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High-Technology Acquisitions: An Inquiry Toward the Microfoundations of a Grafting Capability

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CHAPTER SIX

GENERAL CONCLUSIONS

REFLECTING ON THE TOPIC AND APPROACH

As this study has demonstrated, capability-based acquisitions have become an important vehicle for firms in high-technology industries to compete in their ever-changing and highly competitive environments. Research has shown, however, that acquisitions in general and capability-based acquisitions in particular fail to meet expectations (Bresman, Birkinshaw, & Nobel, 2010; Heimeriks, Schijven, & Gates, 2012; King, Dalton, Daily, & Covin, 2004). Therefore, a vast body of literature has been addressing the question of how to enhance acquisition performance. Prior studies have shown that the high failure rates of acquisitions could be predominantly ascribed to the formidable challenges firms face post-acquisition (Heimeriks et al., 2012; Puranam, Singh, & Zollo, 2003; Vermeulen & Barkema, 2001). As a result, recent research has been focusing on understanding the implications of post-acquisition integration (Barkema & Schijven, 2008b).

In capability-based acquisitions, integration issues become even more complex and, thus, play an even more important role. This is because when undertaking capability-based acquisitions, acquiring firms need to give the acquired firm the needed autonomy to keep its routines and social relationships intact. After all, these routines and social relationships have helped create its highly tacit strategic capability in the first place. At the same time, acquiring firms need to integrate the acquired firm to access its capability (Haspeslagh & Jemison, 1991; Puranam, Singh, & Chaudhuri, 2009). In other words, the post-acquisition phase of capability-based acquisitions is even more pressing, because firms need to engage in two conflicting activities at the same time (Graebner, 2004).

In essence, post-acquisition integration of capability-based acquisitions can be improved by enhancing the transfer of the strategic capabilities in question. Despite the importance of transferring such highly tacit capabilities, explanations of how such capability transfer actually takes place on a micro-level have been absent in the literature (e.g., Bresman et al., 2010; Felin & Foss, 2005, 2009; Foss, 2007; Foss, Husted, & Michailova, 2010). In line with this, the aim of this thesis has been to gain deeper insight into the actual micro-level

processes that enhance the transfer of such strategic capabilities. This is done in an attempt to understand how firms can develop a specific capability to undertake a capability-based acquisition more successfully (called throughout this study a "grafting capability"). Specifically, the key research question of this study has been, "How does post-acquisition capability transfer take place on a micro-level?" This question's aim has been to explore how firms can learn to manage this process more successfully and thus build a grafting capability.

In an effort to addressing the key research question of this study, both quantitative and qualitative research methods were used. The combination of these two methodologies represents the strength of this research, because it has enabled me both to test theory on a large scale and to gain in-depth insight concerning the phenomenon under study. First, by means of a quantitative approach a conceptual model of developing a grafting capability was tested, which led to arguing for the importance of search activities—that is, ad hoc problem-solving—for enhancing capability transfer and thus developing a grafting capability. Second, by means of a case study, I focused on the aspects that required more in-depth understanding, to gain detailed insight into how the actual capability transfer process takes place and make inferences about which activities should constitute a grafting capability. This quest, on the one hand, led to recognizing the importance of the microfoundations of the strategic capability that is meant to be acquired. On the other hand, the case study revealed the importance of creating a new joint social community post-acquisition and the various aspects that enhance the development of such a social community.

The qualitative methodology used, has marked this thesis with a typical characteristic, namely the in-depth insights into the micro-level processes that it provides. Such studies are rare in strategic management, since many calls have been circulating by scholars for conducting more research on micro-level processes (e.g., Felin, Foss, Heimeriks, & Madsen, 2012). In addition, using a qualitative methodology enabled me to build theory in an attempt to provide new insights on the implications of post-acquisition integration of capability-based acquisitions. This approach, I believe, has been useful in informing existing theory in the field of strategic management and, more specifically, in the field of post-acquisition integration.

In the following sections, I first elaborate on the major findings and provide an answer to the overall key research question of this thesis. Then, I will discuss the theoretical and managerial contributions and implications of this research. Finally, I will mention some limitations of this study and provide suggestions for future research.

