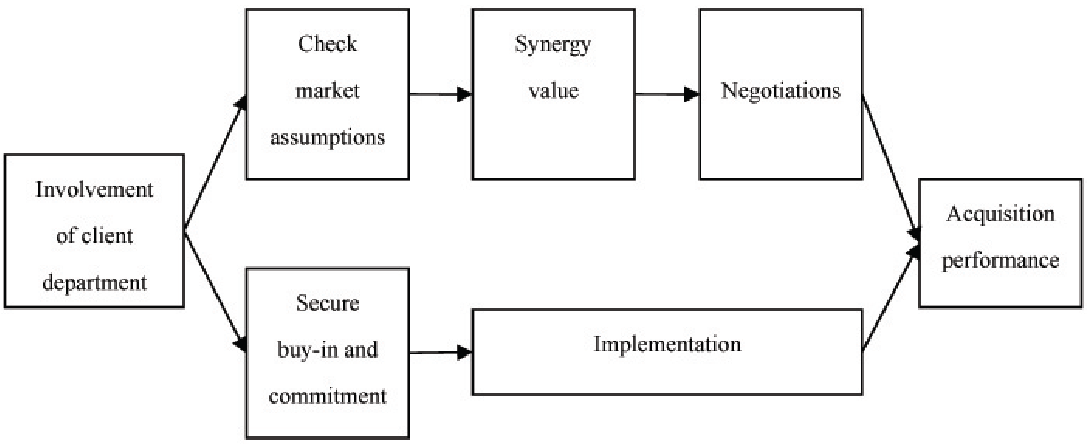

Figure 2. Impact of Selection on Acquisition Process

4.4 Managing the Process as a Whole

The fact that the different components of the acquisition process are interrelated has also an impact on the team managing the acquisition. The acquisition process comprises conceptually and operationally different analyses done by different people (Jemison & Sitkin, 1986). Analysing the different aspect of the acquisition process require different competences, consequently the knowledge on the acquisition file is divided among several individuals. However, the knowledge on the acquisition file is mainly tacit by nature. Tacit knowledge is incommunicable and difficult to transfer, as opposed to explicit knowledge which is easily codified and translated (Nonaka & Takeuchi, 1995). This lack of explicit knowledge in the acquisition process hinders the transfer of knowledge and plays a part in the team composition and management. As it is difficult to transfer the knowledge of the acquisition file, it becomes critically important to manage the whole acquisition file by the same acquisition team. In the case we studies however, there were frequent changes in the team responsible for the implementation as is proven by the following quote: "*there has been an evolution in the file. ABC, DEF and I are no longer involved. I think, nowadays, it is mainly XYZ who manages the file*". Another interviewee confirms "*The first matter that not go well, was the hand-over of the file. We only received the file once it was signed. Other than that: nothing!! We should have been involved earlier, during the preparation of the file, to prepare the hand over*". Also the person in charge of the selection and negotiations acknowledges that many problems arose from the hand-over of the file: "*The implementation, there it all went wrong. I had the drive, but from the moment the cheque was handed over, I was no longer in charge. I am not saying that I should have done better. But we should see to it that the person, who was in charge of the acquisition itself, is also responsible for the implementation and the creation of synergies*". Further in the interview he repeats: "*The mistakes mainly occurred after the acquisition. Then the file was handed over from Business Development to the other team. Moving the file from one team to another means losing the dynamics. Just the fact that all the knowledge on the file needs to be transferred takes months!*". These findings lead us to believe that team longevity is an important driver of acquisition success. Therefore, ideally the acquisition should be managed as a project, where one manager has direct access to and responsibility for the work of all employees involved and the core group of project members is dedicated and physically co-located with the leader. These types of teams are called heavyweight teams (Clark & Wheelwright, 1992). However, due the specific nature of the acquisition, the roles of the different persons involved will change. The strategy or M&A department will have a leading role during the pre-acquisition phase as it is their responsibility to search for and appraise potential acquisition targets, however input from the client department is desired for the reasons elucidated in the preceding part; their role should be contributing. Once the deal is closed and the acquisition reaches its implementation phase, the roles should be switched around as the client department becomes responsible for the operational management of the acquisition. Nevertheless, the strategy or M&A department should still fulfil a contributing role because of the thorough knowledge they have built up during the pre-acquisition phase. This model is presented in Figure 3 below.

