# MERGERS, KNOWING IN PRACTICE, AND THE LEVEL OF INTEGRATION
# CASE STUDY: THE UNIVERSITY OF EDINBURGH'S MERGERS

**KEY WORDS:** Merger, Organizational Learning, Knowing, Capability Re-Creation, Level of Integration

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## ABSTRACT

The literature on the success factors for mergers and acquisitions emphasizes that the successful integration of two organizations depends on organizational knowledge transfer between them. Taking a performative view of knowledge as knowing in action, we ask what this transfer really means in practice, finding that it implies the creation of a community in which joint action leads to the development of a common language allowing for the knowledge sharing, mutual learning, and capability re-creation. In the context of a knowledge intensive public service sector (higher education), we investigate the processes of mutual learning in which the two affected organizations are involved before, during and after the formal merger, in particular the extent to which (and ways in which) organizational learning may start long before the formal integration (merger) and how this affects the differences between the intended and actually realized levels of integration.

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## 1. INTRODUCTION

The interesting paradox concerning the phenomenon of mergers (and acquisitions) is that managers are obviously in love with them while academics tend to be quite pessimistic (see, for example, Brouthers *et al.*, 1998). Still, even in the words of the legendary investor, Warren Buffett, "We've observed many kisses, but very few miracles to release the imprisoned, handsome prince from the toad's body" (cited in Pablo and Javidan, 2004, p.xv).

Investigating mergers in higher education is valuable not only to improve the general understanding of the phenomenon but also to examine the awareness of the actors of what they have developed theoretically and the applicability of those theories. Since budget cuts are giving highly-ranked British universities causes for concern about their future, a conceivable reaction by the boards of directors of a number of UK universities is merger with the institutions having complementary resources and capabilities. In addition, dozens of institutional mergers have occurred in the British higher education sector in recent decades, which reinforces the timeliness of the investigation. For instance, the University of Edinburgh has a long history of mergers with organisations that have distinct histories, traditions, and academic approaches. These include New College (during the 1930s), the Royal (Dick) Veterinary School (1951), Moray House School of Education (1998), the Roslin Institute (2008), and recently submitted merger proposal to the Scottish Government with Edinburgh College of Art (ECA)[2] (The Proposal, 2010). These mergers, especially the last one, which is currently in the planning stage, form the empirical basis for this study.

The resource-based view of the firm suggests that the core of the firm's competitive advantage derives from its control of, and access to, idiosyncratic resources, especially tacit knowledge-based resources (Drucker, 1992; Conner, 1991; Kogut and Zander, 1992; Hansen *et al*., 1999). It is also well accepted that a single business acting alone is rarely able to produce all the resources needed to flourish and improve its innovative performance (Dussauge *et al.*, 2000). Wölfl (2005) also proposes that innovative performance in the service sector does not necessarily derive from internal R&D, but from the appropriation of external knowledge and technology resources (see also Ranft and Lord, 2002; Lundvall and Nielsen, 2007). Creativity and innovative performance, conceivably, would always be the dowry of every individual merger, specifically in higher education. As Ian Howard, Principal of the Edinburgh College of Art (ECA), has said about the proposed merger between his college and the University of Edinburgh: "This proposal for merger outlines a powerful academic vision which would place the College and the University at the heart of creativity, innovation, and cultural and intellectual life in Scotland and beyond" (The Proposal, 2010, p.4).[3]

It is also widely held that improvements, specifically in the knowledge intensive sector, in innovation performance resulting from mergers (and acquisitions) are intrinsically dependent on knowledge transfer (Hitt *et al.*, 1991; Lundvall and Nielsen, 2007). Discussion of the innovation impacts of mergers (and acquisitions) generally

[2] To formally merge the ECA with the University of Edinburgh from 1 August 2011.

[3] For another example of a merger in higher education seeking innovation see Aula and Tienari (2011:15): "the innovation university project, as the Aalto University project was known before, is one of the flagship projects in the extensive higher education reform currently being implemented by the Ministry of Education." (Aalto University is an entity resulting from a merger and started to operate as a legal entity on January 1, 2010. The merger happened between the Helsinki University of Technology, the Helsinki School of Economics and the University of Art and Design in Finland.)

emphasizes a strategic perspective according to which the quality of merger planning, which includes intended level of integration, has a strong impact on knowledge transfer (Greenberg and Guinan, 2004; Bresman *et al.*, 1999). Researchers utilizing this perspective study the actions of managers that lead up to the merger (or acquisition) decision, together with the management activities during and after the integration process (Jamison and Sitkin, 1986).

