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A PERFORMATIVE VIEW OF KNOWLEDGE EXPLOITATION AND EXPLORATION: A CASE STUDY OF A HIGHER EDUCATION MERGER

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Abstract

O
rganizational transformations, such as mergers and acquisitions, disrupt the steady state of organizational daily life. Under some conditions, these kinds of disruptions may actually alter the organizational and occupational structure of everyday work. However, current theories of organizational learning and knowledge governance, such as the so-called 'knowledge- or capability-based view of the firm', are inadequate when it comes to the potential number of structural variations inherent in an organizational transformation taking place in non-commercial organizational settings such as higher education institutions. In an exploratory case study of a university merger, this dissertation inductively examines how governance structures in universities impact the creation and exploitation of knowledge, both in core academic activities (research and teaching) and in related and supporting administrative tasks. This setting provides an institutional configuration that differs considerably from that which has informed most previous research on the creation, sharing and exploitation of knowledge, but in which there are prominent institutional locales for the governance of knowledge processes. Taking a practice lens, this study proposes a finer-grained picture of those structural variations by depicting the recursive relationship between changes in knowledge content (ostensive aspects) and knowledge-use practices (performative aspects) in the academic merger. Similarities and differences in relation to knowledge governance in firms are also identified. The findings suggest a classification of the micro-processes by which organizational and competence-based capabilities are recreated, improving our understanding of knowledge-based capabilities (re)creation at different levels of organization and through different stages of merger implementation.

Declaration of Originality

This thesis and the work to which it refers are the results of my own efforts. Any ideas, data, images or text resulting from the work of others (whether published or unpublished) are fully identified as such within the work and attributed to their originator in the text, bibliography or in footnotes. No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning. I agree that the University of Edinburgh has the right to submit my work to a plagiarism detection service such as TurnitinUK for originality checks. Whether or not drafts have been so assessed, the university reserves the right to require an electronic version of the final document (as submitted) for assessment as above.

Acknowledgments

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Chapter One: Introduction[1]

"I would like to have written a shorter letter but didn't have the time" - Mark Twain

1.1. Initial Aims and Evolving Objectives

This PhD project started with the aim of conducting an inductive research project on organizational learning challenges that an academic merger faces, particularly with regard to the level of knowledge integration achieved between the merged entities as a result of those learning processes. As the extant literature has shown, this integration is necessary in order to grasp the intended innovative performance and synergy effects out of any given merger (Jemison and Sitkin, 1986; Haspeslagh and Jemison, 1991; Grant, 1996a; Greenberg and Guinan, 2004; Ranft and Lord, 2002; Birkinshaw *et al*., 2000; Bresman *et al*., 1999). I was particularly interested in looking at how the two institutions involved in the merger have been learning from each other during different stages of the merger, including the course of cooperation prior to the proposal of the merger and during the time that the actual merger was taking place, as well as the course of integration of the two institutions following the merger. The research seemed specifically interesting since current theories of organizational learning and knowledge governance are inadequate as regards the potential structural variations inherent in organizational transformation and knowledge integration taking place in non-commercial organizational settings such as higher education institutions.

During recent decades, a rich stream of literature has provided new insights regarding the problems and opportunities associated with 'organizational learning' and the 'management of knowledge'. In areas ranging from strategic management to

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[1] This is an introduction to my four-essay dissertation (chapters two, three, four, and five). The four essays stand by themselves to be read independently. As a result of this self-sufficiency, certain levels of redundancy and repetition were unavoidable. This is particularly the case for the research setting and methodology sections following single-case study research design. However, the four essays are integrated here as one single dissertation based on one exploratory, single-case study.

the sociology of knowledge, empirical research and theoretical developments have focused on the nature of 'knowledge processes' in the governance context of business firms (Nelson and Winter, 1982; March, 1991; Kogut and Zander, 1992; 1993; 1996; Grant, 1996a; 1996b; Foss, 1996a; 1996b; Nahapiet and Ghoshal, 1998; Felin and Hesterley, 2007; Galunic and Rodan, 1998; Spender, 1996; Szulanski, 1996; Tsoukas, 1996; Orlikowski, 2002; 2006; D'Adderio, 2001; Dosi, Faillo, and Marengo, 2008; Håkanson, 2010; Nickerson and Zenger, 2004). However, effective knowledge processes are not exclusive to firms; the real world provides many examples of complex knowledge-intensive activities undertaken in other types of organizations and institutional arrangements. More importantly, the possibility of studying knowledge and learning processes is greater in institutional settings in which common practices and designs are widespread, because such a setting "provides a homogeneous external context that enables the isolation of organization-specific sources of heterogeneity in the interpretation and use of [common] knowledge [and practices] as a resource" (Nag and Gioia, 2012, p. 425). One prominent example is represented by universities, the organizational setting of the present study, which provides an institutional configuration in which there are prominent institutional locales for the governance of knowledge processes.

As my observation of the merger progressed, I became increasingly aware that it is vital to differentiate between learning aimed at absorbing or mastering the existing knowledge of others (exploitation), and learning in the sense of discovery (exploration) in this setting (cf. March, 1991). As a result, although many other valuable categorizations of organizational learning have evolved during the last four decades (see Table I), I focus mainly on the dynamics of exploitation and exploration processes and knowledge governance throughout the course of the merger. Despite the advances in the field, nevertheless, the organizational learning literature and the so-called knowledge- or competence-based theory of the firm have not overcome a certain ambiguity in its utilization of March's (1991) classic distinction between exploitation and exploration, with some scholars seeing organizational routines as underlying the efficiency with which existing knowledge and capabilities are exploited within the borders of an organization (Kogut and Zander, 1993; Brown and Duguid, 1996; Winter and Szulanski, 2001), while others emphasize the exploratory

acquisition of knowledge by organizations enabling employees to cross organizational borders (Kogut and Zander, 1992; Nahapiet and Ghoshal, 1998; Leonard-Barton, 1992; Grant, 1996a; D'Adderio, 2004; Wareham *et al.*, 2007; Nooteboom, 2008; Håkanson, 2010).

Table I: Organizational Factors Affecting (Defining) Learning Processes

Factors/Extremes	Implications	Examples
The Volume and Value of Explicit Knowledge vs. Tacit Knowledge	Automating knowledge creation through information technology for large-scale exchange of codified knowledge	Kogut and Zander (1992) Hansen *et al.* (1999) Nonaka & Takeuchi (1995) Inkpen and Crossan (1995) Orlikowski (2006)
	The transfer of tacit knowledge in master-apprentice type of relationships like those in communities in order to facilitate dialogues among human agents	
Centralized Learning vs. Decentralized Learning	Adopting the hierarchical stance: it only matters that the powerful people are learning the right things	Garratt (1987) Shrivastava (1983) Senge (1990) Brown and Duguid (1991)
	Adopt the decentralized stance (then there is the problem of uncertainty and increased political activities)	
Instructive Learning vs. Experimental Learning	Information flows from professional instructors to employees	Kolb *et al.* (1973) Revans (1982, 1998) Dixon (1994) Argyris and Schon (1978, 1996) Argyris (1996)
	Information is generated through direct experience of employees, which is shared and interpreted collectively	
Bureaucratic Learning Style vs. Participative Learning Style	Information develops at top levels and flows top-down through organizational hierarchy	Kolb *et al.* (1973) Mumford (1987) Talbot and Harrow (1993) Garratt (1987)
	Learning system is structured around informal *ad hoc* committees and groups that exchange information with whoever is considered to be relevant	
Defensive Routines vs. Openness to Learning	Groups and organizations set up "defensive routines" which make it hard for people to challenge the *status quo*	Hedberg (1981) Nonaka and Takeuchi (1995) Revans (1982, 1998) Kramer (2008) Senge (1990)
	Groups and organizations are open to new ideas and practices, and 'unlearning'	
Learning by Exploitation vs. Exploratory Learning	Learning aimed at absorbing or mastering the existing knowledge of others	March (1991) Winter and Szulanski (2001) Nooteboom (2008) Håkanson (2010) Orlikowski (2002) Hsiao *et al.* (2012)
	Learning in the sense of discovery (exploration)	

This study is conducted on the organizational learning challenges facing mergers in the UK Higher Education sector in general, and, specifically, the merger between a world-class university (the University of Edinburgh) and a worldwide known art college (Edinburgh College of Art) located in the same city and in a close

geographical proximity, particularly with regard to the level of knowledge and capability integration achieved between the merged entities and the role of exploitation and exploration in the integration process. By focusing the study this way, I hope to contribute to the move trying to resolve this ambiguity in the utilization of March's (1991) classic distinction between exploitation and exploration. To put it simply, this research is conducted in order to examine the role of exploitation and exploratory learning processes planned with the aim of grasping the intended innovative performance and synergy effects out of the merger.

In short, the two main constructs and the dynamic interplay between them which are investigated through this research include:

1) Organizational learning challenges, in terms of both exploitation and exploration, before, during and after the merger integration process,
2) The level of knowledge and capability integration intended beforehand and the level of integration actually realized after the merger.

1.2. Background and Propositions

Reviewing existing documents of academic mergers (see e.g. Eastman and Lang, 2001; Lang, 2002; Aula and Tienari, 2011; Merger Proposal, 2010), one finds that creativity and innovative performance, conceivably, would always be aimed at as products of every individual merger in higher education. It is also widely held that improvements, specifically in the knowledge-intensive sector, in innovation performance resulting from mergers are intrinsically dependent on knowledge and capability transfer (Hitt *et al.*, 1991; Lundvall and Nielsen, 2007). Besides, discussion of the innovation impacts of mergers (and acquisitions) generally emphasizes a strategic perspective according to which the quality of merger planning, which includes intended level of integration, has a strong impact on knowledge and capability transfer in order to capture a positive synergy effect (Greenberg and Guinan, 2004; Bresman *et al.*, 1999; Birkinshaw *et al*., 2000). Taking a performative view of knowledge as knowing in action (Cook and Brown, 1999; Orlikowski, 2002), this research asks what this knowledge and capability transfer really means in practice, investigating the extent to which it involves the creation of a community in which joint action leads to the development of a common

language (and shared identity) allowing for knowledge sharing, mutual learning, and capability recreation (Davenport and Prusak, 1998; Nahapiet and Ghoshal, 1998; Kogut and Zander, 1996; Cassiman and Colombo, 2006).

Existing research on mergers and acquisitions shows how important and difficult it is to strike the right balance between achieving the necessary level of organizational integration (constructive disruption or in Schumpeter's words "creative destruction"), on the one hand, and minimizing the disruptions that mergers of this order of complexity typically entail to existing competencies, on the other (Zollo and Winter, 2002; Zollo and Singh, 2004; Ranft and Lord, 2002). At the same time, the organizational literature points to the need for organizations to learn to strike the right balance between building on existing core capabilities while avoiding core rigidities (Leonard-Barton, 1992) (i.e. by shedding those competences that are obsolete or made irrelevant by the new context of the merger). In order to deepen the understanding of the phenomenon achieved in the literature to date, this research investigates the processes of mutual learning in which the two affected organizations are involved before, during and after the formal merger. In particular I intend to focus on the extent to which (and the ways in which) 'organizational learning' takes place during the integration processes, as well as exploring how this might affect the differences between the intended and actually realized levels of integration, with the aim of achieving the innovative performance improvement as well as consistency and synergy effects.

1.3. Broad Research Questions

In light of the above, this PhD project started as an endeavour to explore the following three broad research questions. As explained in the last section of this introduction chapter in detail, the detailed questions in the four manuscripts following the introduction are derived from these three initial questions:

1. How do organizations through the course of a merger strike a balance between achieving the necessary level of organizational integration while minimizing the disruptions that mergers of this order of complexity typically entail to existing competencies?

2. How do organizations strike a balance between learning aimed at absorbing or mastering the existing knowledge of others (exploitation), and learning in the sense of discovery (exploration) during the course of a merger, and what are the main barriers for achieving that balance?

3. How do the learning processes and knowledge governance systems of an organization affect, and how are they affected by, the characteristics of the knowledge processes undertaken within them, and how this creates the differences between the intended level of integration before the merger and actually realized level of integration afterward?

1.4. Relevance and Significance

Investigating mergers in higher education is valuable not only to improve the general understanding of the phenomenon in an unconventional research setting (non-commercial firms) but also to test the extant and emerging theories in practice in a rapidly changing environment. 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.

An exploratory case study of a merger between the University of Edinburgh and Edinburgh College of Art (ECA) (as well as the previous merger experiences of the University of Edinburgh) forms the empirical basis for this research project. I believe this project is proved to be of value not only to the whole UK higher education sector, contributing to the success of future mergers that will happen in this sector, but also, as a rich organizational study and hence a thick explanation of the phenomenon, to various strands of research including organizational change and adaptation, organizational learning, organizational routines theory, and mergers and acquisitions (more specifically post-merger integration). The project will contribute to the knowledge base of the institutional mergers which have occurred in the British higher education sector in the last twenty years. It will thus provide similar

organizational settings with a knowledge repository that could be used to inform future mergers elsewhere in the UK or around the world[2].

1.5. Theoretical Orientation and Brief Literature Review[3]

This PhD project is a collection of four research articles. As a result of that, slightly various theoretical orientations have been adopted in each chapter (essay). However, I provide a broad, brief literature review in which one can identify the overall theoretical orientation of the whole thesis. In this sense, probably Bacharach's (1989, p. 496) definition of theory comes closest to the broad view that I adopt in this text. He defines theory as:

> "A statement of relations among concepts within a boundary set of assumptions and constraints. It is no more than a linguistic device used to organize a complex empirical world. …the purpose of a theoretical statement is twofold: to organize (parsimoniously) and to communicate (clearly)" (cited in Alvesson and Sandberg, 2011, p. 253).

In addition to organizational learning literature touched on briefly in the first section of this chapter which shapes the foci of this research (particularly at its early stages), this four-essay dissertation revolves mainly around three strands: knowledge in practice (knowing), mergers (and acquisitions), and higher education.

1.5.1. Knowledge and Knowing

The view of knowledge that I 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. It leads me to focus on knowledge not as static or given, but "as a capability produced and reproduced in recurrent social practices" (Orlikowski, 2006, p. 460). Based on this view, I believe

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[2] The value of the project was noticed immediately after the first conference publication by the team of analysers of a merger under investigation between the University of Lisbon and the Technical University of Lisbon. Early findings of this PhD research project were presented as a keynote talk at a workshop called "European Experiences in University Mergers" organized by the Technical University of Lisbon, Portugal.

[3] I have used a grounded, interpretive approach to derive many of the theoretical findings presented in this dissertation. Consistently with such an approach, I would normally present these theoretical findings after presenting the data from which they are derived (Strauss and Corbin, 1990; Corbin and Strauss, 2008) - as Goethe articulated in Faust, *"In the beginning was the deed"*. However, I adopt the more conventional approach of presenting the theoretical orientation first in each chapter, and a broad literature review here at the outset of the dissertation only for the sake of clarity.

that every single organizational activity consists of two aspects: a static, informative aspect and a dynamic, performative one. As a result, I differentiate between those parts of the world of our cognition which can be somehow articulated (even if deeply rooted in the individual's action and experience, ideals, values, or emotions) and then be codified and make up our "knowledge", and 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".

In addition to that, by moving from inside a specific scientific community out into a public arena in a given organization, 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 (Nelson, 1982; Kogut and Zander, 1992). As a result, I categorize two kinds of knowledge and knowing as "scientific or technical", which is at the level of groups and communities (e.g. a group of scientists, departments, communities of practice, research groups, schools, etc.), and "organizational", which is at an organizational level (e.g. governance and administration in a university or higher education institute). This distinction shapes the basis of my theoretical discussion in the following chapters.

1.5.2. Mergers (and Acquisitions)

Based on large-scale statistical analyses, scholars investigating the reasons behind failure of a merger (or an acquisition) explicate that this is 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, 1996a). In the case of a knowledge-intensive sector such as higher education, the integration mainly means knowledge and capabilities integration which brings synergy and economies of scale; thus, knowledge and capability transfer (recreation) 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 recreation), 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; see also Peck and Temple, 2002; Pablo and Javidan, 2004; Morosini and Steger, 2004). The academic merger provides me a valuable empirical setting for research in which I was able to observe learning processes before, during and after the actual merger.

1.5.3. Higher Education

The extant literature on corporate mergers, for obvious reasons, is of limited relevance to the higher education sector – and, in particular, to mergers of publicly funded universities. There are a few issues revolving around the topic in this sector. The dominant theme regarding the motivation to merge is economy and efficiency; the history of the expansion of universities in the United Kingdom, specifically, is described as a history of producer-dominated [as opposed to consumer-dominated] institutions in a dependent relationship to government with government being by far the major provider of funds for higher education (Eastman and Lang, 2001). Indeed, facing a demand overload, the first reaction by academic institutions is more likely to be in the direction of intensified competition than of cooperation leading to merger (since colleges and universities traditionally aim to be distinct and self-sufficient and each college or university seeks to be complete in terms of its own goals and standards; this is how they tend to describe and market themselves). This is the first hurdle that virtually any attempt at merger must overcome in higher education.

Also, as governmental funding shifted from covering average costs to covering only marginal costs, colleges and universities were forced by economic necessity to seek other means of delivering programmes. In this situation, institutional identity (based on distinctness and self-sufficiency) became more difficult to defend. Some colleges and universities, especially smaller and more specialized ones, reached the limits of internal economy of scale, and came under pressure to seek partners – usually larger or more diverse ones – to renew the potential of economies of scale

(Eastman and Lang, 2001; Aula and Tienari, 2011)[4]. Here, mergers of institutions with complementary missions, strengths, and capabilities play the biggest part. Striking the correct balance among scale, breadth, quality, distribution, and economy and efficiency, is the essence of the political economy of any college or university. As a result, one can argue further that inter-institutional cooperation in one form or another, including merger, is a means of recalibrating the balance in ways that would be either impossible or impractical for a college or university acting alone (Eastman and Lang, 2001).

1.6. Research Setting

1.6.1. Case Study: Academic Merger and Previous Collaboration History

The findings of this case study research can best be understood in its original empirical setting, which includes the merger timescale and the historical background of the collaboration between the two institutions, a university (the University of Edinburgh) and an art college (Edinburgh College of Art). The art college was well known for its pedagogical methods or practice-based or media-and-methods based disciplines in contemporary art. These areas of study are speculative and self-reflective in nature, including art, design, architecture and landscape architecture, and are concerned with tacit, experiential and embodied forms of knowledge gained through and understood by the acquisition of a practice as much as with more conventional scholarly approaches. Due to these unique characteristics, the art college had developed bespoke approaches, systems and structures to support all aspects of its educational provision in order to ensure that the distinctive culture of an 'art college' education is nurtured and allowed to thrive.

The university, on the other hand, tends to take a more historical, literary and theoretically-informed approach than is the case at the art college, though it also had long-standing breadth and depth of academic provision in art- and design-related areas. At the beginning of the new millennium, the university was organized into three colleges of broadly similar fiscal size: the College of Humanities and Social

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[4] For example, as described in the merger proposal, Edinburgh College of Art (ECA), as a small independent institution, had reached a virtual 'glass ceiling' in its potential for growth and development before the merger (Merger Proposal, 2010).

Science (CHSS), the College of Science and Engineering (CSE), and the College of Medicine and Veterinary Medicine (CMVM). Its School of Arts, Culture and Environment (ACE), a school among many others in the CHSS, draws together teaching and research excellence in the subject areas of architecture, history of architecture, history of art and music. This school, as elsewhere in the university, had a strong track record of cross-disciplinary innovation and links with other schools and colleges within and outside the university, including the art college. This school merged with the art college to shape the new art college as a part of the CHSS within the university.

From the very early stages of my engagement with the project and my non-participant observation, it became clear for me that the pre-merger collaborations created the backdrop for the merger, alongside the difficult economic situation that the art college, like so many other art colleges around the globe, was currently facing[5]. Figure 1 depicts the timeline for this organizational transformation – the merger - and illustrates main turning points in the history of previous collaboration between the university and the art college alongside the current case study timescale[6].

In the 1940s, the two institutions began to offer a conjointly taught programme. In the new millennium, the two institutions have taken strategic action to significantly increase mutually beneficial academic collaboration, with the university first becoming the awarding body for the degree programmes offered by the college, and later entering into an academic federation with the college. On the eve of the merger discussions, they established a joint school of architecture and landscape

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[5] I do not discuss this in detail in this dissertation since it does not affect the merger results in the way I look at it (knowledge and capability integration). However, it should be mentioned that the poor economic situation of the art college strengthened the intention for the merger and accelerated the integration processes; to quote the merger proposal (p. 7): "while the fundamental objectives of the merger are academic, merger should ensure that, within future funding constraints, the art college academic strengths can be maintained and enhanced in a way that would prove extremely difficult in the current and anticipated economic and public funding environment were the college to remain an independent institution".

[6] This timeline, alongside the research context description, is repeated with few nuances throughout this text explicating the timescale of each individual chapter. This is mainly due to the chronological order of the chapters which are written at different stages of the development of the merger project. In order to keep the findings chapters (two, three, four and five) self-sufficient, certain levels of redundancy and repetition were unavoidable.

Figure 1: The Merger Timeline and Previous Collaboration History
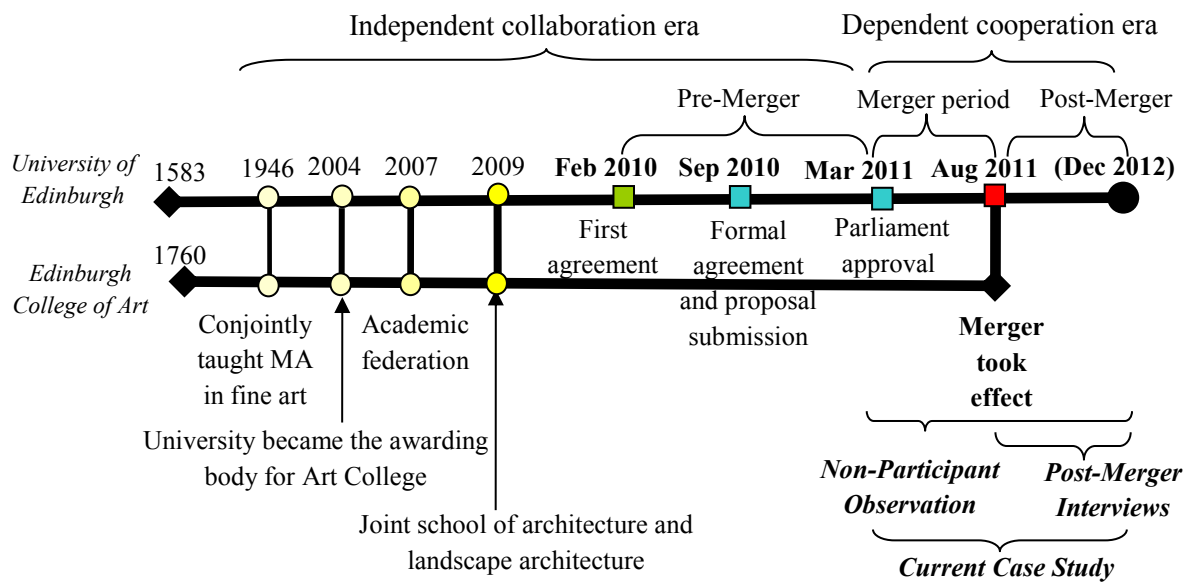
architecture. Drawing from the success of previous independent collaborations, in September 2010 a merger proposal was offered and submitted to the Scottish Parliament by the institutions. The merger was approved in March 2011 by the parliament and the academic year 2011-2012 opened at the new art college within the university, offering courses in art, design, music, history of art, and landscape architecture. During the months between approval and implementation (March-August 2011), the institutions had to work together closely to achieve necessary synergy effects out of the merger while guarantee a minimum of disruption to academic activities. The main tasks in this stage included centralizing key administrative tasks for administrative cost savings, incorporating new systems and procedures suitable for the bespoke model used by the art college, transferring art college staff and student records into the university system, integrating the information systems of the two institutions, and creating new joint programmes and cross-disciplinary research centres. One of these cross-disciplinary joint centres whose outset coincided with the merger is the Design and Informatics centre. Drawing from the most successful disciplines in each institute, this new, government-funded centre promised to play a flagship role in the success of the merger.

1.6.2. Knowledge Processes in Academic Institutions (Vis-à-vis Firms)

The institutional settings of universities tend to differ in several fundamental and rather obvious ways from those of business firms, including their objectives, ownership and financing, legal frameworks and governance structures, and so on (Deiaco *et al.*, 2012; Hughes and Kitson, 2012). But there are also certain similarities to firms, especially to firms active in knowledge-intensive industries, where the management of highly educated professional experts is often a key to performance.

In a highly stylized manner, the competences of universities can be divided into two groups, *administrative* and *academic*, with the latter devoted to two main activities, *teaching* and *research* (Figure 2). 'Administration' here denotes the routines and competences employed in the raising and allocation of resources, the management of external relations and the design of organizational structures, policies and rules to ensure efficient performance and quality of academic work. Structurally, these tasks are typically divided among organizational units at the level of the entire university, individual faculties or schools, and those of individual departments or centres. 'Teaching and research' represent the core activities of universities and are typically organized in the form of departments, institutes or research centres.

Figure 2: Stylized University Structure
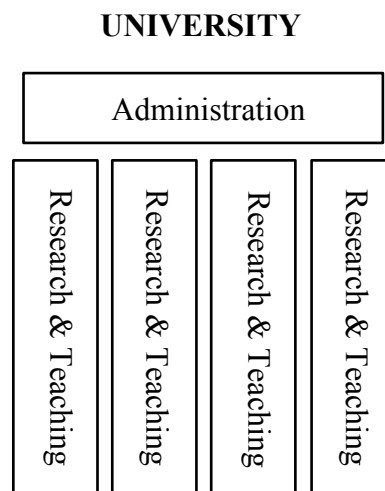
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The distinction is analogous to the one in business firms between 'organizational/economic' and 'technical' competences (Teece *et al.,* 1994, p. 19). The former are in many ways similar to the administrative competences of universities, and the latter, which include "the ability to develop and design new

products and processes" as well as "the ability to learn", parallel the skills employed in university research. The major difference is in the relative emphasis on teaching. In most business firms, teaching is primarily an activity undertaken to promote organizational growth. In reflection of their wider societal missions, in universities teaching is a main goal in itself.

In a somewhat stylized manner, each of the competences of a university is associated with a specific type of knowledge process (Figure 3). Although there are exceptions, university departments are traditionally organized along disciplines, and their members tend to belong to the same epistemic communities - groups of individuals engaged in a common practice and sharing not only mastery of the codes, theory and tools of that practice, but also the tacit skills and experiential knowledge conferred by the practice in question (cf. Holzner, 1968; Håkanson, 2007; 2010). Most of the research undertaken takes place through *articulation*[7] of tacit knowledge within the frames of the paradigms of established 'schools' or disciplines (Kuhn 1962). Codification of such knowledge, in the form of journal articles or books, for example, facilitates its *replication*[8] among peer researchers elsewhere. Although

Figure 3: Stylized Knowledge Processes

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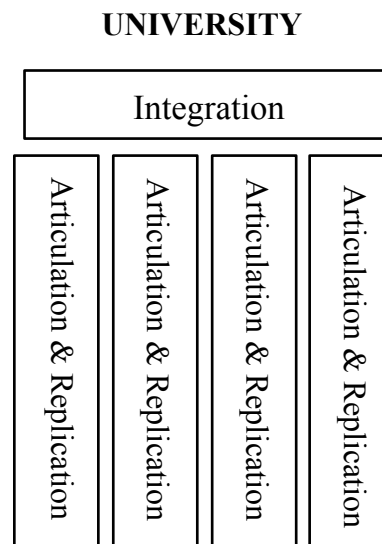
[7] "The process whereby the tacit knowledge informing practical skills is made explicit" (Håkanson, 2010: 1804).

[8] The duplication or reproduction of organizational capabilities (Nelson and Winter, 1982) which "entails the creation and operation of a large number of similar outlets that deliver a product or perform a service" (Winter and Szulanski, 2001: 730).

codified knowledge is also important in teaching, much teaching also involves the passing on of tacit or imperfectly articulated knowledge in master-apprentice type relationships, such as those between supervisors and PhD students.

In contrast, the university administration typically requires a range of professional skills and the coordination of expertise from different epistemic domains. As is the case with the organizational/economic competences of firms, effective knowledge *integration*[9] across epistemic boundaries is key to performance. Such integration needs to bridge the boundaries both of different types of professional administrative expertise and of academics of different disciplines. Rotation of scientific staff into administrative roles has traditionally been an important mechanism to facilitate this.

In this admittedly overly simplified depiction of knowledge processes in universities, innovation in the form of *combination*[10] of knowledge elements from different epistemic areas is notably absent. In spite of insistent calls for more 'inter-disciplinarity' in order to better tackle real-world problems that refuse to be organized around the lines of traditional disciplines (Clark, 1998; Mosey, Wright and Clarysse, 2012), both teaching and research across disciplines are notoriously difficult.

1.6.3. Evolution of the Higher Education Sector in Britain

European, and especially British universities, traditionally were characterized as being divided into single-discipline-based schools or departments. The focus of these universities leant, given the priorities of their board of directors, towards teaching or research excellence. By and large, different scientific domains in this organizational setting constituted a faculty base and a large student body (Locke, 1989; Clark, 1998). These formations alongside the British regulatory regime had made universities in this context incapable of addressing the modern world challenges which are basically of a multi-disciplinary nature (Mosey *et al.*, 2012). Two sets of

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[9] The process by which "mobilization and coordination of specialized and diverse expertise" take place among "members of different epistemic communities" (Håkanson, 2010: 1813).

[10] The process for "generation of new capabilities through new combinations of specialized knowledge" (ibid: 1814).

British procedures deteriorated the situation. These include, firstly, the Research Assessment Exercise or RAE (later Research Excellence Framework or REF) for assessing the quality of university research based mainly on peer-reviewed journals which was focusing on, and hence reinforcing, the single-discipline structure (Lee, 2007); and, secondly, a budget allocation system which was based upon offering single-discipline programmes to a large bunch of UG, and even PG students. The result, as one can expect, was management practices nurturing a very narrow, deep, needle-shaped teaching and research focus in order to guarantee the financial sustainability of their institutions.

However, starting with the Thatcher administration of the 1980s and continuing through the Major and Blair administrations, considerable effort and policy support within the UK have been provided to construct the necessary bases to develop new knowledge capable of answering societal, economic and industry problems by basing multi-disciplinary institutes affording T-shape researchers and teachers across traditional borders within the universities (Lee, 2007). For example, a key transformation was moving incentives away from focusing only on research excellence such as RAE or REF. Also, discipline-based academics who agreed to work within new multi-disciplinary institutes were allowed more autonomy including financial, time schedule, physical space, industry contracts and consultancy, and research students (Mosey *et al.*, 2012). This brought with it a shift towards an alternative structure of matrix form and more project-based working, alongside nurturing individual academics with boundary-spanning roles to facilitate knowledge transfer in order to bridge the existing cognitive gap among needle-shaped academics (Wright *et al.*, 2010).

By and large, nevertheless, changing managerial practices were limited by the persistence of extant routines and the long-held traditions within academe such as Mertonian norms (Kraatz and Moore, 2002). As a result, researchers conclude that there is a limit for academics – in comparison with firms' personnel - to collaborate (Boardman and Corley, 2008). Besides, universities are too bottom-heavy and too resistant for top-down planned changes (Clark, 1998). Rather, it is the interests of individuals and communities that play the big role in this context. Furthermore, for

innovation purposes in complex organizations such as firms and universities, there is a need for the integration of various complementary activities located in variant departments of the university or different units of the firm. The complexity, for the university, is reinforced by the difficulties in communicating between academics from different departments and schools, and with the outside world, due to the cognitive gap resulting from differences in their deep knowledge, goals, codes, and assumptions (Davidsson, 2002). In the main, however, it remains to be seen whether universities are able to overcome their historical legacy to build and to sustain multi-disciplinary research and teaching capability which can be considered equivalent to that of firms, putting them in a privileged position to manage knowledge-intensive processes.

1.7. Access to the Field Work

After a long period of waiting in the sensitive and highly political early stages of the merger discussions, as depicted in Figure 1, on 23 March 2011 the Scottish Parliament passed the Order for merger which means that all stages of approval were passed and that the merger would take effect on 1 August 2011. The first outcome of this approval, for me, was the possibility to approach people in charge of the merger in order to get the permission to be an observer. After a few correspondences, I got a meeting on 20 April with the project manager, Prof David Fergusson (vice principal of the university), Maggie Robertson (project officer, ECA), and Tom Ward (project officer, UoE). Through this meeting, we came to an agreement to start the observation with the Academic Integration Working Group since the Merger Implementation Strategy Group was still in its sensitive period. This happened exactly one day before the 5th meeting of the Academic Integration Working Group in which Prof Fergusson, as convener of the group, circulated the idea of my observation and got the approval of other members in the group, indicating that they were happy to be researched. The formal approval was received on 2 May, 2011 with more than 100 pages of minutes, agendas, and papers for the previous and upcoming meetings. The documents have been read not only for secondary analysis purposes, but also for catching up with the academic integration group. I then got the chance to attend and observe the next meetings of the group before the formal integration on 1

August 2011. After this time, all integration working groups were replaced by a Post-Integration Working Group overarching the continuity of the project plan. This provided me a great chance of observing a real merger in practice, before, during, and after the merger, and also the opportunity to meet and interview the key members of the integration working groups which added significant value to the observation, yielding empirical material relevant to both the organizational (administrative) and technical/scientific sides of the project.

1.8. Methodology and Methods[11]

In an exploratory case-based research design (Eisenhardt, 1989; Yin, 2003), I adopt a grounded theory approach (Strauss and Corbin, 1990; 1998; Corbin and Straus, 2008) based on a total of 38 in-depth interviews, roughly 21 months of non-participant observation, and primary and secondary document analysis to examine the recent academic merger. As mentioned before, the research aimed at exploring the potential for organizational learning and knowledge exploitation and exploration which may be realized throughout the organizational integration processes. A case study methodology is seen as appropriate because of the exploratory nature of the topic, examining organizational transformation phenomena that need an in-depth inductive approach (since little theoretical precedent exists for conducting a deductive inquiry in the field) (Crotty, 1998; Miles and Huberman, 1994; Marschan-Piekkari and Welch, 2004; Blaikie, 2000). As shown in Figure 1, my approach is essentially longitudinal, covering the three stages in the event of the merger: before, during, and after integration.

1.8.1. Research Procedures and Data Sources

Interviews: In order to capture multiple perspectives on the merger, I conducted a total of 38 in-depth interviews with the key players who were involved in the process, as well as with academic staff, administrative staff and students who were affected by the merger. The informants include the project manager, the project

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[11] Again, this methodology section is also repeated with few changes throughout this text reflecting the chronological order of the following chapters. This is in order to keep the finding chapters (2, 3, 4 and 5) self-sufficient; hence certain levels of redundancy and repetition were unavoidable.

officers, the conveners of all integration working groups, the new principal of the art college, the heads of schools in the art college (including both old and new heads in cases where they changed), the heads of the departments in ACE, the chief operating officers in different sections of both institutions, as well as students from both institutions. As a result, I am confident that the interviews cover a representative cross-section of the organizations. Three interviews were done before the merger, during the work of the working groups. The remaining interviews took place in the post-merger era. The interviews varied in duration from 30 minutes to 2 hours with an average of roughly an hour. All but three interviews were recorded, and 33 of the recorded interviews were transcribed verbatim. Initial interviews included more general questions which helped to draw a big picture of the merger and the intentions behind it (familiarization stage), while secondary and tertiary interviews were more structured and focused, targeting the main challenges and the reasons behind those challenges in order to satisfy the necessary theoretical sampling for the research (sampling stage) (Strauss and Corbin, 1990). At this stage, the interview questions probed such topics as the interviewees' day-to-day activities before, during, and after the merger, the changes in their perception of the benefits and costs of the merger, the biggest problem areas in the integration process and the reasons behind their existence, the least problematic (most straightforward) integration processes and the reasons for the unproblematic nature of those processes, the centralization of administrations and operations, collaboration across academic disciplines and working together in cross-disciplinary centres and joint programmes, and the level of integration they had achieved in their area of expertise up to the time of the interview.

Observation and Archival Sources: In addition to interview data, I had the opportunity to attend a few meetings of the merger integration working groups. I used the observation and insights contained in the field notes to supplement the transcribed interviews. I also analysed the minutes of all meetings of the integration working group, public merger documentations, and published news, articles and university bulletins on the subject of the merger in order to enrich the research data.

Survey: In addition to the observation, interviews and vast amount of secondary data analysis produced by the merger, during the time of waiting for the access to be granted, I conducted a survey among the Russell Group of UK universities. Through this, I identified the mergers that have occurred in this group of universities from 1 January 1990 to 1 March 2011, as well as those that are currently underway, in order to understand the importance of the phenomenon in the UK higher education sector. Due to the fact that the group consists of the 24 UK universities that receive two-thirds of research grant and contract funding in the United Kingdom, I consider it to be representative of the most research-intensive segment of the UK higher education sector. The first contact took place by a short questionnaire (questionnaire 1 in the appendices) targeting the vice chancellors (or vice principal in the absence of a vice chancellor) of the Russell Group universities. With the second questionnaire, which was more detailed, it was planned to examine the main two constructs of the research (organizational learning before, during and after the integration and the level of knowledge integration intended before the merger compared with that actually realized afterward). However, due to the low rate of response (60% in the first round and less than 10% in the second round), and the nature of the research necessitating a rich qualitative data gathering, the data gathered through questionnaires were only used as informative materials for the single case study. Through these surveys, I found that dozens of mergers took place in the UK higher education sector during that period, indicating the importance and timeliness of the research.

