Technological overlap between integrated resources in mergers & acquisitions (M&A)

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Abstract
Our study objective explores the effect of technological overlap on the success or failure of merger and acquisition deals taking into consideration the change management procedures applied by the company management, and bearing in mind the market penetration strategy used by the new entity in planning its entrance to the market.

Key Words: Technological Overlap, Mergers and Acquisitions, Market Penetration Strategies

Introduction

Strategic moves played a role in alliances that are formed to facilitate strategic coordination among competitors to increase market power. This also means that rapid penetration of foreign markets is more important than ever in many technology intensive industries, which may be more easily achieved through an alliance. M&As usually aim for one of four basic synergies; cutting back on existing cost, increasing company revenues, gaining market and shareholder power, and intangible synergies such as co-branding for example (Shweiger and Very, 2003). M&A deals often introduce new resources that allow subsidiaries to overcome the costs of change. Acquisitions change the ownership and control of a firm or business unit to provide a means by which firms can accumulate resources and market power (Singh and Montgomery, 1987; Kim and Singal, 1993). Acquisitions can increase innovation adoption by altering the subsidiary's leadership structure and removing obstacles to change. Together, these mechanisms make acquisitions an important means by which firm subsidiaries can overcome structural inertia (Hannan and Freeman, 1984). Scholars suggest that firms use inter firm collaboration to gain access to other firms' capabilities, supporting more focused, intensive exploitation of existing capabilities within each firm (Grant and Baden-Fuller, 1995). One of the main challenges to acquisitions are that they are disruptive for technical personnel in the acquired firms, causing their performance to suffer. Like many other types of knowledge workers, corporate scientists and engineers develop socially embedded routines for conducting their tasks (Drucker 1999, McFadyen and Cannella 2004, Nerkar and Paruchuri 2005). Many acquisitions fail to achieve their objectives and instead result in organizational difficulties and poor performance. Change

management strategies backed up by top management support are often required to face such challenges (Ravenscraft and Scherer, 1987).

Technological acquisitions have become an important focus of research (Makri, Hitt, and Lane, 2010; Puranam, Singh, and Chaudhuri, 2009; Puranam and Srikanth, 2007; Paruchuri, Nerkar, and Hambrick, 2006; Ahuja and Katila, 2001;). Studies investigated the relationship between the amount of technological overlap between the knowledge bases of the target firm and acquiring firm and the acquisition performance (Graebner, Eisenhardt, and Roundy, 2010; Kapoor and Lim, 2007; Ahuja and Katila, 2001). Some studies focused on the relationship between the degree to which the technological knowledge bases of the acquirer and target overlaps affected the acquirer's ability to innovate (Sears and Hoetker, 2014; Ahuja and Katila, 2001; Karim and Mitchell, 2000; Larsson and Finkelstein, 1999; Barney, 1988).

Ahuja and Katila (2001) differentiated between technological acquisitions and acquisitions that do not involve a technological component and found that technological acquisitions have an impact on innovation performance of acquiring firms. Sears and Hoetker (2014) studied both the demand and supply sides of the technological overlap, and differentiated between target overlap and acquirer overlap. Target overlap describes the part of the target's knowledge already known by the acquirer, and acquirer overlap describes the degree to which the acquirer's existing knowledge is duplicated by the target's knowledge. More recent research has extended the concept of technological overlap by investigating the effects that technological similarities and complementarities have on acquisition performance (Makri, Hitt, and Lane, 2010).

Integration

Integration often involves the intermingling of acquired and acquiring company inventors, as well as new supervisors, which will tend to undo or disrupt existing collaborative webs (Puranam et al. 2006). One of the central dilemmas in managing acquisitions and perhaps the pivotal factor in affecting employee disruption is the decision about whether to integrate the newly acquired firm and the acquiring firm (Ranft and Lord 2002, Risberg 2001). If the acquired firm is not integrated, but instead is allowed considerable autonomy, there is little chance that any knowledge sharing or other forms of synergy will occur (which is in most cases the original reasons for the acquisition). Moreover, if allowed autonomy, the acquired firm will not create much more value than it would have created on its own, and the premium paid by the acquirer will have been wasted (Puranam et al. 2003, Sirower 1997).