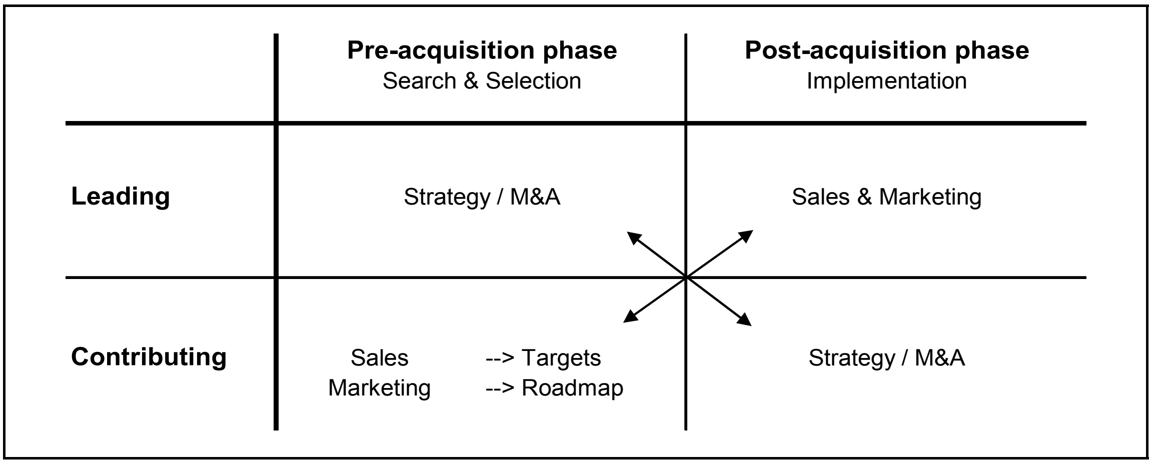

Figure 3. Aligning Pre- and Post-Acquisition Phase

5. Discussion and Conclusion

Both business practice and literature indicate that technology acquisitions have become an important means to obtain access to and exploit innovative technologies and external knowledge (Vanhaverbeke et al., 2002; Puranam et al., 2006). But despite the abundant literature on technology acquisitions, we still lack a deeper insight in the entire process of managing acquisitions, from strategy definition to implementation and performance. There are a few papers that studied the phenomenon from a process perspective (e.g., Jemison & Sitkin, 1986; Birkinshaw et al., 2000; Ranft & Lord, 2002), yet their focus is mainly limited to the integration process. This paper addresses this gap in literature by looking at the entire acquisition process and examining how this process affects acquisition performance. More specifically, we investigate how the different process components are interrelated and how decisions and managerial actions made during the search and selection phase affect the implementation and the acquisition outcome. An in-depth case analysis is used to gain a deeper understanding of the acquisition process and its impact. The interviews reveal that both search and selection are crucial in preparing the implementation of the acquisition, as they moderate some of the typical selection problems (such as information asymmetry) and implementation problems (such as resistance of the personnel). First, we investigate the impact of search on the subsequent stages of the acquisition process. We defined search as accessing external information and knowledge on new technologies by means of alliances, corporate venture capital, and joint ventures. We find that search contributes to acquisition performance through two mechanisms: increased market and technological knowledge and trust. On the one hand, the market and technical information gathered during the search activities lowers the level of information asymmetry and leads to better selection decisions, which in turns contributes to acquisition performance. On the other hand, these search activities allow building up a relationship with the potential target. The trust established during this cooperation leads to decreased resistance with the employees of the target firm and also facilitates the process of negotiating the deal, which again contributes to acquisition performance. Second, we explore how decisions taken during the selection and due diligence process influence the subsequent stages of the acquisition. We identify involvement of the client department as a crucial success factor in the acquisition process for the following reasons. First, the client department is best suited to check a number of assumptions, especially the assumptions related to the market, such as the adoption of the technology in the market and the sales cycle, for this knowledge is an important input factor in the calculation of the synergy value of the deal and therefore affects the negotiations and acquisition performance. Second, the involvement of client department during the pre-acquisition stages also secures buy-in and the commitment of this department to acquisition, thereby reducing the resistance of the employees to the acquisition and facilitating implementation. Finally, we discover that the interrelatedness of these process components has implications for the team that is managing the acquisition. In particular, the interviews reveal that acquisitions might benefit from project management, where one dedicated team is responsible for the management of the file. Together, these findings raise a number of issues that up until now, received limited attention in the research of technology acquisitions. Further research is required to gain a deeper insight in these processes and to verify the discovered relationships.