1.8.2. Analytical Approach

I triangulated 38 interviews, roughly 21 months of non-participant observation and the minutes of monthly meetings of the integration working groups, with extensive analysis of secondary documents developed by the merger communities. The unique chance to observe a merger in practice, before, during, and after the integration processes, advanced my understanding of the phenomenon in a way which is impossible for post-merger studies. I inductively analysed the collected data adhering to case study research design techniques (Eisenhardt, 1989; Yin, 2003) and constant comparison techniques (Strauss and Corbin, 1990). The rich data resulting from this approach, accompanied by appropriate coding and memoing, form the basis of the

discussion in the next chapters. I rely heavily on constant comparison of multiple respondents over time in order to discover the similarities and differences. This enables me to detect conceptual patterns in the qualitative data (Strauss and Corbin, 1990; Urquhart, 2013).

1.9. Generating Research Questions: Combining Problematization with Gap-Spotting

As noted by McKinley, Mone, and Moon (1999; cited in Alvesson and Sandberg, 2011, p. 247), for a new theory to receive enough attention and hence to be able to establish a theoretical school, "it must differ significantly from, and at the same time be connected to, established literature in order to be seen as meaningful". However, as any reviewer of management research and organizational studies would notice, the extant literature is mainly developed in order to rather fill the gaps of extant theories (by identifying or constructing specific gaps in existing literature) or to provide alternative research context to test their validity (Locke and Golden-Biddle, 1997). A plausible explanation for this trend can be found in the political context in which management research and organizational studies take place. Decisions about research or teaching positions, promotions, tenure tracks and funding opportunities are all extensively based on the capability of the candidates to regularly publish in prestigious journals (Sandberg & Alvesson, 2011). In this case, challenging the assumptions underlying extant theories is highly risky since it may result in questioning existing power relations in a particular area of research. This in turn may lead to upsetting the established scholars, journal editors and potential peer reviewers which would then reduce the chance of acceptance (Bourdieu, 2004; Alvesson and Sandberg, 2011).

The ambition of the problematization methodology proposed by Alvesson and Sandberg (2011, p. 252) is "to come up with novel research questions through a dialectical interrogation of one's own familiar position, other stances, and the domain of literature targeted for assumption challenging". In achieving this, the aim is not to entirely undo one's own position (which is of course impossible), but to unpack the underlying, long-held assumptions in the targeted literature for a better

scrutinization. As Tsoukas and Knudsen (2004) elaborate on the assumption that all knowledge is uncertain and cannot be accepted as given, all theoretical developments are partially or completely based on unpacking and rethinking the underlying assumptions of dominating theories.

Among the five underlying assumptions suggested by Alvesson and Sandberg (2011, p. 256), challenging 'in-house assumptions'[12] – "scrutinizing internal debates and the interfaces between a specific group of authors who frequently refer to each other and neighbouring areas, moderately relating one's work to the focused group's work, and mainly using a similar narrative style and vocabulary" - combined with gap-spotting can play an important role in developing alternative theories or proposing extension to the existing ones. This necessitates that coming up with new, valuable research questions means there are no predefined answers available in the extant literature. Here, new questions mean the outset of new answers.

Using problematization strategy combined with gap-spotting in this dissertation as a novel methodology for constructing research questions, I attempt to produce new, alternative theories to the existing ones by critically challenging and questioning the underlying assumptions of the targeted literature. As an immediate result of this methodology, the findings chapters should be considered as endeavours to simultaneously provide alternative views to, and to fill in the existing gaps, of the relevant literature. For instance, in chapter four, I try to provide an alternative to the so-called 'knowledge-based theory of the firm' by questioning the underlying assumptions that firms are in a privileged position to manage knowledge-intensive processes. In other words, I scrutinize whether the theoretical arguments advanced in that area apply only to firms, or whether they perhaps apply to organized, non-market interaction more generally. This provides a tool by which I would be able to advance the theory on knowledge governance from 'knowledge-based firms' to 'knowledge-based organizations'.

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[12] The other four are 'root metaphor assumptions' (middle-range), 'paradigm', 'ideology', and 'field assumptions' (broader and more fundamental) (Alvesson and Sandberg, 2011).

In a similar fashion, in chapter five, I try to scrutinize the underlying assumption that every individual organizational routine holds a single ostensive aspect, shaped by higher level authorities and accepted through upstream organizational pressures as a valuable account of conducting daily tasks by the routine participants. Although it has been recognized that routines may have multiple ostensive aspects, still, in the research literature and in practice (ironically), this multiplicity is often overlooked in favour of the simplifying assumption that a given routine has a single ostensive aspect. Challenging these assumptions in my empirical research, I demonstrate that the multiple ostensive aspects of routines are not only highly distributed over the organization, from bottom to top, but also extend over the immediate boundaries of the organization into the institutional framework in which the organization performs.

1.10. Using a Practice Lens: Zooming In and Out

Using practice theory (e.g., Bourdieu, 1977; 1990; Giddens, 1984; Ortner, 1984; 1989; Schatzki, 2002) provides a valuable new way of studying the sociology of organizational life. At the foci of various proposed theories concerning practice, practices 'ordered across space and time' are the 'basic domains' of understanding and explaining organizational phenomena (Nicolini, 2012, p. 15) and everyday life (Heidegger, 1947; Wittgenstein, 1953). As noted by Nicolini (2012, p. 2), "the appeal of what has been variably described as practice idiom, practice standpoint, practice lens, and a practice-based approach lies in its capacity to describe important features of the world we inhabit as something that is routinely made and re-made in practice using tools, discourse, and our bodies". In this sense, practice theories try to explain the organizational life as a relational term "composed by, and transpiring through, a bundle or network of practices" (Nicolini, 2012, p. 8). Believing this to be the case, "practice theories are thus complementary to all variants of realism (both naïve and critical) in that they ask how the apparent features of our daily world that realists and critical realists trade in, are brought into existence in the first place" (ibid).

However, due to the slight variation in underlying assumptions that shape the theories, it would be constraining to limit the explanation of organizational

phenomena to any given theory. As a result, using practice theory, while offering a great opportunity for studying organizational life through a practice lens, brings a challenge too. The reason for the variations can be explained through the core logic that "understanding and representing practice requires a reiteration of two basic movements: zooming in on the accomplishments of practice, and zooming out of their relationships in space and time" (Nicolini, 2012, p. 16).

The research strategy adopted in this dissertation is thus based on the metaphorical movement of 'zooming in on' and 'zooming out of' organizational practices (Nicolini, 2009; 2012). This can be achieved only by switching the theoretical lenses used for investigating the phenomenon under study and by re-positioning myself in the empirical field of research. This equips me with the apparatus to foreground certain aspects of the phenomenon while bracketing the others in various stages of my study. Indeed, I follow the plural view suggested by Nicolini (2009) and the simple fact that "much is to be gained if we appreciate both the similarities and differences among practice theories, and if we make such differences work for us" (Nicolini, 2012, p. 1).

Adopting this practice-based approach implies that the basic units of analysis for understanding any given organizational phenomena are hence practices, not practitioners, objects, contexts or institutions (while all are participating in shaping the practices). Using this approach, I zoom in on single practices and zoom out of a group of practices in this text several times. For example, in chapters three and four, I assume a more holistic view of organizational practices by grouping them into technical/scientific and organizational/administrative routines. This enables me to provide a broader picture of relevant organizational changes and stabilities taking place in the course of an academic merger (including pre-, during and post-merger periods). However, in chapter five I zoom in on a single organizational practice (the admissions routine) in order to portray a finer-grained picture of the internal dynamics of, and the recursive relationship between, multiple ostensive and performative aspects of organizing routines in practising change and in stabilizing routines.

1.11. Organizational Routines as the Unit of Analysis

In order to adopt a practice lens and for 'zooming in' and 'zooming out' purposes, organizational routines are a valuable unit of analysis opening up a new avenue in the investigation of the micro-foundations of organizing for portraying organizational change and stability. Specifically, revealing the internal structure and the recursive relationship between different aspects of organizational routines, namely ostensive and performative aspects[13], has provided useful insights into many of the yet undeveloped queries in the study of organizational phenomena[14] (Pentland and Feldman, 2005), such as learning, change, transformation, adaptation, and stabilization (D'Adderio, 2008). These insights, particularly, have drawn our attention to the tension between achieving efficiencies through behavioural standardization and consistency in routines performance, on the one hand, and the dynamic nature of organizational routines, on the other (Cohen, 2007; Turner and Rindova, 2012).

Organizational routines as the unit of analysis have been used mainly in two ways in past decades. The first is directed towards treating the entire routine as a whole, or an undifferentiated 'black box' for 'zooming out' purposes. In this sense, routines have been normally considered to be the 'executable capability' through which organizations conduct their daily work and drive their performances (Cohen *et al.*, 1996; Dosi *et al.,* 2008). In this school, internal structure of routines and agent (boundedly rational) influence have been widely overlooked for the benefit of providing a broader picture of organizational change and stability and its impact on organizational performance and efficiency. This is a sensible unit of analysis when the research question concerns "a description, prediction, or comparison concerning the routine as a whole" (Pentland and Feldman, 2005, p. 801). This capability lens has been largely utilized in organizational economics emphasizing the "what" or

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[13] *'*Performative aspects' or 'performances' of a routine are "practices in the sense that Bourdieu (1977, 1990), Lave (1988), Ortner (198) and others have created for that term. Practices are carried out against a background of rules and expectations (the ostensive aspects), but the particular courses of action we choose are always, to some extent, novel. In this sense, practice is inherently improvisatory" (Pentland and Feldman, 2005, p. 796).

[14] The internal structure and dynamics of organizational routines are explained in detail in chapter five. Here, I only provide an overview of the use of organizational routines as a unit of analysis from a methodological stance.

"why" of organizational phenomena. Despite its benefits, this perspective "has not historically considered how individual actors shape specific routine enactments, building instead from the assumption that routines are carried out more or less as they are designed" (Parmigiani and Howard-Grenville, 2011, p. 443).

On the other hand, scholars geared towards the second direction have aligned more into adopting a practice-based perspective for 'zooming in' on the processes inside the 'black box' of routines. These researchers have either studied particular aspects, namely ostensive and performative aspects, of routines and the role of artefacts in shaping them in isolation (e.g. routines as patterns of action), or studied the relationships between these parts and the processes by which they can change and affect the stability of the other parts (incorporating both the content and the process, or ostensive and performative aspects of routines and their interactions with artefacts) (Pentland and Feldman, 2005). Appreciating the higher level of complexity in organizational routines as generative systems with their own internal dynamics, and with the cost of losing the generalizability and simplicity of their accounts, scholars in this practice school have tried to answer 'how' questions concerning organizational routines for the sake of providing a more accurate explanation of their internal dynamics; e.g., "how they operate and how they are reproduced or changed as people enact them" (Parmigiani and Howard-Grenville, 2011, p. 414). In contrast to the previous account, here agents (routine participants) are out at the centre of attention, meaning scholars view organizational individuals' daily actions as consequential in "producing the structural contours of social life" (Feldman & Orlikowski, 2011, p. 2). However, and despite its valuable insights, this practice perspective (ironically) is "so concerned with situated action—the specific actions of specific people in specific organizations—that they sometimes ignore fundamental organizational attributes that exist above the level of the routine but nonetheless affect its performance" (Parmigiani and Howard-Grenville, 2011, p. 443).

These various ways in which organizational routines have been used, nonetheless, created a communication gap inhibiting dialogue between the two main schools, namely the capabilities school concerned with unpacked routines and their influence on organizational performance, and the practice perspective concerned

more with routines' internal dynamics. This is especially important since this dialogue can afford further benefit in which we can make differences, as well as similarities, work for us. It is well recognized that "for some research questions, routines can be taken as a unit of analysis without considering their internal structure, but there are many research questions for which it is useful to consider the part of routines either separately or as they interact and how routines are enacted in the day-to-day and with what consequences" (Pentland and Feldman, 2005, p. 808). But more importantly, the combination of these two accounts can provide a finer-grained account of the phenomenon under study.

This dissertation tries to bridge this gap. In order to manage, design, (re)create or influence organizational routines, our need to understand their internal dynamics and to dive further into routine participants' behaviour and cognition is as important as understanding the relationships between situated routines and organizational cultures or schemata, broader institutional settings and their impacts on routine performance. Adopting this view, the lenses I have used throughout this text change several times, equipping me with the tools to provide that fuller-fledged and finer-grained account of the phenomenon under study, i.e. the academic merger. As the reader of the text will notice, I carry out 'exercises in style'[15] by providing various accounts of the phenomenon concerning the practice and/or capability perspective in the following chapters. For example, I am geared towards the capability perspective in chapters three and four, though I have combined it with insights from the practice school. On the other hand, in chapter five I am more concerned with the practice perspective when trying to depict the internal dynamics of the admissions routine, while still, however, clearly informed by the capability perspective and the importance of the broader context, the network of actants outside the immediate setting of the research and the institutions in which the merger is taking place.

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[15] 'Exercises in Style' by French novelist Raymond Queneau (1981, translated by Barbara Wright) is a masterpiece in which the author re-tells the same simple, short story ninety-nine times using various narrative styles, e.g., metaphorical, notation, logical analysis, reported speech, passive, noble, comedy, etc.…

1.12. Theory Building from Single Case Study Research

"Was ist das Allgemeine? Der einzelne Fall. Was ist das Besondere? Millionen Fälle"
"What is the general? The single case. What is the specific? Millions of cases"
                    Goethe, 1994, p. 433, cited in Easton, 2010

Case-based research strategy and building theory from case studies have now been widely recognized as appropriate when the nature of the research topic is exploratory, examining organizational phenomena that need an in-depth inductive approach, particularly when little theoretical precedent exists for conducting a deductive inquiry in the field (Crotty, 1998; Miles and Huberman, 1994; Yin, 20003; Marschan-Piekkari and Welch, 2004; Blaikie, 2000). After a long battle with the opponents of case-based approach during the 1970s and 1980s (mainly objectivist and post-objectivist scholars who considered qualitative research - and its implicit companion, case-based research - as a weak social research method, lacking validity and reliability due to the lack of precise quantification) (Miles, 1979; Yin, 1981; Eisenhardt, 1989), case study research has gradually thrived and achieved a considerable locus among other research strategies in humanities and social science in the last two decades.

Nevertheless, a long, internal discussion is still taking place between the advocates of the superiority of inducing theory from single versus multiple case studies. This discussion crystallized first in a debate between Eisenhardt (1991) and Dyer and Wilkins (1991) on building theories from case study research articulated in Eisenhardt's (1989) article. Two competing views emerged on the apparent trade-off between 'better constructs' and 'better stories' (Pentland, 1999) in utilizing case study research for inducing theory, with Eisenhardt (1989; 1991) favouring building theory with multiple case studies for the sake of 'better constructs', while Dyer and Wilkins (1991) were in favour of single case studies for the sake of providing 'better stories' and a better explanation of the context and deep structure of the phenomenon under investigation. The latter criticized the former for sacrificing content and ruining the story "in favour of building constructs that could be used in traditional variance models" (Pentland, 1999, p. 711), while the former countered with the argument that the two, 'better constructs' and 'better stories', are not mutually exclusive if the word limitation did not exist.

However, in the real world, there is always a word limitation barrier either in writing journal articles or in writing dissertations. I try to make a better balance between the two in my single case study by choosing the best of the two schools, in which I try to stick to the rigorous methodological stances suggested by the former (e.g., using multiple data collection methods and triangulation of evidence for strengthening the grounding of theory) while benefiting from the richness of the single case and thick explanation of the context and deep structure in which the academic merger is taking place (Weick, 2007); the stance which is supported by the latter. This is especially a good methodological strategy in process research in which "stories are constructs" or "abstract conceptual models" for inducing process theory and for using in explanations of observed data (Pentland, 1999, p. 711).

The organizational setting of this research is not chosen randomly, since it is special in the sense of its capability for driving insights that other settings would not be able to provide. In this sense, my empirical setting is an example of a complex knowledge-intensive institutional arrangement which differs considerably from the dominant organizational settings of the extant research, i.e. commercial firms. More importantly, the possibility of studying knowledge and learning processes is greater in this institutional setting in which shared practices and dominant schemes are "well institutionalized and widespread", because such a setting "provides a homogeneous external context that enables the isolation of organization-specific sources of heterogeneity in the interpretation and use of [common] knowledge as a resource" (Nag and Gioia, 2012, p. 425). Here, I am able to get much closer to my "theoretical constructs and provide a much more persuasive argument about causal forces" among them than broader empirical researchers are capable of (Siggelkow, 2007, pp. 22-23). In the words of Glaser and Straus (1967), "it is the intimate connection with empirical reality that permits the development of a testable, relevant, and valid theory" (cited in Eisenhardt, 1989, p. 532).

My theory building process, following the rigorous methodological stance suggested by the 'better construct' school, consists of a "recursive cycling among the case data, emerging theory, and later, extant literature" (Eisenhardt and Graebner, 2007, p. 25). I try to adhere to the necessary 'objective' honesty by close adherence

to the data (e.g., giving informants the chance to reflect their voice all throughout the text), while benefiting from an academic critical subjectivity visualized in my interpretation of the case data and the iteration between the data and theory. 'Constant comparison' - collecting and analysing data simultaneously – and 'theoretical sampling' - guiding decisions about which data to collect next based on emergent theory – are the main techniques used in my journey in the following chapters (Suddaby, 2006; Corbin and Straus, 2008).

1.13. Generalizability

"It is impossible for a theory of social behaviour to be simultaneously general,
accurate and simple"
Thorngate, 1976 cited in Weick, 1979, p. 35, The Social Psychology of Organizing

Adherence to a grounded theory approach is important in deriving high quality inductive research. However, 'limited generalizability' and 'idiosyncratic path' are somehow the immediate result of that strict adherence (Langley, 1999). The common misunderstanding about the generalizability of the findings of case study research comes from the question 'How can one generalize a theory which is derived from a non-representative case?' (In a similar fashion to generalizing the findings from a representative population in large-scale hypothesis testing).

The main difference here is that the purpose of case study research is 'theory building' and not 'theory testing', or as Yin (2003) labels it, 'analytical generalization' not 'theoretical generalization'. In this sense, case study research aims at deepening the understanding of the organizational phenomenon (here the academic merger) instead of generalization of findings in a sample or a population. In analytical generalization, the investigator is striving to generalize a particular set of results to some broader theory. This is the main reason that the case study scholars use theoretical (not random or stratified) sampling. "Theoretical sampling simply means that cases are selected because they are particularly suitable for illuminating and extending relationships and logic among constructs… cases are sampled for theoretical reasons, such as revelation of an unusual phenomenon, replication of findings from other cases, contrary replication, elimination of alternative explanations, and elaboration of the emergent theory" (Eisenhardt and Graebner, 2007, p. 27).

1.14. Epistemology and Ontology: Critical Realism

In the field of management research as well as social research, the researchers have to clarify their philosophical underpinning since it has a great influence on their adopted methodology, methods, and data collection and analysis approaches, and ultimately the results they will reach (Blaikie, 2000). Besides, "justification of our choices and particular use of methodology and methods is something that reaches into the assumptions about reality that we bring to our work; to ask about these assumptions is to ask about our theoretical perspective" (Crotty, 1998, p. 2).

Bhaskar (1975) distinguished two different polar opposite species of realism: empirical realism and transcendental realism. Empirical realists (e.g. David Hume) believe that what is, is what we experience, and that's all we can say (we can find something similar in Wittgenstein). In the sense of empirical realism (equivalent to empiricism), truth (science) means identifying regular events (occurrences we can assume to experience over and over again); hence, the empirical equals the actual. On the other side, transcendental realists (e.g. Hegel, Marx, Freud, Schopenhauer, Nietzsche, Adam Smith, Einstein) believe that the world is best understood as 'stratified'; there is an invisible 'structure' or causal force 'underlying' the surface of appearances. In this sense the empirical is something definitely less than the actual (Sayer, 1992). Bhaskar established the foundation of critical realism by defining 'transcendental realism' and 'critical naturalism'. These two phrases were combined by other authors to form 'critical realism' later on. The reason for choosing critical realism is that Bhaskar and others in this movement believe that 'critical', like 'transcendental', proposed affinities with Kant's philosophy and 'realism' suggested the distinctions from it (Archer *et al.*, 1998).

1.14.1. Critical Realist Ontology

We need to ideate reality as more than what our senses reveal (so although empiricism/positivism is necessary, it is not sufficient). This implies that there are also imperceptible entities and the world must be seen as independent of the way we think of it. This can be traced to a fundamental distinction made by Bhaskar (1975)

between the intransitive and transitive dimensions of knowledge[16]. The world as the object of science in the sense of the things we can experience or study (can be done through social processes as well as physical ones) shapes the intransitive dimension of our knowledge while the theories that try to explain it shape the transitive part of that knowledge. Although different theories about the world have different transitive objects, for the world itself, the intransitive dimension is the same (Sayer, 2000). This implies that the world includes not just regular events, but many more complex entities or occurrences that have not been experienced, and that we cannot claim they don't exist just because we can't see or measure them.

Critical realism discriminates not only between the world and our understanding through our experience of it, but between the empirical, the actual, and the real. The empirical is attributed to the events we actually experience. The actual is defined in this ontology as the causal powers that are activated. The real refers to objects, structures, and powers that underpin the actual and the empirical - including unrealized powers or potentials (Bhaskar, 1975; Sayer, 2000). Based on critical realist ontology and drawing on this distinction, I treat agency and structure in this dissertation as 'analytically distinct phenomena' to advance the understanding of conditioned action (Archer, 1995; 2003; Delbridge and Edwards, 2013). As a result, I hold action and structure separate, which enables me to explore how social structures condition action. In this way I am able to open up the 'black box' of agency and action without totally decontextualizing them. This concept will be crystallized in forthcoming chapters. For example, in chapter five, I base my argument on Archer's (2003) idea of 'internal conversation' for explaining why some agents (routine participants) are more resistant to change and approach routines with an orientation to iterate past performances, while others are more open to change and socialize faster into new practices (see Mutch *et al.*, 2006).

Finally, regarding causality, one distinctive feature of critical realism appears which rejects the standard Humean 'successionist' view of causation. This view claims that causation entangles regularities among sequences of events (contra

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[16] Which itself dates back to the work of Aristotle, who in the Nicomachean Ethics differentiated techne, episteme, and phronesis (Van de Ven, 2007).

positivism) and also rejects the empiricist view that all scientists can do is observe the relationship between cause and effect (Bhaskar, 1975; Sayer, 2000). Since the world is regarded as an 'open system', processes in the 'depths' do not read out on the 'surface' in a straightforward linear way; or, as discussed, the world is best understood as 'stratified'. Critical realists explain that a mechanism, like a potential causation, can exist but either remain unactivated, or be activated but not recognized, or be activated but negated by other mechanisms (Bhaskar, 1975).

1.14.2. Critical Realism Epistemology

We can never know the real world as directly as positivism and post-structuralism argue; but we have to say something to enable us to act efficaciously. Besides, perspectivism and constructionism ignore an important point. Their claims will inevitably be subject to some kind of 'reality check' beyond social convention, opinion, or 'shared discourse'; because there is a 'real world' (the intransitive dimension) beyond the way we choose to describe it, beyond the 'text' or the 'paradigm' or the 'construction' (the transitive dimension)[17].

Critical realism proposes a reality which, while it exists independently and outside of human minds, contributes to human beings' interpretation of their surroundings or to their construction of the meaning of the conditions in which they live. The grasped knowledge in this sense is therefore interpreted and theory-laden rather than objective: "social phenomena such as actions, text and institutions are concept-dependent" (Sayer, 1992, p. 5). Indeed, critical realism assembles two ontological strands (interpretivism and realism) and claims that although there is a reality independent of human thoughts which has an objective existence (realism), our knowledge of it is interpreted and mediated through concepts (interpretivism). Critical realists conclude that: "facts are theory-dependent but they are not theory-determined" (Danermark *et al.,* 2002, p. 15).

As Sayer (2000) suggests, critical realism is best suited for the research that deal with questions like: how does a process work in a particular case (or small

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[17] Constructivism brings everything back to humans and their interpretation; however more recent approaches (i.e. Actor Network Theory) recognize that the world is both "real" and "constructed".

number of cases)? What produces a certain change? What did the agents actually do during the process of change?

According to critical realism, events are driven by causal mechanisms and liabilities which are in turn dependent upon structures (Sayer, 1992). Here, due to the fact that a longitudinal in-depth case analysis is associated with this research, and the organization is seen as an open system, in the same way, it is desirable to find how the knowledge exploration and exploitation processes are dependent on interventions into the individual processes by knowledge governance, and how these organizational dynamics and changes emanate from the unique context of the empirical setting. Accordingly, regarding the nature of the research and the proposed learning and knowledge processes, specifically searching for potential knowledge processes and seeking out actors whose voices are not usually heard, critical realism is the suitable epistemological stance. Here the aim is to study the changes brought into the routines and processes of the organization in its context and consider their effects in order to find the real (instead of the actual or the empirical) or in-depth processes which cannot be observed through mere regularities among sequences of events.

1.14.3. Limitations

Sayer considers the main limitation of critical realism to be its epistemological and ontological assumption that "actual concrete patterns and contingent relations are unlikely to be 'representative', 'average' or generalizable. Necessary relations discovered will exist wherever their relata are present, e.g. causal powers of objects are generalizable to other contexts as they are necessary features of these objects" (Sayer, 2000, p. 21). In other words, the main problem in this sense is the generalizability of the case study research in which the results strongly depend on the context. This issue is already addressed in previous sections.

1.15. Expected Results

"However beautiful the strategy, you should occasionally look at the results" – Winston Churchill

Elaborating on what Plato explained in the Meno: "to search for the solution of a problem is an absurdity; for either you know what you are looking for, and then there

is no problem; or you do not know what you are looking for, and then you cannot expect to find anything" (cited in Polanyi, 1966, p. 22). This is particularly the case in inductive research exploring an unknown world of unknowns in which the scholars have to target the challenge of "posing new questions means the outset of new answers" (Nicolini, 2012). However, I adopt Polanyi's view that "we can have a tacit foreknowledge of yet undiscovered things" (Polanyi, 1966, p. 23).

From the very early stages of this research, I found Haspeslagh and Jemison's (1991) framework very relevant and foretelling (Figure 4). These scholars are among the very first ones who proposed process research in studying organizational changes such as mergers and acquisitions (Jemison and Sitkin, 1986). Their suggested typology, derived from a huge sample of qualitative case studies, includes three integration processes in any given integrative venture, namely *preservation*, *symbiosis*, and *absorption* (or forced assimilation). Integration in these various approaches is dependent on the need for strategic interdependence, on the one hand, and the need for organizational autonomy, on the other.

Figure 4: Typology of Integration Approaches

Need for Strategic Interdependence

		Low	High
Need for Organizational Autonomy	High	*Preservation*	*Symbiosis*
	Low	(*Holding*)	*Absorption*

Source: Haspeslagh and Jemison (1991, p. 145)

Absorption happens when the need for organizational autonomy is low while the need for strategic interdependence is relatively high. Integration in this case implies a full consolidation, over time, of all the organizational aspects of the integrating institutions including their operations, structures, and culture. *Preservation,* in contrast, occurs when the need for strategic interdependence is low

but the need for organizational autonomy is relatively high. In this case, integration is aimed at keeping the source of the merged acquired competencies intact, since intervention into these competencies would result in losing the unique competitive advantage and endanger success. *Symbiosis*, at last, happens when both needs for strategic interdependence and organizational autonomy are high because substantial competence transfer must happen while the merged or acquired competencies need to be preserved in their original setting as well; a setting which is not always similar to the emerging one.

I apply this process typology to my original research setting, the academic merger between the university and the art college, or rather to the simplified depiction of their competencies and knowledge processes (cf. Figures 2 and 3). As previously mentioned, in a highly simplified manner, the competencies of the university and the art college can be categorized into two main groups, *administrative* and *academic*, with the latter devoted to two main activities, *teaching* and *research* (Figure 5).

Figure 5: Before the Merger

UNIVERSITY	ART COLLEGE	UNIVERSITY	ART COLLEGE
Administration	Administration	Integration	Integration
Teaching & Research / Teaching & Research / Teaching & Research	Teaching & Research / Teaching & Research / Teaching & Research	Articulation & Replication / Articulation & Replication / Articulation & Replication	Articulation & Replication / Articulation & Replication / Articulation & Replication

As the result of this application, one can expect, logically, that the merger strategy should look something like Figure 6. In the administrative area, where the need for efficiency and economies of scale (then strategic interdependence) is

relatively high but the need for autonomy is moderately low (since the administrative processes should be quite similar in various academic institutions), an *absorption* approach seems appropriate. In contrast, in the academic area, since the need for autonomy is relatively high and the need for strategic interdependence is considerably low (due to the disciplinary structure of academic institutions), *preservation* seems like a reasonable strategy to follow.

Figure 6: Merger Strategy
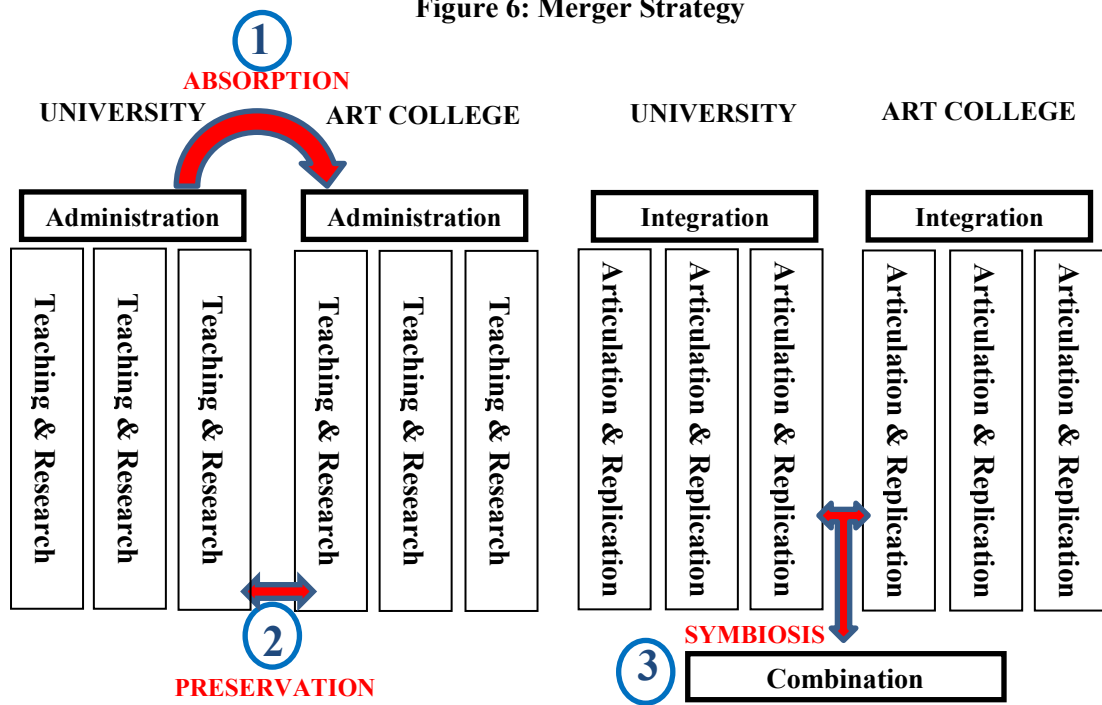
It is also feasible to foresee a *symbiosis* approach in deriving innovative *combination* out of the merger in the academic area, in which both needs for substantial competence transfer (strategic interdependence) and preserving the transferred competencies (organizational autonomy) are high. As a result (in accord with the merger proposal and the extant literature), I expected the post-merger setting to look like Figure 7; a setting in which the administrative tasks are fully integrated and the academic competencies are mainly preserved and marginally achieved symbiosis.

Figure 7: After the Merger

UNIVERSITY
ART COLLEGE

Administration

Teaching & Research | Teaching & Research | Teaching & Research | Teaching & Research | Teaching & Research | Teaching & Research

UNIVERSITY
ART COLLEGE

Integration

Articulation & Replication & Combination | Articulation & Replication | Articulation & Replication | Articulation & Replication | Articulation & Replication | Articulation & Replication

1.16. Results: An Overview

For Organizational/Administrative Competencies: As the study disclosed, 'organizational' know-how transfer (learning) starts 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 required time for any organization to learn to successfully collaborate with another. I believe that the common organizational competencies that emerge 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. My observation of previous mergers at the University of Edinburgh shows that organizational knowing integration is more the output of the deliberate integration plan than the emergent one, and more knowing integration at this level means more constructive disruption, and brings more positive synergy effects (see Figure 8, and chapters two, three and four). Chapter five details one of the exceptions to this overall trend.

Figure 8: Integration regarding Organizational Competencies

Constructive Disruption

Organizational Integration → Synergy
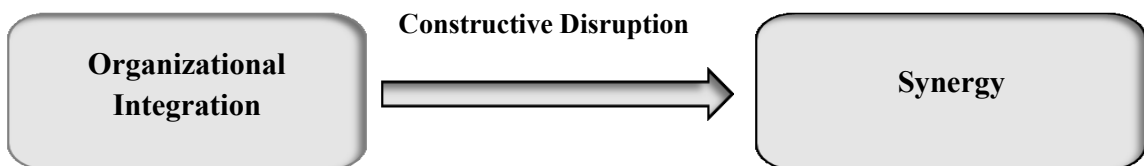
For Scientific/Technical/Academic Competencies: As well as organizational competencies, here also capabilities build and advance on commonalities, but in contrast to organizational learning, another variable impacts the synergy effects of the integration plan. I term this variable 'capability relatedness'. As a result, it is expected that more 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 capability recreation 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) (see Figure 9, and chapters two, three and four).

Figure 9: Integration regarding Scientific/Technical Competencies
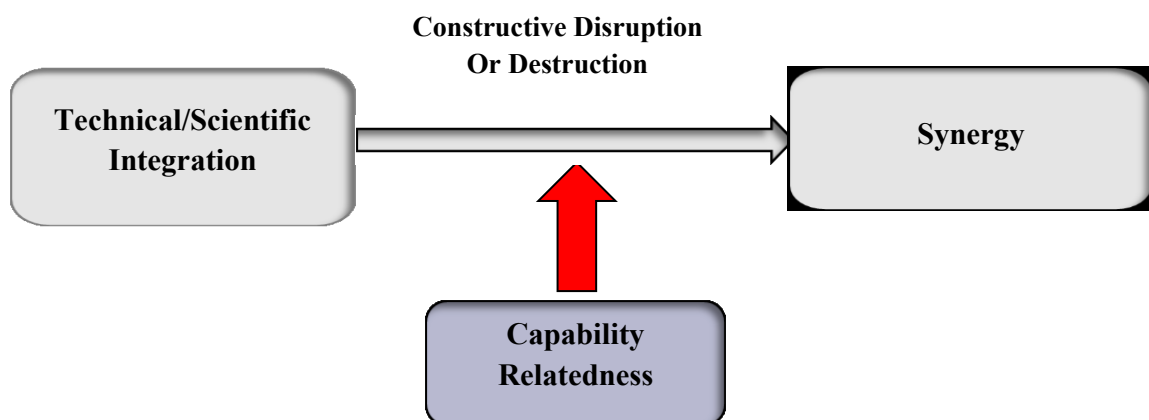
1.17. A Merger or an Acquisition

One frequent question I faced during conducting this study, as well as various examinations and presentations of my research findings, was whether this transformation is a merger or an acquisition *per se*. As mentioned earlier in this chapter, as a result of this organizational transformation, the Art College merged with the School of Art, Culture and Environment (ACE) from the University to shape the new Art College as a part of the College of Humanities and Social Science (CHSS) within the University.

From an organizational study point of view, I have to say that the power and political issues about how to call this integrative venture, i.e., a merger or an acquisition, in this dissertation is far beyond the consideration of my study and it does not affect the findings of my research in the way I examined it. Hence, I stayed with the desire of the institutions involved to describe the process as one of a merger. I admit that, structurally, this integration can be seen more like an acquisition since the Art College becomes a part of the University. Nevertheless, in technical terms, since the University, a not-for-profit organization, did not pay for acquiring the Art College, that would be misleading to call it an acquisition too. All the same, I included the literature on organizational change, incorporating both mergers and acquisitions (e.g., Haspeslagh and Jemison, 1991), to comply with this challenge as much as possible in this research.

However, as Keesing (1953) also noted, in every single merger, although there are attempt to provide a more balanced two-way flow of acculturation, one culture often attempts to dominate members of the other. Here, the issue of whether it is reasonable to describe the organizational transformation as an acquisition rather than as a merger does not concern the formalities of the transformation, i.e., how the two institutions decided to describe the transformation in their presentation of it to the public. Instead, as it would appear throughout the dissertation, the University was the stronger partner in the process, while the Art College was the weaker one. This comes forth in my descriptions of how the University's organization acted towards the Art College's organization during the transformation. Foremost, the University pursued a more bureaucratic/systematic approach in its administration, and it discounted the value of many administrative routines in the Art College, which most of the time experienced that its administrative approach, as well as its knowledge and knowing involved in those practices, was regarded as inferior by the University's organization. Hence, this behaviour, which looks more often like the behaviour of an acquirer than of an equal partner, influences exploration and exploitation of knowledge during the 'merger'. So I admit that, (a) the transformation looks less like a merger between two equal partners, and more like an acquisition of a weaker partner by a powerful acquirer, and (b) this influences exploration and exploitation of knowledge during the transformation; i.e., the exploration side of the merger is

affected greatly due to the imbalance in the power of the two organization. As a result, I observed more exploitation during the course of the merger since the University was mainly following forced assimilation in the administrative processes thanks to its bigger size and budget, as well its stronger financial state. This issue is argued well in detail in third and fourth chapters.