Although, for the boards of directors of highly-ranked universities, mergers are an immediate way of absorbing new and complementary knowledge, more importantly, combining the different resources and capabilities of two institutions might create knowledge and capabilities that did not exist before (Kogut and Zander, 1996; Cassiman and Ueda, 2006). Like individuals, "organizations know more than what their contracts can say" (Kogut and Zander, 1992, p.383), and back-and-forth conversations between two institutions can afford not only the exchange of knowledge, but also the generation of new knowledge since a remark can create new meaning by re-situating and re-creating in the evolving context of the conversation (Cook and Brown, 1999). Therefore, while the anticipation that the merger (or acquisition) will result in value creation of some kind is a sine qua non condition of any such transaction, in the knowledge intensive sector, this value creation emerges from the integrated organization's ability to appropriate and leverage the transformed capabilities (Greenberg and Guinan, 2004; Ranft and Lord, 2002):

> The fundamental ground for the merger is the academic benefit that can be realised by the integration and development of the present activities of each institution … (while) activities are distinct and highly complementary. It is our intention to capitalise on ECA's subject knowledge, distinctive expertise, and culture of making (The Proposal, 2010, p.7).

In this regard, many post-merger studies point out that capturing a positive synergy effect, the main goal of integrative strategic alliances for managers or boards of directors, is achievable only through a successful integration of the two institutions[4] (Grant, 1996; Birkinshaw *et al.*, 2000), which itself basically nurtures efficient knowledge sharing (Bresman *et al.*, 1999; Jemison and Sitkin, 1986):

> The fundamental aim of the planned merger is to realise the strong academic potential afforded by a full integration of activities (The Proposal, 2010, p.12).

Now, if the main reason for integrative strategic alliances, such as mergers, is synergy seeking[5], then one would like to know how and to what extent mergers can deliver what is expected of them. In other words, how important and difficult is it to strike the right balance between achieving the necessary level of organizational integration, on the one hand, and minimizing the disruptions that mergers of this order of complexity typically entail to existing competencies, on the other? In fact, managing this tension is itself a capability that needs to be developed (see Zollo and Winter, 2002; Zollo and Singh, 2004; Leonard-Barton, 1992). The dangers encountered when this balance is not found are highlighted by Ranft and Lord (2002), who note that the

4 E.g. "Synergy realization in M&As depends to a large extent to high strategic potential, high organizational integration, and low employee resistance" (Pablo and Javidan, 2004, p. xvi).

5 Looking forward boldly with the aim of creating something new which is not merely the sum of its predecessors. Synergy here is an outcome of knowledge integration rather than knowledge itself (Ranft and Lord, 2002; Grant, 1996). It can be achieved through what Schumpeter referred to as "creative destruction", which in this context means intervention in current routines and capabilities in order to advance them by re(creation) in the evolving context (e.g. see Leonard-Barton, 1992).

literature on M&A success factors has found that difficulties tend to lie in the post-M&A integration process and result from cultural differences and situations in which knowledge transfer is impeded. In our interpretation, these factors are inextricably bound up with the existence, or development, of communities of practice (see Cook and Brown, 1999) within and across the relevant organizations. This paper is concerned with the implications of these factors for integration processes underway before, during, and after merger in the university context.

Based on a case study of the merger currently being planned between University of Edinburgh and ECA, as well as the aforementioned previous merger experiences of the University of Edinburgh, we critically review some streams of the post-merger literature. Based on large scale statistical analyses, scholars investigate the reasons behind failures of merger (and acquisition) and explicate that these are often due to difficulties in the process of integration of the entities being merged (e.g. see Zollo and Singh, 2004; Ranft and Lord, 2002; Greenberg and Guinan, 2004; Cassiman and Ueda, 2006; Grant, 1996). In the case of knowledge intensive sector – such as higher education – the integration mainly means knowledge and capabilities integration which brings synergy; thus, knowledge and capability transfer (re-creation) defines the success, or failure, of an individual merger (Bresman *et al*., 1999; Jemison and Sitkin, 1986; Birkinshaw *et al*., 2000). Combining these views with organizational learning as the vehicle for knowledge transfer (and capability re-creation), some argue that knowledge transfer is unlikely to occur in the first few months following a merger, due to the complexities of the associated organizational change process, coupled with the amount of time required for any organization to learn to successfully collaborate with another (Bresman *et al*., 1999; Birkinshaw *et al*., 2000). In order to deepen the understanding of the phenomenon achieved in the literature to date, specifically to make a contribution in the field of higher education mergers suffering form a lack of scrutinization**,** we investigate the processes of mutual learning before, during and after the formal merger in which the two affected institutions are involved. In particular, with regard to the gaps often found between the level of integration intended by managers or boards of directors (seeking synergy) and the level of integration actually realized, we explore the extent to which (and ways in which) organizational learning starts long before the formal integration (merger) and how the capability to manage the aforementioned duality develops over time. To do so, we first define our view of organizational knowledge, then organizational knowledge transfer, to lay the groundwork for our main discussion of the dynamic interplay between organizational learning and the level of integration, which underlies the aforementioned gap between the planned and realized levels of integration.