References

Ahuja, G., & Katila, R. (2001). Technological acquisitions and the innovation performance of acquiring firms: a longitudinal study. *Strategic Management Journal*, *22*(3), 197-220. https://doi.org/10.1002/smj.157

Birkinshaw, J., Bresman, H., & Håkanson, L. (2000). Managing the Post-acquisition Integration Process: How the Human Iintegration and Task Integration Processes Interact to Foster Value Creation. *Journal of Management Studies*, *37*(3), 395-425. http://doi.org/:10.1111/1467-6486.00186

Bonardo, D., Paleari, S., & Vismara, S. (2010). The M&A dynamics of European science-based entrepreneurial firms. *The Journal of Technology Transfer*, *35*(1), 141-180. https://doi.org/10.1007/s10961-009-9109-3

Bradach, J. L., & Eccles, R. G. (1989). Price, Authority, and Trust: From Ideal Types to Plural Forms. *Annual Review of Sociology*, *15*(1), 97-118. https://doi.org/10.1146/annurev.so.15.080189.000525

Burgelman, R. A. (1983). A Process Model of Internal Corporate Venturing in the Diversified Major Firm. *Administrative Science Quarterly*, *28*(2), 223-244. https://doi.org/10.2307/2392619

Cassar, G. (2004). The financing of business start-ups. *Journal of Business Venturing*, *19*(2), 261-283. https://doi.org/10.1016/S0883-9026(03)00029-6

Cattaneo, M., Meoli, M., & Vismara, S. (2015). Cross-border M&As of biotech firms affiliated with internationalized universities. *The Journal of Technology Transfer*, *40*(3), 409-433. https://doi.org/10.1007/s10961-014-9349-8

Chaudhuri, S., Iansiti, M., & Tabrizi, B. N. (2005). The multilevel impact of complexity and uncertainty on the performance of innovation-motivated acquisitions. In *Harvard Business School Corporate Entrepreneurship Research Conference*.

Clark, K. B., & Wheelwright, S. C. (1992). Organizing and Leading "Heavyweight" Development Teams. *California Management Review*, *34*(3), 9-28. https://doi.org/10.2307/41167421

Coff, R. W. (1999). How buyers cope with uncertainty when acquiring firms in knowledge-intensive industries: Caveat emptor. *Organization Science*, *10*(2), 144-161. https://doi.org/10.1287/orsc.10.2.144

Cuypers, I. R. P., Cuypers, Y., & Martin, X. (2017). When the target may know better: Effects of experience and information asymmetries on value from mergers and acquisitions. *Strategic Management Journal*, *38*(3), 609-625. https://doi.org/10.1002/smj.2502

Deeds, D. L., & Hill, C. W. L. (1999). An examination of opportunistic action within research alliances: Evidence from the biotechnology industry. *Journal of Business Venturing*, *14*(2), 141-163. https://doi.org/10.1016/S0883-9026(97)00069-4

Eckbo, B. E., Giammarino, R. M., & Heinkel, R. L. (1990). Asymmetric Information and the Medium of Exchange in Takeovers: Theory and Tests. *The Review of Financial Studies*, *3*(4), 651-675. https://doi.org/10.1093/rfs/3.4.651

Fowler, K. L., & Schmidt, D. R. (1989). Determinants of tender offer post-acquisition financial performance. *Strategic Management Journal*, *10*(4), 339-350. https://doi.org/10.1002/smj.4250100404

Golden, B. R. (1992). Research Notes. The Past is the Past—Or is it? The Use of Retrospective Accounts as Indicators of Past Strategy. *Academy of Management Journal*, *35*(4), 848-860.

Graebner, M. E. (2004). Momentum and serendipity: How acquired leaders create value in the integration of technology firms. *Strategic Management Journal*, *25*(89), 751-777. https://doi.org/10.1002/smj.419

Heeley, M. B., King, D. R., & Covin, J. G. (2006). Effects of Firm R&D Investment and Environment on Acquisition Likelihood. *Journal of Management Studies*, *43*(7), 1513-1535. https://doi.org/10.1111/j.1467-6486.2006.00636.x

Hitt, M. A., Hoskisson, R. E., Ireland, R. D., & Harrison, J. S. (1991). Effects of Acquisitions on R&D Inputs and Outputs. *Academy of Management Journal*, *34*(3), 693-706.

Huber, G. P. (1991). Organizational learning: The contributing processes and the literatures. *Organization science*, *2*(1), 88-115. https://doi.org/10.1287/orsc.2.1.88

Inkpen, A. C., & Tsang, E. W. K. (2005). Social Capital, Networks, and Knowledge Transfer. *Academy of Management Review*, *30*(1), 146-165. https://doi.org/10.5465/amr.2005.15281445

Jemison, D. B., & Sitkin, S. B. (1986). Corporate Acquisitions: A Process Perspective. *Academy of Management Review*, *11*(1), 145-163. https://doi.org/10.5465/amr.1986.4282648