MAJOR FINDINGS

In general, one could argue that firms aiming to develop a grafting capability for conducting capability-based acquisitions face a performance paradox. Such a paradox entails that advancing on one dimension of performance leads to a decrease in another dimension of performance (e.g., Weigelt & Sarkar, 2012). When managing firms' resources, organizations usually aim to make efficient use of their resources and be flexible enough to respond to their ever-changing environment (e.g., Weigelt & Sarkar, 2012). As a result, there is often an, usually apparent, tension between efficiency and flexibility, which requires firms to deal with a performance paradox. In the context of this study, this performance paradox means that firms must deal with the discrepancy that exists between building a capability that performs on the basis of routinization and one that performs on the basis of customization (e.g., Heimeriks et al., 2012; Schijven, 2008). Dealing with such a performance paradox when building a grafting capability means that firms, on the one hand, must find a balance between making efficient use of their previous experiences to conduct future acquisitions by developing certain routines. Or, on the other hand, they must adjust their activities to the specific situation at hand to deal with the heterogeneity of a given acquisition and thus be flexible. In line with this, at the broadest brush, the answer of the overall key research question of this thesis, namely "how does post-acquisition capability transfer take place on a micro-level" is: by finding a balance for the performance paradox. In other words, firms need to find a balance to deal with this post-acquisition performance paradox to be able to enhance capability transfer on a micro-level and thus create the necessary grafting capability. Or, as a Cisco case study reads relating to its success in conducting acquisitions: "defined principles, standard processes, and consistent yet adaptable activities for integrating acquired companies have yielded significant business benefits" (Cisco, 2007). Indeed, balancing this paradox is what has enabled Cisco to undertake acquisitions successfully.

In dealing with this performance paradox, the findings of this study—specifically those in Chapter 3—have shown that search activities are more appropriate for developing a grafting capability than are, for example, sharing routines by means of IT-based mechanisms and thus routinization. Applying such search activities enables firms to deal with their performance paradox by leaning toward customization while still having the necessary routinization. This balance is possible because firms, based on their experience, have an arsenal of search activities that they know are beneficial and thus can be used in a routinized way for the sake of efficiency. However, at the same time, these search activities also allow

firms to decide on an ad hoc basis what problems should be dealt with and thus provide firms the needed flexibility to customize their activities. In other words, the content of the search activity is decided upon on an ad hoc basis while the activity itself is used in a routinized manner. For example, firms conducting multiple acquisitions know that mentoring practices enhance capability transfer, but employees decide on an ad hoc basis what to deal with during such mentoring practices, depending on the needs of a given acquisition.

Using such search activities is beneficial when the acquiring firm lacks knowledge about the capability it is acquiring. Firms therefore must accumulate experience related to the capability in question (e.g., Weigelt & Sarkar, 2012) and be involved in practice. This involvement is necessary especially because of the acquiring firm's lack of knowledge about the microfoundations of the capability in question and because such capabilities consist of various clusters of interdependent routines. The various interdependencies among these clusters of routines make it difficult for firms to detect causal relationships among them, as the findings of Chapter 4 have shown. Therefore, when facing the "unknown" the general tendency should be to lean more toward customization than routinization to gain more knowledge about the capability in question. At the same time, firms should recognize that a reliable, efficient pattern of action and, thus, a certain degree of routinization is necessary to build a grafting capability. Moreover, this means that firms aiming to be successful in undertaking capability-based acquisitions need to build their grafting capability based on a certain type of ambidexterity. This means that such firms need to pursue the exploitation of their past experiential knowledge and exploration activities to learn concerning the acquisition at hand, at the same time (e.g., Gupta, Smith, & Shalley, 2006).