## 2. KNOWLEDGE AND KNOWING

Different taxonomies have evolved in order to define various types of knowledge. These include Aristotle's, which differentiated techne, episteme, and phronesis (Van de Ven, 2007), Bertrand Russell's distinction between "knowledge by description" and "knowledge by acquaintance" (or know-that and know-how), Polanyi's (1966) tacit and explicit knowledge (see also Nonaka, 1994; Nonaka and Takeuchi, 1995), Bhaskar's (1975) intransitive and transitive dimensions of knowledge, Nelson's (1982) separation of techno from logy, Simon's (1991) privileging of individual over group/organizational knowledge, Kogut and Zander's (1992) categorization of information (know-what and know-how), the AI classification of declarative and procedural knowledge, and the distinction made by Cook and Brown between knowledge and knowing (1999; see also

Orlikowski, 2002). Here we will be particularly concerned with the work of Orlikowski (2006) and Cook and Brown (1999), and to some extent also that of Nelson (1982)).As a result:

> The view of knowledge that (we) adopt here is a performative, not a representational one. From this perspective, knowledge is not an external, enduring, or essential substance – but a dynamic and ongoing social accomplishment. This is a view of knowing in practice … It leads us to focus on knowledge not as static or given, but as a capability produced and reproduced in recurrent social practices (Orlikowski, 2006, p.460).

As she herself also explains, Orlikowski's focus on organizational knowing rather than knowledge is informed by the sociological study of Giddens (1984) and the anthropological work of Hutchins (1991), in which the significance of routines on individual and group knowledge is accented. These studies understand individuals as members of groups and organizations who act as a routine part of their everyday activities. Individuals, in this sense, are understood "to be both purposive and reflexive, continually and routinely monitoring the ongoing flow of action—their own and that of others—and the social and physical contexts in which their activities are constituted" (Orlikowski, 2002, p. 249). Such everyday activities of individuals inside groups and organizations suggest an "immense knowledgeability involved in the conduct of everyday life" (Giddens and Pierson 1998, p. 90), and responses to upcoming events concerning everyday activities are more "a product of adaptation rather than design" (Hutchins, 1991, p.14).

> This view sees knowledge as enacted—every day and over time— in people's practices. It leads us to understand knowledge and practice as reciprocally constitutive, so that it does not make sense to talk about either knowledge or practice without the other. It suggests there may be value in a perspective that does not treat these as separate or separable, a perspective that focuses on the knowledgeability of action, that is on knowing (a verb connoting action, doing, practice) rather than knowledge (a noun connoting things, elements, facts, processes, dispositions) (Orlikowski, 2002, pp.250-1).

We can trace the idea that thought and other cognitive processes (such as language acquisition) are shaped by social interaction in everyday life (the routine part), to the work of the famous Russian psychologist, Lev Vygotsky (1986; first published in 1934). Vygotsky's idea about how the learning process originates in social (inter)action and undergoes internalization in the mind includes two main features he borrowed from Karl Marx. The first is the idea that human thought develops as a result of social processes (we can represent new knowledge as reality to ourselves as we represent it through and to others in social interactions, and use those representations as raw material for our learning, or in other words, knowledge as the output of action learning emerges from social interactions between learning agents) (Vygotsky, 1986). The second, which is also accented by Orlikowski's (2006) conceptualization of "material knowing", explores the role of mediators in organizational learning. In this sense, knowing as a mental effort is mediated by tools (that is, certain devices for aiding thought, to be learned or to be transferred in the process of learning) (Vygotsky, 1986). While the first one explains the routine part in shaping thought and knowledge through everyday activities, the second accents the contextuality of thought and knowledge.

The same idea is further developed in Schön's (1983) fieldwork observation of the practice of five professions. He argues that the skilful practice presented by professionals does not consist of applying only a priori knowledge (both tacit and explicit) to a specific task, but rather a kind of knowing inherent in their practice and in

transactions with artefacts (for another rich example see Cook and Brown's [1999] example of flute makers). He concludes that:

> when we go about the spontaneous, intuitive performance of the actions of everyday life, we show ourselves to be knowledgeable in a special way. Often we cannot say what it is that we know … Our knowing is ordinarily implicit in our pattern of action and in our feel for the stuff with which we are dealing[6] (Schön, 1983, p.49).