1.18. Organization of the Dissertation

In light of the above, I can now provide the organization of this four-essay dissertation before moving to the essays (Figure 10). The following chapters should be read as emergent findings of this single case study through time, covering three stages regarding the academic merger, namely pre-, during, and post-merger integration (followed by a conclusion to the dissertation). They are written to be read independently. This means that each chapter includes an introduction, a relevant literature review section, research methodology, methods and data analysis, emergent findings, a discussion section and a conclusion.

The next chapter, chapter two, is the only one written in the stage of the merger preparation (meaning the other three are written in the post-merger area). It consists of a comprehensive literature review alongside secondary document analysis produced by the focal merger and previous experiences of the university in mergers and acquisitions. These materials are combined with the early stages of my non-participant observation to provide a valuable account of potential knowledge and capability recreation processes, facilitators and obstacles. The result of this chapter is a conceptual framework that informs the rest of this thesis.

Benefiting further from the first and second rounds of interviews, chapter three shapes the main body of this dissertation. Informed by the conceptual framework introduced in the previous chapter and by adopting a performative perspective, this chapter represents the first emergent findings of the field data gathering and analysis. Here the main concern is to provide a valid account and the big picture of the academic merger and the recreation of various organizational routines (incorporating both *Organizational/Administrative* and *Technical/Academic* ones), accompanied by

a thick explanation of underlying phenomena. The next two chapters are indeed offshoots of this main body.

Figure 10: Structure of this Four-Essay Dissertation

Chapter One
Introduction

Chapter Two (First Essay)
Mergers, Knowing in Practice, and the Level of Integration
Case study: The University of Edinburgh's Mergers

Chapter Three (Second Essay)
A Performative View of Knowledge Exploitation and Exploration
Case study: A Higher Education Merger

Chapter Four (Third Essay)
Advancing Theory on Knowledge Governance: From Knowledge-Based Firms to Knowledge-Based Organizations

Chapter Five (Fourth Essay)
The Role of Multiple Ostensive Aspects in Practising Change and Stabilizing Routines: A Case Study of an Exogenous Change

Chapter Six
Conclusion

In chapter four, I 'zoom out' of my immediate research field in order to be able to provide a valid contrast. Benefiting from the third round of interviews, this chapter is an endeavour to compare knowledge processes and governance structures in the British higher education sector with those of commercial firms. It is aimed at providing an extension to the so-called 'knowledge- or capability-based view of the firm'. In chapter five, in contrast, I 'zoom in' on one single organizing routine, namely the admissions routine, in order to provide a detailed account of its somehow unique internal dynamics in practising the exogenous change (the academic merger) and stabilization of the routine in hand. Similar to chapter 4, this chapter has also benefited from tertiary interviews conducted with the highest possible level of

theoretical sampling necessary for satisfying theoretical saturation of an inductive research.

The four essays are followed by a short conclusion, summarizing the main points of each essay, theoretical contributions and managerial implications, research limitations and future research suggestions.

1.19. Detailed Research Questions of Individual Chapters

Table II provide further details regarding each empirical chapter, including their titles and research questions. As explained before, these research questions are derived from the three broad research questions explained in section 1.3. as a result of my exposure to the field data and emergent findings.

To answer the first broad research question of "how do organizations through the course of a merger strike a balance between achieving the necessary level of organizational integration and minimizing the disruptions that mergers of this order of complexity typically entail to existing competencies", after the very early stages of my data collection, I found it necessary to reformulate the question into two. As a result, the first question is set to target the organizational learning taking place during the course of the merger, which combined with the intended level of integration create the realized level of integration, synergy effects, and innovative performances out of the merger. The second question, in addition, is set to explore the reasons behind the differences observed between the intended and actually realized level of integration during the post-merger integration process. So, the questions include (a) what is the extent to which (and what are the ways in which) 'organizational learning' takes place during the integration processes, and how might this affect the differences between the intended and actually realized levels of integration during the course of a merger, and (b) how and why do the differences between the level of integration intended by managers or boards of directors and the level of integration actually realized after the merger develop over time.

Table II: Essay Titles and Research Questions

Essay	Title	Research Questions
1	Mergers, Knowing in Practice, and the Level of Integration Case study: The University of Edinburgh's Mergers	What is the extent to which (and what are the ways in which) 'organizational learning' takes place during the integration processes, and how might this affect the differences between the intended and actually realized levels of integration during the course of a merger? How and why do the differences between the level of integration intended by managers or boards of directors and the level of integration actually realized after the merger develop over time?
2	A Performative View of Knowledge Exploitation and Exploration Case study: A Higher Education Merger	How are exploration and exploitation processes facilitated (or impeded) both in core academic activities (research and teaching) and in related and supporting administrative tasks over the duration of an academic merger? What are the differences between (and hence implications for) exploration and exploitation at different organizational levels and at different stages of an organizational merger? What are the dominant knowledge processes at various stage of the merger and levels of the organization?
3	Advancing Theory on Knowledge Governance: From Knowledge-Based Firms to Knowledge-Based Organizations	How do governance systems in universities affect, and how are they affected by, the characteristics of the knowledge processes undertaken within them? What are the similarities and differences between these structure and processes to the correspondent ones in business firms? What are the possible managerial and policy implications for university governance?
4	The Role of Multiple Ostensive Aspects in Practising Change and Stabilizing Routines: A Case Study of an Exogenous Change	How do routine participants from two merging institutions balance multiple pressures for consistency (multiple ostensive aspects) in delivering a collective performance of an organizational routine (the admissions routine) while experiencing an exogenous change? How do the micro dynamics of interaction between multiple ostensive aspects of routines and actual performances enable/hinder an organizational transformation?

The second broad research question is dealt with in chapter three which is "how do organizations strike a balance between learning aimed at absorbing or mastering the existing knowledge of others (exploitation), and learning in the sense of discovery (exploration) during the course of a merger, and what are the main barriers for achieving that balance". Indeed, to answer this question I had to answer what are the change drivers and deterrents that enable and inhibit, respectively, learning processes aimed at exploration and exploitation regarding both knowledge content and knowledge-use practices, and what and why the differences for

exploration and exploitation are at different levels of an organization. As a result, chapter three tries to answer the questions of: (a) how are exploration and exploitation processes facilitated (or impeded) both in core academic activities (research and teaching) and in related and supporting administrative tasks over the duration of an academic merger, and (b) what are the differences between (and hence implications for) exploration and exploitation at different organizational levels and at different stages of an organizational merger?, and (c) what are the dominant knowledge processes at various stage of the merger and levels of the organization.

To answer the third broad research question of "how do the learning processes and knowledge governance systems of an organization affect, and how are they affected by, the characteristics of the knowledge processes undertaken within them, and how this creates the differences between the intended level of integration before the merger and actually realized level of integration afterward", during the very advanced stages of data collection and analysis, I found it necessary to reformulate the question into two more detailed research questions. These questions are set to explore how the governance system of a university shape, and are shaped by, the knowledge processes taking place inside that organization, and how much these processes are different from those of firms which have dominated the literature of knowledge governance and learning by shaping the theory of knowledge-based firms. Also, this affords a rare chance to provide some managerial implications for universities in specifics, and university-like organizations in a broader sense, contributing to the creation of a knowledge-based theory of the 'organization'. So the detailed research questions are formulated as (a) how do governance systems in universities affect, and how are they affected by, the characteristics of the knowledge processes undertaken within them, (b) what are the similarities and differences between these structure and processes to the correspondent ones in business firms, and (c) what are the possible managerial and policy implications for university governance.

During my endeavour in answering the aforementioned second and third broad research questions, and by an exposure to the very interesting area of organizational routines as generative systems, while I was iterating between field data and literature,

I could manage to open an interesting avenue in my research emerging from my data. This shaped my last empirical chapter questions dealing with recreation of organizational routines and the interaction between their internal dynamics (ostensive-perforamtive cycle) and the exogenous change created by the merger. So I formulated two questions as (a) how do routine participants from two merging institutions balance multiple pressures for consistency (multiple ostensive aspects) in delivering a collective performance of an organizational routine (the admissions routine) while experiencing an exogenous change, and (b) how do the micro dynamics of interaction between multiple ostensive aspects of routines and actual performances enable/hinder an organizational transformation.

Chapter Two: Essay I

Mergers, Knowing in Practice, and the Level of Integration - Case study: The University of Edinburgh's Mergers[18]

2.1   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 cause for concern about their future, a conceivable reaction by the boards of directors of a number of the UK universities is merger with institutions that have 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 organizations 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 the proposal recently submitted to the Scottish

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[18] An earlier version of this chapter is presented at the Organizational Learning, Knowledge and Capability (OLKC) 2011 conference in Hull, UK. Also a conceptual paper out of this chapter is submitted to the Journal of Organizational Change Management for a special issue on advances in mergers and acquisitions and is currently under review.

Government for a merger with Edinburgh College of Art (ECA)[19] (Merger 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 at the top of the expected outputs of every individual merger (at least on paper). Ian Howard, Principal of the Edinburgh College of Art (ECA), has said about the proposed merger between his college and the University of Edinburgh that:

> "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" (Merger Proposal, 2010, p. 4).[20]

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 emphasizes a strategic perspective according to which the quality of merger planning, which includes intended (or deliberate, as used by Mintzberg and Waters, 1985) level of integration, has a strong impact on knowledge transfer

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[19] To formally merge the ECA with the University of Edinburgh from 1 August 2011. At the time of compiling the thesis, the University has also merged with the MRC's Human Genetics Unit Centre for Reproductive Health (2011), shortly after the merger with the College of Art.

[20] 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.)

(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; Haspeslagh and Jemison, 1991).

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 recreating 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" (Merger 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[21] (Grant, 1996a; 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" (Merger Proposal, 2010, p. 12).

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

Now, if the main reason for integrative strategic alliances, such as mergers, is synergy seeking[22], 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 literature on M&A success factors has found that the 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 chapter 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 the University of Edinburgh and ECA, as well as the aforementioned previous merger experiences of the University of Edinburgh, I critically review some streams of the post-merger literature. Based on large scale statistical analyses, scholars investigate the reasons behind failures of mergers (and acquisitions) 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, 1996a). In the case of a knowledge-intensive sector – such as higher education – the integration mainly means knowledge and capabilities integration which brings synergy; thus, knowledge and capability transfer (recreation) defines the success, or failure, of an individual merger (Bresman

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[22] Synergy seeking defined as '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, 1996a). 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).

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 recreation), 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 from a lack of scrutinization, I investigate the processes of mutual learning before, during and immediately 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, I explore the extent to which (and ways in which) organizational learning can take place during the formal integration (merger) and how the capability to manage the aforementioned duality develops over time. To do so, I first define my view of organizational knowledge, then organizational knowledge transfer, to lay the groundwork for my 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.

2.2   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; 2006). Here I 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 (I) 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). Hence,

> "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[23] (Schön, 1983, p. 49).

Although the implicitness of knowing is emphasized, 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". I conclude that those tacit parts of the world of our cognition which can be articulated (even if deeply rooted in the

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[23] For understanding the similarities with "material knowing" see Orlikowski (2006).

individual's action and experience, ideals, values, or emotions) and then codified[24] 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 I consider the former as something possessed, either explicitly or implicitly, and therefore as 'knowledge', I treat the latter in this study 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; to rephrase Kogut and Zander (1992, p. 383), "organizations know more than what their contracts can say". My focus here is mainly on knowing. This doesn't mean I 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 I 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"[25] (Currie and Kerrin, 2004). Indeed, as I 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 and Brown, 1999).

Before moving onto a discussion of organizational learning and knowledge transfer, I discuss some implications of Nelson's (1982) categorization[26]. The aim of this recall is to draw another line in between two kinds of knowing at organizational level. Nelson differentiates "logy" from "techno"; while the former belongs to the

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

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

26 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 an organization 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. My 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, I categorize these two kinds of knowing as 'Scientific or Technical Knowing', which is at the level of groups and communities[27] (e.g. scientists, departments, communities of practice, research groups, etc.), and 'Organizational Knowing', which is at an organizational level (university or higher education institute). As I 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 I am 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 I am 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 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 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, for instance. 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

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27 As I 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.

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.

2.3   Organizational Learning and Capability Transfer (Recreation)

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

Cognitively, 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 a 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 a 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 structure for knowledge and capabilities to build and advance on. If one organization decides to switch to totally new capabilities, the firm's relational structure will 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, organizations 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, my view to knowing as an enacted part of routines and everyday organizational practices inhibits it from 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 (Lave and Wenger, 1991). 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) a shared context which lets learning agents cross the boundaries of a single context and its materiality of knowing[28] (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 practices. 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 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 on 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

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[28] 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.

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" (Merger 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)" (Merger Proposal, 2010, p. 7).

2.4   Level of Integration

As discussed, to capture the positive synergy effect of an integrative strategic alliance like a merger (by 'creative destruction')[29] (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, 1996a; 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, I combine these views with the 'deliberate' versus 'emergent' strategy of Mintzberg and Waters (1985) in my investigation of processes before, during and immediately after integration. My observation proposes that organizational learning may start long before the integration, and that its interplay with the 'intended or deliberate level of integration' leads to the 'realized level of integration' which itself defines, to a great

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[29] 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.

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 that dynamically interplays with the intended level of integration and defines the realized level of integration[30].

Based on the performative view of knowledge as knowing-how adopted in this study, I have differentiated two kinds of knowing as 'scientific' and 'organizational' knowing. I base my discussion about capability recreation (transfer) and level of integration on this distinction.

Organizational Knowing – In my 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. I 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. My observation of previous mergers of the University of Edinburgh shows that organizational knowing integration is more the output of the deliberate integration plan than the emergent one, and more knowing integration at this level means more 'creative destruction', or as I term it 'constructive disruption', and brings more positive synergy effects. Two theoretical propositions support this. First of all, as I 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 is the case for scientific knowing (discussed below). This means that two merging entities have enough commonalities to base their practice advancement on

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[30] 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.

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" (Merger 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 I 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 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 I believe in capacity recreation and re-situation instead of knowledge transfer, the justification process plays an important role for the recreation 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 are, the more specific the discourse and the more sticky the practices and knowing-how in those communities would be. 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. I 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; 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' recreation 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 the same administrative staff and system), my observation shows a low level of integration between scientific COPs (e.g. very 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, my observation of previous mergers of the University of Edinburgh shows that scientific knowing integration is more the output of an emergent integration process than the deliberate 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.

The 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).

I have also investigated the impact of the formation of communities of practice on scientific knowing recreation 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'.

2.5   Conclusion

Drawing a line between two kinds of knowing at the organizational level, namely 'organizational knowing' and 'scientific knowing', I 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 deliberate integration plan for organizational COPs and a more emergent integration process for scientific ones.

While management has a limited impact on the formation of scientific COPs, the 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 recreation activities will be recognized and rewarded (Davenport and Prusak, 1998; Nahapiet and Ghoshal, 1998); and, second, a common organizational culture, or what is referred to as a shared identity of organizational 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"[31] (Orlikowski, 2002, p. 270).

Without the development of COPs, it is very difficult for a given merger to lead to capability transfer (recreation), 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 recreated in everyday activities.

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[31] "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).

Chapter Three: Essay II

A Performative View of Knowledge Exploitation and Exploration - Case study: A Higher Education Merger[32]

3.1. Introduction

The last three decades saw the advent of, and the advancements in, evolutionary economics which made knowledge and capabilities the central element of organizational studies (Nelson and Winter, 1982). The performative view of knowledge as capability (or knowing in practice, see Cook and Brown, 1999; Orlikowski, 2002; 2006; Feldman and Orlikowski, 2011) is one of these advancements as well as a contribution to practice theory. The performative view sees routines as executable capabilities (Cohen *et al*., 1996; Feldman, 2000) and knowing as an enacted part of routines and everyday organizational practices that cannot be 'transferred' or 'disseminated' as if it was an object, but which can, nonetheless, be created and recreated through everyday activities (see, e.g., Szulanski, 1996; Winter and Szulanski, 2001; Nag *et al*., 2007).

Scholars in this strand of research start commonly from a definition of organizational routines as 'repetitive, recognizable patterns of interdependent actions, carried out by multiple actors" (Feldman and Pentland, 2003, p. 93). There is a broad consensus that routines consist of two aspects; namely, 'ostensive' and 'performative' schemata (Feldman, 2000; Feldman and Orlikowski, 2011; Pentland, *et al.*, 2012). This interpretation, however, focuses only on the internal workings of organizational routines in specific contexts (Pentland and Feldman, 2005; Parmigiani and Howard-Grenville, 2011). This strand of work theorizes routines as a generic concept by choosing only one specific, narrowly-defined group of interdependent

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actions, such as moving new tenants into university accommodations (Feldman, 2000), integrating the work of engineering teams for new product development (Becker and Zirpoli, 2008), or paying an invoice (Pentland *et al.*, 2010). As a result, the scholars in this vein do not contrast different kinds of routines in order to understand the potential structural variations inherent in different groups of actions.

Alongside this, the so-called knowledge– or competence-based theory of the firm, an extension of the resource-based view of the firm, has not overcome a certain ambiguity in its utilization of March's (1991) classic distinction between exploitation and exploration, with some scholars seeing routines as underlying the efficiency with which existing knowledge is exploited within the borders of an organization (Winter and Szulanski, 2001), while others emphasize the exploratory acquisition of knowledge by organizations as Epistemic Communities, enabling employees to cross organizational borders (Nooteboom, 2008; Håkanson, 2010), and the way experts employ boundary objects in collaborative, boundary-spanning work (Orlikowski, 2002; Hsiao *et al.*, 2012). There are inadequacies in the competence-based theory of the firm with regards to its application to other kinds of organizational settings. First, universities are not 'firms'; so the question arises of how a theory of the firm (trying to explain the existence, boundaries and internal structure of firms as governance structures) can be applied in other kinds of organizational settings. Moreover, a predominantly cognitive focus is found in the earliest work – one that concentrates on changes to knowledge content rather than changes to knowledge use (Nonaka and Takeuchi, 1995; Kogut and Zander, 1992; 1996). Although more recently – based on the insights of pragmatist philosophers – a fundamental shift has been made from focusing on knowledge content to knowledge-in-practice (Pentland, 1992; Cook and Brown, 1999; Brown and Duguid, 2001; Orlikowski, 2002; 2006; Feldman and Orlikowski, 2011), this has largely remained rather abstract (Handley *et al.*, 2006), with little empirical investigation having been carried out to date, especially in various types of organizational transformations – such as mergers and acquisitions.

In the merger context, by and large the successful integration of resources and capabilities of the merging entities is the key means for achieving synergy effects and economies of scale in a merger (Hitt *et al.*, 1991; Grant, 1996a; Ranft and Lord, 2002; Zollo and Singh, 2004; Cassiman and Ueda, 2006; Greenberg and Guinan,

2004; Lundvall and Nielsen, 2007). In fact, these synergy effects justify the choice of a merger (or an acquisition) over collaborations between two independent entities. In knowledge-intensive service sectors, such as higher education, the main capability of an entity is the 'knowledgeability' (cf. Orlikowski, 2002) residing in its members, structure, processes, routines, and artefacts. In higher education as elsewhere, the motive behind a merger may be the hope that it will result in relatively quick absorption of new and complementary resources and capabilities. Moreover, 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). Some experts also see financial constraints as another driving factor of inter-institutional projects like mergers. All these factors have been used to adjust the balance among scale, breadth, quality, distribution, economy and efficiency in ways that would be either impossible or impractical for a college or a university acting alone (Eastman and Lang, 2001).

Consistently with the call by Feldman (2000), Becker *et al.* (2005), and Becker and Lazaric (2009) for microanalysis of organizational changes through the prism of organizational routines, I explore the following questions: *How can a university enable participants in its routines to cooperate across the borders of specialized professional expertise, and how are exploration and exploitation processes facilitated (or impeded) at the organizing (administrative/governance) and competence (academic/scientific) levels of organizational routines over the duration of an organizational merger? What are the differences between (and hence implications for) exploration and exploitation at different organizational levels and at different stages of an organizational merger?* In addressing these questions, assuming a knowledge-as-practice viewpoint (Brown and Duguid, 1991; Orlikowski, 2002), this study proposes a finer-grained picture of those organizational changes by focusing on knowledge-use practices (cf. Nag *et al.*, 2007) using the example of an organizational transformation effected by a merger. This is expected to underline the importance of a sociocognitive view of capability recreation by uncovering the micro-processes by which knowledge is translated. Viewing organizational routines as the building blocks of organizational capabilities (Dosi *et al.*, 2008) – as ongoing dialogues between practice (action) and meaning (cognition) – I map the paths by

which organizational routines are recreated in organizational life, emphasizing changes in both knowledge content and knowledge-use practices.

Taking organizational routines as the unit of analysis (Pentland and Feldman, 2005), and by focusing on their internal (as well as external) structure and dynamics and content-process interrelationships (D'Adderio, 2008), I expect to contribute to the understanding of organizational change, adaptation and survival (cf. Cook and Yanow, 1993; Orlikowski, 2002; Becker *et al.*, 2005), describing and explaining the latent structural variations and the recursive relationship between changes in knowledge content and knowledge-use practices in an academic merger. In an exploratory case study (Eisenhardt, 1989; Yin, 2003), I adopt a grounded theory approach (Strauss and Corbin, 1990) based on 27 in-depth interviews, roughly one year of non-participant observation and primary and secondary document analysis to examine a recent academic merger between two higher education institutions. The findings identify what the recreation of organizational routines really means in practice and where and when knowledge exploitation and exploration take place in an academic merger. Based on these findings, I am able to posit a distinction between 'competence-based routines' and "organizing routines', using the notion of cognitive distance (cf. Nooteboom, 2008; see also, Nelson, 1982 and Coriat and Dosi, 1998) and the differences in the sociocognitive dynamics of the transformation processes. This reflects the observation that the organizational routines that need to be recreated across (vanishing) organizational boundaries in the case of a merger differ with respect to the cognitive distances that need to be bridged between the relevant communities and routine participants (Håkanson, 2010; Nooteboom, 2008). I will elucidate how the differences in relevant cognitive distances between these two areas of organizational routines affect the course of the merger using four knowing recreation processes (replication, articulation, integration, and combination - adapted from Håkanson, 2010), showing how each of these plays out at different levels of the organization and in different stages of the merger, and how this leads to a more exploratory character of the merger process in the competence-based and a more exploitative one in the organizing routines.

The argument proceeds as follows. The next section epistemologically elucidates knowledge exploitation and exploration, demonstrating the importance of

cognitive gaps among the routine participants in a given community performing somehow unique organizational routines. Section 3 develops the research questions based on a discussion of theories of organizational routines with regard to their content, practice aspects, and the interactions between these two. In section 4, I briefly describe the research context. In section 5, the research methods are discussed. Section 6 presents the emergent findings, and based on the emergent findings, I provide an *in vivo* model in section 7 in order to portray the microfoundations for organizational routines recreation. The discussion section (section 8) provides the necessary theoretical support for these findings. A conclusion and future research suggestions constitute section 9 and, finally, research limitations are discussed in the last section.

3.2. Exploitation versus Exploration

The literature on the knowledge-based theory of the firm has been characterized by Håkanson (2010) as taking different perspectives on the respective roles of exploration and exploitation (March, 1991) in defining the firm's advantage in terms of its knowledge resources. He refers to Kogut and Zander (1993) and Winter and Szulanski (2001) as accentuating the efficiency of the exploitation of existing knowledge within the borders of an organization, and to Kogut and Zander (1992) and Nahapiet and Ghoshal (1998) (Leonard-Barton, 1992, can plausibly be added to this list) as emphasizing the exploratory activities of firms in innovation. To this we can add that the literature on organizational ambidexterity (see, e.g., Tushman and O'Reilly, 1996; Raisch and Birkinshaw, 2008) emphasizes the importance of both exploration and exploitation simultaneously, reflecting March's (1991) concerns with how to maintain the balance between exploration and exploitation in a situation where the two goals must compete for scarce organizational resources (see, e.g., Gibson and Birkinshaw, 2004; Raisch *et al.*, 2009), while still others see the balance between exploration and exploitation as changing over the various stages of the organizational life cycle (see, e.g., Rothaermel and Deeds 2004; Lavie and Rosenkopf, 2006). A similar contrast can be found in the organizational learning literature's approach to the way organizations integrate the knowledge of their members. Organizations are seen by some as

superior vehicles for facilitating the integration of comparable knowledge within Communities of Practice (COPs) – functional or occupational groups whose members have similar cognitive backgrounds (Brown and Duguid, 1996; Nooteboom, 2008; Kogut and Zander, 1992; 1993; 1996; Handley *et al.*, 2006). Other researchers emphasize their role as epistemic communities (ECs)[33] facilitating the integration of differentiated knowledge across COPs with significant cognitive distance, where the lack of common language makes knowledge integration arduous (Grant, 1996a; D'Adderio, 2004; Wareham *et al.*, 2007; Nooteboom, 2008; Håkanson, 2010). However, no one denies the need of the organization to combine the knowledge resources of individuals and communities lying at both small and large cognitive distances from each other, in order to balance exploration, where more distant partners have more value to contribute, and exploitation, where greater cognitive proximity is essential (Nooteboom, 2008).

Epistemic or cognitive distance has been generally seen as larger between different knowledge communities than within them (Håkanson, 2010; Nooteboom, 2008). Nooteboom (2008, p. 123) also sees the epistemic gap as being larger within ECs and among COPs than within COPs, and deduces:

> "Communities of practice are more oriented at exploitation, at relatively small cognitive distance. Exploration may take place in epistemic communities, with larger internal cognitive distance, but may also arise from interaction between different communities of practice, utilizing the distance between them. Organizations serve to provide the basis for the governance of such interaction. This, however, does limit the cognitive distance, and hence exploration potential, within an organization. For more radical exploration, interaction is needed between organizations, at the price of greater efforts to set up and govern collaboration".

The exploitation of existing knowledge leads to the modification of routines (cf. Nooteboom, 2008, who refers to the 'plasticity of routines'), while exploration of new knowledge aims at the replacement of established routines by new ones. Thus, exploratory learning calls for a diversity of knowledge necessary for Schumpeterian

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[33] Bart Nooteboom (2006: 3) defines epistemic communities as "groups or networks of people who perform exploratory learning. They engage in transdisciplinary and/or transfunctional activities, at the interstices between the various disciplines. In contrast with communities of practice, they are not organized around a common discipline or practice but around a common topic or problem."

'novel combinations'[34]. Such exploratory learning and 'novel combinations' are often aimed at in mergers, which, by disrupting the steady state (Nonaka, 1994), can generate new patterns of interaction with the external and within the internal environment. As Feldman (2000; 2003) theorizes, such disruptions to the stability or resilience of taken-for-granted routines lead to the change, flexibility, and adaptability of routines. But as many studies of post-merger integration find, the integration of merged organizations in a holistic EC, in which smaller knowledge communities can form and survive, requires more than the mere bundling of the contracts of employees and bringing the properties of independent entities under a single ownership umbrella; to quote Håkanson (2010, p. 1817):

> "The creation and maintenance of organizational culture (theory), a common language (code), and efficient boundary objects (tools) do not come about automatically but require investment and effort on the part both of the firms' owners and managers and of their employees ... However, a large portion of the physical and intangible assets needed to establish the firm as an epistemic community is highly situational and cannot readily be transferred to applications outside the organizational context where they were created".

It is this admittedly difficult transfer that constitutes the key organizational learning challenge in the case of mergers. In Nooteboom's framework, the crossing of previously existing boundaries, eliminated formally by the merger but which may persist in epistemic practice, means crossing the boundaries of knowledge communities. At the same time, a merger calls for exploration of new knowledge. Organizational learning, in this sense, involves processing and validating common knowledge, or beliefs, or norms, which brings about the acceptance (or rejection) of individually acquired knowledge (Weick, 1991; Von Krogh and Grand, 2000). This process of validating necessitates an important intermediate level between a given organization as a whole and individual people. Knowledge communities reside at this level, in which knowledge networks and links are achieved and common knowledge can be validated and acquired (Lave and Wenger, 1991; Brown and Duguid, 1991). Here, it is vital to differentiate between learning aiming at absorbing or mastering the existing knowledge of others, and learning in the sense of discovery or exploration. While COPs offer an ideal environment for a new entrant for exploitation, in

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[34] There is always a need for organizations to learn to strike the right balance between building on existing core capabilities while avoiding core rigidities, i.e. by shedding those competences that are obsolete or made irrelevant by the new context (Leonard-Barton, 1992).

exploration one needs to cross the boundaries of COPs. For the latter ECs play a greater role which, by providing a wider cognitive background for the members, allows them to cross these organizational boundaries (Nooteboom, 2008).

In addition, the level of tacitness of the knowledge being shared should be taken into careful consideration. The notion of 'canonical' and 'non-canonical' or 'procedural' knowledge can shed light on this (Brown and Duguid, 1996). Canonical knowledge consists of codified, decontextualized norms of action and rules for operation. However, such norms or rules cannot convey the richness of practical context and are therefore often of limited use to the practitioner; leaving a gap that must be filled with situated cognition. Indeed, context-dependent deviations from canonical rules can be necessary when experimentation and improvisation are needed to deal with situations not provided for in those rules. Besides, as Handley *et al.* (2006, p. 642) noticed, "the cognitivist focus on abstract knowledge is misleading because it overlooks the largely tacit dimension of workplace (and other) practice". Thus, learning ensues which is more than mere transfer but rather a shift (recreation) of knowledge through interaction among members of a community (Brown and Duguid, 1996; Cohen and Bacdayan, 1996). This could be based on storytelling, joint action, and sometimes apprenticeship to share and acquire context-based – or rather context-bound – experiences. Communities and their outputs emerge as a result of these shared practices, rather than as a result of ex ante design[35] (Nooteboom, 2008; Handley *et al.*, 2006).

3.3. Knowledge and Knowing as Building Blocks for Organizational Routines

The performative view, which is adopted here, accentuates that knowing is not an external, enduring, or essential substance, but a dynamic, ongoing and context-dependent social accomplishment. 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). Based on this view, knowing is enacted in everyday

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[35] Note that "while one can conceptually distinguish between exploitation (practice) and exploration (invention), they build upon each other. Exploration arises from practice, and practice arises from exploration" (Nooteboom, 2008, p. 129).

practices and routines and is a part of our action rather than a tool or an aid to it. In this view, organizational routines are considered to be the basic component of organizational behaviour through which a lot of organizational work is performed. Routines, therefore, are fundamental repositories of organizational capabilities and routine participants are the agents exercising those capabilities. That means organizational routines are the key to understanding how organizational capabilities can be accumulated, transferred, and applied – or, to use my preferred term, 'recreated' (Nelson and Winter, 1982; Feldman, 2000; Becker *et al.*, 2005). In the performative view, routines are defined as "repetitive, recognizable patterns of interdependent action, carried out by multiple actors" (Feldman and Pentland, 2003, p. 95); a complex organizational phenomenon with both 'ostensive' and 'performative' aspects (Feldman, 2000). The work initiated by Feldman (2000) and followed by Feldman and Pentland (2003) articulated the difference between "the routine in principle [the ostensive, or structural, aspect] and the routine in practice [the performative, or agentic, aspect]". Scholars who have adopted the idea conceptualize routines as "generative systems created through the mutually constitutive and recursive interaction between the actions people take (performative aspect of routines) and the patterns these actions create and recreate (ostensive aspects of routines)" (Feldman and Orlikowski, 2011, p. 6). This interpretation, while accentuates the internally interacting parts of organizational routines, focuses only on the internal workings of organizational routines in specific contexts (Pentland and Feldman, 2005; Parmigiani and Howard-Grenville, 2011). Though authentically insightful to better understand routines as an abstraction, this strand of literature, however, generalizes routines in a generic concept by choosing only one specific, narrowly-defined group of interdependent actions and, as a result, does not contrast different kinds of routines in a given organizational setting. The main benefit of conducting these kinds of research would be the possibility of routines (re)combination in the same frame of reference; that is, identifying chunks of routines that get mixed, matched, and/or combined with similarities (and differences) regarding their content and applications while controlling the organizational climate. This can help to fill the gap in practice-based studies concerning organizational routines in which, somehow ironically, scholars concerned that much with situated

actions — "the specific actions of specific people in specific organizations" — that led them to "ignore fundamental organizational attributes that exist above the level of the routine but nonetheless affect its performance" (Parmigiani and Howard-Grenville, 2011, p. 443), and, hence, to ignore fundamental differences between organizational routines regarding their application and those higher level organizational attributes.

Though organizational routines are basic repositories of capabilities, moving from inside a specific scientific community out into a public arena in a given organization, one observes that the level of contextuality of knowledge being shared among, and knowing being performed by routine participants 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 and capabilities in associated routines which is less inert, more easily shared and understandable for a larger audience (Nelson, 1982; Kogut and Zander, 1992). Nelson differentiates 'logy' from 'techno', noting that the former belongs to the public arena and the latter belongs to a firm or a special scientific community in a broader sense[36] (Nelson, 1982). Here, consistently with Amin and Roberts' (2008) emphasis on the importance of differentiating between different varieties of knowing in action, two kinds of knowing – and, for that matter, knowledge content - should be differentiated. The first one is 'technical' or 'competence-based' knowing, which exists at the level of individuals', groups' and communities' (e.g. scientists, departments, communities of practice, research groups, etc.) day-to-day activities. The second one is 'organizational' knowing, which is found at the administrative level (e.g. governance and related services in a given organization, such as a university or higher education institute). Technical knowing and organizational knowing correspond, respectively, to the competence and governance domains of the organization analysed by Nooteboom (2008), and are the constituent of, respectively, the 'competence-based' and 'organizing' routines. Thus, 'organizing routines' precede and facilitate (or impede) the (re)creation and development of 'competence-based routines'. I am certainly not the first to suggest the distinction

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

among two different kinds of organizational routines. For example, Dosi *et al.* (2008, p. 1170), adopting a capability perspective, suggest differentiating 'technological' and 'organizational' competences, identifying the former as "shared pieces of scientific and technological knowledge concerning essentially 'the structure of the (physical) world' and routines concerning 'how to handle it'", and the latter as "shared pieces of knowledge and routines concerning the governance of coordination and social interactions within the organization and with outside entities (customers, suppliers and so on), in other words, 'how to handle people'". Although their effort to distinguish different groups of routines in an organizational context is insightful, it can also be deceptive to divide people from other organizational components such as technology and artefacts. I, on the other hand, differentiate competence-based and organizing routines in the same way as Nooteboom (2008), also referring to Feldman's (2000) paradigm in which knowledge (content) and knowing (knowledge-use practices) constitute the building blocks of organizational routines. I believe this can explain better, and demonstrate more practically, the dual aspects of organizational routines and their interactions.

Since organizational routines provide the microfoundations and mechanisms for both exploration and exploitation in different organizational settings (March, 1991; Parmigiani and Howard-Grenville, 2011), the organizational routine as a unit of analysis gives researchers a micro-level focus allowing them to 'zoom in' on organizational changes, their drivers (or deterrents), and processes of emergence, persistence, and institutionalization of new, or stabilization of current, routines (Becker *et al.*, 2005, Feldman, 2000; Pentland and Feldman, 2005).

As I discussed in the previous section, exploration tends to be associated with the crossing of greater cognitive distances, whereas exploitation occurs in a context of greater cognitive proximity. But as I have also noted, tacit knowledge is more easily communicated when cognitive distance is minimal (Brown and Duguid, 1996; Handley *et al.*, 2006; Nooteboom, 2008). This implies an inherent difficulty faced by explorers. When two sets of explorers from two independent organizations meet in an attempt to collaborate with mutual benefits, the organizations often find it very difficult to sustain inter-disciplinary research under two independent governing bodies (Håkanson, 2010). I also note that the interactions among routine participants

(or, to use Nonaka's characterization, between tacit knowledge and explicit knowledge) tend to become more numerous and complex when an organization gets bigger and involves more actors in and around itself (Nonaka, 1994). According to the knowledge-based view, these factors pose coordination problems that constitute the rationale behind the existence of an organization and also the logic behind its expansion under a single governing body in one form or another, including mergers. Indeed, it is mainly for organizational knowing processes that include tacit knowledge interactions across epistemic boundaries that organizations are superior in enabling and providing motivational artefacts to those of other governance modes (cf. Kogut and Zander, 1993; 1996). As mentioned above, an organization can potentially become an EC in its own right. This potential puts an organization at an advantage in comparison with other forms of collaboration for overcoming the obstacles associated with knowing processes crossing the epistemic boundaries of the COPs and ECs within it[37] (Pentland, 1995; Grant, 1996a).

When two organizations make a well thought-out decision to merge, therefore, it will be to facilitate the knowledge exploration between expert communities needed to take advantage of opportunities that have been identified by the two organizations. Implementing the merger, however, will necessitate the exploitation of organizing routines at the governance level – the level responsible for planning and executing the merger. But again, as noted before, organizational success often depends on a balance of both exploitation and exploration, and this balance may tend to change over time as an organization evolves. These, therefore, are the main questions I faced in this research: how does a university go about becoming an epistemic community enabling its members to cooperate across the cognitive borders of specialized professional expertise? How are exploration and exploitation processes facilitated (or impeded) at the organizing (administrative/governance) and competence

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[37] Note that "like in other types of epistemic communities, the tacit component of an organization's knowledge base can be articulated, for example, in the form of explicit strategic plans or the documentation created for certifications. Both tacit and explicit components can also be replicated, as when organizations expand by establishing branch offices or foreign subsidiaries that incorporate salient features of the mother organization's culture, boundary objects and codes. However, combinations of organization-specific epistemic elements across firms—following mergers and acquisitions, for example, or as part of cooperative partnerships —are often problematic" (Håkanson, 2010, p. 1819).