The acquirer needs to recognize the value and content of the acquired knowledge, learn it and apply it. The degree to which these tasks can be successfully accomplished is likely to vary with the relative size of the acquiring and acquired knowledge bases. The larger the relative size of the knowledge base to be integrated, the more difficult these stages are likely to be, and the more negative the impact on post-acquisition innovation output (Sears and Hoetker, 2014).

Scholars have stressed the need for acquirers to quickly take control of the resources, and rapidly integrate their acquisitions to avoid "post-merger drift" which is a decline in organizational and individual productivity during the period following a merger or acquisition. During this time, integration related tasks may distract management attention away from the operations of the firm's business, important decisions and investments may be delayed, and competitors may take advantage of these distractions and delays. During the transition, employees in the acquired firm

may be uncertain about their future roles in the new organization, which may erode their job satisfaction, commitment, and motivation. Rapid acquisition integration is viewed as a means of minimizing post merger drift. (Bower 2001; Kitching, 1967).

Change Management

Change management includes the processes and tools, such as communications, sponsorship, coaching, training, and resistance management plans, for addressing the "people side" of change in a M&A. Change management is not an event, it is a process of helping individuals understand, internalize and support change. In M&A deals, it becomes very important to systematically address the "human side", where new leaders evolve, managers step up, job designs change, new skills and capabilities are developed (Kolb, 2013). This all leads to a high level of uncertainty and resistance from the employees.

A key factor is to include all layers of the organization and to not ignore nor neglect any layer in the acquired company. One argument includes involving all layers in the transformation programs, from the defining strategy and setting targets stages, all through the design and implementation stage. Change efforts must include plans for identifying leaders throughout the company and pushing responsibility for design and implementation down, so that change "cascades" through the organization (Feurer and Chaharbaghi, 1995). Management should also involve employees with respect to the objective of the deal and must be clear on what changes might be needed, whether the company is headed in the right direction, and whether they want to commit personally to making change happen. They will look to the leadership for answers. The articulation of a formal case for change and the creation of a written vision statement are invaluable opportunities to create or compel leadership team alignment (Edmonds, 2011).

There is a need to have a dedicated leader of change, a person who can create a critical mass among the work force in favor of change. This requires more than mere buy in or passive agreement that the direction of change is acceptable. It demands ownership by leaders willing to accept responsibility for making change happen in all of the areas they influence or control (Booz, Allen, Hamilton, 2004)

Technological Overlap

Ahuja and Katila (2001) in their seminal paper concluded that the greater the absolute size of the acquired knowledge base, the greater the subsequent innovation output of the acquiring firm. The degree to which tasks can be successfully accomplished is likely to vary with the relative size of the acquiring and acquired knowledge bases. The larger the relative size of the knowledge base to be integrated, the more difficult these stages are likely to be, and the more negative the impact on post-acquisition innovation output. Also there other researches which have demonstrated other views such as the technological relatedness of the acquired knowledge base will be curvilinear related to the post-M&A innovative performance of the acquiring firm (Cloodt, Hagedoorn, van Kranenburg, 2006). Technological knowledge and engineering capabilities that are too similar to the already existing knowledge of the acquiring company will contribute little to the post-M&A innovative performance. Some degree of differentiation in technological capabilities between the firms may enrich the acquiring firm's knowledge base and create opportunities for learning .This enrichment of the acquiring firm's knowledge base and a

proper use of the external knowledge are relevant contributions to a firm's innovative performance . In other words, we expect that one has to strive for moderate relatedness between knowledge bases. On the one hand, the acquired knowledge has to show enough overlap to facilitate the absorption process. On the other hand, the combination of knowledge bases requires enough diversity to make a substantial contribution to the post-M&A innovative performance.