Although the implicitness of knowing is emphasised, knowing should not be confused with tacit knowledge, as our tacit knowledge is a tool or an aid to action, not part of action itself, while our knowing is in our action (Cook and Brown, 1999).

It has been argued that, in practice, converting tacit knowledge to explicit knowledge is difficult or even impossible (Nonaka and Takeuchi, 1995; Zollo and Winter, 2002). This also means although we can codify some of our tacit knowledge, we cannot codify or even articulate all that we know; in the words of Polanyi (1966, p.4): "we can know more than we can tell". We conclude that those tacit parts of the world of our cognition which can be articulated (even if deeply rooted in the individual's action and experience, ideals, values, or emotions) and then codified[7] make up our "tacit knowledge", while those which are enacted in everyday practices and routines and are a part of our action rather than a tool or an aid to action make up our "knowing". Borrowing from the epistemological perspective of the American Pragmatist philosophers (e.g. John Dewey's concept of productive inquiry), while we consider the former as something possessed, either explicitly or implicitly, and therefore as "knowledge", we consider the latter as neither articulable nor separable from our practice and its context, which is part of action itself, and therefore as "knowing" (Cook and Brown, 1999).

This knowing lies at the very basis of organizational learning (as well as tacit and explicit knowledge), while its nature renders it highly contextual and impossible to articulate; "organizations know more than what their contracts can say" (Kogut and Zander, 1992, p.383). Our focus here is mainly on knowing. This doesn't mean we undervalue the importance of codified knowledge and codifiable tacit knowledge in organizations, but much research has already been done on this subject (see Cook and Brown, 1999), and we believe that codified or codifiable knowledge, which can be represented in information systems, cannot enable all the necessary epistemic work needed for learning and "knowledge transfer"[8] (Currie & Kerrin, 2004). Indeed, as we shall argue shortly, in the merger integration context, part of what is referred to as "knowledge transfer" is actually practice re-situation or even (re)creation (the concept of practice re-situation is borrowed from Cook & Brown, 1999).

Before moving onto a discussion of organizational learning and knowledge transfer, we want to discuss some implications of Nelson's (1982) categorization[9]. The aim of this recall is to draw another line in between two kinds of knowing at organizational level. Nelson differentiates "logy" form "techno"; while the former belongs to the

[6] For understanding the similarities with "Material Knowing" see Orlikowski's (2006).

[7] For example through Nonaka's (1994) continuous dialogue between tacit and explicit knowledge by combination, specialization, internalization, and externalization.

[8] For a critique of an approach to knowledge management based exclusively on codifiable knowledge, see, e.g., Schön, 1983; Argyris & Schön, 1996, and Dixon, 1994, 1999.

[9] This in turn dates back to the work of Aristotle, who in the Nicomachean Ethics differentiated techne, episteme, and phronesis (e.g. see van de Ven, 2007)

public arena, the latter belongs to a firm or a special scientific community in a broader sense. In fact, within any given scientific community,

> there exists a social agreement regarding the factual evidence by which to communicate the reliability of scientific findings. Similarly, public firms are required to report data to shareholders in a common format so as to facilitate analysis and appraisal. For the objective of public dissemination, information is standardized and released in order to be understood at minimal cost to those with the requisite training (Kogut and Zander, 1992, p. 386).

In this sense, moving from inside a specific scientific community out into a public arena, one observes that the level of contextuality of knowledge being shared incrementally decreases while the special scientific discourse is replaced by a more general, public discourse. This move also leads to dealing with less sticky knowledge which has less inertness for being shared and is understandable for a larger audience. Our belief is that this is applicable not only to knowledge but to knowing as well at the organizational level. Imagine an independent institution before a given merger. Two kinds of knowing can be defined at the organizational level. At the broadest organizational level, the dominant managerial discourse (e.g. see Manning, 1992) plays the main role, while at the technical or scientific level inside each community, a more specific and context-based discourse plays the main role; the more specific the technical or scientific groups or communities, the more specific the discourse and the more sticky the knowledge and knowing to those communities. Everyday practices of an organization (a university or a higher education institute) are informed by the body of knowledge, tacit and explicit, that its communities possess. Everyday routines and practices of each community (a research group, a department, a community of practice, or a school in a university) are also informed by the body of knowledge that individual members possess. The whole of all the communities within the organization, or of all the individuals within a community, is epistemically greater than the sum of each of those communities or individuals (Cook and Brown, 1999). The synergy effect referred to here results from the "knowing" part which resides in practice.