In addition to search activities, this study reveals that creating a new joint social community post-acquisition could help balance the performance paradox that acquiring firms often face, as Chapter 5 has shown (Bresman et al., 2010; Verbeke, 2010). This is because such a social community—by developing the needed social relationships among the employees and promoting understanding of each other's practices—creates the necessary absorptive capacity for firms to be able to assimilate the strategic capability in question. Specifically, beyond search activities, this study has demonstrated that boundary spanners— that is, employees who are able to adjust their practices to fit with local settings and deal with the demands of various parties—are key to developing a successful joint social community (Levina & Vaast, 2005). For these boundary spanners to be able to do their work and thus help develop a new joint social community, it is crucial to have boundary objects—that is

shared artifacts that relate to the practices of the employees involved in the new joint social community—that are created in practice and various types of resources such as economic (e.g., time) and symbolic (e.g., nomination for certain roles) (Levina & Vaast, 2005). These various types of resources, however, can only be accessed by having a group of boundary spanners who are dedicated to transferring the capability in question.

THEORETICAL CONTRIBUTIONS AND IMPLICATIONS

As mentioned at the outset of this thesis, more research on post-acquisition capability transfer is needed given the increasing number of capability-based acquisitions and their accompanying high number of failures. Therefore, the aim of this study has been to extend existing research to understand how capability transfer can be improved and thus the performance of capability-based acquisitions can be enhanced. Broadly speaking, this study's theoretical contribution is twofold. On the one hand, this study synthesizes prior post-acquisition research that focused either on capability transfer (Bresman et al., 2010; Ranft, 2006; Ranft & Lord, 2002) or on developing an acquisition capability (Barkema & Schijven, 2008a; Heimeriks et al., 2012; Zollo & Singh, 2004). In doing this, this research argues for the importance of a grafting capability—that is, an acquisition capability specifically developed for capability transfer—that combines insights from the two prior post-acquisition research streams. In addition, it is argued that for developing such a grafting capability firms need to find a balance within the routinization and customization performance paradox, which can be, partly, achieved by means of search activities. On the other hand, insights from the practice-based literature on capability transfer have been used to inform existing research on post-acquisition management. This is done in an effort to understand what the microfoundations of such a grafting capability could be, beyond the use of search activities. Applying the practice-based lens to studying post-acquisition capability transfer has resulted in recognizing the importance of a group of boundary spanners who could enhance the development of a post-acquisition social community by means of boundary objects and various types of resources. Prior research describes such a post-acquisition social community as key for capability transfer (Birkinshaw, Bresman, & Håkanson, 2000; Bresman et al., 2010; Verbeke, 2010). Therefore, insights on how the development of such a social community can be stimulated could be seen as useful for extending existing research. In addition, given that practice-based theories are used to inform existing strategic management literature on post-acquisition integration, the findings of this study could be seen as somewhat

in line with the strategy as practice research stream and thus, could provide theoretical insights for this line of research too (e.g., Whittington, 1996).

The theoretical contributions of this research have some further implications. Knowing that developing a grafting capability requires firms to find a balance between routinization and customization means that both routine-based theories as well as practice-based theories are necessary to inform scholarship on post-acquisition management. This, however, has not been the case to date and thus needs to be taken into account by future scholars. In addition, recognizing the importance of boundary spanners in developing a new joint social community post-acquisition means that in extending existing research the role of such individuals that could function as boundary spanners should be taken into account from a broader perspective—when aiming at developing a grafting capability. Finally, given that boundary spanners could enhance the development of a social community by means of using boundary objects and various types of capital, the role of such artifacts and resources need to be taken into account too, when aiming at extending existing post-acquisition research.

MANAGERIAL CONTRIBUTIONS AND IMPLICATIONS

As mentioned above, for developing a grafting capability, firms need to deal with the performance paradox of routinization and customization. In fact, finding a balance for this paradox is what makes successful firms capable of conducting various acquisitions—as the preceding Cisco quote illustrates. In dealing with this paradox, the findings of this study have shown that firms especially need to use search activities instead of, for example, sharing routines by means of IT-based mechanisms. As a matter of fact, this study's findings have shown that the latter could even harm an acquisition's performance. The implication of these findings is that managers involved in capability-based acquisitions need to rely more on core knowledge-workers and their ad hoc problem solving abilities when dealing with capability transfer and thus post-acquisition implications. This reliance in turn will have an impact on the way managers make post-acquisition decisions. In particular, managers responsible for acquisition integration should discover their solutions in a bottom-up manner instead of providing them top-down. In keeping with this recommendation, a firm's acquisition integration capability seems to be distributed within the firm at a lower level, rather than isolated at the corporate level. Therefore, managers involved in capability-based acquisitions need to take the importance of such core knowledge-workers into account, when trying to develop a grafting capability.