Sears and Hoetker (2014) studied the relationship between technological acquisition performance and technological overlap between the knowledge bases of the target and acquirer and how effectively technological capabilities translate into value. They differentiated between target overlap, the portion of the target's knowledge base that the acquirer already has, and acquirer overlap, the portion of the acquirer's knowledge base that is duplicated by the target. Their model measured the contribution of a 'unit' of technological capability to the increase or decrease of value creation with respect to technological overlap. The model presented four combinations of target overlap and acquirer overlap. The squares represented each firm's knowledge base. Sears and Hoetker (2014) examined the interaction between overlap and technological capabilities, and separated the value created by both the target overlap and the acquirer overlap. They incorporated both overlaps to test simultaneously the effects of absorptive capacity, knowledge redundancy, and post-acquisition conflict.

Theoretical Framework

The arguments above focused on the increased scale, scope, and recombination benefits possible through the acquisition of a knowledge base. Yet, several steps must be completed before newly acquired knowledge can improve the acquirer's performance. The acquirer needs to recognize the value and content of the acquired knowledge, assimilate it, and apply it. Our study suggests that acquisitions provide an alternative, potentially more flexible means for organizations to achieve exploration and exploitation simultaneously. However, certain organizational practices were necessary for this to succeed. First, management of employees' emotions was critical. Exposure to multiple forms of change, such as integrating with the buyer at the same time as completing their own technology, can create significant strain for employees. The role of leaders was not to isolate employees from change, but to help them cope with the change that they experienced. Second, leaders need to provide focal points to provide appropriate pacing for each form of change. For example, they provide concrete goals for product development to prevent employees from being sidetracked by other change processes that were occurring simultaneously, such as events happening within the buying firm or integration activities. Third, cross-organizational exposure was essential. For acquired leaders, this included both accelerating interaction between buyer and seller, and taking on cross-organizational responsibilities.

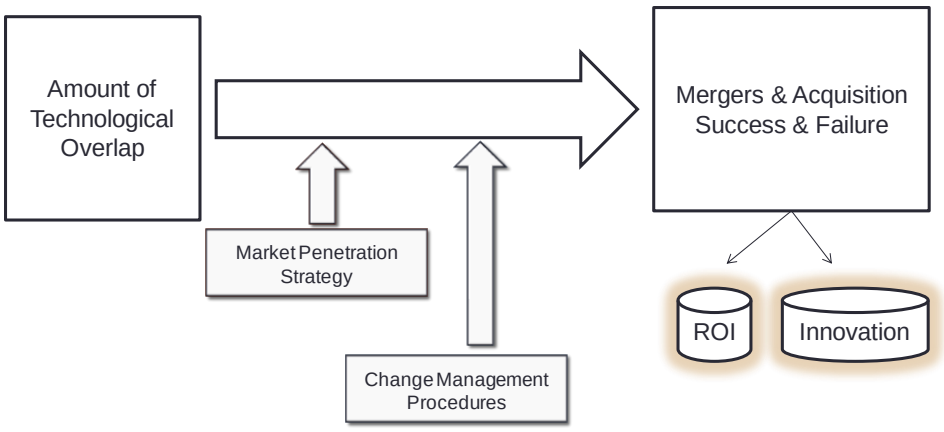

Figure 1. Theoretical Framework

This study measures the effect of technological overlap on the success of mergers and acquisitions factoring in the effect of the market penetration strategy and change management procedures. The study builds on Sears and Hoetker (2014) research on the innovation impact taking place from different forms of integration in relation to the fact of amount of technological overlap integrated companies might face , we expand on the impact on performance to include ROI as well as innovation measures.

Market Penetration Strategy

There are several forms of integration as stated in the beginning of our review these forms are based on two approaches of integration the first is customer and the second is product the below are the combinations of market penetration strategies .