As a result, we categorize these two kinds of knowing as "Scientific or Technical Knowing", which is at the level of groups and communities[10] (e.g. scientists, departments, communities of practice, research groups, schools, etc), and "Organizational Knowing", which is at an organizational level (university or higher education institute). As we use the term "knowing" to refer to the epistemological dimension of action itself (Cook and Brown, 1999), or the performative, not representational, dimension of knowledgeability of any given practice (Orlikowski, 2002; 2006), what we are referring to here is socially shaped and context-based, and as a result, sticky with a high level of inertness. But the level of inertness and stickiness diminishes when we move from "Scientific" to "Organizational" knowing, and the common logic and discourse changes from a scientific or technical to a managerial discourse.

Although, since we are discussing knowing, this can be considered as a "backward" step into the arena of codified knowledge, comparing these two kinds of knowledge with Rules and Meta-Rules in expert systems makes the concept less abstract and more comprehensible. Rules in a given expert system compose the knowledge base of that system and deal with individual tasks which are usually related to specific problem

10 As we mentioned before, scientific or technical knowing is defined at the individual level originally, which is not explored further here. For differentiating scientific knowledge and knowing at the individual level see Cook and Brown's (1999) rich examples of machine design, flute making, and paper handling.

solving (e.g. see Durkin, 1994). As an example, rules in a health insurance company's expert system which deals with risk assessment of any given contract include the risk criteria, which are defined by a group of human experts. For instance, age over 40 for an applicant will be regarded as high risk and 1 is entered into the risk assessment output (instead of zero for less than 40) for making the contract. These rules shape the "Scientific or Technical" knowledge of the system, which informs the "Scientific or Technical" knowledgeability of its action. These rules in an expert system for that insurance company are, to a high extent if not totally, different from those for an expert system for a hospital. An expert system for a health care company may have some rules in common with both of those expert systems (more with the one for the hospital and less with the health insurance company's). At another level, there are Meta-Rules which perform, control, and monitor the whole performance of the system and deal with Rules (e.g. see Durkin, 1994). While these Meta-Rules also represent the codified knowledge of human experts, the latter are not necessarily from the specific field, since Meta-Rules are concerned mainly with the managerial part of expert systems. As a result, these rules shape the "Organizational" part of the knowledge base of the expert system, which informs the "Organizational" knowledgeability of its action.

## 3. ORGANIZATIONAL LEARNING AND CAPABILITY TRANSFER (Re-CREATION)

It is now necessary to explain how this highly contextual knowing, as a capability, can be transferred between two institutions through organizational learning.

Generally, learning should be regarded as the elemental cognitive mechanism by which human agents process new experiments and create new ideas in everyday activities (Torraco, 2000). These new experiments and ideas, undertaken in order to improve everyday practices, are not always the result of acquiring new knowledge, but the product of developing innovative ways of using priori knowledge (Cook and Brown, 1999). Here, access to new ideas and generation of new knowledge are attributed to cognitive associations and expansions from new mental representations, either by acquiring new knowledge or by innovative use of priori knowledge in the process of knowing in action. More importantly, learning is regarded as a 'collective' phenomenon which can be grasped when a group of individuals identify, adapt, generate and process knowledge for collective purposes (Torraco, 2000). This is a theory of "emergents" explaining that outcomes and actions at the collective level emerge from the interactions of the agents that make up the collective (Bertalanffy, 1972).

In addition, knowledge advances by "recombinations" (Kogut and Zander, 1992, p.391): "creating new knowledge does not occur in abstraction from current abilities. Rather, new learning … (is a) product of a firm's combinative capabilities to generate new applications from existing knowledge". At the organizational level, since a firm's current capabilities reside within its current organization, switching to completely new knowledge and capabilities is almost impossible as there is no knowledge and capabilities' structure to build and advance on. If one organization decides to switch to totally new capabilities, the firm's relational structure would be disrupted and it will lose its current competitive advantage (Kogut and Zander, 1992). This disruption is by no means "creative destruction" (Schumpeter, 1942, cited in Leonard-Barton, 1992), and leads only to higher transaction costs among actors (individuals and groups) who have lost their current relational structures within the organization, and as a result, there is no advantage over a newly structured organization (Kogut and Zander, 1996). As Vygotsky (1978), says:

> Learning does not alter our overall ability to focus attention but rather develops various abilities to focus attention on a variety of things. According to this view, special training affects overall development only when its elements, materials, and processes are similar across specific domains; habit governs us. This leads to the conclusion that because each activity depends on the material with which it operates, the development of a set of particular, independent capabilities or of a set of particular habits. Improvement of one function of consciousness or one aspect of its activity can affect the development of another only to the extent that there are elements common to both functions or activities (p. 31).