Another contribution of this research is that it recognizes the key role of boundary spanners for developing a post-acquisition social community. Given the important role of boundary spanners in developing a new joint social community post-acquisition, it is essential for managers involved in capability-based acquisitions to detect employees who could fulfill this function. Such employees are scarce and thus difficult to detect. However, because they are inclined toward boundary spanning, they often speak up for their cause. The question is, when will these boundary spanners identify themselves? And will such bottom-up emergence happen soon enough? Managers responsible for post-acquisition capability transfer, therefore, need to stimulate the post-acquisition organizational culture in such a way that boundary spanners surface and are willing to engage in boundary spanning activities. Thereafter, to be able to do their work, boundary spanners need to develop boundary objects and have access to various types of capital. Here again is a key task for acquisition-responsible managers: stimulating the development of boundary objects that are appealing enough for the boundary spanners to engage in boundary spanning activities, and providing the required resources to enable them to span post-acquisition boundaries.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

As with every research, this research has its limitations. First, in the quantitative research, the survey to test the overall conceptual model covered only the biotechnology industry. It could be that the findings do not apply to other types of high-technology firms, such as those in the telecommunication industry. Therefore, future research is needed to validate the findings of our survey for all types of high-technology firms. Second, regarding the qualitative research, the findings are based on a single case study in the IT industry. Therefore, it could be that the findings are not generalizable to other firms in the same industry and also do not apply to firms in other high-technology industries. Thus, more research is needed to validate the findings of this thesis. This is because even though both the IT and biotechnology industry have been mentioned in the literature to be part of the greater high-technology industry (Ranft, 2006; Schweizer, 2005), the activities that firms in each of these industries carry out differ substantially. In other words, the micro-level activities of an expert in the IT industry differ significantly with those of an expert in the biotechnology industry, which is self-evident. However, as Eisenhardt and Martin (2000) mention, even though firms' capabilities are idiosyncratic and path-dependent in emergence, they do have certain commonalities across firms. These commonalities are evident because there are more

and less effective ways of dealing with certain generic organizational challenges. Therefore, I would argue that cross-industry best practices for developing a grafting capability could exist. Thus, findings from the biotechnology industry could inform the IT industry and vice versa. In addition, the findings of the IT and biotechnology industry could inform the greater high-technology industry in general. The fact that the basic findings of both the quantitative and qualitative research of this thesis, gathered in the biotechnology and IT industry, are in the same line confirms this assumption. The findings from both industries illustrate that for transferring highly tacit capabilities managerial activities focused on stimulating interaction among experts in their actual practice are the utmost important activities firms should engage in. In other words, even though the activities that experts in each of these industries carry out differ, it seems that interaction in the actual practice is key for transferring knowledge.

However, having said that, one should keep in mind that the findings of this thesis, in general, are focused on high-technology firms only and might not be generalizable to non-high-technology industries. This is because the industries in which these firms operate are highly knowledge-intensive and innovation-driven which ensures that these firms undertake acquisitions to get access to highly tacit and socially complex knowledge (Graebner, Eisenhardt, & Roundy, 2010; Ranft and Lord, 2002; Ranft, 2006). Therefore, future research in industries other than high-technology is needed to confirm the generalizability of the findings of this study.

In addition, concerning the line of theorizing that has been set forth in this study, readers should keep in mind that because I was interested in the micro-level processes of capability transfer post-acquisition, I narrowed my scope to the knowledge-based view of the firm, organizational learning, and practice-based literature. I have predominantly focused on learning and capability theories to gain deeper insight into how to enhance capability transfer to make inferences about how to build a grafting capability. However, there are many other important literature streams—such as human resources, agency theory, leadership, and culture—that I have not included. Their inclusion could be useful for informing this line of study.