Serving Same Customer Segments and Producing Same Products

Company X to integrate with Y , X & Y are competitors , This form will have huge amount of technological overlap between both companies innovation capabilities and resources and the result is that amount of knowledge shared is almost nothing and there will be no added value except that market have one less competitor. Such form of integration also not very successful because one of its goals is actually to gain more market share by reducing the competition by 1and there are rare cases in which customer are really benefiting from such strategic move between to competitors in the same market.

Integration example of this form is the acquisition of Vodafone Egypt and Raya telecommunication.

Serving Same Customer Segments and Producing Different Products

Company X to integrate with Y, X &Y are not competitors , such form of integration is the most desirable by customer because it presents new benefit such as cost saving for the customer and also for the new formed company adding to that it builds up loyalty and customer stickiness the important part in such form is to understand customer needs and to find synergies at it is known as " one stop shop method ".

Integration example of this form is the acquisition of Microsoft and Nokia .

Serving Different Customer Segments and Producing Same Products

This case in the horizontal integration is that companies produce same products but that serve different customer, in the case there also huge technological overlap and no benefit on overall innovation capabilities but it is rather successful because multinational companies uses it to enter new markets and in such case they influence the acquired company and seek all it's resources to excel in it's own market moreover the mother company directs the flow of resources towards the acquired company to make it prosper in the market. Such direction elevates the employees thinking and regenerates energy within themselves because the face change management with the well and the believe that such integration is for their own benefit and they are responsible of making it happen.

Integration example of this form of integration is the acquisition of Geely Automotive and Volvo.

Serving Different Customer Segments and Producing different Products

Such integration aims to add up their resources and innovation capabilities to form one big resources center for the use of new domain or to serve our customer better, so there is technological overlap but the acquirer will not beat the acquired resource but such form of integration will reform the innovation house in resource blinder to come up with new resources access and new product and new capabilities. The result of such integration is very successful because it is very clear to employees that there is benefit for those will blind in the new form to create something new of their own.

Integration example of this form is the P&G and Diamond Packaging.

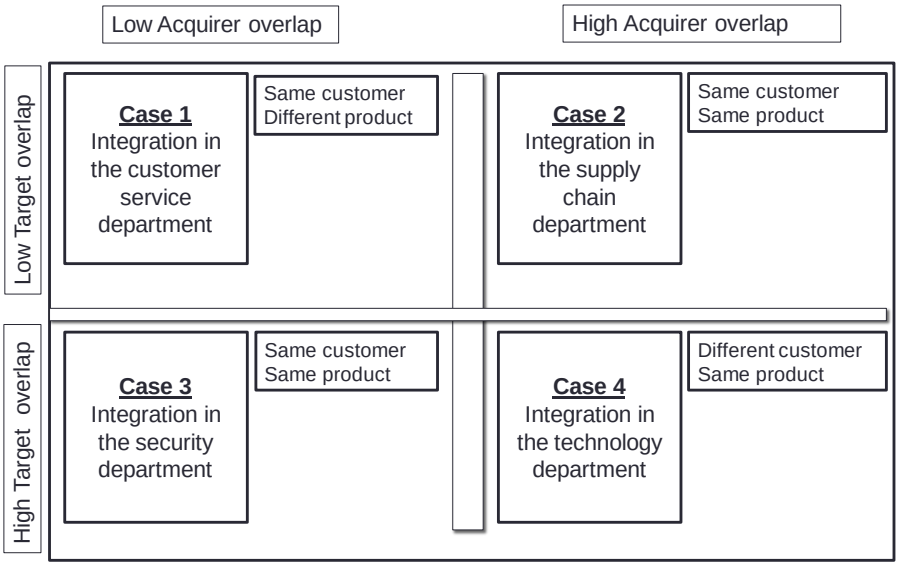

Figure 2. Market Penetration Strategies

Change Management Procedures:

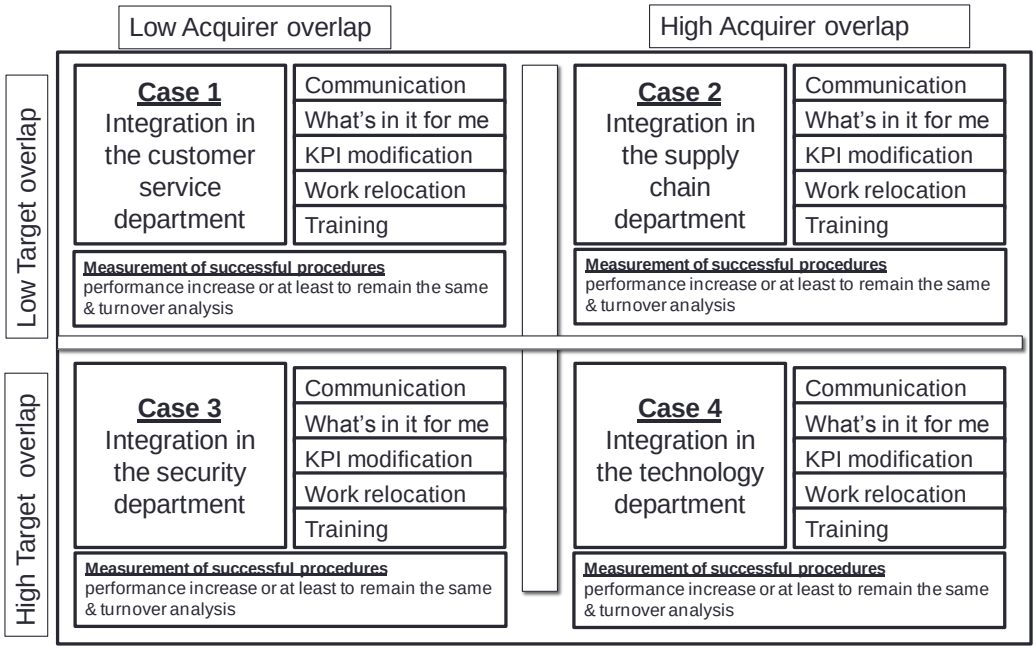

Figure 3. Change Management Procedures

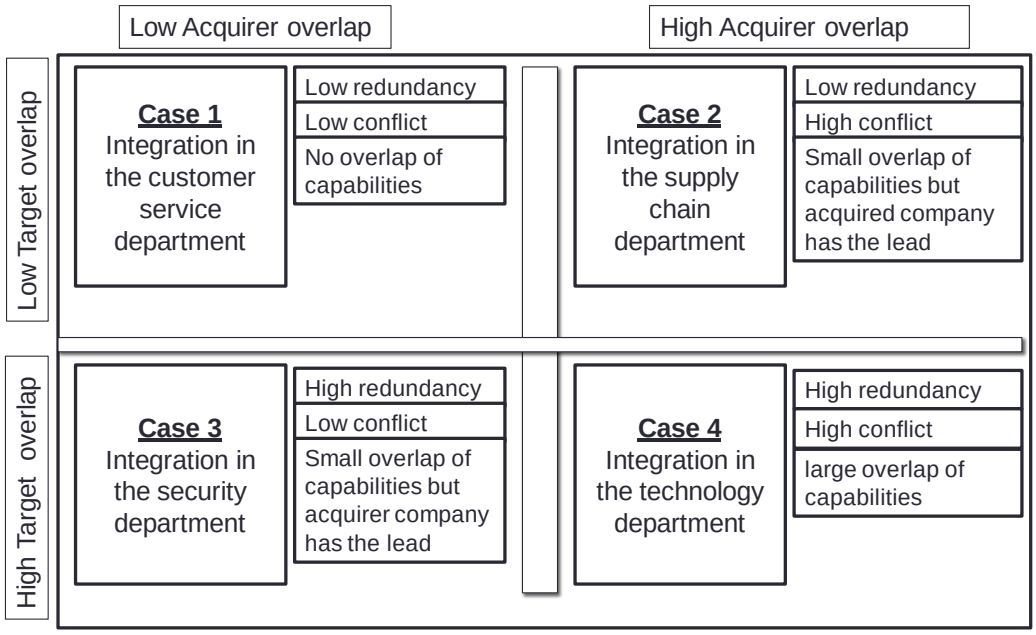

Figure 4. Degree of Technological Overlap

Return on Investment (Independent Variable)