(academic/scientific) levels of organizational routines over the duration of an organizational merger? To address them, I have to first describe the research context.

3.4. Research Context

The findings of this case study can best be understood in its original research context, which includes the merger timescale and the historical background of the collaboration between the two institutions, a university and an art college. The pre-merger collaborations created the backdrop for the merger (alongside the difficult economic situation that the art college, like that which so many other art colleges around the globe are currently facing)[38]. Figure 11 depicts the timeline for this organizational transformation – the merger - and illustrates main turning points in the history of previous collaboration between the university and the art college.

Figure 11: The Merger Timeline and Previous Collaboration History

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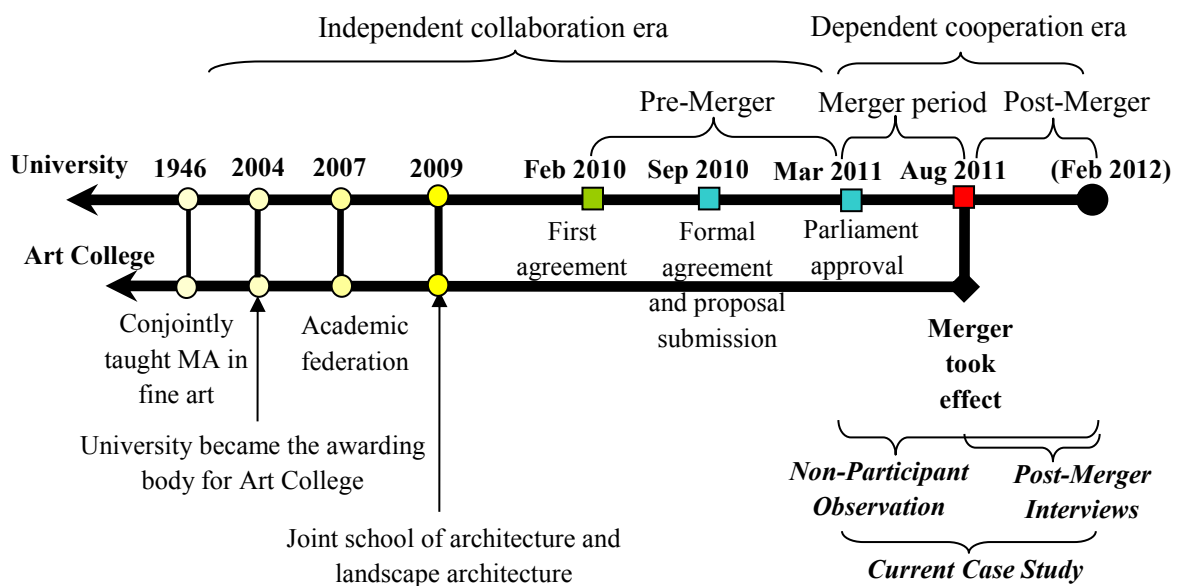
[38] I do not discuss this in detail in this article since this did not affect the merger results in the way I look at it. However, it should be mentioned that the poor economic situation of the art college strengthened the intention for the merger and accelerated the integration processes; to quote the merger proposal (p. 7): "while the fundamental objectives of the merger are academic, merger should ensure that, within future funding constraints, the art college academic strengths can be maintained and enhanced in a way that would prove extremely difficult in the current and anticipated economic and public funding environment were the College to remain an independent institution".

3.4.1. Historical Background and Independent Collaborations

The art college: While its academic successes confirm its position as one of the world's leading and most successful art colleges, by 2010 the college, like many other art institutions, was facing financial difficulties with more funding constraints on the way. The college was home to around 1,650 students from all around the world (by contrast, the university had over 25,000 students). Famous for its bespoke approaches, systems and structures to support all aspects of the distinctive culture of an art college, the college was well recognized as a small specialist institution of higher education for teaching and research in art, design, architecture and landscape architecture.

The university: The university had an international reputation for excellence in a wide range of disciplines. In 2010, it was home to around 25,000 students while it ranked by *Times Higher Education* amongst the top 20 universities around the globe. In the early 2000s, the university was organized into three colleges of broadly similar fiscal size: the College of Humanities and Social Science (CHSS), the College of Science and Engineering (CSE), and the College of Medicine and Veterinary Medicine (CMVM). In contrast to the art college, the university had tended to take a more historical, literary and theoretically-informed approach. The university's School of Arts, Culture and Environment (ACE) - a school within CHSS - drew together teaching and research excellence in the subject areas of architecture, history of architecture, history of art, and music.

Partnership between the art college and the university: In the twentieth century, the two institutions embarked on collaborative ventures in research, teaching and academic support. In the 1940s, they began to offer a conjointly taught programme. In the new millennium, the two institutions have taken strategic action to significantly increase mutually beneficial academic collaboration, with the university first becoming the awarding body for the degree programmes offered by the college, and later entering into an academic federation with the college. On the eve of the merger discussions, they established a joint school of architecture and landscape architecture, whose academic staff was drawn from ACE, the art college's school of

architecture and landscape architecture, and another university's school of the built environment.

3.4.2. Merger Preparation

Following the agreement of the governing boards of both institutions to explore the case for a merger, the institutions established a set of working groups to manage the processes of due diligence, consultation, and options appraisal. These working groups consist of the joint Merger Implementation Strategy Group overseeing the project, the joint Academic Integration Working Group (AIWG) overseeing the development of the appropriate governance and management structures and regulatory arrangements for the proposed merger, the Operations Working Group (OWG) overseeing the integration of the art college into the university's systems and support arrangements, and the Student Liaison Group, a forum for students of both institutions to raise issues regarding the implementation of the proposed merger. As the missions of the groups show, the AIWG was responsible for initiating joint discussions and feeding the OWG with suggestions for future changes and improvements. One of the immediate outputs of these working groups was the final merger proposal submitted to the parliament for governmental approval.

3.4.3. The Merger

In 2011, the merger was approved, and the academic year 2011-2012 opened at the new art college within the university, offering courses in art, design, music, history of art, and architecture and landscape architecture. During the months between approval and implementation, the institutions had to work together closely to achieve a minimum of disruption to academic activities. The main tasks in this stage included finding a new principal for the new art college (as the principal of the old, independent art college had announced his intention to retire), centralizing operations, incorporating new systems and procedures suitable for bespoke model of the art college, transferring art college staff and student records into the university system, and integrating the information systems of the two institutions.

3.4.4. The Post-Merger Era

As a result of the merger, the art college has been incorporated into the CHSS, drawing on its support for the purposes of planning, budget-setting and academic governance, while enjoying the same degree of delegated authority as other schools within the college. The proximity of the main art college buildings to the schools and offices of CHSS, which had facilitated the broad range of independent collaborations in the past, combined with the mutual familiarity gained over years of collaboration, had created hopes for synergy effects through the merger. In particular, administrative cost savings were planned to result from the centralization of key administrative tasks right after the merger.

3.5. Research Approach and Methods

In an exploratory case study based research design (Eisenhardt, 1989; Yin, 2003), I adopt a grounded theory approach (Strauss and Corbin, 1990) based on 27 in-depth interviews, roughly one year of non-participant observation and primary and secondary document analysis to examine the recent academic merger. The research aimed at exploring the potential for organizational learning and knowledge exploitation and exploration which may realized throughout the organizational integration processes. A merger can represent an invaluable opportunity for the researcher to capture organizational change and transformation by focusing on organizational routines. A case study methodology is seen as appropriate because of the exploratory nature of the topic, examining organizational transformation phenomena that need an in-depth inductive approach (since little theoretical precedent exists for conducting a deductive inquiry in the field). As mentioned, the organizational routines constitute my unit of analysis, allowing me to zoom in (and zoom out) on organizational changes occurring as a result of the merger, change drivers (or deterrents), and processes of emergence, persistence, and institutionalization of new routines (or stabilization of current ones) (Becker *et al.*, 2005, Feldman, 2000; Pentland and Feldman, 2005). The range of routines I looked at during the field work includes everyday research and teaching activities by full-time and part-time academic staff and students, student registration processes

(including applications, to convergence, to turning up), property maintenance, quality assurance, annual budget estimation and allocation of resources. To present the findings in this chapter, I grouped together organizational routines in close area with respect to their application in this academic organizational setting in order to contrast different groups of routines (the result, as presented in the next section, is the overall categorization into 'competence-based' and 'organizing' routines). Since no further logical subunits for analysis could be identified, and the relevant theory underlying the case study was a holistic one in nature, I adopt a holistic design for the case study research in this chapter (Crotty, 1998; Miles and Huberman, 1994; Yin, 20003; Marschan-Piekkari and Welch, 2004; Blaikie, 2000). My approach is essentially longitudinal, covering the three stages in the event of the merger: before, during, and after integration. Figure 11 depicts also the case study timeframe.

3.5.1. Research Procedures and Data Sources

Interviews: in order to capture multiple perspectives on the merger, I conducted 27 in-depth interviews with the key players who were involved in the process, as well as with academic and operation staff who were affected by the merger. The informants include the project manager, the project officers, the conveners of all integration working groups, the new principal of the art college, the heads of schools in the art college (including both old and new heads in cases where they changed), the heads of the departments in ACE, the chief operation officers in different sections of both institutions, and student union representatives. As a result, I am confident that the interviews cover a representative cross-section of the organizations. Three interviews were done before the merger, during the work of the working groups. The remaining interviews took place in the post-merger era. The interviews varied in duration from 30 minutes to 2 hours with an average of roughly an hour. All but three interviews were recorded, and 21 of the recorded interviews were transcribed verbatim. Initial interviews included more general questions which helped to draw a big picture of the merger and the intentions behind it, while secondary interviews were more structured and focused, targeting the main challenges and the reasons behind those challenges in order to satisfy the necessary theoretical sampling for the research (Strauss and Corbin, 1990). At this stage, the interview questions probed such topics as the

interviewees' day-to-day activities before, during, and after the merger, the changes in their perception of the benefits and costs of the merger, the biggest problem areas in the integration process and the reasons behind their existence, the least problematic (most straightforward) integration processes and the reasons for the unproblematic nature of those processes, the centralization of administrations and operations, collaboration across academic disciplines, and the level of integration they had achieved in their area of expertise up to the time of the interview.

Observation and Archival Sources: In addition to interview data, the researcher had the opportunities to attend few meetings of the AIWG. I used the observation and insights contained in the field notes to supplement the transcribed interviews. I also analysed the minutes of all meetings of the AIWG and Post-merger Integration Working Group (PIWG), public merger documentations, and published news, articles and university bulletins on the subject of the merger in order to enrich the research data.

3.5.2. Analytical Approach

I triangulated insights from 27 interviews, roughly one year of non-participant observation, the minutes of monthly meetings of the AIWG and PIWG (integration working groups), and extensive analysis of secondary documents developed by the merger communities in deriving theoretical constructs in this chapter. The unique chance to observe a merger in practice, before, during, and after the integration processes advanced my understanding of the phenomenon in a way which is impossible for mere post-merger studies. The mode of reasoning in this research project was primarily inductive. Accordingly, I inductively analysed the collected data adhering to case study research design techniques (Eisenhardt, 1989; Yin, 2003) and constant comparison techniques (Strauss and Corbin, 1990). The data analysis was conducted in an iterative fashion in order to satisfy the development of inductive theory (Figure 12). As a result, I was constantly traveling back and forth between the collected data, emerging findings, and extant literature (Locke, 2001). I also analysed the data collected in the familiarization and sampling stages using analytical techniques for qualitative content analysis (Miles and Huberman, 1994).

Figure 12: The Systematic Analytical Processes of Iteration between Theory and Data

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┌──────────────────┐      ┌──────────────────┐      ┌──────────────────┐
│  Case Selection  │─────▶│  Broad Research  │─────▶│ Preliminary Data │
│  (Phenomenon-    │      │    Questions     │      │ Collection (Mainly│
│    Driven)       │      │   Formulation    │      │  Secondary Data) │
└──────────────────┘      └──────────────────┘      └──────────────────┘

┌──────────────────┐   ┌──────────────────┐   ┌──────────────────┐
│ Extensive Data   │   │  Reflection on   │   │ Initial Data     │
│  Collection      │◀──│ Literature and   │◀──│ Analysis         │
│ (Interview and   │   │ Broad Research   │   │ (Creating the Big│
│  Observation)    │   │ Questions        │   │  Picture)        │
└──────────────────┘   │ Refinement       │   └──────────────────┘
                       └──────────────────┘

┌──────────────────┐
│ Reflection on    │
│ Literature and   │
│ Detailed Research│
│ Questions        │
│ Formulation      │
└──────────────────┘