Applying this to organizational learning, firms have the ability to learn in the areas closely related to their current capabilities which have been developed along with their existing everyday practices. This justifies the ideas of capability "inertness" and "path dependency" in organizations, which in turn explains the tendency to stick to routines and maintain the status quo (Kogut and Zander, 1992).

In addition, our view to knowing as an enacted part of routines and everyday organizational practices inhibits it form being "transferred" or spread around as objects. Practices cannot be transferred but can be created and recreated through everyday activities. Therefore, capability (re)generation can only be done by developing the capacity to enact what Orlikowski terms "useful practices" (criticizing the term "best practices"). The usefulness of practices is defined to be "a necessarily contextual and provisional aspect of situated organizational activity" (Orlikowski, 2002, p. 253). Here, sharing "know-how" is seen to be a process of enabling the other institute to capture the capabilities of performing practices that entail the "knowing how". This is the character of communities of practice (COP) which allow "knowing how" to move within and among communities of persons who share similar practices. On the other hand, in light of Vygotsky's work, discussed above, showing the social nature of cognitive processes such as language acquisition, we can see that it can be very difficult and disruptive, and possibly impossible, to move this "knowing how" across communities of practice with few or no similarities of activities and the cognitive-linguistic framework within which they are embedded (Orlikowski, 2002; see also Wittgenstein, 1953). For sharing "knowing how", indeed, emphasis has been made on (a) commonalities in practices and knowing how as the foundation of capability development (e.g. Vygotsky, 1978; Kogut and Zander, 1992; Cramton, 2001), (b) working together as in communities of practice, emphasizing time investment and reflection on actions (e.g. Schön, 1983; Argyris and Schon, 1996; Davenport and Prusak, 1998), and (c) in a shared context which lets learning agents cross the boundaries of a single context and its materiality of knowing[11] (e.g. Janowicz-Panjaitan and Noorderhaven, 2009; Orlikowski, 2002). Wittgenstein (1953) lays the philosophical foundations for seeing meaning in communication as being socially constructed; for him, language only works (that is, conveys meaning from the speaker to the listener) in a specific social situation that provides a context for the participants in communicative acts, and this context is based on shared practice. With regard to commonalities in practices, Cramton (2001) defines "mutual knowledge" as knowledge that communicating parties share in common. She emphasizes the awareness of the communicating parties of that mutual knowledge which plays an informative role and improves mutual understanding among parties. In addition, it has been broadly accepted that learning takes time, since time is needed for reflection concerning the action and what is learned informs subsequent actions (Schön, 1983). Communities of

[11] Working together in the shared context that communities of practice provide is informative with respect to other aspects of merger as well, such as trust making, developing shared identity, etc. Here, the focus is on knowing transfer.

practice provide the communicating entities, here the merging institutes, the chances for reflection during the time needed to learn to collaborate with each other.

In this regard, the institutions merging in Edinburgh are qualified for transfer of knowing-how, since the merging entities have been working together for ages in plenty of organizational issues (e.g. accrediting ECA programmes since 2004 by the University of Edinburgh):

> Our institutions have worked together successfully since the nineteenth century, and today we have a rich array of collaborations in research, teaching and academic support, involving the ECA disciplines of Art, Design, Architecture and Landscape Architecture in partnership with humanities and art-related areas such as History of Art, branches of design in areas such as Architecture and Informatics, social science areas such as human geography, the natural sciences, and medicine (The Proposal, 2010, p.11).

The institutions have learned extensively how to collaborate in ways that suits both entities. While the context of sharing know-how has been created for two institutes through long collaboration and mutual knowing, positive synergy seeking encourages them to formally merge together. Besides other reasons such as financing issues, formal integration aims at capability integration:

> While our two institutions already collaborate extensively, there are practical constraints on partnerships between independent institutions. Merger would lead to a step-change in academic collaboration. It would enable our institutions to undertake major new strategic developments (for example, combining Design and Informatics disciplines to support the Knowledge Economy) (The Proposal, 2010, p.7).

## 4. LEVEL OF INTEGRATION

As discussed, to capture the positive synergy effect of an integrative strategic alliance like a merger (by "creative destruction")[12] (see Leonard-Barton, 1992), the extant literature in the domain – mainly post-merger studies - emphasizes knowledge transfer and appropriation by integration between merging entities (Greenberg and Guinan, 2004; Ranft and Lord, 2002; Grant, 1996; Birkinshaw *et al*., 2000; Bresman *et al*., 1999; Jemison and Sitkin, 1986). It is also supposed that organizational learning and knowledge transfer is not likely to occur in the first few months following a merger (an acquisition) due to the complexities of the merger's change process coupled with the amount of the required time for any organization to learn to successfully collaborate with another (Bresman *et al*., 1999; Birkinshaw *et al*., 2000).