The objective of having M&A deal leads to an ROI and such ROI is various depending on the deal objective for example, if the deal was to for company A to acquire company B and both are serving same customer and providing same product so the objective will be market share and the ROI can be calculated by the added percentage of shares and for sure the added revenue compared to the cost of the acquisition for B and it's running operational cost. The objective of

the deal could be also having the access to new innovation resources or new company capability and such objective should lead to more product development or product enhancement which leads to more revenue for the new formed company. Economies of scale also are one of many M&A deals objectives and such strategy will be having impact on company ROI in which should be represented in reducing operational cost and adding more revenue.

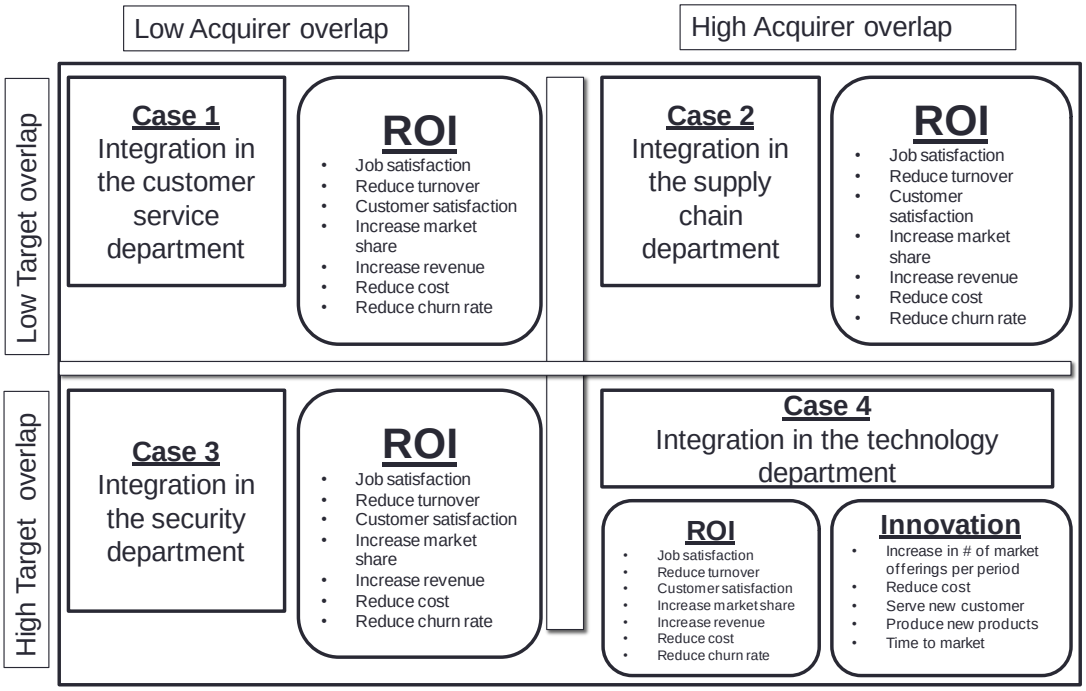

Figure 5. Return on Investment Measures

Data collection and Future work

This study investigates the relationship between the amount of technological overlap and success of acquisition of other business. It is expected that change management procedures and that the chosen market penetration strategy moderate the relation between the amount of technological overlap and the success or failure of any M&A deal. This is an inductive study where we will need to study the change in ROI in relation to the amount of technological overlap and the market penetration strategy. We will analyse four case studies inside one organization, For each case study we will measure the ratio of technological overlap after integration, the KPI's before and after integration, and the level of customers satisfaction after the integration. Data collection will include interviews and observations, and customer ssatisfaction surveys. Limitations to the study might include data biases related to conflict, as inputs will be provided from both individuals from the head company and the integrated company.

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