        ┌──────────────────┐            ┌──────────────────┐
        │ Extensive Data   │            │ Proposition/Theory│
        │ Analysis         │───────────▶│ Development       │
        │ (Coding and      │            └──────────────────┘
        │  Memoing)        │
        └──────────────────┘
        ┌──────────────────┐
        │ Validity and     │
        │ Reliability Check│
        └──────────────────┘
```

Applying yardsticks for conducting qualitative studies, I started the coding processes by writing a thick story of post-merger integration processes dominated my observation of the phenomenon (Langley, 1999; Jarzabkowski *et al.*, 2012). In the next stage, I scrutinized this prepared case story in light of my research questions. Specifically, I looked at how are exploration and exploitation processes facilitated (or impeded) at the organizing (administrative/governance) and competence (academic/scientific) levels of organizational routines over the duration of the organizational merger. I then iteratively devised and revised a coding scheme based on how routine participant were conducting and defining their daily routines in the new context of the merged institution in comparison with pre-merger era. This stage helped me to categorize the main change derivers and change deterrents in the evolved context that the routine participants were enacting in relation to their day-to-day activities.

In the next stage, and based on these empirical codes and the research questions, I developed interpretive codes by iterating between the empirical codes and the extant literature on knowledge governance. I immediately found that there is a need in this stage to differentiate between knowledge content and knowledge-use practices (Cook and Brown, 1999; Orlikowski, 2002; 2006; Feldman and Orlikowski, 2011; Nag *et al.*, 2007) in order to explain the difficulties reside in capability re-creation over the course of the merger. Thus, following other research (e.g., Dosi, G., Faillo, M., and Marengo, L., 2008), I differentiated knowledge content and knowledge-use practices in the recreation processes. I identified knowledge-use practices as specific actions that people took in conducting activities relevant to their daily routine. On the other hand, I identified knowledge content as the routine participants' perception about what the routine is (Feldman and Pentland, 2003).

I then analysed the relationship between the knowledge-use practices (performative aspects) and knowledge content (ostensive aspects) as coded to understand organizational routines' dynamics in shaping the actual routines as performed by participants in a rather stable manner. This resulted in the emergent findings structure and proposed model for practising change and stabilizing the organizing and competence-based routines (see next sections for the emergent model, relevant codes, supporting quotations and proposed model). These theoretical codes were then all validated through cross-checking by various scholars including my supervisors and few other colleagues. Finally, following the methods of examining the validity of inductive inquiry, I checked the emerging findings and proposed model with key informants by asking them to reflect on the derived insights.

The theoretical findings of this study, as mentioned earlier in this chapter, have also been presented at a number of academic conferences and managerial workshops on relevant topics – mainly mergers between universities – either as a conference paper or key-note talks. This enabled me to incorporate their questions and comments in the process of theory development. Consequently, the presented theoretical framework in this chapter has undergone several major revisions through time (see also Table III).

Table III: Considered Research Quality Measures

Quality Measures	Means of Tackling
Construct Validity	• Data triangulation: both primary and secondary data was gathered and triangulated in this research study. Insights from secondary data collection and observation mainly use for cross-checking purposes • Original interviews were carried out with people involved in the transformation's decision making processes as well as those were affected. • Non-participant observations carried out by the researcher in the organizational setting. • Providing a detailed explanation how the data was gathered and how the main challenges were overcome. • Providing a detailed explanation of the data analysis process and the construction of the chain of evidence. • Review of transcripts and drafts by peers and informants (11 hours of discussions with interviewees over the researcher's interpretations of the data and the constructed models/propositions)
Internal Validity	• The findings and interpretive codes were checked and validated by informants; also presented in various conferences and to colleagues • Theory triangulation: various theories and different theoretical lenses were used were used, e.g., zooming in and out of organizational routines
External Validity	• Providing a rationale for the case study selection (phenomenon driven: an extreme case which provide a natural setting) • Providing a detailed explanation on the case study context • Providing a detailed background on the organizations involved and detailed explanation of the institutional context by providing a transparency in the construction of a clear chain of evidence.
Reliability	• The names of the organizations under study (in this research the University of Edinburgh and Edinburgh College of Art) were made explicit rather than anonymous, as well as the position (instead of the names) of the informants. • Detailed explanation of the gathered data: how it was analysed and how the theoretical constructs are derived. • Thick description of the research context • Following case study protocol suggested by Yin (2003) and Eisenhardt (1989), as well as merits of conducting qualitative research (mainly Corbin and Strauss, 2008; but also Miles and Huberman, 1994)

Source: Gibbert, Ruigrok and Wicki, 2008 (see also, Yin, 2003; Eisenhardt, 1989; Langly, 2009; Corbin and Strauss, 2008; Miles and Huberman, 1994).

The rich data resulting from this approach, accompanied by appropriate coding and memoing, form the basis of the discussion in the next sections. I heavily relied on constant comparison of multiple respondents over time in order to discover the similarities and differences. This enabled me to detect conceptual patterns in the qualitative data (Strauss and Corbin, 1990). Given my focus on capability (re)creation processes, I performed both "first-order analysis" to capture actors' understandings in the terms in which they thought about the research questions at

hand (see Figure 13) and "second-order analysis" which enabled me to move to a theoretical level (Gioia and Chittipeddi, 1991).

3.6. Emergent Findings

As my observation of the merger progressed, I became increasingly aware of the two main data categories, namely change drivers and change deterrents, and the tension between them at different levels of the process of change in organizational routines. When the change drivers overcome change deterrents, this results in the knowledge exploitation and knowledge exploration activities that dominated the organizing routines and competence-based routines recreation processes, respectively. I frequently observed exploitation attitudes toward organizational knowing (knowledge-use practices) in which the art college adapted its governing practices to the university's organizing routines. This adaptation process within the art college dominates my data, while nearly all changes of university organizing routines proposed by the art college were rejected (at least for a short run), as the practical implications of such changes to the university's robust organizing knowledge content would have been too far-reaching, given the difference in scale between the university and the college, as well as the time frame available for implementation. As a result, adaptation of the art college's organizing routines and adoption of the university's organizing knowledge-use practices are my chief observations on the exploitation side of the project.

On the other hand, I observed the initiation of long-term exploration processes on the academic side of the project, where there was more space for plasticity of competence-based routines. On the competence side of organizational routines, changes in knowledge-use practices interacted with changes in knowledge content with less difficulty, since the governing body left more autonomy for this to happen. The findings support the idea that this can happen mainly at the individual level, based on organizational routines and participants' interests and actions (such as needs for complementary knowledge to accomplish a task or personal inter-disciplinary connections), since academic institutions are very bottom-heavy (Clark, 1998), and the organizing body is almost unable to make this to happen (due to the informal nature of inter-disciplinary knowledge communities). It should be also

mentioned that the lack of a common language in the competence scenario hampers exploration processes.

Figure 13: Emergent Findings Structure

Data Categories | *First-Order Themes* | *Second-Order Themes* | *Overarching Themes* | *Second-Order Themes* | *First-Order Themes* | *Data Categories*

A. New policy adoption
B. Possibility to change

C. Need to stick to the fundamental values
D. Need to adopt the university managerial mindset

E. Need for unification
F. Need for changing the way of doing things
G. Openness to change
H. Guaranteeing Autonomy
I. Economy of scale
J. Lack of managerial capabilities

K. Fear of losing identity
L. Change Inertia
M. Unique vs. generic
N. Limiting knowledge Boundaries

Change Drivers

Change Deterrents

1. Changes to Organizing knowledge (Content)

2. Changes to Organizing knowing (Knowledge-use Practices)

Changes to Organizing Routines

Mainly via EXPLOITATION

Changes to Competence-based Routines

Mainly via EXPLORATION

3. Changes to Competence-based Knowledge

4. Changes to Competence-Based Knowing (Knowledge-use Practices)

Change Drivers

Change Deterrent

Change Drivers

Change Deterrent

O. Complementary knowledge
P. Knowledge exchange initiatives
Q. Changing Nature of AC

R. Unique Cultures
S. Satisfactory Knowledge
T. Lack of common

U. Introducing new practices
V. Inter-disciplinary Connections
W. Minor Changes
X. Same (or wider) knowledge boundaries

Y. Satisfactory practices
Z. Unique culture
A'. Lack of time in a short run

Figure 13 shows the structure of the emergent findings. In order to illustrate how the theoretical findings are grounded in data, I move from raw data categories on the edges of the figure toward abstract theories in the centre. In this regard, the phrases on the left and right sides (text boxes) show data categories that correspond to the issues raised and developed in the respondents' statements. Moving one step inward, there are arrows representing the two first-order emerging themes: change

drivers and change deterrents. The next step takes us to the second-order themes (in the ovals), the changes in either knowledge content or knowledge-use practices at both the organizing (organizational) and competence (technical) levels (which in our case correspond to the administrative and academic functions, respectively) in the two academic institutions. Finally, the two boxes in the centre depict the overarching themes emerging as a result of my analysis. I titled these overarching themes 'changes to organizing routines' and 'changes to competence-based routines'. As the designation depicts, I was mainly concerned about the routines in which change drivers overcome change deterrents. Table IV includes the supporting quotations for each of the data categories illustrated in Figure 13.

Table IV: Themes, Categories, and Representative Quotations

1st & 2nd Order Themes and Data Categories		Representative Quotations
Overarching Theme: Changes to Organizing Routines (mainly via EXPLOITATION)		
1. Changes to Organizing Knowledge (Content)		
Change Drivers	A. New policy adoption	A. 1. Now, we are at the stage that where we are literally just looking at it and saying this looks really exciting, so we want to say this is something we could possibly adopt. And we got to think how does this adoption of the system, can we do it literally and how much we can use it? Does that require us to change some of our policies in the university? And some of our policy documents may refer to sending things out in a certain way and getting signatures and that sort of thing (If8/In1/U)[39].
		A.2. What art college was doing […] triggered us to think we may not be able to adopt exactly what they do but we can do something that maybe it has the same outcome (If6/In1/U).
	B. Possibility to change?	B.1. Our experience to date, with going to the senates, the higher level committees, to say here is something which is a little bit out of the ordinary and here is a case., can we do this or what do you think of that? There has always been tremendous response, there has been interest, there has been enthusiasm. And usually, it results in an "ok, that seems reasonable". And if it results in something less than that it is because it has been really a good discussions, open pros and cons discussed and we all understand that maybe yes for a greater good we can't do something (If11/In1/C).
		B.2. If it comes to an issue we have to go to the senates to say: we know the art college way of doing this by doing something a bit wacky and strange, but this is how we will like to try, we know that we will have a very receptive audience who will be very challenging of us to say why, why do I do it, why couldn't I do it this way? But if we put an argument up we are going to do something a bit different, then they would give us a good hearing (If1/In2/U).
		B.3. It's a two way thing. We need to understand what causes them [art college staff] grief, what it is that caused them to go around with long faces, maybe it's the way that we do our business in the university. Do we need to explain it better? Do we need to explain the benefits to them better? Or do we need to understand from them that maybe their way of doing things was actually better than our traditional way of doing something? (If13/In1/C)

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[39] These abbreviations are used here in order to better indicate the triangulation of my data sources (If= Informant; In=Interview; U/C=from University/College). The numbers are derived from the chronological order of conducting the interviews and they are not in accordance with the ordering in the tables indicating interviews and interviewees in the next two chapters. For ethical consideration, the name and the position of the informants were made anonymous and non-attributable.

1st & 2nd Order Themes and Data Categories		Representative Quotations
Change Deterrents	C. Need to stick to the fundamental values and common language at the university level	C.1. I think a lot of the merger depends on not too much fresh air and newness. I think one of the things you have to … the sort of language being used is more about continuity, continuing good practice (of university) (If9/In1/C).
		C.2. 'We sing from the same hymn sheet but we may have different voices in the choir'. We are actually doing things in the way, the best way, that actually suits the schools' needs while still meeting the quality assurance requirements; the university's needs (If20/In1/U).
		C.3. For example, the head of business school, with the head of divinity, the head of history, the head of LLC, the head of art college, the head of education, …., on one level, we all talk with different languages even within CHSS, but on the other level, there is a sort of understanding of the jargon, the kind of management speak we have to engage with the kind of national debates in higher education. That common language exists (If15/In1/C).
	D. Need to adopt the university managerial mindset, procedure and structure as standard	D.1. Here [in the university] is a very, very clear understanding of the norm, and everyone gains a variant of flexibility to move fast. I think that's the biggest contrast for what I can see; there [in the art college] is less shared understanding of the normal, correct procedures (If12/In1/U).
		D.2. They (in the art college) knew what they wanted to achieve and that seems perfectly valid. But instead of having a proper framework, it was just random (If16/In1/U).
		D.3. It is a complete change in the mindset from the sort of management culture and structure that existed in the old art college to a more entrepreneurial, outward looking, engaged culture that is possible with the sort of financial and planning structures that are available in the university (If17/In1/C).
		D.4. They [art college] got more dependent on individual people. But you cannot do that within an institution like the university. There have to be a set of things that is the norm, policies that are the norm, and you can deviate from, you can respond quickly if something crops up. But it is very knowingly done as a deviation from the norm (If2/In1/U).
		D. 5. We tell the new art college how they need to adapt their old processes and adopt our processes. How much of that we need to do and then overarching all of that is training, linking together and making sure that again people can understand how to do their business when it's a new business, a business that we have been involved in for some time so that we can say 'we can help you' (If8/In1/U).

2. Changes to Organizing Knowing (Knowledge-use Practices)

Change Drivers	E. Need for unification, cohesiveness, and consolidation	E.1. We need to ensure that the new college is well embedded and integrated with the university and that five disciplines […] speak together and make a kind of cohesive unit, engage with all the university has to offer, become full part of the university as a new department and so exploit those opportunities (If20/In1/U).
		E.2. The operational side, the support staff, the administration of the new art college, that's where the biggest stress has been, because […] people had to make a huge leap into new systems. And I am finding that's where staff are most able work to the moment, most concerned about adapting to new systems (If7/In1/C).
	F. Need for changing the way of doing things	F.1.There [in the art college] was not that sense of saying: look, this is the normal run of business and every one may get a deviation. But it was like everything was a deviation! (If14/In1/U)
		F.2. So, we are in far firmer footing in terms of planning and developing than the old college was because of the university support, I think, kind of the way the university works (If5/In1/C).
		F.3. People might say: Oh we did it like this. And the response is likely to be: Oh well, that's a very good reason we are not going to do it like that again! (If24/In1/U)
		F.4. Your institution [art college] was being run so badly that we can't let those practices come in here. There is nothing wrong with you (your skills) but the way you've been told to do things for the last ten years were so bad and you can't do it like that anymore (If8/In1/U).
	G. Openness and eagerness to change	G.1. I think the key to this situation is to be open, to be supportive, to acknowledge that the merger isn't necessarily easy, but the rewards at the end are worth this sort of period of debate, of extra stresses, of all of those things (If1/In1/U)..
		G.2. There has been positive press (as well as negatives). People are very interested to see how things are going, the new stories that are coming out, the good ones I think (If3/In1/C).
		G.3. We have a whole new bunch of colleagues, who are keen, enthusiastic, great people, and what we want to do is to bring them in the fold (If20/In1/U)..

1st & 2nd Order Themes and Data Categories		Representative Quotations
	H. Guaranteeing autonomy	H.1. We would maybe be sacrificing independency, constituently independency, but we are not sacrificing autonomy, because of the way that the university operates it. It has a great level, degree of autonomy, I think, amongst its schools and colleges. And this isn't necessarily the case in other universities (If9/In1/C).
		H.2. There are still across the university unique cultures that survive within a larger umbrella. I think the university is quite good at doing that although connects them as an issue of brand and sort of management structures (management line) and the ethos of the university around excellent quality. So I don't see any … many negative issues of being subsumed under the bigger losing something special (If23/In1/C).
	I. Economy of scale and sustainable improvement	I.1. I think that as a small independent institution, the focus of the old college of art, because of circumstances, was of difficulties with finance that makes some difficult property investments. They were trying to expand but didn't have the capacity to expand; they didn't have the economics of scale, to be able to make their development sustainable (If22/In1/U).
		I.2. Art colleges are incredibly expensive to run. You can't have high staff-student ratio. It is very intensive teaching, big studio spaces, you need the latest equipment. All those sort of things can be shared in a larger university (If5/In1/C).
		I.3. By drawing on support services offered by CHSS, the new college of art will be able to achieve administrative cost savings. Services will be integrated as far as possible in order to achieve efficiency and economies of scale (If8/In1/U).
	J. Lack of managerial capabilities	J.1. My sense of the management in the old art college is that, that is very top-down management structure and high hierarchy with disenfranchised staff who felt they couldn't make the connection, they couldn't look outwards, they couldn't develop in the way that they should have been (If16/In1/U).
		J.2. Even in these little ways, even now we are realizing how little of what you would call standard management happened. How they [the art college] kept going? I do not know, Miracle! I just don't understand how it happened, how the place functioned (If24/In1/U).
Change Deterrents	K. Fear of losing identity and unique characteristics of an art college	K.1. Supporters of the old art college thought the merger was a bad idea, 'cause there have been bad examples of mergers, of mergers that haven't worked (If3/In1/C).
		K.2. That was their perception: the old college of art was a cherished institution within the city. So, a lot of influential supporters of the old college felt that it loses its identity (If8/In1/U).
		K.3. There were some issues around the identity issues; that the old college will lose their identity and would be subsumed in a university structure, and the college will become something less than what it was (If9/In1/C).
	L. Change Inertia and parallel systems of working	L.1. I think internally there are some administrative staffs that find the immediate transition to new systems arduous. There is an ongoing internal debate about the effect of mergers on people's workloads while we are moving into a stable position (If4/In1/U).
		L.2. So I definitely think the admin staffs have had a much more difficult time because they just have to learn new stuff and different processes. They are the ones that often are trying to keep the student registration coming in while still so worrying about all the new processes. Not wanting to disrupt what an individual student's process is. And trying to run two processes together (the old one and the new one), and to match them. Huge anxiety! Huge stress! And I think that's what we've seen, that where the stress has been; not academic staff but admins (If7/In1/C).
	M. Unique art college vs. generic university	M.1. The university does tend to do that quite generically, which I know causes some problems for other parts of the university, that they are not hitting the right sort of markets, they are not speaking to the potential applicants, in the right sort of language. And that is one of the very distinctive elements of an art college, of an art and design college, that people come from different sorts of foundation courses, into the university with all sort of qualifications that don't necessarily fit the university's criteria (If3/In1/C).
		M.2. There was also an element where the way the art college did their business required our system to be set up such that their process could be recognized within their electronic system. So there'd be several fields in their systems that had no equivalents in our system (If10/In1/U).
		M.3. Portfolios are those things that show the work that has been done, particularly by art, design and architecture people as part of their application. Digitally, they can be up to 10 Megabytes (MB), 20 MB information. And one of the problems is that our electronic application system [in the university] does not accept it; it 2 MB is the absolute maximum (If4/In1/U).

1st & 2nd Order Themes and Data Categories		Representative Quotations
	N. Limiting knowledge boundary and capability sphere	M.4. The migration of students from old [art college] over to new [art college] into our system has not gone without problems and troubles. But they have been sorted out. […] For example, at the university, we don't allow re-sits at [postgraduate] level for courses that are failed; you pass or you fail them. Now the art college, they do allow resits. Now if you have resits, then what happens? (If1/In2/U)
		N.1. You want people to be working at the boundaries. If you got a job that size, you want people to be working at the highest level of their job, sort of doing that much things. You know if you have been working in a profession for a lot of years, there's an alarm built at the top of your head when you are approaching the boundaries, the boundaries that have been changed, there's an alarm built still in to you. Do you sail on? Do you pass the boundary without noticing it? Yes, there are somewhat has to be done on talking things through, like do things that way and you got to check with someone at that stage in the university, and that's not easy! (If15/In1/C)
		N.2. OK. You were looking across the entire institution, you might be dealing with the funding council one day, or an individual student next day [in the art college], and if you are in a new role you only deal with something [in the university]. So you are limiting down, and at the moment until they're really settled in, they won't see how you can actually push at the boundaries of that job, because they can only see where the old boundaries used to be (If22/In1/C).

Overarching Theme: Changes to Competence-based Routines (mainly via EXPLORATION)

3. Changes to Competence Knowledge (Content)

	1st & 2nd Order Themes and Data Categories	Representative Quotations
Change Drivers	O. Complementary Knowledge	O1. The interesting thing was that they were interestingly different from us. So, people in … if you go to the design school in the art college, they are not doing anything like the sort of things that we do in Informatics and they don't think the same way, they are very different. But, it's different and interesting in a complementary way! (If18/In1/U)
		O.2. It is the case that the way the art college thinks about things is very different from ours. In two important ways I say, they are interestingly complementary (If2/In1/U).
	P. Knowledge exchange initiatives	P.1. Knowledge exchange programmes are the source of joint studentships, fellowships, so a lot of those sorts of skills and issues I think are similar to working between disciplines, working across institutions, bringing different cultures together was something I was very used to (If20/In1/U).
		P.2. You get the support of the KE [knowledge exchange] office [from the university], that you know was very small in the old art college that allows you to make more interesting bigger industrial connections outwards (If19/In1/C).
	Q. Changing nature of art and art colleges	Q.1. We try to remind people that changes are a positive thing, and that art institutions have to keep changing and your unique character will adapt. But you wouldn't necessarily lose it (If5/In1/C).
		Q.2. [Art college] want something that actually that look of it can evolve. Because the evolution is in itself the identity. Something that continually is moving and changing. It's actually the identity it wants to convey. It's not an art college if it doesn't change (If1/In1/U).
Change Deterrents	R. Unique Cultures and Values	R.1. Within the new art college, the school of music has its own culture (and as a result, its own practices), and the sort of people involved … Art historians, they have a very particular kind of culture, and even within the old art college, there were many different cultures, graphic designers, film makers were completely different than sculptors. So, I think people may be cling on to this sense of uniqueness (If2/In1/U).
		R.2. Within all of these, there is emotional ties of the old versus the new and how do you get people to buy into new ways of working, but if we can get into the logic of doing, sort of to appreciate it, hopefully we will get there (If5/In1/C).
	S. Satisfactory Knowledge	S.1. Your own skills are great, and we will bring them in and we can do things with them and they are lovely [though] they are different (If16/In1/U).
		S.2. Definitely the quality of students' work and therefore the teaching, and the quality of the research, where research was happening – 'cause research was not necessarily happening across the board [in the art college], were all fine. There is no question they're very strong. And that's the kernel of [academic] staff that was very strong and remains very strong. That's what's going to make the thing work. Because, if we'd taken an institution [that] had the level of management problems that the art college had, and didn't have the quality of work, there was no chance of that succeeding (If14/In1/U).
	T. Lack of Common	T.1. It is a challenge, for people to speak the same language; the more integration that

1st & 2nd Order Themes and Data Categories		Representative Quotations
	Language	happens, the more the old college of art staff [academic staff] are incorporated into university level committees, who are talking with colleagues, that there are fluid lines of communication across both areas, the better it would become (If8/In1/C).
		T.2. Within the college of art, music, architecture, art history, art and design have very distinctive cultures in their own right. Because where this is our uniqueness already as a big college of art, we are all creative people, so we do speak and act and work in a very particular way; that these are perhaps different to the way historians speak and act together, or other disciplines (If11/In1/C).

4. Changes to Competence Knowing (Knowledge-use Practices)

Change Drivers	U. Introducing new (combined) practices	U.1. One of the merger's issues was the normal kind of commodity activities; the things that fit together very well, the things that we were doing on both sides that the issue was fitting those together. And that's kind of logistics … But then, there was also an issue of whether there was anything new to come out of the merger ... that we didn't have before! And, Informatics seemed like a good place to look (If7/In1/C),
		U.2. And you have to remember that we are in that (thriving) position now and then you think, well what's missing? And one of the things that is missing and probably the main thing is missing is design practices in this university (If4/In1/U).
	V. Inter-disciplinary Connections	V.1. inter-disciplinary connections are important both within the college and in terms of relating to the departments outside the university. So developing really close relationships with informatics for example, or building film as an area across CHSS … so making these connections that make us better than what we would have been if we have been a small independent institution (If15/In1/C).
		V.2. In a bigger institution like the university you bump into different disciplines easier. For people who work at the edge of their field, actually quite close to other areas, the university makes it easier for them to move and cross the boundaries by making them connected. Indeed they're now one body (If12/In1/U).
		V.3. Those who already knew and trusted each other were very quick off the mark; others took longer (If26/In1/U).
	W. Minor/ superficial changes	W.1. It is interesting when talking to the students … I asked them, what is the effect of the merger on you? And other than a few small practical issues, in terms of academic work, their course, their relationship to the discipline, they haven't yet noticed this big difference as they thought they would (If6/In1/U).
		W.2. I believe the academic staff and students basically are happy, because they have to cope with some slightly different practices (If9/In1/C).
	X. Same (or wider) knowledge boundaries	X. 1. Yes, that's exactly an academic research. You are pushing at the edge of your knowledge; you bump into different disciplines, 'cause most people at the frontiers of the subjects are actually quite close to other areas of knowledge. They are not just at the very core of their subject because that's the basics and on the way going out you are going to the edge of knowledge. So you are bumping into other disciplines [in the university] or other types of knowledge, you are pushing the edges of it (If2/In1/U).
		X.2. So they [the art college academic staff] were in one good reputation place and now they are in one, assuming, bigger. So they haven't got a problem and their limits are up to them to push (If8/In1/U).
		X.3. Academics will get to the edges [of their knowledge], they don't know where they are because they are not where they used to be. And I think whereas to be academics, the edges [are] still the same; they are still within their own discipline (If17/In1/C).
Change Deterrents	Y. Satisfactory academic practices (vs. dissatisfactory management practices - see J)	Y.1. On the other hand, the day to day teaching very good, and some people's research, very good. So there was like some aspects of it were really great. It was the management side that seem to be such a disaster (If24/In1/U).
		Y.2. Because the student are great, the staff are really great at doing the academic side of what they do, the technical practical academic stuff, whether it is teaching or research, is really very good quality. But actually I haven't yet found a management practice there that seemed to be effective (If8/In1/U).
	Z. Uniqueness of art college culture	Z.1. So, what can you do? What new courses could we come up with that would fit the culture, fit the expertise, and yet bring growth in income to give them more flexibility? (If4/In1/U)

1ˢᵗ & 2ⁿᵈ Order Themes and Data Categories	Representative Quotations
	Z.2. They (the differences) are often in the practical area, we are judging their creative potential. So you have to look at the portfolio, you have to look at their work, which the university doesn't really do with any other departments and maybe an element of musical ability and music, for example, but I can't think of any other area where you want to see practical work. So, we had to do an awful lot of work to convince the university that we need a slightly different system in order to continue as the business that an art college is (Ifl1/In1/C).
	Z.3. "Experimentation and failure" is at the heart of an art college; the permission for failure. And the point about coming here was to bump into new practices, to experiment, to test the limits of your artistic imagination, and to fail (If7/In1/C).
A'. Lack of time in a short run	A'.1. I appreciate on the project side, you know huge imperatives to do an awful lot in a very short […] time and you got to make hard decisions. And say we've got to do this, this and this, we'd have loved to do that and that; we just haven't got the time to do it. Get on, do it later (If6/In1/U).

Figure 13 provides a static view of my analytical reasoning since it shows the initial emergent findings structure (I will provide a more dynamic view which can characterize the micro-processes over time in the next section in which I dig deeper into my observations to explore the logic behind them in the discussion session). Taking my inspiration from Nag *et al*. (2007), I developed such a static view of the emergent data structure as a tool enabling me to constantly compare the findings with the extant body of literature. In short, I observed the following types of changes resulting from the merger:

- No change to administrative/managerial (organizing) knowledge (content) of the university: As Figure 13 shows, this is the area in which any attempt at change faced strong change deterrents that did not allow changes in the robust organizing knowledge content of the university. From the college point of view, the knowledge content which was not in accordance with the university's cognition of conducting daily tasks needed to be put aside, at least in the short run (see Table IV, data categories A to D).

- Change to administrative/managerial (organizing) knowing (knowledge-use practices) of the art college: This dominated our emergent data. Here, all the efforts were focused on changing the college's organizing routines in order to adopt the university's administrative procedures (immediately after the merger and mainly as forced assimilations, without any concern about the art college administrators' cognition). Given the huge difference in the size of the institutions, reaching immediate economies of scale necessitates this adoption.

Besides, as mentioned before, the endeavours from the college to change the university's organizing routines were rejected, as the practical implications of such changes to the university's robust organizational knowledge content would have been too far-reaching, given the difference in scale as well as the time frame available for implementation. The exceptions to this rule consisted of a few cases in which the university retreated, where it did not have any equivalent to the college practices (see Figure 13 and Table IV, data categories E to N).

- Changes to competence-based knowledge (content) and knowing (knowledge-use practices): Here, changes in knowledge content and knowledge-use practices demonstrated a superior accord and harmony due the plasticity in competence-based routines. As mentioned before, though the lack of a common language impeded the processes in most cases, the overlaps of knowledge content among routine participants working on their knowledge and capability frontiers helped to facilitate integration and (re)combination of competence-based routines in few cases. Since the governing body left autonomy for this to happen and provides the basis for the organizing of such inter-disciplinary interactions, the resultant synergy effects on the competence side of the organizing routines are expected to be more emergent than designed ex ante in long term (see Figure 13 and Table IV, data categories O to Y).

3.7. An In-Vivo Model

To clarify what happened in this case over time, it is necessary to provide a dynamic view incorporating the micro-processes in this organizational transformation. I observed that the cognitive distance within and between knowledge communities played a crucial role in the organizational merger. In other words, the cognitive backgrounds – and, as a result, the knowledge content – of members of the organizations being merged were as important for the integration of those organizations as their daily practices. While the willingness to engage in integration, or recreation of practices, was moderately high in all fields (clear in all pre-merger statements – of a planned nature - including the proposal), the pace and intensity of integration depended on the nature of the practices it embraces and, more importantly, the scope of commonalities. As a result, one can say that the observed

differences between the intended (planned) and actually realized levels of organizational integration can be ascribed to the different nature of the routines involved ('organizing' and 'competence-based' routines) and the cognitive distance among the routine participants of the related knowledge communities and the dominant discourse in each group of communities. These led to a higher intended level of integration within organizing knowledge communities aiming at exploitation with much greater commonalities and narrower cognitive distance, and a more emergent level of integration across different competence-based knowledge communities with exploration objectives and greater epistemic gaps. Knowing when exploitation and exploration happen (through routines recreation processes), now I move to the second part of the research question, which is: how do those processes happen? I adapted Håkanson's (2010) model to answer this question.

3.7.1. For Organizing Routines

'Organizing' knowing tends to be characterized by a low degree of tacitness since the knowledgeability of actions is informed by more codified (or codifiable) rules, procedures and processes (explicit content, norms and standards), and its participants are separated by little cognitive distance. The findings also confirm the high level of commonalities in the organizing routines of the entities. Rules and procedures at this level govern the performance of the organization as well as the control and monitoring of that performance. These rules and procedures include administrative support services, which are very similar in content across the two organizations (and many organizations of similar or even different settings). General managerial discourse dominates the area of knowing at this level. Recreation starts long before the formal merger happens, and even before the entities decide to merge. Indeed, this is exactly what Bresman and colleagues (1999) are referring to when they discuss the amount of the required time for any organization to learn to successfully collaborate with another. The common knowing that emerges in the pre-merger collaboration of the two organizations (cf. Figure 11) is what creates the appetite for such mergers. My observations show that organizing routines recreation leads more to intended or deliberate outputs (aiming at efficiency and economies of scale) than

emergent ones (see data categories A to N in Table IV). Two prevailing recreation processes in this regard include:

Replication. Replication involves the simple duplication of routines from one organization to another. In this case, this occurs when the university procedural rules and frames was applied to the new college. Since the new college enjoys the same authority as a school, commonalities in the area of organizing routines will be found mostly with other schools of the university. Here, knowing is being informed mainly by well-articulated procedures and routines. Indeed, the duplication or reproduction (recreation) of organizational routines at this stage is essential for a successful integration (see data categories C and D in Table IV). It is also a fundamental process for capturing economies of scale (Nelson and Winter, 1982). Sometimes this transfer or replication of capabilities can be performed simply by the mere transmission of a set of blueprints or an artefact, but the recreation of less codified routines may require personal, face-to-face engagements of the merging entities (Kogut and Zander, 1993; Winter and Szulanski, 2001). Even in the case of higher levels of tacitness, as Kogut and Zander (1993) argue, a merger (or an acquisition) is a superior mechanism to the collaboration of autonomous entities, since it better enables an organization to replicate tacit knowing in new places than market mechanisms or collaboration. As replication is particularly well suited to codified knowledge content, it may run into problems in cases where significant tacit knowledge is 'attached' to the routines that are to be replicated. There are several examples in which the university retreated because it did not have any equivalent to college practices, especially when the high level of tacitness inhibited the university's understanding of the routine, and thus the recreation of it (see, e.g., M1 in Table IV).

Articulation. When the organizing routines of one organization incorporate a high level of tacit knowledge and have no equivalents in the other, they must be articulated before replication can occur. In this case, this process prevails when unique procedures or artefacts of the art college that the university had not experienced needed to be incorporated into the university's structure. Given the tacit dimensions of those unique organizing routines (e.g. the admissions processes or assessment regulations of the art college, which are portfolio-based and thus

inherently subjective), and the non-existence of a proper code for the unique artefacts, the latter needed to be articulated first in the university's codes, provided that a suitable vocabulary exists (i.e., a common language at the organizing level). This articulation will later inform replication of rules, procedures, systems, and artefacts alongside competence-based routines within the university across different schools and communities (Pentland, 1995; Zollo and Winter, 2002). Oftentimes more dedicated codes are needed, such as computer programs, in order to incorporate the college's processes. Most basic articulation at this stage includes standardization (see, e.g., M4 in Table IV), classification, and naming (see, e.g., M2 and M3 in Table IV). Although the process goes on steadily and at a reasonably high pace, it needs much more time than mere replication. Articulation, for Håkanson (2010), is in the long run an act of exploration (creation of new knowledge) which takes place within homogeneous epistemic groups; however, the findings of this study concerning the organizing routine does not provide evidence of such an outcome and indicates rather that exploratory activity is associated with competence-based routines, discussed below. Comparing the progress of these two stages, the former had already been almost completed before the formal merger started, while the latter is still in progress at the time of writing this essay (almost one year after the formal merger), and its completion is expected to take one to two academic years (to finish the whole cycle of an academic year and reflect on in the second year)[40]. Interestingly, the art college participants in the organizing routines expressed a feeling that their knowledge boundaries and area of competence had been restricted as a consequence of the replication and articulation processes (data category N in Table IV), while in the broader sense, the centralization of organizing routines resulting from the replication process led to fears of loss of the art college's identity among both organizing and competence-based routines participants (data category K in Table IV).

3.7.2. For Competence-based Routines

Exploitation happens right after the merger since the two institutes start to share their resources and capabilities under the same label. Rather than this, however, I observed few changes as the result of exploration at competence-level which are more than the

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[40] At the time of writing the dissertation (almost two years after the formal merger) it is almost completed.

simple sum of the competence-based routines of the two institutions. As in the case of organizing routines, here also capabilities build and advance on commonalities, but in contrast to organizing routines, capability relatedness varies greatly due to the great cognitive distance across disciplines. This impacts the expected synergy effects of the integration (recreation) plan. A stronger intention for knowing recreation at this level does not necessarily mean more of the 'constructive disruption' that can bring more positive synergy effects and economies of scale. In fact, when the level of capability relatedness is low, or there is no capability relatedness, any attempt to realize more routines recreation ends up with more 'destructive disruption' of the current capabilities of the institutions. Here, dominant discourses within communities are highly contextualized technical ones informing highly sticky knowing. For this reason Bresman and colleagues (1999; see also Birkinshaw *et al*., 2000) believe that the needed knowing recreation is unlikely to occur in the first few months following a merger (and sometimes never happens) (see data categories O to A' in Table IV). The prevailing recreation processes in this scenario include:

Integration. In a situation in which a common language already exists, academics from differing disciplines can cooperate and build joint institutional structure. One can see an example of this in the joint school of architecture and landscape architecture which has been in place since 2009. The joint actions have enabled the communities in the two institutions to share a common identity, language, and codes. Incorporating other schools and departments is planned (e.g., more collaboration with the university's school of informatics), but having a history of collaboration eases the whole process (see, e.g., data category U in Table IV). The commonalities which have already been made in this area narrow the cognitive distance and make it easier and faster to advance the current capabilities (see, e.g. data categories T1 and V3 in Table IV). Although the activities of the institutions necessitate the mobilization and harmonization of particular, diverse expertise, fortunately, competence-based routines recreation and other kinds of coordinated action between members of different communities do not necessarily call for acquaintance with the knowledge of every other such community (Håkanson, 2010). Competence-based routines integration (recreation) across knowledge communities entails 'perspective taking'. This occurs when the perspective of another community, or an individual

from another community, can be taken into consideration as part of a community's way of knowing (Boland and Tenkasi, 1995). Coordination across different communities involves transactions among experts working with diverse theories, codes, and tools. As a result the time needed for integration is increased in comparison with the replication and articulation processes (see data category A' in Table IV).

Combination. In line with Schumpeterian 'novel combinations', this process stands out as the most complex and time consuming one. Here, exploration is maximized at large cognitive distances, and the generation of new capabilities requires a kind of bricolage – new combinations of specialized competence-based routines (or way of knowing). At this level, "diverse types of boundaries could inhibit experts of different disciplines from coordinating tasks, sharing knowledge, and brokering expertise" (Hsaio *et al.*, 2012: 464). The main risk is that the high level of tacitness (lack of articulated knowledge) causes the situation to deteriorate. The observation of previous mergers of the university also shows that sometimes the combination process never ends, and has no outcomes, either intended or emergent, and the only benefit out of the merger was mainly exploitation of existing routines (simple replication). The knowing process in such cases is mainly based on the combination of poorly articulated knowledge using ill-defined epistemic bridges. For this combination of distinct kinds of competence-based routines to be successful, it must go beyond the "perspective taking" of the integration process. Here, there is a need for altering the perspectives of the participants (new lenses to see instead of adjusting the current lenses). New codes sometimes need to be developed from scratch in order to enable the epistemic community to come up with its brand new theory, code, and even sometimes artefacts. This is the case for putting the department of music (literally no background in, or shared practices within, the art college) and history of art (a theoretical department) into the new college of art (which used to be purely pedagogical), which were two of the main problematic areas for academic integration planning. No synergy effects are expected in the short run. The time needed for integration increases as cognitive distance grows between the members of the communities dealing with competence-based routines recreation. Although it is expected that these new departments will coexist with others within the college, for

the next couple of years there is no expectation of joint programmes or other kinds of synergistic cooperation (see data category R in Table IV for instance).

3.8. Discussion

To understand the dynamics of governance and competence routines recreation, I move to a deeper level of analysis, where the importance of cognitive distance within and between organizational knowledge communities resides. What an organization does as an epistemic community is to manage the cognitive distance between the routines participants and communities that lie within its boundaries, sometimes reducing this distance and sometimes helping members to bridge it. In an organizational context, this cognitive focus includes both substantive understanding – corresponding to the domain of technical competences – and normative issues - corresponding to that of organizing practices (Nooteboom, 2008, uses the term 'morality'). The organizational apparatus for doing this is a specialized semiotic system for language and symbols (Bourdieu, 1990; Nelson, 1982) which itself shapes what we call organizational culture. As noted by Feldman and Pentland (2003: 96), organizational culture in this sense 'enables' or 'constrains' actions of routine participants:

> "Organizational routines are theorized to be a natural product of action that occurs in the context of the 'enabling' and 'constraining' structures that are typical of modern organizations. The organizational context makes some actions easier, and therefore more likely, and other actions harder, and therefore less likely. Repetitive patterns of action will tend to emerge as organizational members choose to take the easier actions and avoid the harder ones. On a psychological level, Giddens (1984) has suggested that the routinization of daily life helps to foster a sense of ontological security. Novelty can lead to anxiety and loss of security".

As mentioned before, *within* knowledge communities the cognitive focus is narrower; the language, codes, and symbols are more specialized, and as a result the culture is tighter than *between* communities within an organization (Nooteboom, 2008). This implies that as the analysis shifts from inside a specialized knowledge community (in which competence-based routines dominate) outward to a more public arena in the organizational sphere (where organizing routines dominate), one can observe a loosening of the organizational culture and a simultaneous broadening of the cognitive focus as the specialized technical language is replaced by a more general one. Correspondingly, the knowledge and capabilities involved should

become more portable – more understandable for a larger audience (Nelson, 1982; Kogut and Zander, 1992) – and the norms of legitimacy more formal and depersonalized. Thus, the more the context for action moves from specialized communities towards the public sphere of the organization, the less time and effort are consumed in the recreation of capabilities, since organizing routines are more 'portable' than competence-based routines, and the lack of a common language makes competence recreation processes in which competence-based knowledge content crosses the borders of knowledge communities more arduous and time-consuming. This is the first factor underlying the exploitation side of the merger project studied here. But why is there so little exploration, and why is the exploitation mainly going one way in the area of organizing routines?