In order to deepen the understanding of the phenomenon, we combine these views with "deliberate" versus "emergent" strategy of Mintzberg (1985) in our investigation of processes before, during and after integration. Our observation proposes that "organizational learning" may start long before the integration, and that its interplay with the "intended level of integration" leads to the "realized level of integration" which itself defines, to a great extent, the success or failure of the integration. In other words, striking the right balance between achieving the necessary level of organizational integration by creative destruction and minimizing the disruptions to the merging firms' resources and competencies through organizational learning is a fundamental challenge

[12] The justification for formally merging two or more entities is more than simple collaboration benefits which are achievable by non-integrative strategic alliances as well.

that dynamically interplays with the intended level of integration and defines the realized level of integration[13].

Based on our performative view of knowledge as knowing-how, we have differentiated two kinds of knowing as "scientific" and "organizational" knowing. We base our discussion about capability re-creation (transfer) and level of integration on this distinction.

**Organizational Knowing -** In our point of view, "organizational" know-how transfer (learning) may start long before the formal merger happens, and even long before the entities decide to merge together. Indeed, this is exactly what Bresman *et al*. (1999) are referring to when they discuss the amount of the required time for any organization to learn to successfully collaborate with another. We believe that the common organizational knowing that emerges in the pre-merger collaboration of two organizations, usually through the formation of joint strategic groups (communities of practice), is what creates the appetite for such mergers. Our observation of previous mergers of the University of Edinburgh shows that organizational knowing integration is more the output of the intended integration plan than the emergent one, and more knowing integration at this level means more "creative destruction", or as we term it "constructive disruption", and brings more positive synergy effects. Two theoretical propositions support this. First of all, as we discussed in the previous sections, knowing-how advances on commonalities of practices and, just as the Meta-Rules of expert systems share more commonalities than the rules of each system, organizational know-how generally shares more commonalities in sticky practices than in scientific knowing (discussed below). This means that two merging entities have enough commonalities to base their practice advancement on them and build the structure of collaboration. This also facilitates the sharing of "scientific knowing":

> Our recent close collaboration in these areas has provided each institution with a detailed knowledge of the workings of the other. This has created a mutual confidence in the quality and standards of our combined academic activities and in the capacity of our staff bodies successfully to work together. The academic federation and the activities that have developed within it have built richer networks between the two institutions than have existed in the past (The Proposal, 2010, p.15).

Secondly, as mentioned before, the dominant managerial discourse plays the main role in the organizational knowing arena. As a result, managers are concerned primarily with shaping the needed communities (such as joint strategic groups) for organizational know-how sharing. This justifies the strategic perspective we discussed in the introduction, according to which the quality of merger planning has a strong impact on know-how sharing and vice versa (Greenberg and Guinan, 2004; Bresman *et al*., 1999). Researchers utilizing this perspective study the actions of managers that lead up to the merger decision, together with the management activities during and after the integration process (Jamison and Sitkin, 1986), based on the assumption that managerial action is the most important influence on the shaping of needed communities of practice for capability transfer, which in turn leads to value creation following the mergers by capturing the planned synergy effects (Greenberg and Guinan, 2004). Some researchers investigating the early stages of capability transformation (i.e., justification; see Von Krogh and Grand, 2000; Nonaka, 1994) claim that justification processes are essentially

[13] A post-acquisition study in an international context has been done by Mtar (2010) investigating this variation between intended and realized integration outcomes as a dynamic interplay of institutional distance, market structure and power dependencies. Our focus here is only on know-how integration.

influenced by the commanding general management logic (Von Krogh and Grand, 2000). Note that, as Nonaka (1994) defines knowledge as "justified true belief", and since we believe in capacity re-creation and re-situation instead of knowledge transfer, the justification process plays an important role for the re-creation and re-situation of new or modified beliefs (for more specification, see Von Krogh and Grand, 2000).

**Scientific Knowing –** As discussed, at the technical or scientific level, specific context-based discourse exists in a particular community and the more specific the technical or scientific groups or communities, the more specific the discourse and the more sticky the practices and knowing-how in those communities. As well as organizational knowing, here also capabilities advance on commonalities, but in contrast to organizational learning, another variable impacts the synergy effects of the integration plan. We term this variable "capability relatedness". As a result, more knowing integration at this level does not necessarily mean more of the "constructive disruption" that brings more positive synergy effects, but when the level of capability relatedness is low, or there is no capability relatedness, any attempt to realize more knowing integration ends up with more disruption of the current capabilities of institutions. This is the "knowing" re-creation that Bresman *et al*. (1999; see also Birkinshaw *et al*., 2000) believe is unlikely to occur in the first few months following a merger (and which sometimes never happens). It should be mentioned that although, in a short time, disruption appears as the main result of integrating capabilities with a low level of relatedness, after the time needed to develop new capabilities for almost totally new practices has passed, some synergy effect will be realized, with a higher level of integration. As a result, at this level of scientific knowing, usually no integration happens.