Future research could, for example, reveal what the role of various human resources strategies should be for successful post-acquisition capability transfer. Issues such as which retention strategies are the most appropriate to enhance the transfer of the capability in question are interesting to elaborate on by scholars conducting future research. This is especially because prior studies have already shown that capability-based acquisitions require

different types of incentives for employees involved (Graebner et al., 2010). Future research could also focus on the role and impact of politicization by certain agents—and thus agency issues (Eisenhardt, 1989)—during post-acquisition capability transfer. Such an approach could help us understand whether agency theory can inform post-acquisition capability transfer implications. In addition, the role of leaders in this process is also a crucial aspect that could benefit from future research (Graebner, 2004). For example, could it be that companies with certain types of leaders are better able to develop a grafting capability? Furthermore, the important role of culture has been the focus of many studies in the field of acquisitions (e.g., Stahl & Voigt, 2008; Weber, Shenkar, & Raveh, 1996). However, the role of culture in enhancing post-acquisition capability transfer could be an area for future research too (Bjorkman, Stahl, & Vaara, 2007).

Finally, future research should also reveal how various human resources strategies, the existence of agency, different types of leadership, or culture affect the use of search activities post-acquisition and the development of a new joint social community. This is because these aspects seem to be key when dealing with the performance paradox of developing a grafting capability. Regarding search activities, a task for future research could be to reveal which search activities are the most effective for all kinds of high-technology industries instead of only the biotechnology industry, which has been the focus of this research. This insight could help firms use industrywide expertise when dealing with such a post-acquisition performance paradox. Regarding the development of a post-acquisition social community, a task for future studies could be to reveal whether and to what extent social community functions as a source of balance for the post-acquisition performance paradox. This insight could help us understand whether firms can trust the absorptive capacity of such a community when transferring capabilities. More insights on the aspects that lead to the development of such a post-acquisition social community—that is, boundary spanners, boundary objects, and various types of capital—also are necessary to understand whether these aspects could help firms find a balance between routinization and customization, when used as part of firms' acquisition integration plan. In addition, given that boundary objects can help boundary spanners develop a post-acquisition social community, an interesting task for future research could be to reveal the best way to develop such artifacts post-acquisition. In other words, additional integration of a capability perspective and a community perspective for post-acquisition capability transfer, and the way these two perspectives could strengthen each other, could reveal valuable insights. In conclusion, many challenges lie ahead. This study,

however, has set a foundation for future studies in this increasingly important area of research by elaborating on the importance of developing a grafting capability and describing the performance paradox that firms face in their attempts at developing such a capability.

REFERENCES

Barkema, H. G., & Schijven, M. 2008a. How do firms learn to make acquisitions? A review of past research and an agenda for the future. *Journal of Management,* 34(3): 594–634.

Barkema, H. G., & Schijven, M. 2008b. Toward unlocking the full potential of acquisitions: The role of organizational restructuring. *The Academy of Management Journal,* 51(4): 696–722.

Birkinshaw, J., Bresman, H., & Håkanson, L. 2000. Managing the post-acquisition integration process: How the human integration and task integration processes interact to foster value creation. *Journal of Management Studies,* 37(3): 395–425.

Bjorkman, I., Stahl, G., & Vaara, E. 2007. Cultural differences and capability transfer in cross-border acquisitions: The mediating roles of capability complementarity, absorptive capacity, and social integration. *Journal of International Business Studies,* 38: 658–672.

Bresman, H., Birkinshaw, J., & Nobel, R. 2010. Knowledge transfer in international acquisitions. *Journal of International Business Studies,* 41(1): 5–20.

Cisco. 2007. *How Cisco applies companywide expertise for integrating acquired companies.* Available at www.cisco.com.

Eisenhardt, K. M. 1989. Agency theory: An assessment and review. *The Academy of Management Review,* 14(1): 57–74.

Eisenhardt, K. M., & Martin, J. A. 2000. Dynamic capabilities: What are they? *Strategic Management Journal,* 21(10/11): 1105–1121.

Felin, T., & Foss, N. J. 2005. Strategic organization: A field in search of micro-foundations. *Strategic Organization,* 3(4): 441–455.