The organization's cognitive focus encompasses both surface regulations and deep structure. A surface regulation concerns a specific range of knowledge-use practices, while the deep structure contains principles that form the basis for the aforementioned surface regulations (Nooteboom, 2008). In this sense, the role of an organization as a holistic epistemic community is to control its premises, not its decisions or actions (Simon, 1976; Nelson and Winter, 1982). Independent collaborations might be better options for exploration, since the variety at the surface level is complemented by a greater variety of the deep structure than would be the case under a single organizational umbrella. Integration – in this case, a merger – makes the ties between knowledge communities stronger; indeed, perhaps too strong for innovative combinations to flourish, when non-redundant ties are necessary for exploration of complex knowledge work (Barley and Kunda, 2001) and opportunities relatively distant from current organizational practices (Granovetter, 1982). Indeed, exploration is often identified in the relevant literature with the crossing of organizational boundaries; that is, either with the search for knowledge *outside* the organization (see Holmqvist, 2003), or with organizational experts collaborating across knowledge boundaries in order to combine resources, span multi-disciplinary knowledge, or solve problems (Webster, 2007; Hsaio *et al.*, 2012) . Additionally, any change in the deep structure requires a change in long-standing 'organizing knowledge content', principles and values of the organization, thus challenging its very *raison d'être*, as organizations "serve especially to coordinate on the deep level,

with an advantage of easier and faster understanding and agreement, to enable exploitation" (Nooteboom, 2008:132).

This suggests that a merger (or an acquisition) may be preferable over collaborations between two independent entities (for instance, in this context, the aforementioned federation between the art college and the university could serve as an example) when the goal is the facilitation of knowledge recreation and integration, rather than exploration (creation of new knowledge). What may have originated as exploration when two organizations began to collaborate shifts to exploitation in conjunction with the merger (see also D'Adderio, 2001). Here, an organization serves as a holistic EC, mediating between organizational knowledge communities, allowing limited but nevertheless considerable internal cognitive distance in competence-based knowing, while managing that distance on the organizing (governance) side across a variety of knowledge content. This allows organizations to set up internal collaboration across diverse competencies smoothly for exploration purposes. As Nooteboom (2008) has noted, in any collaboration involving independent organizations, the problem of distance on the competence side is compounded by distance on the governance side. This was very clear in my observation of the integration working group in this specific merger. For example, while the joint AIWG, responsible for the academic (competence-based) issues of the merger, was quite democratic, leaving space for open discussion and emerging results, having face-to-face, consultative processes, the OWG, responsible for the operational (organizing) side, had a more bureaucratic approach aiming at a quick adaptation of the art college's systems and procedures[41]. The situation was especially deteriorated because the university had a strong sense of standards and norms in the area of organizing routines (see, e.g., data category F in Table II) since the ease or difficulty of implementing this depends on the mode of acculturation that the affected communities are prepared to accept (cf. Håkanson, 1995).

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[41] 'Absorption' in the case of administrative routines and 'separation' in the case of academic teaching and research (cf. Håkanson, 2007).

3.9. Conclusion and Future Research Suggestions

Taking a performative view of knowledge as knowing in action, this chapter answers the question of what organizational routines recreation really means in the practice of an academic merger, and where and when exploitation and exploration take place. The answer resides in the categorization of organizational routines as 'organizing' and 'competence-based' routines and the identification of four dominant knowledge (re)creation processes (replication, articulation, integration, and combination). The findings show that the cognitive backgrounds of the routines participants within organizational knowledge communities, which I identify as either organizing or competence-based, are as important as the knowing processes they aim to recreate. While the organizing routines recreation is generally associated with a lower level of cognitive distance and aims at exploitation of existing knowledge and capabilities, the pace of recreation decreases as the tacitness of the knowledge informing the knowledge-based practices increases. Replication and articulation are defined as prevailing processes in the latter scenario. As for competence-based routines, since they are characterized by greater cognitive distance and aim at exploration of new knowledge, the knowing recreation processes are much more complex and time consuming. Prevailing recreation processes vary from integration at lower levels of tacitness to combination at higher levels. A dominant issue in the current thread of research in organizational routines tries to identify ways in which organizations can facilitate collaboration across multi-disciplinary knowledge communities. The findings of this research contribute to managing cross-boundary work and adaptive organizational learning, as well as organizational change and adaptation and organizational knowledge and capability recreation.

As mentioned, epistemic communities are defined by their unique theories, codes, and artefacts, which make, and are made by, the sense of identity of their members. This reciprocal process can affect and be affected by integration processes. Since universities generally deal with a duality of identities in nature – which itself is a part of their identity – namely normative (oriented toward cultural and educational functions) and utilitarian (centred on economic production), future research is suggested to scrutinize this recursive relationship between organizational routines recreation processes throughout organizational transformations and identity

(re)creation at organizational, group, and individual levels. Contemporary work on identity construction and reinvention has much to offer in this area (see, e.g., Nag *et al.,* 2007; Nag and Gioia, 2012).

3.10. The Research Limitation: a Challenge and a key response

The main limitation of this research resides in the single-case research design. I understand that by focusing on only one type of organization—in this case, an academic organization — and one type of organizational transformation – here, a merger - I might be limiting the applicability of my findings to other types of organizations and other types of organizational transformations. However, I believe that the grounded theory, in general, and the specific findings of this case study are transferable to many academic organizations, which are facing ever-increasing pressures to stay on the cutting edge academically (research and teaching), while preserving their marketability at the same time. I also believe that the findings can broadly benefit organization studies since the major concepts of knowledge (cognition) and knowing (practice) are apparently pertinent to all types of organizations. Indeed, the findings should be considered for 'theoretical generalizations' rather than 'statistical generalizations' (or predictions in the conventional sense); while in the former findings elucidate situated dynamics, in the latter they explain universal variation. Although the situated dynamics are varied in different contexts, "the dynamics and relations that have been identified and theorized can be useful in understanding other contexts. In this way, theoretical generalizations are powerful because they travel" (Feldman and Orlikowski, 2011: 1249).

Chapter Four: Essay III

Advancing Theory on Knowledge Governance: From Knowledge-Based Firms to Knowledge-Based Organizations[42]

4.1. Introduction

Research in recent decades has provided new insights regarding the problems and opportunities associated with the 'management of knowledge' and 'knowledge governance'. In areas ranging from strategic management to organization theory, theoretical developments and empirical research have focused on the nature of 'knowledge processes' in the governance context of business firms (Dosi, Faillo, and Marengo, 2008; Felin and Hesterley, 2007; Foss, 1996a; 1996b; Galunic and Rodan, 1998; Håkanson, 2010; Janowicz-Panjaitan and Noorderhaven, 2009; Kogut and Zander, 1996; Spender, 1996; Szulanski, 1996; Tsoukas, 1996), generally benchmarked against those that occur in arms-length market transactions (Grant, 1996a; 1996b; Kogut and Zander, 1992; 1993; Nahapiet and Ghoshal, 1998; Nickerson and Zenger, 2004). The so-called 'knowledge-based view of the firm', in various guises, is based on the idea that firms are in a privileged position to manage knowledge-intensive processes. Kogut and Zander (1992) present firms as gaining advantages from 'higher-order organizational principles' through which they become "social communities of voluntaristic action" (p. 384). In their conceptualization, the basis for the formation of such communities is the sense of identity that "…in modern society is bound with the employment relationship and its location" (Kogut and Zander, 1996, p. 503). In critique of this idea, Foss (1996a; 1996b) points to the importance of incentives and formal governance structures for the emergence of such

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[42] Earlier versions of this chapter are presented at the 35th DRUID Celebration Conference in Barcelona, Spain and the Organizational Learning, Knowledge and Capability (OLKC) 2013 conference in Washington DC, USA. This chapter benefited from great theoretical contributions of the co-author of the original article, Lars Håkanson, Professor in International Business at Copenhagen Business School and the University of Queensland, from which this chapter derived. A revised version of this chapter is submitted to the journal of *Organization Studies* and is currently under review.

communities. In firms, contractual arrangements mitigate the risk of opportunism and promote the emergence of trust, cooperation and information exchange, providing incentives for employees to invest in the acquisition and development of firm-specific social knowledge that is of little or no value in other contexts (Håkanson, 2010).

By focusing on the governance properties of 'business firms' as compared to those of arms-length markets, however, this stream of research has omitted to examine other institutional contexts and knowledge governance configurations. This raises the question as to whether the theoretical arguments advanced apply only to firms, or whether they perhaps apply to organized, non-market interaction more generally. The premise in this chapter is that effective knowledge processes are not exclusive to firms – complex knowledge-intensive activities are undertaken in other types of organizations and within diverse institutional arrangements, including, for example, public service organizations (Nicolini, Powell, Conville and Martinez-Solano, 2007; Rashman, Withers and Hartley, 2009), professional partnerships (Greenwood and Empson, 2003; Robertson, Scarbrough and Swan, 2003), or even virtual Internet communities (Lee and Cole, 2003). In other words, 'knowledge-based theory' should delineate not only the advantages of business firms vis-à-vis markets but also the extent to which these advantages are present also in other types of organizations and institutional settings. There may well be instances where these can provide benefits unobtainable in business firms, and an understanding of these would provide a cornerstone to the development of a more general theory of knowledge governance with significant policy and managerial implications.

This study aims to contribute to such a broader understanding of knowledge governance by inductively analysing the 'natural experiment' offered by the merger of two British higher education institutions. This setting provides an institutional configuration that differs considerably from that which has informed most previous research on the creation, sharing and exploitation of knowledge, but in which there are prominent institutional locales for the governance of knowledge processes. Further, the organizational processes following a merger offer an opportunity to study the formation (or not) of boundary-spanning organizational communities

capable of bridging the cognitive gaps between specialized functional and professional 'epistemic communities'.

The immediate aims of the study are therefore (1) *to develop a set of propositions as to how governance systems in universities affect and are affected by the characteristics of the knowledge processes undertaken within them*, (2) *to compare these to the correspondent structures and processes in business firms*, and (3) *to explore possible managerial and policy implications for university governance*. The overall objective is to contribute towards extending the so-called 'knowledge-based view of the firm' to a more general theory of knowledge governance in various kinds of organizational settings.

Similar to the well-known problems cultural differences cause to post-merger integration of business firms (Birkinshaw, Bresman and Håkanson, 2000; Schweiger and Goulet, 2000; Schweiger and Walsh, 1990; Stahl and Voigt, 2004), this case study indicates that such differences can considerably impact the merger and integration also between organizations working under very different governance arrangements. Moreover, the impact in the organizations examined in this study varied greatly between the 'academic' (teaching and research) and the 'administrative' functions of the merged institutions, highlighting the need to discriminate between the two. As outlined in the subsequent analysis, knowledge processes in university administration are in many ways similar to those in other public service organizations, related to but also distinct from those in private firms; academic teaching and research constitute a distinct 'ideal type' of knowledge governance system.

The rest of the chapter proceeds as follows. The next section presents the theoretical orientation of the study, emphasizing some salient features of knowledge processes and organizational structures in universities vis-à-vis firms[43]. Section three describes the empirical setting of the research. Following a background overview, sketching the evolution of the higher education sector in Britain, it describes the exploratory case study of the merger and subsequent integration of two British

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[43] A grounded, interpretive approach is used in this study to derive many of the theoretical findings presented in this chapter. Consistent with such an approach, the findings would be normally presented after portraying the data from which they are derived (Strauss and Corbin, 1990); however, for better clarity, the more conventional practice of presenting the theoretical orientation first is adopted.

institutes of higher education. Section four details the methodology and the applied analytical approach used in this study. The empirical findings are presented in section five, which is divided into two parts. The first analyses the effects of the merger on administrative functions and their personnel, the second focuses on the effects on academic teaching and research. Section six presents the main theoretical contributions and a few managerial implications. The concluding section summarizes the study, outlining how its findings may contribute to the development of a more general theory of knowledge governance in different institutional settings.

4.2. Knowledge Processes in Universities

In a highly stylized manner, the competences of universities can be divided into two groups, administrative and academic, with the latter devoted to two main activities, teaching and research[44]. 'Administration' here denotes the routines and competences employed in the raising and allocation of resources, the management of external relations and the design of organizational structures, policies and rules to ensure efficient performance. Structurally, these tasks are typically divided among organizational units at the level of the entire university, individual faculties or colleges, and those of individual schools, departments, or research groups. 'Teaching and research' represent the core activities of universities and are typically organized in the form of departments, institutes or research centres, most of which divide their time between the two activities.

The distinction is analogous to the one in business firms between 'organizational/economic' and 'technical' competences (Teece, Rumelt, Dosi, and Winter, 1994, p. 19). The former are in many ways similar to the administrative competences of universities, and the latter, which include "the ability to develop and design new products and processes" as well as "the ability to learn", parallel the skills employed in university research. The main difference is in the relative emphasis on teaching. In most business firms, teaching is primarily an activity undertaken to promote organizational growth. In universities, as a reflection of their wider societal mission, teaching is a main goal in itself.

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[44] For the purposes of the present study, organizations are viewed in this chapter as providers of (primarily) research output and educational services. In this perspective, students are seen as clients rather than as members.

A striking feature of knowledge governance in universities is the prevailing practice of organizing academic work according to specialized fields of knowledge. As a rule, members of departments, institutes and research centres belong to the same 'epistemic communities' – groups of individuals engaged in a common practice and sharing not only mastery of the codes, theory and tools of that practice, but also the tacit skills and experiential knowledge conferred by the practice in question (Håkanson, 2007, 2010; Holzner, 1968). Within such epistemic communities, exchanges involving *replication* of codified knowledge occur with ease in the form of information transfer between agents who share mastery of the codes employed by their discipline and who are familiar with the theories that provide meaning to the information in question (Figure 14). The mastery of the codes, theories and tools of a common academic practice and the practical and educational experience through which such mastery is attained not only facilitate the dissemination of codified knowledge and research findings through articles, books and in lectures, but also provide the basis for the passing on of less well-articulated knowledge, as in the master-apprentice relationships between supervisors and PhD students.

Figure 14: Typology of Knowledge Processes

	Exploitation of existing capabilities	Creation of new capabilities
Within epistemic communities	*Replication*	*Articulation*
Between epistemic communities	*Integration*	*Combination*

Source: Håkanson (2010: 1812)

In universities, knowledge creation largely takes the form of *articulation* – the process whereby the tacit knowledge informing practical skills is made explicit – and 'puzzle-solving' within defined disciplinary frameworks and paradigms (Kuhn, 1962/1970). In spite of insistent calls for more 'inter-disciplinarity' in order to

address real-world problems that refuse to be organized around the lines of traditional disciplines (Clark, 1998; Mosey, Wright and ClaCsse, 2012), knowledge creation through *combination* of knowledge elements from different disciplines and areas of expertise is the exception rather than the rule. This points to a critical difference between knowledge creation in universities and that in firms. Indeed, the ability to accomplish and exploit innovative combinations of existing knowledge is in many accounts a distinguishing feature of hierarchical governance, providing a fundamental rationale for the existence of business firms (Galunic and Rodan, 1998; Grant, 1996b; Kogut and Zander, 1992; Nahapiet and Ghoshal, 1998; Nickerson and Zenger, 2004).

Universities thus differ in several fundamental and rather obvious ways from other types of institutional settings, including their objectives, ownership and financing, legal frameworks and governance structures (Deiaco, Homén and McKelvey, 2009; Deiaco, Hughes and McKelvey, 2012; Hughes and Kitson, 2012). However, there are also similarities.

Academic work in universities, as traditionally organized by discipline, is in some ways similar to that undertaken in small- to medium-sized professional service firms, usually focused on one core area of expertise (Greenwood and Empson, 2003; Robertson *et al.*, 2003). Here, too, focus is on the application and refinement of work practices and skills specific to one epistemic community, with only limited, well-defined, and often routinized interfaces to other functional areas of expertise. In both types of institutions, master-apprentice relationships are important elements in the training of new members. In both, the moral hazards associated with such training – the undue exploitation of the apprentice's services on the one hand, and the misappropriation of the knowledge imparted, on the other – have traditionally been resolved in the master's favour through 'tournament career systems' and 'up or out' systems of promotion (Baden-Fuller and Bateson, 1991; Becker and Huselid, 1992).

Similarly, university administration bears strong resemblance to other public service organizations, where knowledge processes are not directed to profits and private ends but to 'public value', generally in ways mandated by external stakeholders (Rashman *et al.*, 2009). Most administrative tasks in universities are

organized in specialized work groups, among individuals with common cognitive backgrounds, such as those associated with specific professional or functional expertise – human resource management, finance, accounting, registry, etc. As in firms and public service organizations – but in contrast to most academic teaching and research – efficient day-to-day operations require *integration* of activities and decisions across professional areas of expertise and differing epistemic backgrounds (Boland and Tenkasi, 1995; Grant, 1996a; Lawrence and Lorsch, 1967). This requires investments in organization-specific integrating devices both by the universities themselves and by their employees. Examples include university-wide information systems, common vocabularies and understanding of procedures, codification of rules and regulations, and definition of interfaces between departments.

4.3. Research Setting

4.3.1. The higher education sector in Britain

European, and especially British universities, were traditionally organized into single-discipline-based schools or departments. Their focus and the priorities of their boards of directors typically emphasized teaching or research excellence, sometimes both. In this organizational setting, a broad range of scientific domains constituted a faculty base that could attract a large student body (Locke, 1989; Clark, 1998), with budget allocation systems favouring the offering of single-discipline programmes to large numbers of students. In addition, the so-called Research Assessment Exercise (RAE) – later Research Excellence Framework (REF) – strongly emphasized publications in peer-reviewed discipline-based journals, thereby reinforcing the single-discipline structure (Lee, 2007). The resulting management practices tended to nurture a narrow, 'needle-shaped' teaching and research focus as a means to safeguard the financial sustainability of higher learning institutions (Mosey, Wright and Clarysse, 2012).

Over time, however, these organizational practices and prevailing regulatory regimes were increasingly perceived as detrimental to the ability of universities to address modern-day challenges often requiring a multi-disciplinary approach (Mosey

et al., 2012; Taylor, 2013). In response, UK governments have in recent decades devoted considerable policy effort to promote the creation of multi-disciplinary research centres. The objective has been to support the development of inter-disciplinary capabilities to address current societal, economic and industry problems, perceived to require 'T-shaped' professionals undertaking research and teaching across traditional borders (Lee, 2007). To this end, the reliance for funding decisions on metrics of research excellence produced in evaluation schemes such as RAE/REF has been relaxed. To attract discipline-based academics to the new multi-disciplinary institutes, these were granted various privileges, including more financial autonomy, flexible time schedules, better physical infrastructures, industry contracts and consultancy, as well as access to research students (Mosey *et al.*, 2012). Alternative, matrix-type organizational structures began to emerge, nurturing individual academics with boundary-spanning roles to facilitate knowledge transfer from more traditional 'needle-shaped' academics (Wright, Mosey, Piva, and Lockett, 2010).

By and large, however, the overall impact of these initiatives has been limited. Long-held norms and traditions conspired with extant systems for both financial and reputational rewards to dissuade most researchers from undertaking the investments necessary to engage in risky inter-disciplinary work (Boardman and Corley, 2008; Kraatz and Moore, 2002). In contrast to the hierarchical governance of business firms, universities rarely provide incentive structures conducive to the context-specific investments needed to overcome the epistemic boundaries between scientific disciplines (Davidsson, 2002; Håkanson, 2010).

4.3.2. The organizational context

The findings of this case study need to be understood in its organizational context, a merger between two British academic institutions, an internationally recognized university and an acknowledged art college. The art college was well known for its pedagogical methods, including practice-based and media-and-methods in speculative and self-reflective contemporary art, areas concerned not only with the development and transmission of codified theory and practice but also with the passing on of tacit, experiential and embodied skills acquired through practical trial-and-error. With a heavy emphasis on teaching, the art college had developed

approaches, systems and structures to support all aspects of its educational provision, nurturing the distinctive culture of an 'art college' education.

On the other hand, the university tended to take a more historical, literary and theoretically informed approach. It tended to have a more even balance between research and teaching and was generally more research oriented. The university had a track record of cross-disciplinary innovation, based on its links mainly within the university, but also with the outside world including the art college. The pre-merger collaborations between the two institutions created the backdrop for the merger, alongside the difficult financial situation faced by the art college. However, the latter clearly provided the impetus for the merger.

Cooperation between the two institutions can be traced back to the 1940s, when they began to offer a conjointly taught programme (Figure 15). In the new millennium, several initiatives were taken to strengthen the collaboration, with the university first becoming the awarding body for the degree programmes offered by the college, later followed by the creation of an 'academic federation'. On the eve of the merger discussions, a joint school of architecture and landscape architecture was established. In 2010, following the success of this and other collaborations, a merger proposal was advanced. Subsequent to its approval the following year, the art college became formally a part of the university with the beginning of the academic year 2011-2012.

Figure 15: The Merger Timeline and Previous Collaboration History
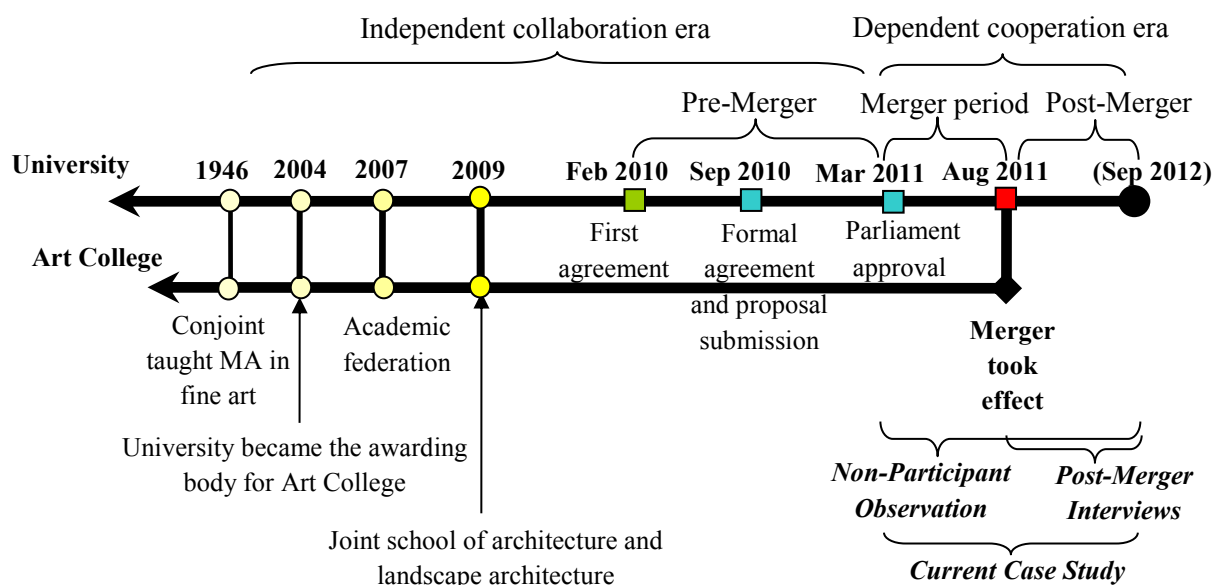
During the months between approval and implementation as well as in the post-merger era, the institutions had to work closely together, seeking to achieve planned synergy effects with a minimum of disruption to academic activities. Key administrative tasks were centralized for cost-saving purposes, involving the implementation of new systems and procedures suitable for the art college, transfer of its staff and student records into the university system and integrating the information systems of the two institutions, alongside the creation of new joint programmes and cross-disciplinary research centres. Drawing from the most successful disciplines in each institute, the flagship of the merger was a new cross-disciplinary Design and Informatics Centre, established with governmental funding support.

4.4. Methodology

4.4.1. Research Approach

Adopting an exploratory case study research design (Eisenhardt, 1989; Yin, 2003), a grounded theory approach (Strauss and Corbin, 1990) is proposed in this study based on 35 in-depth interviews, roughly 18 months of non-participant observation, as well as other primary and secondary documentation. A case study methodology was appropriate because of the exploratory nature of the topic, examining organizational transformation phenomena that need an in-depth inductive approach. As shown in Figure 15, the study approach is essentially longitudinal, covering three stages: pre-, during, and post-merger integration.

4.4.2. Research Procedures and Data Sources

Interviews: In order to capture multiple perspectives on the merger, 35 in-depth interviews were conducted both with leading key players in the process and with affected academic and administrative staff. As shown in Table V, the interviews cover a cross-sectional representation of the organizations. Three interviews were done before the merger, the remaining in the post-merger era. The interviews varied in duration from 30 minutes to two hours with an average of roughly an hour. All but three interviews were recorded, and 31 of the recorded interviews were transcribed verbatim.

Table V: Interviews and Interviewees

	Organizational or Merger Project's Role*	Organization (U for University or C for College)	No. of Interviews	Duration (in minutes)	Mode**	Timing (Pre- or Post-Merger)
1	Project Manager	U	2	60/60	P/P	Pre/Post
2	Project Officer 1	U	2	120/--	P/E	Post/Post
3	Project Officer 2	C	2	60/105	P/P	Pre/Post
4	HR Manager	C	1	70	P	Post
5	Head of HR	U	1	60	P	Post
6	Head of HR	C	2	60/--	P/E	Post/Post
7	Head of Registry	U	1	70	P	Post
8	Head of Registry	C	1	70	P	Post
9	Staff Union Member	C	1	60	P	Post
10	Head of PG Office	U	2	75	P/E	Post
11	Operating Officer	Ext. Temp. for C	1	60	P	Post
12	Principal	C	1	50	P	Post
13	Vice Principal	U	2	40/--	P/E	Post/Post
14	KM Vice Principal	U	1	70	P	Post
15	College Registrar	U	1	70	P	Post
16	Head of Admin	C	1	70	P/P	Post/Post
17	Dir. of Crp. Services	U	2	90/70	P	Post
18	Head of SALA	C and U	1	60	P	Post
19	HoS of Art	C	1	90	P/P	Post
20	HoS of Design	C	2	70/20	P	Post
21	HoS of Informatics	U	1	30	P/E	Post/Post
22	Head of ACE	U	2	90/--	P	Post
23	Head of College	U	1	60	P	Post
24	Joint Programme Dir.	U	1	50	P	Post
25	Join Centre Co-Dir.	U	1	55	P	Post
26	Join Centre Co-Dir.	C	1	70	P	Post
	Total		35	1985		

* Human Resources (HR), Postgraduate (PG), Knowledge Management (KM), Administration (Admin), Director (Dir.), Corporate (Crp.), School of Architecture and Landscape Architecture (SALA), Head of School (HoS), School of Arts, Culture and Environment (ACE)
** Personal interview (P) and Email (E)

Initial interviews included broad questions which helped to draw a big picture of the merger and the intentions behind it. At this stage, the interview questions probed such topics as the interviewees' day-to-day activities before, during, and after the merger, the changes in their perceptions of the benefits and costs of the merger, the biggest problem areas in the integration process and their causes, the least problematic (most straightforward) integration processes and the reasons for the unproblematic nature of those processes. Following a theoretical sampling approach (Strauss and Corbin, 1990), subsequent interviews were more structured and focused, targeting the main challenges, underlying causalities and effects. The discussions at this stage tended to focus on issues such as the centralization of administrations and

operations, collaboration across academic disciplines and working together in cross-disciplinary centres and joint programmes.

Observation and Archival Sources: In addition to interview data, the researcher had the opportunity to attend a few meetings of the merger integration working groups and observe the post-integration processes. The observations and insights contained in the field notes taken were used to supplement the transcribed interviews. The minutes of all meetings of the integration working groups, public merger documentation, and published news, articles and university bulletins on the subject of the merger were also analysed in order to enrich the research data. These data sources were also used to provide further details but more specifically to corroborate informants' statements where relevant.

4.4.3. Analytical Approach

35 interviews, roughly 18 months of non-participant observation and the minutes of monthly meetings of the integration working groups, with extensive analysis of secondary documents developed by the merger communities were triangulated. The collected data were inductively analysed adhering to case study research design techniques (Eisenhardt, 1989; Yin, 2003) and constant comparison techniques (Strauss and Corbin, 1990). The rich data resulting from this approach, accompanied by comprehensive line-by-line open coding and memoing, formed the basis of the findings and discussion in this chapter. Comparisons of multiple respondents over time allowed the detection of similarities and differences. As outlined in the following section, this enabled the researcher to identify conceptual patterns from the collected massive bulk of qualitative data (Strauss and Corbin, 1990).

4.5. Emergent Findings

As the observation of the merger progressed throughout the process of bottom-up coding, it became increasingly evident that the merger was perceived very differently by administrative and academic staff. For most academics, the merger implied only minor changes and was often seen to present opportunities of various kinds. At least initially, the effect of the merger on 'articulation', 'replication' and other day-to-day

academic activities was generally limited (Figure 16). Although opportunities for synergetic 'combination' of knowledge across disciplines and epistemic communities were pursued, most evidently in the newly formed Design and Informatics Centre, for the most part, cost savings through shared and more efficient utilization of infrastructure and administrative services could be obtained without much disruption of day-to-day academic work, preserving the structure and relative autonomy of existing teaching and research units.

Figure 16: Emergent Findings Structure
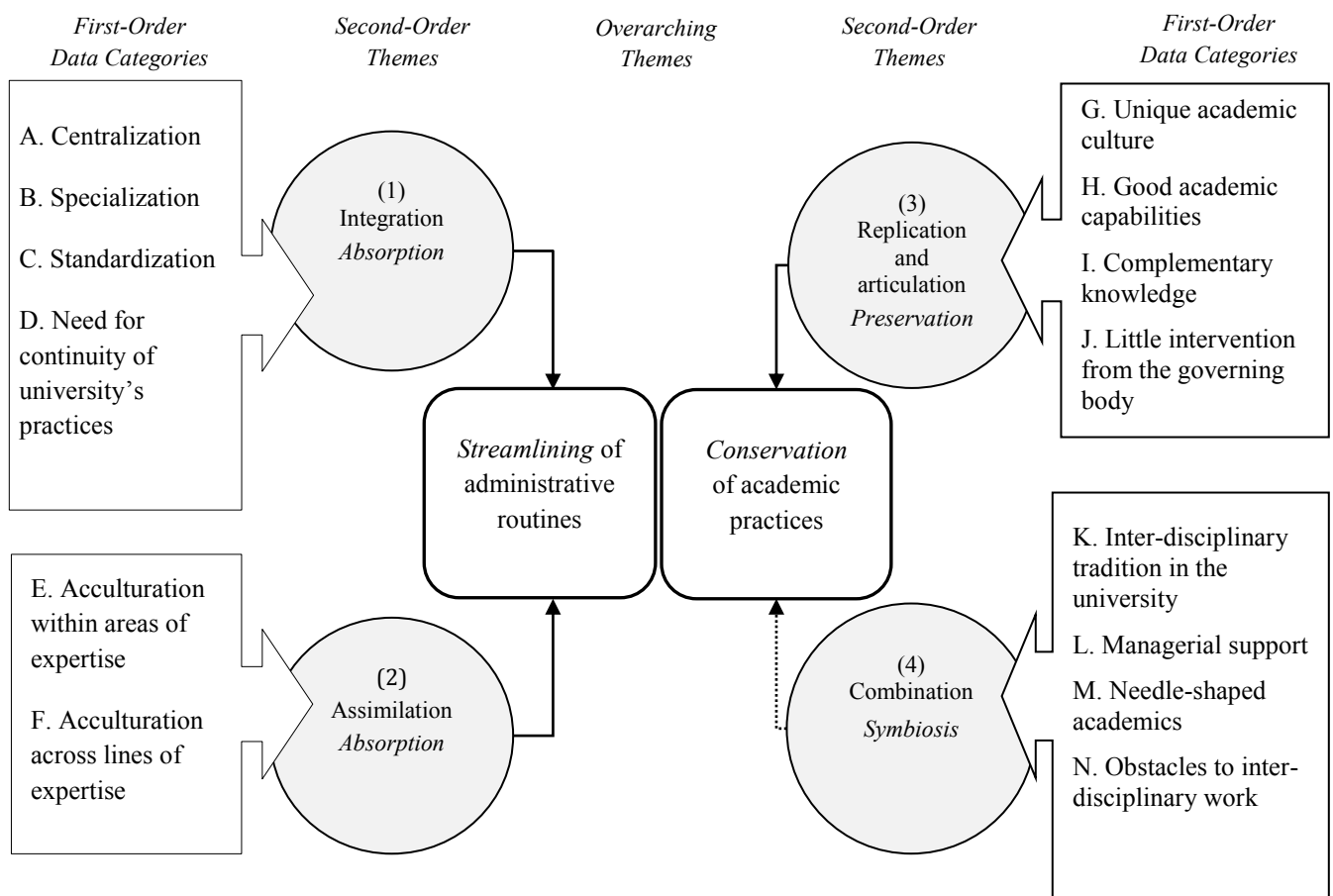
In contrast, for many of the administrative staff in the art college, the merger led to big adjustments and was perceived as a threat to careers and job security. Most of the changes were a consequence of centralization and standardization of processes and routines with the aim to reduce overheads and increase productivity. With very few exceptions, the procedures implemented were those in place at the university,

reflecting an integration approach of 'forced assimilation' (Haspeslagh and Jemison, 1991), at least in the eyes of the Art School's administrative personnel.

In reflection of these differences, the emergent findings are presented separately for the administrative and the academic sides of the merger (Figure 16, Table VI).

Table VI: Themes, Categories, and Representative Quotations

1st and 2nd Order Data Categories and Themes	Representative Quotations

Overarching Theme: Streamlining of Administrative Routines

1. Integration/Absorption

A. Centralization	A.1. It worked on all levels in that way; I mean a far more efficient body now, the new art college …like cleaning, you know, it had been incredibly expensive to clean a college like this. Now, you are buying into the university's kind of cleaning arrangements.
	A.2. The job of the heads of school in the art college was an enormous administrative load because you would be doing everything at every level. I always laughed and said that "we were even ordering the milk". In the university, all these sorts of activities are more efficiently centralized.
B. Specialization	B.1. They used to have a broad range of applicable capabilities and a broad range of things to do. Now, they come into a bigger, incomparable organization with what they used to. Now, instead of doing so many things, they are more focused. So instead of pushing them to the edge of their capabilities, they have been limited, or delimited, to a core of their capability that sometimes is not their favourable core.
	B.2. I was more involved at strategic level at the art college. That has become more operational now [in the university]. In the art college, I dealt more with senior management and the executive of the college, taking an overall approach, if you like, to HR. Many of the small or individual problems would be taken on by the staff in the HR team. Here, I've become part of that team! So I'm dealing with the day-to-day problems.
C. Standardization	C.1. What we wanted to do in those few weeks was to get a real sense, for each of those art college heads of school, of something that they could interact with, interrogate, discuss as second nature. Because it certainly seemed that the two schools within the independent art college had even not seen a budget before! They did not.
	C.2. No maintenance [in the art college]; changing light bulbs nothing else! …health and safety practices that all were out of date or just non-existent. …budget, staffing, student records are areas that I think were just completely inadequately managed. And those are the core things of running any institution.
D. Need for continuity of university's practices	D.1. I think a lot of the merger depends on not too much fresh air and newness. I think of the things you have to… the sort of language being used is more about continuity, continuing good practices (of university).
	D.2. We tell the new art college how they need to adapt their old processes and adopt our processes…overarching all of that is training, linking together and making sure that people can understand how to do their business when it's a new business, a business that we have been involved in for some time so that we can say 'we can help you'.

2. Assimilation/Absorption

1st and 2nd Order Data Categories and Themes	Representative Quotations
E. Acculturation within the areas of expertise	E.1.Everything was at really kind of individual levels…if something cropped up and needed changing, someone would have gone to the old principal, to the old secretary, to the old somebody in management and said: 'Oh, we have got a problem; someone is being very difficult, this professor wants to do such and such'. And there would always be a kind of exception made, or a one-off bespoke model created for that issue whether it was a difficult professor, or changing the equipment of something that had broken down, anything, it was kind of a deal with a one-off basis.
	E.2. The operational side, the support staff, the administration of the new art college, that's where the biggest stress has been, because […] people had to make a huge leap into new systems. And I am finding that's where staff are most concerned about adapting to new systems.
F. Acculturation across the lines of expertise	F.1. The head of the business school, with the head of divinity, the head of history, the head of the LLC, the head of the art college, the head of education…. on one level, we all talk with different languages even within the same college; but on the other level, there is a sort of understanding of the jargon, the kind of management speak we have to engage with internally and in the kind of national debates in higher education. That common language exists.
	F.2. We need to ensure that the new college is well embedded and integrated with the university and that five disciplines […] speak together and make a kind of cohesive unit, engage with all the university has to offer, become a full part of the university as a new department and so exploit those opportunities.

Overarching Theme: Conservation of Academic Practices

3. Replication and Articulation/Preservation

G. Unique academic culture of the art college	G1. That is one of the very distinctive elements of an art college, of an art and design college, that people come from different sorts of foundation courses into the university with all sorts of qualifications that don't necessarily fit the university's criteria.
	G.2. Even within the new art college, the school of music has its own culture (and as a result, its own practices), and the sort of people involved… Art historians, they have a very particular kind of culture, and even within the old art college, there were many different cultures, graphic designers, film makers were completely different than sculptors. So, I think people may be clinging on to this sense of uniqueness.
H. Good academic capabilities	H.1. Academic skills (in the art college) are great, and we will bring them in and we can do things with them and they are lovely though they are different.
	H. 2. Because the students are great, the staff are really great at doing the academic side of what they do, the technical practical academic stuff, whether it is teaching or research, is really very good quality.
I. Complementary knowledge	I.1. The interesting thing was that they were interestingly different from us. So, if you go to the design school in the art college, they are not doing anything like the sort of things that we do in Informatics and they don't think the same way, they are very different and interesting in a complementary way!
	I.2. "Experimentation and failure" is at the heart of an art college; the permission for failure. And the point about coming here was to bump into new practices in the university, to experiment, to test the limits of your artistic imagination, and to fail.
J. Little intervention from the governing body	J.1. Most academics do not have [a] clue what institution they are in; their mind is in their discipline. And that's what they're bothered about. OK if an institution comes along, tells them to do things differently, they moan about it, and then probably they do it eventually a bit.
	J.2. The university is basically quite a light touch institution. And lots of people on the ground, lots of academics on the ground, actually just do their thing. There is not a huge army of

	bureaucracy behind it. There are policies but they are quite light touch. And there is a lot of tolerance of devolution and different approaches… The academics and students [from the art college] have not had to make the changes as they feared. They haven't had that kind of cultural backlash.

4. Combination/Symbiosis

K. Inter-disciplinary tradition in the university	K.1. A moderately good example of that is what happened in the CHCR [a pseudonym] around the map task corpus, because that was a resource, a big resource, about people communicating about a collaborative task. There are lots different layers you can analyse which is actually a stretch from pure psychology to pure phonetics to semantics to: "Could you build a computer that could play this task?" So, all kinds of different problems could be thought about around this resource. And building that resource required people to understand each other to the point that they can actually seem that they were building the same thing but then they will be taking a different perspective on that same thing.
	K2. In a bigger institution like the university you bump into different disciplines easier. For people who work at the edge of their field, actually quite close to other areas, the university makes it easier for them to move and cross the boundaries by making them connected. Indeed they're now one body.
L. Managerial support	L.1. The Principal has a background in informatics and he is interested in design. So he was quite keen for his own kinds of reasons to push that idea, I think. He was certainly the strongest support of the move to try to get money for the Design and Informatics Centre as a concept… there was money which effectively was made available by the principal.
	L.2. …there was the idea of creating a centre for design and informatics which would be a more substantial thing that would get funding from the Government Funding Council somehow, and would be a kind of flagship to foster research but also teaching between design and informatics.
M. Needle-shaped academics	M.1. The idea was that we would hire a lecturer in informatics and design; he [sic] would be facilitating the design and informatics thing, the joint programme. So they had this kind of recruitment exercise to recruit people for this. But it became evident to me… that most of the people in informatics really saw this as a possibility to get someone who is in their area. They could make the case that this person had something to do with design but what they really wanted was just a person in their area. …I think it was inevitable that there would be limited support within informatics for really getting involved with designers and really trying to understand what designers were doing and how you could work with them.
	M.2. Academic performance, in general, definitely arrowed the narrow specialists! There can be no doubt about that; from the publications' point of view, publishing in a narrow field is much more likely to have an impact than publishing in a broad field.
N. Obstacles to inter-disciplinary work	N. 1. This is the advice I typically end up giving to PhD students: if you want to get a job in academia you've got to identify for your PhD which is the primary subject that you want your PhD to be visible to, because this is a very unusual academic department that has the luxury for inter-disciplinarians.
	N.2. I think that the [shared] language comes from the graduates, not from the [academic] staff… Because the staff come from a deep expertise, there are very few people who have this kind of hybrid thing, and all you can do with staff is to have them give deep expertise, create a kind of structure which will allow new graduates to be the hybrid.

4.5.1. Merging Administrations

On the administrative side, the post-merger integration focused on centralization, specialization and standardization, mainly to achieve scale economies, but also to

ensure that administrative practices met both the university's own and other legal requirements in terms of transparency and equitable treatment (see data categories A, B, C and D). The financial difficulties of the art college were widely recognized, and the merger was generally seen as an opportunity to ease the financial restraints that had limited its development. As high-level managers from both institutions mentioned in interview:

> *College*: "Art colleges are incredibly expensive to run. You can't have [afford] high staff-student ratio. It is very intensive teaching, big studio spaces, you need the latest equipment. All those sort of things can be shared in a larger university. That sort of investment is far easier to make. Then you can open up to other uses".

> *University*: "I also think that as a small independent institution, the focus of the old art college, because of circumstances, was on difficulties with finance…They were trying to expand but didn't have the capacity to expand; they didn't have the economies of scale to be able to make their development sustainable in a way, which is why they ran into trouble".

As a result of the difficulties that the art college was facing (including the financial ones), its administrative practices were almost all perceived as 'bad practice' that should be terminated. Although endeavouring to maintain good personal relations to their new colleagues, the attitudes of the university administration staff were reminiscent of the so-called 'conquering army syndrome' (Datta and Grant, 1990). A manager from the university mentioned in an interview that:

> "The art college was being run so badly that we can't let those practices come in here, but we're trying not to say that, because at the personal level we were trying to be respectful of individual skills. 'There is nothing wrong with you, but the way you've been told to do things for the last ten years were so bad and you can't do it like that anymore.' But we're not going to say that because that is a bit embarrassing".

Because of the financial difficulties of the art college, the larger size of the university and the need to gain scale economies through standardization, the integration strategy pursued in administration was one of *assimilation* (Haspeslagh and Jemison, 1991, p. 145), where the university's systems and procedures were imposed with little or no adaptation. As a manager in the old art college said in a meeting:

> "I think when you look at the size of the university and the size of the college, comparably they're miles apart. The college really has 300 staff, here you have 10,000. So if there are things that we've done well and there were some that we've

done better than the university … but the point I'm trying to make is that it is easier for 300 people to change to the ways of 10,000 than if it is for 10,000 to change to the ways of 300".

For the administrative staff of the art college, the merger led to a redefinition of work tasks that tended to become narrower and less interesting. An HR manager from the college explained:

"I think that perhaps depends where they work. …registry staff were very disappointed to be moving into very defined roles where in the college they had a broader remit. More of the same for what happened in other areas such as HR…I am going from being a free range hen to a battery hen. You had the run of the place but all of a sudden then you are in this very small defined area and that's all you are going to do from then on!"

As a result, differences in organizational culture, a long recognized obstacle to successful post-merger integration, were big enough to create a 'culture chock' for administrators moving from the art college to the university (see data categories E and F). As a high-level manager from the college explained in a meeting:

"We had a village mentality. The college was like living in a village; everybody knew everybody, and all of a sudden, we were moving to a metropolis; just massive, you don't know anybody! And I think that's a huge culture change."

The organizational culture of the art college is described as being along 'traditional, academic' lines, with a 'results orientation', emphasizing research and teaching with little regard for economic efficiency, systems and procedures. The university, in contrast, had developed a culture of 'public management' (Ferlie, Ashburner, FitzGerald, and Pettigrew, 1996), a 'process orientation' emphasizing efficiency, accountability and quality control. As a head of administration from the university mentioned in the interview:

"…[in the university] there is a very, very clear understanding of the norm… I think that's the biggest contrast from what I can see; [in the art college] there was less shared understanding of the normal, correct procedures. It doesn't sound as if there were normal processes and practices for things! You always have to have deviations from the normal; you are always going to have someone very difficult. But there was not that sense of saying: 'Look, this is the normal run of business and every one may get a deviation'. It was like everything was a deviation!"

Following the merger, the non-academic staff from the art college was required to manage according to defined university procedures. In this regard, the computerized management information system served as a pervasive 'boundary

object', linking the various communities of the university. As one manager in the university registry described:

> "We have many academic members of staff who are coming in to see our STUDSYS (a pseudonym) student system for the first time and it is very daunting. They have been used to a system which was partly electronic, partly paper. Coming to a system which is mainly electronic and completely different… and as we know, it's not totally intuitive the way it works, and there has been no training set up."

As a result, the university had developed an 'umbrella mindset' including a set of common codes that helped to ensure administrative cohesion across disciplines and epistemic communities. Being unfamiliar with the terminology, the acquisition of this common understanding presented an initial hurdle for the art college staff. This was pointed out by a high-level manager in the university describing a meeting with their counterparts:

> "We sat at one meeting, for instance, just with the year budget to talk about. 'What would be the assumptions for going through the budget? What does each of the headings mean? What room for manoeuvre have we got?' The terminology is difficult! …Because it certainly seemed that the two schools within the independent art college had not seen a budget before! …And they were like, 'Could we vary that? Could we move that?'…there were lots of very, very basic explaining and answering questions."

4.5.2. The Academic Merger

Teaching and research were generally not strongly affected by the merger, as these activities were undertaken in discipline-based departments with quite distinct characteristics (see data categories G, H, I and J). The quality of teaching and research in both institutions was generally recognized to be at a high level and, in line with the autonomy traditionally afforded individual disciplines in the university, the prevailing integration strategy was one of *"preservation"* (Haspeslagh and Jemison, 1991, p. 145). A head of college in university, who was also a convener of one of the integration working groups, explained:

> "Definitely the quality of students' work and therefore of the teaching, and the quality of the research, where research was happening – because research was not necessarily happening across the board [in the art college] – were all fine. There is no question they're very strong. And there is this kernel of [academic] staff that was very strong and remains very strong. That's what's going to make the thing work."

For the most part, therefore, the merger involved few, if any, changes to ongoing knowledge processes of replication and articulation. The art college's

academic staff continued teaching and engaging in master-apprentice relationships, passing on the skills of their respective communities to their students (replication), and those engaging in research (articulation) carried on without much disruption. However, in a few areas a more *"symbiotic"* integration approach (Haspeslagh and Jemison, 1991, p. 145) was pursued with the explicit aim to achieve synergies through innovative combinations of knowledge across disciplines (see data categories K, L, M and N). Foremost among these was the attempt to combine design (from the art college) with informatics (from the university) – an endeavour that became something of a 'flagship' project. In mobilizing political backing for the merger, the benefits of such a combination were early on highlighted by top management, who also provided financial support. As an academic staff engaged in the joint research centre described:

> "The merger was obviously a large political exercise and was certainly pushed strongly by the principal of the university and the head of the art college at that time. And in the document that they originally wrote to explain why it would make sense to have this merger, the idea of design and informatics collaborating was actually pushed quite hard."