Kapoor, R., & Lim, K. (2007). The Impact of Acquisitions on the Productivity of Inventors at Semiconductor Firms: A Synthesis of Knowledge-Based and Incentive-Based Perspectives. *Academy of Management Journal*, *50*(5), 1133-1155. https://doi.org/10.5465/amj.2007.27169706

Kiessling, T., & Harvey, M. (2006). The human resource management issues during an acquisition: The target firm's top management team and key managers. *The International Journal of Human Resource Management*, *17*(7), 1307-1320. https://doi.org/10.1080/09585190600756798

King, D. R., Dalton, D. R., Daily, C. M., & Covin, J. G. (2004). Meta-analyses of post-acquisition performance: indications of unidentified moderators. *Strategic Management Journal*, *25*(2), 187-200. https://doi.org/10.1002/smj.371

Kogut, B., & Zander, U. (1992). Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology. *Organization Science*, *3*(3), 383-397. https://doi.org/10.1287/orsc.3.3.383

Kumar, N., Stern, L. W., & Anderson, J. C. (1993). Conducting Interorganizational Research Using Key Informants. *Academy of Management Journal*, *36*(6), 1633-1651.

Larsson, R. (1993). Case Survey Methodology: Quantitative Analysis of Patterns Across Case Studies. *Academy of Management Journal*, *36*(6), 1515-1546.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. SAGE.

Nonaka, I., & Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press.

Porrini, P. (2004). Can a Previous Alliance Between an Acquirer and a Target Affect Acquisition Performance? *Journal of Management*, *30*(4), 545-562. https://doi.org/10.1016/j.jm.2004.02.003

Puranam, P., & Srikanth, K. (2007). What they know vs. what they do: How acquirers leverage technology acquisitions. *Strategic Management Journal*, *28*(8), 805-825. https://doi.org/10.1002/smj.608

Puranam, P., Singh, H., & Zollo, M. (2006). Organizing for Innovation: Managing the Coordination-Autonomy Dilemma in Technology Acquisitions. *Academy of Management Journal*, *49*(2), 263-280. https://doi.org/10.5465/amj.2006.20786062

Ranft, A. L., & Lord, M. D. (2002). Acquiring New Technologies and Capabilities: A Grounded Model of Acquisition Implementation. *Organization Science*, *13*(4), 420-441. https://doi.org/10.1287/orsc.13.4.420.2952

Ranucci, R. A., & Souder, D. (2015). Facilitating tacit knowledge transfer: Routine compatibility, trustworthiness, and integration in M & As. *Journal of Knowledge Management*, *19*(2), 257-276. https://doi.org/10.1108/JKM-06-2014-0260

Reuer, J. J., & Ragozzino, R. (2006). Agency hazards and alliance portfolios. *Strategic Management Journal*, *27*(1), 27-43. https://doi.org/10.1002/smj.446

Reuer, J. J., Tong, T. W., & Wu, C.-W. (2012). A Signaling Theory of Acquisition Premiums: Evidence from IPO Targets. *Academy of Management Journal*, *55*(3), 667-683. https://doi.org/10.5465/amj.2010.0259

Ring, P. S., & van de Ven, A. H. (1992). Structuring cooperative relationships between organizations. *Strategic Management Journal*, *13*(7), 483-498. https://doi.org/10.1002/smj.4250130702

Rosenkopf, L., & Almeida, P. (2003). Overcoming Local Search Through Alliances and Mobility. *Management Science*, *49*(6), 751-766. https://doi.org/10.1287/mnsc.49.6.751.16026

Rosenkopf, L., & Nerkar, A. (2001). Beyond local search: Boundary-spanning, exploration, and impact in the optical disk industry. *Strategic Management Journal*, *22*(4), 287-306. https://doi.org/10.1002/smj.160

Schweizer, L. (2005). Organizational Integration of Acquired Biotechnology Companies into Pharmaceutical Companies: The Need for a Hybrid Approach. *Academy of Management Journal*, *48*(6), 1051-1074. https://doi.org/10.5465/amj.2005.19573109

Stuart, T. E., & Podolny, J. M. (1996). Local search and the evolution of technological capabilities. *Strategic Management Journal*, *17*(S1), 21-38. https://doi.org/10.1002/smj.4250171004

Vanhaverbeke, W., Duysters, G., & Noorderhaven, N. (2002). External Technology Sourcing Through Alliances or Acquisitions: An Analysis of the Application-Specific Integrated Circuits Industry. *Organization Science*, *13*(6), 714-733. https://doi.org/10.1287/orsc.13.6.714.496

Wagner, M. (2016). Managing disruptive innovation with technology acquisitions: The informing case of software-based high-technology industries. *Technology Analysis & Strategic Management*, *28*(8), 979-991. https://doi.org/10.1080/09537325.2016.1181736