In this case, while merged institutes integrate their knowing at the organizational level (e.g. using same financial staff and system), our observation shows a low level of integration between scientific COPs (e.g. little integration of academic communities from two institutes). Since capability advancement based on commonalities will bring a synergy effect, when the capability relatedness remains high, the integration of scientific communities is more likely to occur and "creative destruction" to bring positive synergy effects.

Here, our observation of previous mergers of the University of Edinburgh shows that scientific knowing integration is more the output of an emergent integration plan than the planned one and the actually realized integration level of practices is far from the intended plan. The difficulties encountered are often due to barriers such as limited absorptive capacity for new practices (owing to the lack of commonalities in practices), a poor relationship between scientific communities due to the causal ambiguity regarding the nature of their practices for each other (Greenberg and Guinan, 2004), a high level of complementary practices (which again leads to the lack of practice commonalities), and a higher level of contextuality and stickiness of capabilities (Kogut and Zander, 1992) than that observed for organizational knowing.

Our findings demonstrate that although observing the general management logic and mundane management discourses can help us to study the justification process of new capability creation during and after integration processes, management has a limited ability to direct and organize the action of the individuals who will engage in real capability (re)creation activities following a merger. In other words, this is an emergent process based on individuals. Capability (re)creation can be facilitated best by mutual transactions and communication including action, change, and reflection among the individual members of the merged institutions before, during and after the integration

process. This means that individual organizational members acting on their own initiative have the greatest impact on capability (re)creation and (re)situation following a given merger (Greenberg and Guinan, 2004; Bresman *et al*, 1999).

We have also investigated the impact of the formation of communities of practice on scientific knowing re-creation following mergers. The main issue is the informal nature of these communities in a newly integrated organization. The highly informal nature of these communities makes it difficult or impossible for managers or organizations to create them formally or dictate their shaping (Greenberg and Guinan, 2004). Additionally, as discussed above, since the special scientific or technical discourse within each community plays the main role in the scientific knowing arena, managers have very little to do with shaping the needed communities for sharing "scientific know-how".

## 5. DISCUSSION AND CONCLUSION

Drawing a line between two kinds of knowing at the organizational level, namely 'organizational knowing' and 'scientific knowing', we conclude that observed differences between the intended and actually realized levels of integration can be ascribed to the different nature of the related COPs and the dominant discourse in each group of communities. This leads to a higher intended level of integration for organizational COPs and a more emergent level of integration for scientific ones.

While management has a limited impact on the formation of scientific COPs, our findings support the premise that two factors can practically facilitate the formation of these informal communities during and after the integration: first, the shaping of a trusting climate in which members know that their knowledge sharing and practice re-creation activities will be recognized and rewarded (Davenport and Prusak, 1998; Nahapiet and Ghoshal, 1998); and, second, a common organisational culture, or what is referred to as a shared identity of organisational members (Kogut and Zander, 1996; Cassiman and Colombo, 2006). This shared organizational identity may consist in a shared set of beliefs about what the organization is. But since knowing "what the organization is" or "organizational knowing" is also enacted in practice, we have to think about this shared identity also as "an ongoing accomplishment, enacted and reinforced through situated practices"[14] (Orlikowski, 2002, p.270).

Without the development of COPs, it is very difficult for a given merger to lead to capability transfer (re-creation), even after the required time for any organization to learn to successfully collaborate with another. Indeed, the creation of these communities can create an environment suitable for individuals to engage in joint action, change, and reflection needed for knowing in action to be re-created in everyday activities.

**NOTE**: As Yin (2003) suggests, the theoretical framework presented in this article suggests specific propositions for performing this explanatory case study. This in-depth case study is being developed using archival data from public documents as well as interview data. Explanatory case study research is particularly useful in the study of

[14] "Contemporary work on identity construction and reinvention (see e.g., Albert et al. 2000, Gioia et al. 2000, Schultz et al. 2000) has much to offer a perspective on 'organizational knowing', presenting opportunities for exploring the recursive relationship between identity and knowing as both emerge through practice" (Orlikowski, 2002, p.270).

mergers, as it enables the researchers to explore the processes through which synergies are, or are not, identified, appropriated, and actualized. This conference paper is based on early stages of interplay between the theoretical propositions of the research and the field data. The process of collecting data is still underway.

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