The combination of design and informatics into a new centre was also seen as a way to attract external funding, partly because the combination of design and informatics was 'in the air' at the time. This was explained by one of the co-head of the joint research centre in a meeting:

> "It was also timely, because at the same time that the merger was going on, you have to look at the broader picture and the broader picture was quite a lot of interest in things like digital media and so on in the UK and internationally."

In addition to the supporting institutional, political and economic factors, the setting up of the new inter-disciplinary centre was facilitated by a history of collaboration between individuals in informatics and in the art college and by the active support of the heads of school affected, providing both executive support and taking on the roles of project champions. As a head of school from the university explained:

> "We had a lecturer… who is half and half, half in architecture and half in informatics. He got involved with the design and informatics actively… And then, there are people inside architecture who were very well acquainted with informatics ideas. So that was all very handy, because those guys had already made bridges."

In spite of these favourable conditions, the attempt to create an inter-disciplinary, innovative combination of design and informatics in both teaching and research did not meet expectations. As one of the heads of joint research programmes explained in a meeting, the long-range initiative lost its momentum after the merger:

> "So, we thought we would have this research programme [design and informatics] which I kind of agreed to try to get working. And it worked for a while and there were keys which are still there. And we had some meetings and discussed various things. And it was quite good, but it sort of petered out after a while as these things often do. It became more and more difficult to get people to come to the meetings and we ended up with quite small groups discussing things. That's still interesting but it is just difficult to keep the momentum going really. So as a [joint] research programme, that kind of faded out to a large extent."

A range of factors and circumstances conspired to thwart the initiative. Foremost of these were the nature of career patterns and reward systems that failed to provide the incentives for individuals to engage in inter-disciplinary cooperation and the investments necessary to overcome the cognitive barriers separating epistemic communities. In fact, institutional pressures and governance systems at times created clearly negative incentives to do so. This was well explained by one of the informants from the school of informatics engaged in multi-disciplinary work:

> "There are only a few mechanisms that the university has for incentivizing people. You know you can't pay them any extra! It is very hard even to give them more time or less other responsibilities. I mean you can to some extent, but it is very difficult. Because everything is so autonomous and devolved! Within the school, people may or may not agree to shift workloads around to create some kind of space for creating a new programme. But if one person is going to do less work, it means everyone else is going to have to do some more of that and they are not necessarily very keen on that. And the system is usually democratic enough that it is very hard to get them all to agree."

The most clearly negative incentives came from the university career system, in which promotions and salaries were largely based on the REF, with an emphasis on publications in top-tier disciplinary journals. As an informant engaged in multi-disciplinary work from the school of informatics explained:

> "People have their own research interests and they want to push their own research interests. …there is no point in trying to get people to do something they don't really want to do. They won't produce lots of publications that way! Informatics, like many other parts of the university, is very much driven by things like the REF…So they want to get more research publications. Well if you can convince them that creating a new collaboration is going to generate more and better publications than they are already generating then that could attract them. But otherwise why should they be interested?"

A few years into the process, the initial objectives for a creative synthesis combining design and informatics have been revised downwards, with some staff members resigned to the hope that students exposed to both disciplines will be better positioned to bridge the two disciplines (see Feldman and Rafaeli, 2000, for a discussion on the importance of connection in the creation of shared understanding). This was explained by one the co-heads of the Design and Informatics Centre in an interview:

> "Very often their [the designers'] understanding of anything in informatics is somehow kind of superficial in the same way there is a superficial level of understanding of design in informatics. So actually getting these things to meet at a deeper level is quite difficult and is going to get quite a lot of time and will probably really happen only through the students if it happens at all… Most of the academics are already too entrenched in what they do. But if you can get students to come together that's where there is the possibility."

4.6. Discussion

4.6.1. The Merger Process

Following the merger, the administrative systems and procedures of the larger university were imposed on the art college with little or no appreciation of the potential value of the latter's capabilities (see second-order themes, Integration and Assimilation). The process parallels the forced cultural assimilation associated with an integration strategy of absorption, as frequently observed in business mergers. Since inherited work practices form an important element of organizational culture and employees' sense of identity, the integration process was clearly perceived as painful by the art college's administrative employees and, as is frequently observed, many decided to seek other employment.

In contrast, for most of the academic personnel, the merger was perceived to entail only marginal changes. Although expectations on research output increased somewhat, most of the art college's academic staff could continue their work largely as before (see second-order theme, Replication and Articulation). The integration subsequent to the merger, or rather the lack thereof, was similar to that often observed in conglomerate business mergers, where there is little scope for synergetic gains and where a preservation integration strategy is matched by the employees' general desire to maintain their autonomy and identity. The parallel is enlightening,

as it highlights the fact that – as reflected in their organization into faculties and discipline-based departments – universities are typically composed of largely autonomous epistemic groupings with little overlap or mutual interdependence.

These characteristics of universities reflect the present stage of their historical evolution, in which they are often assigned rather vague and broad societal missions and where the ideal of autonomous scholarship is still an influential tradition (Martin, 2012). An important aspect of this tradition is the prevailing practice of evaluating academic institutions by their research output, primarily in terms of publications in peer-reviewed journals. In inevitable consequence, this practice permeates the career and reward systems in universities, shaping the incentive structures facing individual academics. The low prestige and impact factors of the few inter-disciplinary journals available, the difficulty of finding reviewers capable of appreciating inter-disciplinary research and the personal investments necessary to acquire sufficient mastery of another field make such endeavours exceedingly unattractive (see Figure 16 and Table VI, first-order data categories M and N and second-order theme Combination).

The most evident indication of the university's problems in sustaining inter-disciplinary research is the failed attempt (at least in the short term) to establish a centre combining design and informatics. In spite of extremely favourable conditions, including top management support, dedicated project champions and government funding (see Figure 16 and Table VI, first-order data categories K and L and second-order theme Combination), the initiative appears to have petered out after an initial flurry of enthusiasm, as – on second thought – prospective participants more carefully weighed the required investment in new learning against rather uncertain potential benefits.

This institutional framework is in stark contrast to that of firms. In business firms, the yardsticks applied in performance evaluations of employees tend to be largely internal, aimed to measure the individual's contributions to agreed-upon *organizational* goals. Since the prestige and recognition enjoyed in professional peer groups outside the firm are generally less important, individuals are generally more prepared to undertake the learning necessary to effectively collaborate with

colleagues with other epistemic backgrounds, thereby facilitating not only the integration and coordination of day-to-day tasks, but also the pursuit of innovatory combinations of knowledge emanating in different epistemic environments.

Under the institutional conditions currently shaping their incentive structures, universities appear clearly inferior to firms in promoting innovation through inter-disciplinary combinations of knowledge. Their major relative advantage vis-à-vis firms seems still to be in the governance of knowledge processes involving the transfer of tacit knowledge in master-apprentice type of relationships, often too time consuming and expensive for profit oriented firms in competitive environments. Universities may also have a relative advantage in knowledge creation through articulation, given that their reward and career systems so clearly favour the explication and dissemination of codified, intra-disciplinary knowledge (see Figure 16 and Table VI, second-order themes, Replication and Articulation and related data categories).

4.6.2. Theoretical Implications

In the present context, post-merger integration offers a valuable opportunity to study the factors that facilitate or block the formation of 'higher-order organizational principles', and hence the kind of 'social communities of voluntaristic action' invoked by Kogut and Zander (1992). Doing so in the context of a university merger offers the possibility to compare these factors to those that have been observed in the large literature of post-merger integration in business firms. As reported above, some of the findings of this study parallel processes observed in firms, others differ in theoretically significant ways that help provide a slightly new perspective to knowledge-based theory.

The so-called 'knowledge-based view' of the firm is positioned as an alternative or, in some renderings, complementary perspective to the dominant transaction cost-based theory of the firm associated with the works of Ronald Coase (1937) and Oliver Williamson (1975, 1985). Its focus is on the relative advantage of firms ('hierarchy') over markets in the governance of knowledge-intensive transactions.

In line with Richard Nelson and Sidney Winter's (1982) seminal exposition, one line of argument focuses on *replication* of capabilities as a key feature of firm growth. When the knowledge informing capabilities is well articulated, it can be passed on to third parties at low cost and exploited through licensing; when the knowledge in question is 'tacit' and poorly articulated, transfer to outside parties is difficult and costly. However, firms – as "social communities of voluntaristic action" – are in a privileged position to pass on and exploit internally also unarticulated, experiential knowledge. This favours organic, intra-firm expansion, irrespective of potential transactional hazards due to the threat of opportunism on the part of contracting agents (Kogut and Zander, 1992; Zollo and Winter, 2002).

A second line of argument emphasizes the boundary-spanning ability of firms to unite and coordinate the activities and interaction of professionals with different epistemic backgrounds. This provides advantages not only in terms of the day-to-day *integration* and coordination needed to exploit existing capabilities (Grant, 1996a; Hsiao, Tsai and Lee, 2012) but also for innovation and the creation of new capabilities through novel *combinations* of existing knowledge from different domains (Grant, 1996b; Kogut and Zander, 1992; Nahapiet and Ghoshal, 1998; Janowicz-Panjaitan and Noorderhaven, 2009). Although the distinction between 'tacit' and 'codified' knowledge is central to much of the argument, the knowledge-based view is surprisingly silent as to the role of *articulation*, the explication of experiential skills and knowledge into a standardized and easily replicable form[45].

The strongest arguments advanced in the literature expounding the relative advantage of firms over markets refer to the ability of the former to enable and encourage cooperation and coordination among people who belong to different epistemic communities and have different professional and functional expertise. Hierarchical governance is superior to arm's length contracting both in facilitating innovatory combinations of knowledge and integrating the knowledge of different

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[45] Citing Teece (1977), Kogut and Zander (1993, p.630) note that due to increased efforts of codification, the costs of transferring knowledge decline with the number of transfers undertaken. However, their subsequent discussion and empirical analyses ignore the role of articulation and codification; the manufacturing technologies in their sample are classified according to their intrinsic 'codifiability', a characteristic implicitly assumed to be stable over several decades. As elsewhere in the literature, the difference between tacit and explicit knowledge is central, but the role of articulation and codification in altering the properties of knowledge does not enter the argument.

epistemic communities, especially when the interfaces between knowledge elements are ambiguous or shifting.

In contrast, the governance systems of universities have to a significant extent evolved in response to the characteristics of intra-disciplinary knowledge processes within epistemic communities (Figure 16 and Table VI, second-order themes, Replication and Articulation and related data categories). These include both articulation – the explication of new knowledge through research – and replication – the teaching and learning of the creative capabilities needed to conceive of and carry out such research. Being difficult or impossible to articulate, the passing on of such capabilities can only take place in master-apprentice type relationships requiring very specific institutional regulations. Also in contrast to firms, universities also specialize in the replication through publication and other modes of dissemination of codified knowledge, the outcome of research. This is partly, of course, associated with the societal mission to produce and disseminate useful knowledge the value of which is difficult to appropriate in the market.

The ability to integrate and combine knowledge elements from different areas of expertise is a prime characteristic of hierarchical governance in business firms, maybe their very *raison d'être*. Now, why are inter-disciplinary combinations of competences so difficult to achieve in academic teaching and research (Figure 16 and Table VI, second-order theme, Combination and related data categories)? The key difference in governance systems does not seem to be, as Kogut and Zander (1996) maintain, in the employment relation *per se,* nor is it clear why Foss's (1996a) argument regarding the alleviation of moral hazard through hierarchical governance would not apply equally to universities as to firms.

The observed differences in the knowledge processes in universities and firms point to more fundamental differences in their governance structures than can be ascribed only to overt incentive structures and other '*surface regulations'* that govern the day-to-day operations of rules, routines and daily practices (see second-order theme, Combination). The differences seem to reflect fundamental and contrasting characteristics in '*deep structure'* or '*habitus'*, the partially tacit understanding of the principles that give meaning and cohesion to organizational practice through meta-

rules that provide the premises for decisions and actions, thereby overarching and shaping daily routines and their outcomes (Bourdieu, 1990; Nelson and Winter, 1982; Nooteboom, 2008; Simon, 1976). These fundamental differences are results of the historical evolution of the missions and institutional characteristics of firms and universities, the legacy of which profoundly shapes their deep structures and habitus, especially through the way it affects the 'meaning' and 'identity' associated with being in their employ.

The salient characteristics of the relevant interrelationships can be described in terms of ideal types of knowledge governance configurations (Weber, 1949). In line with the empirical findings, the difference between the administrative and the academic aspects of university work is distinguished, where the former bears strong resemblance to other forms of public service (Table VII).

Table VII: Archetypes of Knowledge Governance Configurations in Firms and Universities

	Firms	Universities	
Organizing principles		**Administration** (public service)	**Academic work** (teaching-research)
Governance characteristics			
Mission/objectives	Private profit	Public value	Public value
Mode of control	Hierarchical	Hierarchical	Collegial
Epistemic interdependence	High	Medium	Low
Knowledge legitimation	Market acceptance	External audit	Peer review
Primary identity	Firm	Agency/profession	Academic discipline
Organization-specific knowledge	Very important	Important	Unimportant
Workforce mobility	Low	Medium	High

Governance characteristics. For the purposes of the present argument, the differentiation of basic governance characteristics is limited to the overall *mission and objectives* and the dominating *mode of control*. In contrast to business firms, whose general goal is the generation of private profit, the archetypical mission of universities is to generate public value through education and new knowledge

generation. In both firm and public service organizations, including university administration, organizational structures and control systems can be characterized as 'hierarchical'. Academic work, in contrast, has traditionally employed more collegial forms of governance, with universities principally governed by their academic staff (Lapworth, 2004; Trakman, 2008), a model well aligned with the nature of the knowledge processes in which they engage[46] (Figure 16 and Table V, data category J).

Epistemic interdependence. Since medieval times, academic work in universities has predominantly been organized in faculties and according to disciplines, and this seems to be one of their defining characteristics[47]. In contrast to firms and public service organizations (including university administration), where goal attainment requires coordination and integration of diverse capabilities, research and teaching in universities are largely intra-disciplinary (Figure 16 and Table V, data categories M and N). Interaction with other epistemic communities – such as those in other disciplines or administrative functions – is usually routinized and can be carried out through well-defined interfaces.

Knowledge legitimization. A key difference between the three governance structures is the mode of validating the value and relevance of newly developed knowledge and applied capabilities. In business firms, market acceptance and profits provide comparatively clear and unambiguous indicators. The quality and value of academic research are much harder to gauge. Peer endorsement, as evidenced in citations and general recognition, for example, is generally a key factor; evaluation of performance is internal to the epistemic community of the discipline (Figure 16 and Table V, data categories M and N). For university administration and other public service organizations, performance criteria are typically enforced by external agents,

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[46] In recent decades, this model has come under pressure from politicians and government bodies seeking to ensure accountability, efficiency and relevance through the introduction of modern 'public management' principles, at least in part emulating those prevailing in private business firms (Taylor, 2013). The objective of the 'ideal type' outlined here is to provide a theoretical perspective by which the introduction of 'corporate' or 'managerial' forms of governance can be analysed; it does not represent 'typical' or 'average' governance patterns in present day universities.

[47] The roles of universities have varied over time and between countries, reflecting differences in the 'social contract' defining their expected relative emphasis on research, teaching and other more tangible contributions to society, such as engagement with local industry (Martin, 2012). Generalizations should therefore be made with caution.

politicians and government bureaucrats attempting to ensure that services are rendered according to 'best practice' (Figure 16 and Table V, data categories A to F).

Identity. The training of academics, much of which involves the passing on of uncodified (and perhaps uncodifiable) knowledge in master-apprentice type relationships (Figure 16 and Table V, data categories G to J), bears strong resemblances to the learning processes described by Lave and Wenger (1991) as 'legitimate peripheral participation'. As in the situations analysed by Lave and Wenger, these processes involve more than the mere acquisition of skills (see also Handley, Sturdy, Fincham and Clark, 2006). As summarized by Nicolini (2012, p. 84):

> "…novices do not just acquire the necessary knowledge to perform the activity, but also absorb a moral way of being; that is, a model of excellence specific to that practice that determines at once an ethic, a set of values, and the sense of virtues associated with the achievement of the high standard of conduct implicit in the practice. …A novice who cheats, who is unwilling to embrace the goods and try, at least to some extent, to achieve them, will simply not become part of that practice."

The moral imperatives and the sense of identity associated with membership in a particular epistemic community obtain special significance in universities since oftentimes a period of apprenticeship as a junior academic (e.g., a doctoral student or a research fellow) is followed directly by an academic career within the same discipline. For most academics, therefore, primary allegiance and identity stays with the discipline that sets standards and provides peer reference. Engagement with colleagues from other disciplines is typically limited (Figure 16 and Table V, data categories M and N), as is often the identification with the university itself. In the terminology suggested by Wenger (1998, p. 127), universities can best be described as '*constellations of practices*', interconnected primarily through their "belonging to an institution", but also by, for example, "having geographical relations of proximity or interaction", "having overlapping styles or discourses" and "competing for the same resources".

Employee recruitment in business firms and public service organizations (including university administration) differs from that of universities in that new employees are hired with the explicit purpose of working together towards a common aim, regardless of their epistemic backgrounds and prior experience.

Organizational goals can only be achieved through integration and combination of diverse competences. This requires investments – on the part of both employers and employees – in the creation of common understandings, common codes and supporting infrastructure, which – if successful – may establish the firm itself as an epistemic community in its own right (Håkanson, 2010)[48]. On entering the employment of a business firm or university administration, newcomers obtain – whether they like it or not – a significant *new* epistemic identity, next to or superseding that of their professional training or prior employment (compare with data category M, Table V).

Workforce mobility. Through the acquisition of the knowledge and skills of a firm-specific epistemic community, employees in firms, and to some extent also in public service organizations, obtain capabilities of greater value inside the firm (organization) than elsewhere. This reduces the likelihood that employees are bid away by other employers, thereby decreasing the mobility of the workforce. In contrast, intra-disciplinary academic teaching and research are largely independent of the particular organizational setting in which they take place (see data category J, Table V). Like other professionals working within the realm of their own epistemic communities – lawyers, architects or medical doctors, for example – the productivity and 'market value' of academics are largely independent of their organizational context (see data categories G, H and I, Table V). As in professional service firms, the resulting mobility is a key factor in an individual's bargaining power vis-à-vis her employer not only for financial rewards but also for autonomy and lack of restrictions from external constraints.

4.6.3. Managerial Implications

The issues raised in this chapter are not only of great theoretical interest, but they have considerable empirical and managerial relevance. In the face of increasing global competition, cost pressures and demands to increase research output and

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[48] Wenger (1998) expressly denies the possibility that a community as large and diverse as a firm could qualify as a 'community of practice' – a concept that he prefers to reserve for more localized and cohesive groups. However, the criteria he lists for the identification of communities of practice read as a description of firms, as understood in the knowledge-based view. By adopting, as we do here, Holzner's (1968) term 'epistemic communities', which does not have this more narrow connotation, we reserve in line with Wenger (1998) and Lave and Wenger (1991) 'communities of practice' for work groups whose members engage in frequent and intensive interaction.

services to students, a wave of mergers have affected the university sectors in the United States, Canada, the UK and many other countries in Europe (Eastman and Lang, 2001; Lang, 2002). These pressures have affected the organizational systems, managerial practices and organizational cultures of individual universities and colleges to different degrees. As extant literature proposes, while some institutions have moved to become 'professionalized managerial systems', others have retained a more scholarly, collegial approach (Clark, 1998; Mosey et al, 2012; Deiaco, Hughes and Kitson, 2012).

The importation of managerial practices from business firms into the very different epistemic environment of academia have had some familiar consequences, such as the tendency to focus on performance indicators (number of articles in specified prestigious journals) rather than on actual performance (quality, novelty or usefulness of new ideas), leading to an emphasis on orthodox, methodology-driven and consensus-seeking research (Macdonald and Kam, 2007, 2010).

An inadvertent consequence of the introduction of these practices and incentive systems into academia has been the strengthening of its disciplinary focus. Effective managerial intervention in the practice of academic teaching and research requires a more fundamental consideration of the epistemic characteristics of academic communities and the governance structures that shape their members' identities and moral aspirations. The matching of governance structures with knowledge processes requires a holistic perspective. For inter-disciplinary research to flourish, new institutional frameworks need to be devised, in many ways radically different from those now prevailing in most universities.

As the case study illustrates, knowledge processes *within* the confines of an individual epistemic community are subject to a very different logic than those taking place *across* epistemic boundaries. In the case of the former, knowledge processes are facilitated both by shared mastery of the theory, codes, and tools of a common practice and by the moral obligations associated with community membership and professional identity. In the case of the latter, both the ability and the motivation to engage in collaborative knowledge exchange need to be ensured through governance structures superseding those of individual epistemic

communities. This involves not only the creation and maintenance of a common infrastructure – including, for example, shared organizational culture, common vocabulary, and boundary objects (Håkanson, 2010) – but also the provision of an incentive structure encompassing both intrinsic (identity) and extrinsic (money, prestige) rewards. The creation and maintenance of such governance configurations are a main and ongoing accomplishment of the modern day business firm but they are alien to most universities as these have historically evolved.

4.7. Conclusion

Since its genesis, the so-called knowledge-based theory is based on the idea that firms are in a privileged position to manage knowledge-intensive processes. In line with its origin in a critique of transaction cost-based explanations of the existence and boundaries of firms, this stream of research has allotted its exclusive empirical and theoretical focus on the governance properties of 'business firms' as compared to those of arm's-length markets. The lack of attention to other forms of governance raises concerns regarding the validity of its claims. Applying insights from the knowledge-based theory of the firm and the literature on post-merger integration to an analysis of an academic merger, this chapter has explored similarities and differences between the knowledge governance properties of firms and those of universities. It suggests that universities may be superior to firms in governing knowledge processes involving the transfer of tacit knowledge in master-apprentice type of relationships, and in knowledge creation through articulation, often too time consuming and expensive for profit-oriented firms in competitive environments. Conversely, it appears that universities are relatively disadvantaged in the governance of processes involving combination of knowledge across epistemic boundaries. At the same time, universities seem often able to match business firms in their ability to exploit existing knowledge through integration and replication at the administrative level in a fairly similar fashion as business firms.

The conclusions sketched in the preceding paragraphs are, of course, tentative at most. However, it is expected that the study reported in this chapter has demonstrated the potential inherent in expanding the scope of research on knowledge processes beyond the institutional conditions of business firms. By comparison and

contrast, it is believed that analyses of knowledge-intensive activities in other types of institutional environments hold great promise in increasing the understanding as to the unique roles and properties of different governance modes for the creation and exploitation of productive knowledge.

Chapter Five: Essay IV

The Role of Multiple Ostensive Aspects in Practising Change and Stabilizing Routines: A Case Study of an Exogenous Change [49]

5.1. Introduction

Revealing the internal structure and the recursive relationship between ostensive and performative aspects of organizational routines has provided useful insights into many of the yet undeveloped queries in the study of organizational life (e.g., Feldman, 2000; Feldman and Pentland, 2003; Howard-Grenville, 2005; D'Adderio, 2008; Zbaracki and Bergen, 2010; Turner and Rindova, 2012; Pentland, Feldman, Becker, and Liu, 2012). These insights have peculiarly drawn our attention to the tension between routine dynamics and achieving efficiency through behavioural standardization and consistency in performance (Cohen, 2007; Turner and Rindova, 2012). However, the few instances of empirical work have only just begun to address the dynamics of routines' internal structure underpinning organizational phenomena such as change, transformation, adaptation, and stabilization (D'Adderio, 2008; Rerup and Feldman, 2011). In particular, we still lack a full theoretical understanding and empirical characterization of the micro-level dynamics underlying the recursive relationship between multiple ostensive and performative aspects of routines in the presence of exogenous changes (Jarzabkowski, Lê and Feldman, 2012).

In a state of relative stability and in spite of routines' internal dynamics, the variety in ostensive and performative aspects of organizational routines might be overlooked. However, when organizations change, for example when they merge with or acquire other organizations, this multiplicity can no longer be ignored

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because the clash of processes and routines becomes a central practical concern for everyone involved. It has been widely discussed that it is extremely difficult – if not impossible – to recreate organizational routines and practices in different contexts (Szulanski, 1996; Winter and Szulanski, 2001; Howard-Grenville, 2005; Jensen and Szulanski, 2007; D'Adderio, 2008; Bresman, 2013). This research shows that an important source of difficulties lies indeed in the existence of 'multiple ostensive' aspects of organizational routines shaped by different pressures for consistency, which, under certain circumstances, can result in either change or stability in organizational performances via an internalized modus operandi (Bourdieu, 1977).

To understand the internal dynamics of organizational routines, researchers have called for an in-depth study of not only the accomplishments of routines, but also their relations, connections, and associations with other practices that extend, in both space and time, "outside, beyond, and before the scene of action immediately observable through the zooming in" on the routine under study (Nicolini, 2012, p. 229; Parmigiani and Howard-Grenville, 2011). This is critical since organizational routines would never take place in isolation and a single practice cannot be carried out independently of other practices (Latour, 2005; Schatzki, 2002; Howard-Grenville, 2005). The premise in this chapter is that for a fuller-fledged understanding of routine dynamics we need to study routine accomplishments in conjunction with the larger context in which the routine unfolds.

The immediate aims of this study are therefore to advance routine theory and to contribute to the understanding of organizational change, adaptation and survival (cf. Cook and Yanow, 1993; Orlikowski, 2000; 2002; Becker, Lazaric, Nelson and Winter, 2005). To achieve these aims, I take organizational routines as the unit of analysis (Pentland and Feldman, 2005) and focus on their internal structure and dynamics and content-process interrelationships (D'Adderio, 2008) as well as their connections and associations with other facets of organizational life. Thus, I explore the following research question in this chapter: *how do routine participants balance multiple pressures for consistency in delivering collective performances while experiencing an organizational transformation?* To respond to this research question, I adopt a practice lens and focus primarily on the latent structural variations inherent in the admissions routine of an art college undergoing an academic merger

with a large university. These structural variations are generated by the recursive relationship between multiple ostensive aspects of the admissions routine created by different pressures for consistency from the two merging institutions, on the one hand, and change and stabilization in the performance of the admissions routine in the merged entity, on the other. Due to the very different nature of day-to-day academic activities in the two institutions and, hence, very diverse understandings of accomplishing the admissions routine, the merger brings about a tension amid the collective pressures for consistency in the merged institution. This provides an appropriate state to test how, and to what extent, routines can be (re)shaped by dominance or resistance (Leidner, 1993; Feldman and Pentland, 2003) when robust multiple ostensive aspects exist in both directions.

In spite of the existence of situations tending to favour the dominance of the university's understanding, including the far bigger size of the university, top management support, tendency to avoid organizational conflicts in the merged entity, as well as the increased economies of scale as a result of adopting the university admissions routine, the case study shows that the college's way of conducting the admissions routine dominates eventually. The findings suggest that this is because multiple ostensive aspects of routines are not only highly distributed all over an organization from the bottom to the top, but also extended over the vanishing boundaries of organizations into the institutional structure in which they perform. The embeddedness of the art college's way of admitting students in art and design in the broader context of the world of art and the creative industry makes the process of changing performance very difficult even in the presence of strong support for change. While emphasizing the role of agency in change and persistence of organizational routines, this study puts the embeddedness of routines in other facets of organizational life (Howard-Grenville, 2005; Rerup and Feldman, 2011) and broader institutional structure, which includes "fundamental organizational attributes that exist above the level of the routine but nonetheless affect its performance" (Parmigiani and Howard-Grenville, 2011, p. 443), at the centre of attention for future research in this stream.

The rest of the chapter proceeds as follows. I first briefly review the central theoretical debates in routine research that shaped my theoretical orientation and

intrigued my research questions. Then, I explain the research setting and the case study in reasonable detail. This section includes a discussion about my data collection and analysis methods. In the subsequent section, I present first-order (emergent) findings about how informants viewed and managed pressures for consistency in the face of ongoing changes imposed by the merger. Then, a theoretical discussion of these findings is presented, with a summary of the theoretical contributions and the practical implications of the study.

5.2. Theoretical Orientation: Problematization within the Extant Literature[50]

Drawing on the seminal work of Karl Weick (1979; 1991; 1995; 1998), a rich stream of literature scrutinizing the micro-processes of organizing has arisen in organization studies, providing new insights regarding the internal life of organizational routines (Feldman, 1989; Orr, 1990; Pentland, 1992; Brown and Duguid, 2000; Feldman and Rafaeli, 2002; D'Adderio, 2008; Feldman and Pentland, 2012; Turner and Rindova, 2012) and the micro-foundations of change processes inherent to them (Orlikowski, 2000; 2002; Feldman 2000; D'Adderio, 2001; Feldman and Pentland, 2003; Howard-Grenville, 2005; Zbaracki and Bergen, 2010; Rerup and Feldman, 2011; Pentland, Feldman, Becker, and Liu, 2012). Researchers have put routines at the centre of organizing (March and Simon, 1958; Cyert and March, 1963; Feldman and Pentland, 2003), meaning routines explain the behaviour of organizations and the observed consistencies with past experiences (Nelson and Winter, 1982; Chia and Holt, 2006).

In particular, unfolding the black box of organizational routines and the recursive relationship between their ostensive and performative aspects has equipped the researcher in this stream to study basic queries in organization science (Pentland and Feldman, 2005). As a result, attention is drawn more than ever to the existing tension between achieving efficiencies through behavioural standardization and

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[50] My emergent findings enabled me to "come up with novel research questions through a dialectical interrogation" of the routine scholars' familiar position and its domain of literature (Alvesson and Sandberg, 2011, p. 252). The problematization methodology in this chapter embraces both "challenging in-house assumptions", and gap-spotting, in the "internal debates and the interfaces" among routine scholars crystallized in the extant literature.

consistency in routines performance, on the one hand, and the dynamic nature of organizational routines, on the other (Cohen, 2007; Turner and Rindova, 2012). This is essential since organizational life is also full of instances when exogenous changes necessitate organizational transformations. As a result, the incidence of both imposed, exogenous changes and internal, endogenous changes inherent in routine dynamics provides a valuable, though complex situation for studying routines' consistency and change; a stance that is not well examined and calls for research to scrutinize the internal dynamics of organizational routines during times of major organizational changes (Jarzabkowski *et al.*, 2012).

Exogenous organizational changes, such as mergers and acquisitions, disrupt the steady state of organizational life, leading often to change, flexibility, and adaptability of usually taken-for-granted routines. As a result, consistency in past experiences as well as occupational structures of mundane, everyday organizational work are likely to be altered (Feldman, 2000; 2003). Past research has shown that these changes are veritably associated with disruption in performance of routines and negative organizational outcomes (Turner and Rindova, 2012). In this study, I build on the belief that such disruptions provide a 'natural experiment' for studying the internal dynamics of routines in a reflective inquiry, starting from a problematic situation (a situation where one cannot just act habitually) (Dewey, 1929) and the experience of dissonance associated with coping with related circumstances (Heidegger, 1962; 1971; Chia and Holt, 2006).

5.2.1. Ostensive and Performative Aspects of Organizational Routines

Consistent with a performative perspective, routines are defined in this chapter as "repetitive, recognizable patterns of interdependent actions, carried out by multiple actors" (Feldman & Pentland, 2003, p. 95). Organizational routines are complex phenomena, largely pictured as being comprised of two interacting aspects. These interacting parts include 'ostensive' and 'performative' schemata, which are constructed mutually, shaped and reshaped recursively, and have a distributed nature (Feldman, 2000). The distinction between the ostensive and the performative - adapted from Latour (1986) - is an expression of the difference between 'the routine in principle' and 'the routine in practice', respectively: "the ostensive aspect of a

routine embodies what we typically think of as the structure", while "the performative aspect embodies the specific actions, by specific people, at specific times and places", that bring the routine to life (Feldman and Pentland, 2003, p. 94). In this vein, scholars conceptualize routines as "generative systems created through the mutually constitutive and recursive interaction between the actions multiple actors take (the performative aspect of routines) and the patterns these actions create and recreate over time (the ostensive aspects of routines)" (Feldman and Orlikowski, 2011, p. 6). The ostensive aspects of routines may be available in codified forms as standard operating rules and procedures, or may exist at a more abstract level in the form of a taken-for-granted norm in the collective mind of the organization (Feldman and Pentland, 2003) or pressures for consistency (Turner and Rindova, 2012); alternatively, they may have a relatively high level of tacitness and exist in the form of procedural knowledge (Cohen and Bacdayan, 1994).

In theories of practice, especially structuration theory (Bourdieu, 1977; 1990; Giddens, 1984; Ortner, 1984; 1989), the performative and ostensive aspects of organizational routines are seen as having a recursive relationship; that is, the performative aspects (re)create the ostensive parts through everyday practice of the routine, while the ostensive aspects, in turn, enable and constrain performance (Pentland and Feldman, 2005). This, therefore, creates an "ongoing opportunity for variation, selection, and retention of new practices and patterns of action within routines and allows routines [participants] to generate a wide range of outcomes, from apparent stability to considerable change" (Feldman and Pentland, 2003, p. 94).

The ostensive aspects of organizational routines bear a strong resemblance to both Bourdieu's 'habitus' and Schatzki's 'teleoaffective structure'. For Bourdieu (1977; 1990), habitus is a group phenomenon that works as a powerful '*drive*' in recreating practices. Indeed, habitus enables agents to reproduce the existing positions and the distribution of capital (material possessions, social capital or symbolic capital) when they enact practices in the field. In other words, habitus explains why agents end up doing similar practices, and in the recreation process representing similar institutions, without doing the same things twice (Nicolini, 2012). For Schatzki (2002), teleoaffective structure is what makes practices unfold in line with a specific direction and oughtness (see also Heidegger, 1962; 1971). Here,

the internal teleoaffective structure, which is embedded in the practice itself, works as a '*bound*', limiting the free agents' 'practical understanding' and constraining their will for changing practices in every iteration. While Bourdieu's habitus bears an '*enabling*' stance in reproducing similar practices, Schatzki's teleoaffective structure holds a strong '*constraining*' stance for the occurrence of change in the reproduction of practices by agents. Routine scholars, however surprisingly, have almost wholly adopted the '*enabling*' stance of ostensive aspects in reproduction of organizational routines. This is mainly due to the initiative to explicate the internal dynamic of routines and proclaim the endogenous change inherent to them (Feldman, 2000; Feldman and Pentland, 2003). As a result, they have largely omitted to investigate the '*constraining*' role of ostensive aspects in practising change and stabilizing routines (Howard-Grenville, 2005). I hope to contribute to a broader understanding of routine dynamics by looking at the ostensive aspects from both stances in this study.

5.2.2. Multiplicity of the Ostensive Aspects of Routines

The multiple actors who shape and carry out routines have diverse subjective understandings. Thus, although the ostensive aspects conventionally represent the structured, principled side of routines, variation can be observed across practitioners, giving rise to multiple ostensive aspects of routines even if the performances stay convergent and relatively unchanged day in and day out. These socially distributed understandings, like any socially distributed stock of knowledge, are not monolithic, and are likely to be distributed unevenly (Berger and Luckmann, 1966; Schutz, 1967). As Feldman and Pentland (2003, p. 104) noted:

> "It is very unlikely that there is a single ostensive understanding or a single goal of any significant organizational routine. The involvement of multiple individuals inevitably introduces diversity in the information, interpretive schemes, and goals of the participants. The individuals performing the routine do not all have access to the same information, and even if they did, they might not interpret the information in the same way".

This becomes especially evident where the routine participants belong to different epistemic communities - groups of individuals involved in a collective practice and sharing not only mastery of the codes, theory and tools of that practice, but also the tacit skills and experiential knowledge conferred by the practice in

question (Holzner, 1968;Håkanson, 2010) - with diverse backgrounds and levels of authority. As a result, they bring their own understandings of conducting similar practices in different contextual circumstances when they ought to work together on a common routine. In these situations, everyone who engages in a given set of activities is not necessarily seeking the same outcome. As noted by Feldman and Pentland (2003, p. 104), "as a result of these factors, their subjective interpretations of the appropriate course of action will differ. …There is no single, objective routine, but a variety of different perspectives on what is involved". Here, the emergent meaning of the ostensive parts depends on the somehow different viewpoints of the routine participants; that is, routines' ostensive aspects are multiple and no routine exists as a stand-alone entity (Pentland and Feldman, 2005; Howard-Grenville, 2005; Rerup and Feldman, 2011).

Scholars have for some time admitted that routines may have multiple ostensive aspects because different participants may have different understandings of how a routine should be carried out. Ironically, in the research literature and in practice, this multiplicity is still often overlooked in favour of the simplifying assumption that a given routine has a single ostensive aspect. This is because, as explained by Feldman and Pentland (2003, p. 101), "it is tempting to conceptualize the ostensive aspect of the routine as a single, unified object, like a standard operating procedure. This would be a mistake, because the ostensive incorporates the subjective understandings of diverse participants… Each participant's understanding of a routine depends on his or her role and point of view… The ostensive aspect of the routine gains in apparent objectivity and concreteness as the views of different participants come into alignment". Scholars have rather pursued the variety in the performative aspects of routines and their role in shaping 'the routine in principle' while studying organizational phenomena such as learning, change, adaptation, and stabilization (Rerup and Feldman, 2011).

Admitting the multiplicity of ostensive aspects in the understanding of actual performances unfolds many of the yet unanswered questions. These include: how do the multiple ostensive aspects of routines affect a specific action, in a specific context, at a specific time, by a specific group of actors engaging in an organizational routine while experiencing change and adaptation? And how (and why) do the

multiple ostensive aspects of routines come together to shape the collective performance at a single iteration of the relevant routine, and how can one then justify the observed consistency in the daily accomplishment of that routine in the face of ongoing internal and external changes? The rest of this chapter is as an endeavour to answer these important, though underappreciated queries within the organizational setting of the current study.

5.3. Research Design

5.3.1. Case Selection

A case suitable to the phenomena under investigation was chosen for this study (Eisenhardt 1989, Yin, 2003): an academic merger between a world-class university and a well-known art college in the same city and in close geographical proximity. In spite of their pre-merger collaborations, the two institutions had very diverse epistemologies and, hence, methods and ethos in conducting daily tasks. As a result of the merger, the art college (and the university to some extent) was undergoing a major organizational restructuring, specifically in its supporting administrative tasks. Accomplishing the merger required the art college to centralize most of its administrative activities within the university's central administration services in order to achieve economies of scale out of the merger. Thanks to the merger of those two diverse attitudes and ways of carrying out daily tasks, the clash of administrative routines became a significant practical concern for everyone involved in those activities. This provided the chance to investigate the structural variations inherent in the administration routines of the two institutions during the course of the merger. These variations were primarily generated by the recursive relationship between multiple understandings of conducting administrative tasks made by different pressures for consistency from the two merging institutions, on the one hand, and change and stabilization in the administrative routines' performances in the merged entity, on the other. In this chapter, for the sake of practicality, I focus only on the 'admissions routine' of the art college which was of particular value in attaining my research objectives in extending routine theory as explained in forthcoming sections (Yin, 2003; Eisenhardt and Graebner, 2007).

5.3.2. Research Setting

The findings of this case study can best be understood in its original setting. Prior to the merger, the art college was well known for its pedagogical methods including practice-based or media-and-methods based disciplines in contemporary art, which are speculative and self-reflective. The disciplines include art, design, architecture and landscape architecture. These areas are concerned mainly with tacit, experiential and embodied forms of knowledge gained through and understood by the acquisition of a practice. As a result, the art college had developed customized (bespoke) approaches, systems and structures to support these aspects of its educational provision, ensuring that the distinctive culture of an 'art college' education was nurtured and allowed to thrive.

On the other hand, the university tended to take a more historical, literary and theoretically-informed academic approach than was the case at the art college. One staff member from the art college compared the two institutions:

> "The other issue particularly for the academic staff was being able to comprehend studio teaching because an art and design is studio-based teaching and that's quite intensive. It's different to standing up maybe 2/3 times a week and giving a lecture to 200 students. In a studio, the tutor or lecturer is there all day, or most of the day, and they're dealing with students generally on a one-to-one basis, talking about their work, their ideas, and it is quite intensive and relentless really."

The structure of the university was based on three colleges of similar sizes. These colleges included several schools with some local autonomy and some centralized responsibilities; however, even with those local autonomies, the schools were all overarched by the relevant college to make sure that there was a degree of consistency throughout. As a result of this tight structure, the university had developed a culture of 'public management' (Ferlie, Ashburner, FitzGerald, and Pettigrew, 1996), a 'process orientation' emphasizing efficiency, accountability and rigorous quality control over all the departments, schools, and the three colleges. Accordingly, the supporting administrative responsibilities were distributed at three levels: the university, the colleges, and the schools[51].

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[51] The university also had an academic provision in art and design-related areas. Its School of Arts, Culture and Environment (ACE) within the College of Humanities and Social Science (merged with the art college to create a unified college of art – equal to a school in the university structure) drew