Felin, T., & Foss, N. J. 2009. Organizational routines and capabilities: Historical drift and a course-correction toward microfoundations. *Scandinavian Journal of Management,* 25(2): 157–167.

Felin, T., Foss, N. J., Heimeriks, K. H., & Madsen, T. L. 2012. Microfoundations of routines and capabilities: Individuals, processes, and structure. *Journal of Management Studies,* 49(8): 1351-1374.

Foss, N. J. 2007. The emerging knowledge governance approach: Challenges and characteristics. *Organization,* 14(1): 29–52.

Foss, N. J., Husted, K., & Michailova, S. 2010. Governing knowledge sharing in organizations: Levels of analysis, governance mechanisms, and research directions. *Journal of Management Studies,* 47(3): 455–482.

Graebner, M. E. 2004. Momentum and serendipity: How acquired leaders create value in the integration of technology firms. *Strategic Management Journal,* 25(8–9): 751–777.

Graebner, M. E., Eisenhardt, K. M., & Roundy, P. T. 2010. Success and failure in technology acquisitions: Lessons for buyers and sellers. *Academy of Management Perspectives,* 24(3): 73–92.

Gupta, A. K., Smith, K. G., & Shalley, C. E. 2006. The interplay between exploration and exploitation. *Academy of Management Journal,* 49(4): 693–706.

Haspeslagh, P. C., & Jemison, D. B. 1991. *Managing acquisitions: Creating value through corporate renewal.* New York: The Free Press.

Heimeriks, K. H., Schijven, M., & Gates, S. 2012. Manifestations of higher-order routines: The underlying mechanisms of deliberate learning in the context of postacquisition integration. *Academy of Management Journal,* 55(3): 703–726.

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.

Levina, N., & Vaast, E. 2005. The emergence of boundary spanning competence in practice: Implications for implementation and use of information systems. *MIS Quarterly,* 29(2): 335–363.

Puranam, P., Singh, H., & Chaudhuri, S. 2009. Integrating acquired capabilities: When structural integration is (un)necessary. *Organization Science,* 20(2): 313–328.

Puranam, P., Singh, H., & Zollo, M. 2003. A bird in the hand or two in the bush? Integration trade-offs in technology-grafting acquisitions. *European Management Journal,* 21(2): 179–184.

Ranft, A. 2006. Knowledge preservation and transfer during post-acquisition integration. *Advances in Mergers and Acquisitions,* 5: 51–67.

Ranft, A., & Lord, M. D. 2002. Acquiring new technologies and capabilities: A grounded model of acquisition implementation. *Organization Science,* 13(4): 420–441.

Schijven, M. 2008. *Acquisition capability development: Behavioral and cognitive learning perspectives.* Tilburg, The Netherlands: Tilburg University.

Schweizer, L. 2005. Organizational integration of acquired biotechnology companies into pharmaceutical companies: The need for a hybrid approach. *The Academy of Management Journal,* 48(6): 1051–1074.

Stahl, G. K., & Voigt, A. 2008. Do cultural differences matter in mergers and acquisitions? A tentative model and examination. *Organization Science,* 19(1): 160–176.

Verbeke, A. 2010. International acquisition success: Social community and dominant logic dimensions. *Journal of International Business Studies,* 41(1): 38–46.

Vermeulen, F., & Barkema, H. 2001. Learning through acquisitions. *The Academy of Management Journal,* 44(3): 457–476.

Weber, Y., Shenkar, O., & Raveh, A. 1996. National and corporate cultural fit in mergers/acquisitions: An exploratory study. *Management Science,* 42(8): 1215–1227.

Weigelt, C., & Sarkar, M. B. 2012. Performance implications of outsourcing for technological innovations: Managing the efficiency and adaptability trade-off. *Strategic Management Journal,* 33(2): 189–216.

Whittington, R. 1996. Strategy as practice. *Long Range Planning,* 29(5): 731–735.

Zollo, M., & Singh, H. 2004. Deliberate learning in corporate acquisitions: Post-acquisition strategies and integration capability in U.S. bank mergers. *Strategic Management Journal,* 25: 1233–1256.