As a result of those different methods and structures, different support systems were developed through time to support the two institutions' day-to-day activities. The smaller size of the art college made it even more different (almost 300 versus over 3,000 employees of the university). Like a family organization, everyone knew each other and many of the administrative tasks and issues could be taken care of through face-to-face interactions and discussions, creating somehow a kind of exception or one-off bespoke model in the administration of the art college. In contrast, administrative processes in the university had been made more uniform through systematized procedures (mainly built into its information technology infrastructure). One of the informants from the college tells the story in brief:

> "…Because the pedagogy surrounding art and design education is very, very different! Then, mainstream education, where the majority of what the university teaches fits in to that mainstream box, and therefore it has to be, by definition, quite structured in the way they do things. The art and design are different and although it has got a structure to it, it's quite complex in comparison to this very structured way the university does…"

In spite of all these differences, however, the two institutions were not strangers to each other. Their pre-merger collaborations had created the backdrop for the merger alongside the problematic economic situation that the art college, like so many other art colleges around the globe, was facing[52]. For example, on the eve of the merger discussions, they established a joint school of architecture and landscape architecture. Drawing from previous independent collaborations and taking into consideration the barriers between the two independent organizations obstructing a higher level of cooperation, and parallel administrative jobs, a merger proposal was offered in 2010 and was approved in 2011. The academic year 2011-2012 opened with the new art college located within the university (as a subunit of the College of Humanities and Social Science – CHSS hereafter). However, the independent nature

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together teaching and research in the subject areas of architecture, history of architecture, history of art and music. However, the methods of the university and the art college, even with regard to similar topics, differed to a great extent.

[52] I do not discuss this in this article since it did not affect the integration process in the way I look at it. However, it should be mentioned that the poor economic situation of the art college strengthened the intention for the merger and accelerated the integration processes; to quote the merger proposal (p. 7): "while the fundamental objectives of the merger are academic, [the] merger should ensure that, within future funding constraints, the art college academic strengths can be maintained and enhanced in a way that would prove extremely difficult in the current and anticipated economic and public funding environment were the college to remain an independent institution".

of pre-merger collaborations did not prevent conflicts between the two institutions' way of conducting their daily routines in the post-merger stage. The merger plan included centralizing key administrative tasks for administrative cost savings, incorporating new systems and procedures suitable for the bespoke model of the art college, transferring art college staff and student records into the university system, integrating the information systems of the two institutions, and creating new joint programmes and cross-disciplinary research centres. In most of these areas, the transformation was not straightforward.

Although it was originally planned to incorporate new systems and procedures suitable for the bespoke model of the art college sitting within the CHSS to reduce (and eliminate) unnecessary duplication of tasks and achieve planned economies of scale, the university had to centralize administrative processes (resettling previously local administrators in the art college into the university central offices in the process) as much as possible and as fast as possible. The immediate result of the merger was therefore to incorporate the art college administration into the university system and procedures, which resulted in centralization (through IT) and a high level of specialization in conducting administrative tasks.

In spite of the very difficult transformation, the art college administrators eventually had to accept that the art college should adopt the university's way of doing administrative jobs, which necessitated specialization of administrative tasks in order to achieve the necessary economies of scale out of the merger. For many administrative tasks (e.g., payroll, income, outgoes, bookkeeping, etc.), the performances and the understanding of the expectations of those administrative jobs were quite similar in the two contexts; what differed was the computer systems the administrators conducted their day-to-day activities with. In this case, the art college administrators adopted the university's procedure by undergoing some training to achieve the expected economy of scale of the distributed computer systems. However, for a few administrative tasks which were more directly interconnected with students and academic staff performance (e.g., registry, admissions, quality assurance, assessment, etc.), the way of conducting business and the understandings of the expectations of those administrative jobs were quite different. As explained by

one of my informants from the university's HR department, the main issue was the distributed nature of specialized tasks at various levels in the university:

"In some areas, that [integration] was fairly easy to do, especially on the financial side, because certain members of staff were working maybe with US loans, or were working on fees, therefore it was easy to put them into roles. It was harder for the academic registry staff because some of the work that they did sits down with the CHSS, some sits at school level [with the new college of art], and then other parts of it sit here at the university level."

To study where and why performances did or did not align in the merged entity, I pick up the admissions routine of the art college among the administrative routines to focus on in this chapter. The admissions routine is chosen specifically since it embraces all features of the broadly accepted definition of organizational routines: It is repetitive (both daily and annually), it includes recognizable patterns of interdependent actions (with registry, quality assurance, budget allocation, etc.), and it is carried out by multiple actors (starting with students' applications, engaging academic staff and different groups of administrators inside and outside the college and the university). This provides a valuable context for conducting research.

The application process and admissions routine in the university were very straightforward and strongly based on academic records and written documents such as academic grades, resumes, cover letters, research proposals, reference letters, or statements of purpose. But for the art college the story was very different. One of the informants from the college's registry office tells the story right after the merger (see Figure 17):

"Art and design admit very differently, they admit by portfolio, as well as academic grades. Portfolios are those things that show the work that has been done, particularly by art, design and architecture people as part of their application. And these portfolios tend to be rather large digitally. A few years ago a portfolio was a large document; sometimes it was, you know, this large portfolio case, lots of pictures, lots of art works. Digitally these days they can be up to 10 Megabytes [MB], 20 MB [of] information. And therefore, there has to be an assessment of the portfolio and that's an online process. So for example there was 4200 something applications for a 100 and something places. So, they'd have to withhold that sort of first layer down a little bit; and then make a provisional type of offer. We would split the process between the academic registry and the schools [within the art college], and the schools would assess the portfolios independently. The academic registry staff would assess the academic qualifications, and then when it came to the next stage that we were going to invite some students to then come for an interview, they would then need to bring a bigger, more detailed portfolio which would then go through an assessment again, in a day – we call it application day. So before any offers were ever made, all of these

Figure 17: Admissions Routine in the University and the Art College (pre-merger)
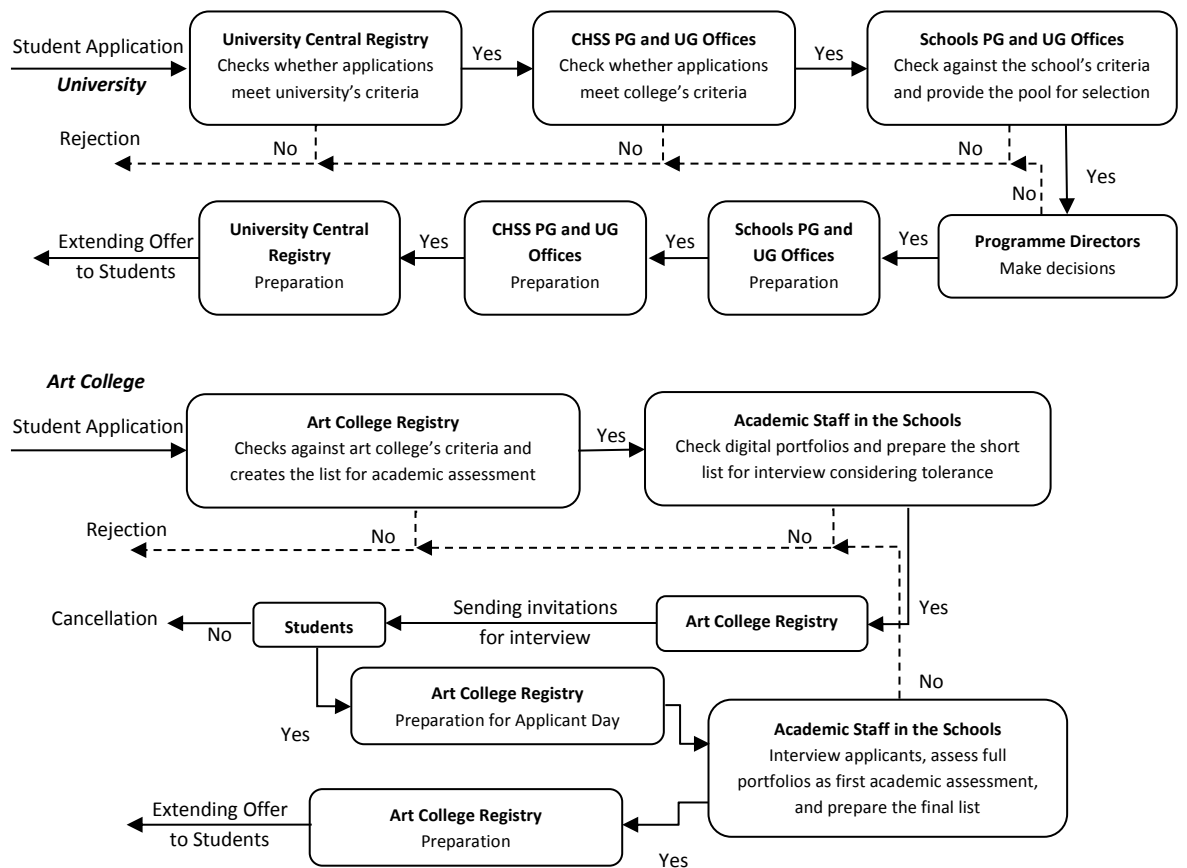
Notes

1. Due to the complexity of the PhD application process, it is excluded from this model for simplification.

2. Preparation refers to administrative practicalities necessary for incorporating students into the schools, the college, and the university and connecting to various divisions inside and outside the institutions (e.g., scholarship, accommodation allocation, induction, students' ID, etc.)

processes were lined up, and there's an algorithm that worked out whether the students would be able to be accepted or not. And that took into account things like weighting participation, and therefore, because there was an assessment process built into that, the academic staff were quite heavily involved at certain periods of time in the year. In the university, the way of admission for most of the main stream subjects, it's still with, as an administrative process, with their just school year academic attainment; that's different and you would find that in the art college, that you could have students... The majority of times, when you did an overview assessment of many of the portfolio assessments and the academic assessments, it would colour the best of both; they would still have to have X number of As, Bs and high scores in their portfolio. But, there was an allowance made every year for students who had exceptional portfolios, but hadn't all academic qualifications, there was another sort of test built in to allow students to come in under a weighting access. [This was] because in any creative industries, there's a high percentage of people have got various forms of learning difficulties or very, very high levels of dyslexia. And therefore they could be incredibly talented and they don't particularly

perform well in written. It's not that the outcome wasn't good, it's maybe that their written work wasn't good, and all of a sudden they have lost some sort of points on that. So it's quite a complicated process to someone that is not familiar with it. When you are familiar with it, it makes some logical sense if you know and understand the pedagogy surrounding how assessment in art and design works, and also because assessment starts at a point of admissions. That's different in the mainstream subjects where you will be readmitted and you will get to see the 1st exam in Dec/Jan or something like that that would be the first assessment. Whereas if you are coming into an art or design subject, the first assessment was taking place as part of your portfolio, and that's an ongoing assessment of that and that leads up into your next assessment. So, the assessment processes are very different as linked back to admissions. And to cut a long story short, that's where they're having a lot of problems just now in trying to align the admissions for the college of art into the university system".

5.3.3. Research Approach and Methods

Following extant theory induced from the in-depth study of organizational routines within a single organization (Leidner, 1993; Pentland and Reuter, 1994; Feldman, 2000; Feldman, 2003; Howard-Grenville, 2005), this chapter closely examines multiple ostensive aspects of the admissions routine in the art college created and shaped by multiple pressures for consistency in the merged institution and identifies factors that can explain the flexible and/or persistent use of the routine over time. Longitudinal qualitative data is collected over 24 months, tracing in real time the restructuring of the art college administrations, the admissions routine particularly, from the pre-merger preparation stage to the post-merger integration era[53]. In this exploratory case-based research design (Eisenhardt, 1989; Yin, 2003), I adopt a grounded theory approach (Strauss and Corbin, 1990) based on 38 in-depth interviews, roughly 21 months of non-participant observation, and vast primary and secondary document analysis. A case study methodology is seen as appropriate because of the exploratory nature of the task at hand: the examination of organizational transformation phenomena through a practice lens, necessitating an in-depth inductive approach for theory development.

Interviews: Following routine scholars who suggest that studying the ostensive aspects of organizational routines draws on varied 'informant accounts' that 'summarize multiple performances across multiple performance conditions' (Pentland and Feldman, 2005; Turner and Rindova 2012), I analyse informant

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[53] However, almost all recorded interviews took place in the post-merger era.

accounts from different hierarchical levels of these organizations to capture multiple views of how organizational members balance the pressures for consistency while practising change (Eisenhardt and Graebner, 2007). Hence, in order to capture multiple perspectives on the phenomenon under study and to develop the internal validity of the case, I conducted 38 in-depth interviews with the key players who were involved in the process as well as the students and academic and operational staff who were affected by the merger from the two academic institutions.

As Table VIII indicates, I am confident that the interviews afford a cross-sectional representative of the two organizations. Three interviews were done before the merger, during the pre-merger preparation time and the work of the joint integration working groups. The remaining interviews took place in the post-merger era. The interviews varied in duration from 30 minutes to 2 hours with an average of roughly 1-hour length. All but 3 interviews were recorded, and 33 of the recorded interviews were transcribed verbatim. Initial interviews included broad questions which helped to draw a big picture of the merger and the intentions behind it (familiarization stage), while secondary interviews were more structured and focused, targeting the main challenges and the reasons behind those challenges in order to satisfy the necessary theoretical sampling for the research (Strauss and Corbin, 1990). At this stage, the interview questions probed such topics as the interviewees' day-to-day activities before, during, and after the merger, the changes in their perception of conducting daily tasks, the biggest problematic areas in the integration process and the reasons behind their existence, the least problematic (most straightforward) integration processes and the reasons for the unproblematic nature of those processes. These two stages were followed by tertiary interviews, which were conducted following the highest possible level of theoretical sampling, probing issues such as the problems associated with the centralization of administrative tasks (specially the admissions routine), the informants' perception of those problems, and their understanding of different pressures for consistency and their various sources.

Table VIII: Interviews and Interviewees

	Organizational or Merger Project's Role*	Organization (University or College)	No. of Interviews	Duration (in minutes)	Mode**	Timing (Pre- or Post-Merger)
1	Project Manager	U	2	60/60	P/P	Pre/Post
2	Project Officer 1	U	2	120/--	P/E	Post/Post
3	Project Officer 2	C	2	60/105	P/P	Pre/Post
4	HR Manager	C	1	70	P	Post
5	Head of HR	U	1	60	P	Post
6	Head of HR	C	2	60/--	P/E	Post/Post
7	Head of Registry	U	1	70	P	Post
8	Head of Registry	C	1	70	P	Post
9	Staff Union Member	C	1	60	P	Post
10	Head of PG Office	U	2	75	P/E	Post
11	Head of UG Office	C&U	1	60	P	Post
12	Operating Officer	Ext. Temp. for C	1	60	P	Post
13	Principal	C	1	50	P	Post
14	College Registrar	U	1	70	P	Post
15	Head of Admin	C	1	70	P	Post
16	Dir. of Crp. Services	U	2	90/70	P/P	Post/Post
17	KM Vice Principal	U	1	70	P	Post
18	Head of ESALA	C&U	1	60	P	Post
19	HoS of Art	C	1	90	P	Post
20	HoS of Design	C	2	70/20	P/P	Post
21	HoS of Informatics	U	1	30	P	Post
22	Head of ACE	U	2	90/--	P/E	Post/Post
23	Head of College	U	1	60	P	Post
24	Joint Programme Dir.	U	1	50	P	Post
25	Joint Centre Co-Dir.	U	1	55	P	Post
26	Joint Centre Co-Dir.	C	1	70	P	Post
27	Student 1	C	2	30/55	P	Pre/Post
28	Student 2	C	1	60	P	Post
29	Student 3	U	1	45	P	Post
Total			38	2195		

* Human Resources (HR), Postgraduate (PG), Undergraduate (UG) Knowledge Management (KM), Administration (Admin), Director (Dir.), Corporate (Crp.), School of Architecture and Landscape Architecture (SALA), Head of School (HoS), School of Arts, Culture and Environment (ACE)

** Personal interview (P) and Email (E)

Observation and Archival Sources: In addition to interview data, the researcher had opportunities to attend meetings of the merger integration working groups (pre- and post-merger) for over a year and half. I used the observation and insights contained in the field notes to supplement the transcribed interviews. I also analysed the minutes of all meetings of the integration working groups, public merger documentations, and published news, articles and university bulletins on the subject of the merger in order to enrich the research data. These data sources were used to corroborate informants' statements about administrative routines, and specifically the admissions routine in this chapter, and where relevant provide further details.

5.3.4. Coding and Analytical Approach

I triangulated insights from 38 interviews, roughly 21 months of non-participant observation and the minutes of monthly meetings of the (pre- and post-merger) integration working groups with extensive analysis of secondary documents developed by the merger communities. The unique chance to observe a merger in practice, before, during, and after the integration processes, advanced the understanding of the phenomenon in a way which is impossible for post-merger studies. The mode of reasoning in this research project was primarily inductive. Accordingly, I inductively analyse the collected data adhering to case study research design techniques (Eisenhardt, 1989; Yin, 2003) and constant comparison techniques (Strauss and Corbin, 1990). The data analysis was conducted in an iterative fashion in order to satisfy the development of inductive theory. As a result, I was constantly traveling back and forth between the collected data, emerging findings, and extant literature (Locke, 2001). I also analysed the data collected in the familiarization and sampling stages using analytical techniques for qualitative content analysis (Miles and Huberman, 1994),

Applying yardsticks for conducting qualitative studies, I started the coding processes by writing a thick story of the restructuring of the art college's admissions routine (Langley, 1999; Jarzabkowski *et al.*, 2012). In the next stage, I scrutinized this prepared case story in light of my research questions. Specifically, I looked at how administrators iterated between the abstract concepts of the admissions routine resulting from the multiple pressures for consistency and the emerging performances of the routine in practice, and the implications of these iterations in (re)shaping the routine and its relevant relationships and activities. I then iteratively devised and revised a coding scheme based on how administrators were conducting and defining the admissions routine in the new context of the merged institution. This stage helped me to categorize the specific aspects of the admissions routine in the evolved context that administrators were enacting in relation to things such as: using computer systems, working with interrelated administrative activities, dealing with academic staff and students, as well as responding to high level managerial concerns.

In the next stage, and based on these empirical codes and the research questions, I developed interpretive codes by iterating between the empirical codes and the extant literature on organizational routines. I immediately found that the notions of performative and ostensive aspects of organizational routines (Feldman and Pentland, 2003; Pentland and Feldman, 2005) would help to a great extent in explaining the difficulties in centralizing the admissions routine. Thus, following other research (e.g., Feldman and Pentland, 2003; Howard-Grenville, 2005; Levinthal and Rerup, 2006; Pentland and Feldman, 2005; Zbaracki and Bergen, 2010; Rerup and Feldman, 2011; Jarzabkowski *et al.*, 2012; Turner and Rindova, 2012), I identified performative and ostensive aspects of the admissions routine. I identified performances as specific actions that people took in conducting daily activities relevant to the routine. On the other hand, I identified ostensive aspects as multiple pressures for consistency within the new art college, either inherited from the old relationships and activities or the newly imposed ones from the university and consequences of the merger. These pressures were indeed expected patterns of performing activities, whether core academic activities or related and supporting administrative tasks, in order to arrive at particular outcomes.

I then analysed the relationship between the performative and ostensive aspects as coded to understand the admissions routine dynamics in shaping the actual routine as performed by administrators in a rather stable manner. This resulted in the emergent findings structure and proposed model for practising change and stabilizing the admissions routine (see next sections for the emergent model, relevant codes, supporting quotations and proposed model). Finally, following the methods of examining the validity of inductive inquiry, I checked the emerging findings and proposed model with key informants by asking them to reflect on the derived insights.

The theoretical findings of this study have also been presented at a number of academic conferences and managerial workshops on relevant topics – mainly mergers between universities – either as a conference paper or key-note talks. This enabled me to incorporate their questions and comments in the process of theory development. Consequently, the presented theoretical framework in this chapter has undergone several major revisions through time.

The rich data resulting from this approach, accompanied by appropriate coding and memoing, form the basis of the discussion in the next sections. I heavily relied on constant comparison of multiple respondents over time in order to discover the similarities and differences. This enabled me to detect conceptual patterns in the qualitative data (Strauss and Corbin, 1990). Given my focus on the ostensive patterns of routines, I performed both "first-order analysis" to capture actors' understandings in the terms in which they thought about the research questions at hand (see Figure 18) and "second-order analysis" which enabled me to move to a theoretical level (Gioia and Chittipeddi, 1991).

5.4. Emergent Findings

As my observation of the merger progressed, moving from the familiarization into the sampling stages, I became increasingly aware of the existing, diverse pressures for consistency in conducting the admissions routine in the new college of art, and the diverse (sometimes conflicting) rationalities behind the presence of those pressures in the merged entity (Figure 18). On the day of the merger, all processes related to the art college's admissions routine stopped. As well as other administrative routines, the admissions routine was centralized into the university's supporting administrative systems from the first day after the merger. However, the clash between various understandings among the routine participants created difficulties in conducting the admissions routine in the new way. Based on these explanations, I categorize my first-order themes (empirical codes, or the issues raised and developed in the respondents' statements) into four groups as follows.

A. Pressures for consistency to achieve economies of scale out of the merger

First and foremost, as the merger dictated, there was a need to achieve an economy of scale by reducing (or eliminating) parallel tasks in all the administrations, including the admissions routine. To do so, the university had to centralize administrative processes and resettle previously local administrators in the art college. Due to the huge difference in the size of the two institutions, it was reasonable to both groups of administrators that the art college should adopt the university's way of doing admissions. As one administrator from the art college mentioned in the interview:

Figure 18: Emergent Findings Structure
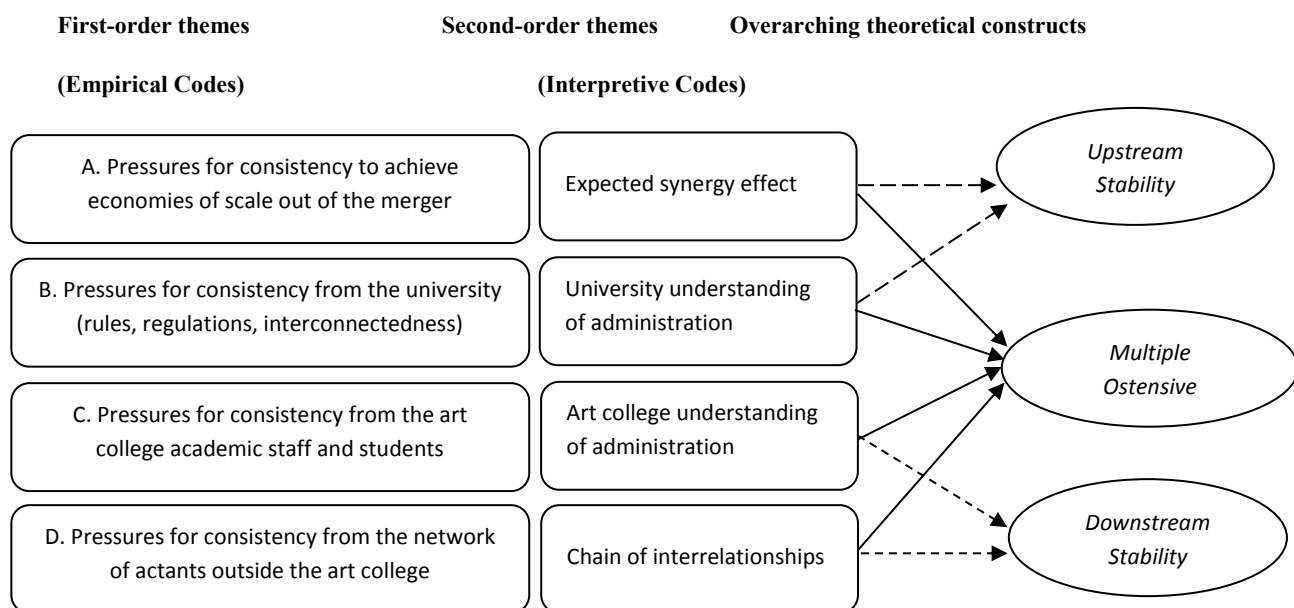
"When you compare the size of the university with that of the college, you would find them miles apart, since the college had 300 staff while the university may have over ten thousands [exaggerated]. So if there was something that we were doing better than the university, it is of course much easier for those 300 people to change to the ways of over 10,000 than it is for 10,000 to change to the ways of 300".

Consistent with the findings of Turner and Rindova (2012) and D'Adderio (2008), according to informants interviewed in the familiarization stage, achieving efficiency and economies of scale in administrative routines depends most of all on the nature of the 'process technology' employed in the organization; i.e., automated versus manual. Here, centralized technologies as a distributed computer system help the routinization to guarantee consistency in actual performances of the administrative routines. The codified knowledge of conducting the admissions routine embedded in the technology was, hence, a tool for the university to achieve efficiency and economies of scale (as well as to assure the continuity of 'best practices' in the admissions processes). I title this group of observations 'pressures for consistency to achieve economies of scale out of the merger' in my first-order themes (Figure 18). This corresponds to the 'expected synergy effect' in the theorization of the phenomenon among my second-order themes (interpretive codes). As a high level manager in the university's admissions office predicted at very early stages of the post-merger era:

"We have many academic members of staff who are coming in to see our student system for the first time and it is very daunting. And they have been used to one system which was partly electronic, partly paper, coming to a system which is mainly electronic, and it is completely different and as we know it's not totally intuitive the way it works… at the end of their transition, they would say, 'I cannot believe how we were working before! This is much easier'".

B. Pressures for consistency from the university (rules, regulations, interconnectedness)

Also, from the university's point of view, the existing central rules and procedures for the admissions routine (linked with other routines, such as registry, quality assurance, budget allocation e.g. for scholarship purposes, accommodation services e.g. for accommodation allocation purposes, etc.) worked as an umbrella concept for overarching all the subunits of the institution. This umbrella concept allowed the subunits (three colleges and schools within each individual college) to have slightly divergent interpretations of administrative routines, and, hence, to perform their daily routines in marginally different ways in order to meet their somehow unique local needs. This was not an exception for the recently joined art college as a subunit of CHSS. As one respondent at the CHSS admissions office explained:

"So it is this balance between making sure that we are all doing the right sort of things or at least meeting the right sort of outcomes in the right sort of way without saying, hey, this is necessarily a one size fits all; because the way of doing something in the business school might not be exactly the same way of meeting the same ends of another school… We are actually doing things in the best way that actually suits the school's needs while still meeting the quality assurance requirements and the university's needs… [It] is essential that we tell the new college of art how they need to adapt their old processes and adopt our processes… And then overarching all of that is training, linking together and making sure that again people can understand how to do their business when it's a new business, a business that we have been involved in for some time so that we can say, 'We can help you'".

However, this means that at least two levels of pressures for consistency existed in the university structure at the top of the school level (note the college of art sat at the level of schools in the university structure). I call this group of observations 'pressures for consistency from the university' (rules, regulations, interconnectedness) in my first-order themes (Figure 18), which corresponds to the 'university understanding of administration' in my theorization of the phenomenon among my second-order themes. The first two groups of my emergent empirical observations (alongside the relevant interpretive codes) together also make my first

overarching theoretical construct. I label this construct '*upstream stability*', since both groups of observation are depicting the top-down, managerial willingness for continuity of practices and achieving stability (see Figure 18); in other words, stabilizing the so-called 'best practices' in the administration of the college admissions routine.

C. Pressures for consistency from the art college academic staff and students

However, the reality is not shaped only by management desires, or upstream pressures. As we see from Cohen's (2007) paradox of the (n)ever changing world of organizational routines, or D'Adderio's (2008) tension between upstream and downstream pressures in manufacturing, there are cases in which the higher level authority - here the university - clearly sees either no alternative in conducting the downstream activities – here the art college daily routines - or (in very rare cases) admits the superiority of the partner's procedure, given specific circumstances. As a result of the latter, the university had to modify its 'best practices' (read good practices) and adopt the art college way of conducting them. In some cases where this was possible, this occurred immediately; more often, it became a long-term plan while temporary routines were produced in the meantime to deal with the issues in hand. This is specially the case in my setting since academic institutions are very bottom-heavy (Clark, 1998), and hence resistance from the bottom inhibits upstream pressures from dominating for very long. Here the difference is not only in the performance of the routines, but also in the systems that have been used by routine participants. My informants provided a few scenarios where there were clear conflicts between the way the university conducted the admissions processes and the way the art college academic staff and students had to do their admissions routine. One of them included the portfolio-based application process for PG students:

> "One example was the means by which portfolios, which tend to be rather large in digital terms, are given to us. Digitally nowadays they can be up to 20 MB information. And one of the problems is that the university electronic application system does not accept it; 2 MB is the absolute maximum. The art college had an online, what they called the mini-portfolio systems. When somebody uploads an electronic copy of their portfolio, that is available for everyone to see, and then there is no need for a paper, there is no need for CDs, things do not get lost in the post, things do not get broken, it is there electronic and this is the way actually people have got used to operating, students, young men and women. This is bread and butter for them. So what we have begun to look at now is to say: well we know that we cannot

use the mini-portfolio system at the moment for postgraduates, because the resource on the IT side is not there at the moment; though I think the intention is to look at adopting it. But what we have done in this office with the school was saying: there are commercial things out there, things like Dropbox on the web where you just upload something, a whole bunch of data, you can get 2 GB for free which costs you absolutely nothing. And why don't we set up a system and to say to the students, 'When you apply don't send us a CD or something, put it [upload it] onto a Dropbox, put the link in with your application and that is it.' This is what we are looking ahead. That was brought about because of what the art college was doing and it triggered us to think we may not be able to adopt exactly what they do but we can do something that maybe it has the same outcome".

I call this group of observations 'pressures for consistency from the art college academic staff and students' in my first-order themes (Figure 18), which corresponds to the 'art college understanding of administration' in my theorization of the phenomenon among the second-order themes.

D. Pressures for consistency from the network of actants outside the art college

The degree to which a given organizational routine is embedded in broader organizational settings can influence its flexibility, and, more importantly, will likely shape the ongoing consequences of its changeability. "A strongly embedded routine, one that overlaps with many other structures, whose overlap is significant in the sense that a change in the enactment of one type of structure would be consequential for the others, and whose artefacts and expectations are reinforced by those generated by other structures, may be quite difficult to change over time" (Howard-Grenville, 2005, p. 632). This was especially the case for the art college, belonging to a unique world of art, and the merits it had developed in order to achieve worldwide renown. As two academic staff members in the art college told me:

> "I don't know how else to do the admission; because then we wouldn't be able to sync with the rest of the art and design sector. You know, they can't afford to do that, because the whole purpose of the art college, now sitting within that CHSS, is to build on that success, not to unpick it."

> "What I am saying is that it will be still the art college academic staff that will assess the portfolios; there is no way around it in a creative industry such as art and design. Because it's clearly linked with other practices we do in the art colleges; things like continuity of fair assessment, or being aligned with other art colleges. We cannot afford any other kind of admitting students since we will lose the best students out there in the art and design fields".

In other words, as Feldman (2000) observed, within the process of conducting organizational routines, there is an association between the level of the individual agent and the collectivity to which the individual belongs. The normative side of the art and design world is collectively strong enough to dominate. Although actions are still taken by individual artists, the understanding of the outcomes and how they relate to ideals and values is often socially constructed in a much broader sense; too broadly for a single art college to deviate. I refer to this group of observations as 'pressures for consistency from the network of actants in the art world' in my first-order theme (Figure 18). This group of emergent findings corresponds to the 'chain of interrelationships' in my theorization of the phenomenon among the second-order themes. The last two groups of emergent empirical observations together form my second theoretical construct. I label this construct '*downstream stability*', since both groups of observation depict the bottom-up, practitioners' (artists') willingness for continuity and stability of their practices; in other words, for stabilizing the 'best practices' of the art world in the administration of art college activities within the university's structure. All my first- and second- order themes (the four major pressures for consistency) indeed form the third and main theoretical construct, which is the "*multiple ostensive aspects*" in the admissions routine (see Figure 18). Table IX provides more supporting quotations for the first-order, emerging themes in my empirical observations depicted in Figure 18.

E. Outcomes

I will discuss the interaction between these pressures and performances in the next section in more detail. But first I would briefly explain the latest state of play in the merged entity – as for December 2012. Because of the decision to move all procedures as of the first of August 2011 (the merger date) with no disruption to academic practices of the art college, a lot of the electronics systems (including, for example, student records and art college online processes) were shut down at the end of July, and therefore the work that the staff had to continue doing in the subsequent months (August and September) had to be done manually. This added a considerable amount of additional work. My informants tell the story:

Table IX: Themes, Categories, and Representative Quotations

1st Order Themes and Data Categories	Representative Quotations
A. Pressures for consistency to achieve economies of scale in the university	A. 1. It wasn't a two-way process: it wasn't what did the university do well and what the college do well; that wasn't the approach. It was: we are the university, we are this size, we can't adopt your policies, procedures, systems, etc.
	A.2. There have been problems with matriculation at the new art college. I think that's disappointing because the art college had a very, very good system and it was recognized throughout the country. So, these kinds of things were disappointing, that there were aspects of really good practices that impacted directly on students that weren't kind of picked up upon because of the much smaller scale [of the art college].
	A.3. I think when you look at the size of the university and the size of the college, comparably they're miles apart. The college really has 300 staff; here you have 10,000. So if there are things that we've done well and there were some that we've done better than the university… but the point I'm trying to make is that it is easier for 300 people to change to the ways of 10,000 than it is for 10,000 to change to the ways of 300.
	A.4. I think a lot of the merger depends on not too much fresh air and newness. I think of the things you have to… the sort of language being used is more about continuity, continuing good practice [of university].
	A.5. In all sorts of areas which are attached to operational departments or core university support departments, like finance and HR, and estates and all of these big sorts of corporative things, you will get economies of scale in there; I think for some of the academic related things, they won't be as noticeable as those; however they would try to centralize whatever is possible.
B. Pressures for consistency from the university's rules and regulations	B.1. Here in the postgraduate office [CHSS in the university], we help to set the quality assurance levels across the schools; we also link very carefully and closely with the central part of the university and the other colleges to make sure that we are all doing things largely meeting the same directives, the same policies, and where there is a degree of interpretation of policies and procedures, there is also a degree of consistency… in other words, 'we sing from the same hymn sheet but we may have different voices in the choir
	B.2. Now, we are at the stage [after the merger] where we are literally just looking at it and saying this looks really exciting, so we want to say this is something we could possibly adopt. And we've got to think how can we do it literally and how much we can use it? Does that require us to change some of our policies in the university? And some of our policy documents may refer to sending things out in a certain way and getting signatures and that sort of thing.
	B.3. Our experience to date, with going to the [university] senates, the higher level committees, to say here is something which is a little bit out of the ordinary and here is a case, can we do this or what do you think of that? There has always been tremendous response, there has been interest, there has been enthusiasm. And usually, it results in an "OK, that seems reasonable". And if it results in something less than that it is because it has been really a good discussion, open pros and cons discussed and we all understand that maybe yes for a greater good we can't do something.
	B.4. There has been a need for modification, I mean clearly we've got colleagues that are now coming in with some important differences in academic traditions and pedagogy, and so the whole university regulatory framework is hard to adjust, to accommodate the necessary and sensible difference that comes from what the school of design does, which is quite different than any of the existing departments in the university.
	B.5. My perception was a reticence that although there seem to be a PG research office, there wasn't a PG taught office, 'cause PG taught and the undergraduates were linked very closely together in the old art college. Whereas we link the postgraduate taught and the postgraduate research together [in the university].
	B.6. For example, at the university, we don't allow resits at PG level for courses that are failed, you pass or you fail them. Now the art college, they do allow resits. Now if you have resits, then what happens? Is that the student then, apart from anything else, the actual mechanics of when they do the resit and what is the effect on their total timeline on that resit, means that people exit with all sorts of different dates, and how do we record that on our systems so that everybody can look at the same thing and understand that each of these individual students are taking resit, what's happening. And in the long term, do we want to

1st Order Themes and Data Categories	Representative Quotations
	continue with this, or do we actually want to say: well no, that's something maybe was allowed before, sorry, that's not the way we do the things in the university.
C. Pressures for consistency from the art college and academic staff and students	C.1. So I would think that it's just a learning curve for a couple of years, but I can't see that the fundamentals that underpinned the pedagogy for art and design would be taken away, because that's how you can't assess art and design in the way that you would assess law; you can't do it by a written exam. Although there's a written dissertation, you can't assess creativity in written; so no, I don't think that would change.
	C.2. I think change for any individual is quite a difficult thing, but in higher education, and especially in art colleges I think, staff turnover is quite low, so [academic] staff tend to be there for a long time, and of course they are used to a particular set-up for conducting their research and teaching.
	C.3. I definitely think the admin staff have had a much more difficult time because they are just having to learn new stuff and different processes. They are the ones that often are trying to keep the student registration coming in while still so worrying about all the new processes, not wanting to disrupt an individual student's processes, and trying to run two processes together [the old one and the new one], and to match them. Huge anxiety! Huge stress!
	C.4. We need to understand what causes them [art college staff] grief, what it is that caused them to go around with long faces; maybe it's the way that we do our business in the university. Do we need to explain it better? Do we need to explain the benefits to them better? Or do we need to understand from them that maybe their way of doing things was actually better than our traditional way of doing something?
	C.5. I am used to a smaller organization where generally, I would actually just get out of my office and walk next door or go down to the floor below and actually just speak to somebody. Here is so big; it's difficult sometimes to find out who you actually need to speak to, and then it's difficult to find out how you will go about speaking to them. Emails are difficult things to do when you have never met that person, to just email them out of the blue, is that appropriate?
	C.6. Over a period of years since I have been there, the academic staff have seen themselves more as educators and that's because there has been an awful lot of work done in the college about excellence in teaching and learning. Academics were engaged with the application processes from the very first day with students. I think there was some concern that that wouldn't be recognized in the university. I believe that the academics will ensure that that [the admissions routine] doesn't change!
	C.7. I think there were a lot of complications around the student records; you know, merging into a huge big system. And again because it doesn't matter… there's never two institutions set out their student records systems the same; they are all set up entirely different. But again, because the art college was set up to deal with different types of application, different types of assessment method, and [hence] the structure was different, the reporting process, the statutory reporting was different; so there's been a lot of frustration in that area for staff and students.
D. Pressures for consistency from the network of actants outside the art college	D.1. There have been some problems identified very, very quickly. And particularly for the undergraduates, there's one of the senior staff who has moved over has been given that as part of his remit to manage the transition for admissions, because they can't afford for the numbers to start dropping down because it was a very elite institution in the art world, and they can't afford to lose that sort of prestige. So there are a lot of challenges I think here, and that will take a lot of care for management over a period of time, but there is someone who got an overview of all of that, and that is an art college person.
	D.2. There was a sort of university roadshow which was set up, I think, the day or two days before the final degree show had to be set in place! And these are nuances which are specific to the art college, and you couldn't necessarily expect the university to know about them, but nobody really asked. So, that's one of the difficulties, you know, nobody sort of says what will be a suitable day for us to come and do a roadshow, or if they'd asked, I don't know who they asked.
	D.3. I think what you are saying here is the conflict between a big academic university, taking on a subject which is very creative, and where they don't have the experience of the assessment of the creative side.
	D.4. I mean that's the other thing within higher education, the pension providers aren't a certainty in the college of art, the pension providers aren't the art college pension providers.

1st Order Themes and Data Categories	Representative Quotations
	They are separate organizations, quite bureaucratic organizations. So you have to go through various motions and procedures to find out information from the pension people and that can take several weeks. They send you a letter which you have to hand to the person etc.; they have to consider it. So, yeah, it was hugely time consuming.

"One of the big problematic areas is the migration of their students, their records, from the art college system to the university system. I think what we had hoped was that the information could come directly from their system to our student system, in a pretty seamless way. This was because they had students on their electronic system, and we have got our students on our electronic system, and both student systems come from the same source, from TRIBAL [a software package] and basically, ours is a development of theirs. And it didn't happen as easily as expected. Talking to my colleagues in the IT world, there's been several issues where student records haven't migrated properly across. There was also an element where the way the art college did their business required their student system to be set up such that their process could be recognized within their electronic system. So there'd be several fields in their systems that had no equivalents in our system".

"One of the learnt points I think we have taken out of this was that we found it quite difficult to get people to engage with the complexity of the work that the academic registry in the college of art actually supported, and there wasn't this expertise set in below them at subject level... And I think the transition period has shown that to be true. And we feel that's one of the points that the new administration is now struggling with, that their sort of catch-all administrative culture had gone and there isn't any underneath it to replace it; so that's been a big challenge."

"I think actually that the transitional period needed to be much longer and it would have been probably a better decision to have left the original administration structure in place for maybe the first 6 months and then phased it out. Rather than this, everything stops on the first of August night; in fact that didn't work, because on the first of August, it was immediately apparent that the new administration were getting themselves located, getting themselves sorted out, discussing with the new Head of College what he wanted to structure. And in the meantime, the operation was still needing to run! So, we had to immediately agree that the admissions team had to go back to ECA and continue to work for two months there."

As a result of these conflicts, the higher order authorities in the university started to think of changing their centralized administrations concerning the art college admissions processes:

"While the new cross-art college graduate school will make it easier for staff and students to work across disciplinary boundaries, it is clear that the lack of physical proximity and insufficiently close working relationships between the administrative staff and academics in some disciplines have presented challenges in the first year. It may be possible to address this through adopting elements of multi-site delivery while retaining a cross-art college administrative structure. The latter issue is also likely to be a consequence of administrative staff not yet having developed a knowledge of the particular requirements of the different disciplines in the new art college, and will

resolve itself as relationships mature. The art college will monitor the delivery of graduate school services and consider if a multi-site delivery model is an option" (Official report on the meeting of the university court, released 10th of December 2012).

Based on my emergent findings, I am now able to model the findings and their relationship as depicted in Figure 18. As the model shows, the emergent themes led to a better understanding of the existing multiple ostensive aspects of the administrative routines in the merged institution and their recursive relationship with the day-to-day performances in the college and the university.

5.5. Discussion, Framework and Implications

Consistency in the performance of organizational routines is a means of achieving organizational efficiency. It has been argued that this can be achieved by simultaneous reduction in deliberation and organizational conflict and facilitation of learning and coordination (Stene, 1940; Becker, 2004). As Turner and Rindova (2012, p. 24) noted, "These positive effects, however, depend on the stability of operating conditions, and research has shown that changing environmental conditions are indeed associated with routine disruption and negative organizational outcomes". These negative outcomes, I believe, can be ascribed to the multiplicity of understanding the routines, created by multiple pressures for consistency, including upstream or downstream pressures in practising change and stabilizing routines.

5.5.1. Theoretical Contributions

Several factors emerge from the data as central to multiple ostensive understandings created by multiple pressures for consistency and their impact on performative routines.

My analysis reveals that individuals and administrative groups from the two organizations approach the admissions routine with different orientations (Howard-Grenville, 2005) residing in their depth of knowledge. This leads to multiple, distributed ostensive aspects of the admissions routine which can potentially result in divergent performances. This puts agency at the centre of attention once again as it shows that organizing routines - here the admissions routine - are indeed created as they are performed and enacted by the routine participants in practice (not by pre-

planned managerial decisions). As a central element of practice theory, adopting a practice lens for looking at organizational phenomena, organizational life as well as social life is an ongoing production and hence emerges through agents' recurrent actions.

Another factor is that fast learners from the smaller organization have been found to withdraw their ostensive understanding and enact the bigger organization's ostensive aspects, resulting in convergent performative routines. The rapid socialization of the routine participants into, and their habitual enactment of the dominant understanding of pressures for consistency in, the bigger organization enable the adoption of the university way of conducting the admissions routine in the college to proceed in a straightforward manner:

> "I think that will be dependent very much on individuals and particularly their background or the length of service and things like that, because some of them [who] haven't had a long service would have a breadth of knowledge but no depth to it necessarily because they hadn't been there long enough. Those [who] were there for a long time have got the breadth and the depth."

In contrast, a slow pace of learning by less socialized participants with the depth of knowledge and expertise from the art college tends to increase the potential of recreation of the college's way of conducting the admissions routine and, hence, to improve the aggregate knowledge of the merged institution (see March, 1991):

> "There is an awful lot to learn from the art college and especially in terms of the assessment and feedback and things like that, to utilize their knowledge in terms of developing that assessment model and assessment tool to bring the university up. That's a huge step, and fantastic transfer of knowledge and a new process".

> "I've got personally mixed feelings about it. The area I'm going to is an area I've got a lot of expertise in, and therefore I think I can actually do a lot with my experience to benefit the area that I am now responsible for; so I think there is an advantage to the department and I think I just need to have a personal awareness I think of trying to make sure that I stay informed and involved in the things that perhaps I had a lot of knowledge and experience in before that won't automatically be on my desk now!"

This seems to be of strictly limited outputs due to (1) the restricted capacity of the merged institution to realize these opportunities, and (2) the drive to achieve economies of scale out of the merger. However, my findings show a different output which clarifies that agency matters the most to the individual performances of the routine. This is due to the fact that the agents hold the multiple ostensive aspects

which carry the characteristics of the routine, what Schatzki (2002) calls 'teleoaffective structure'. This inhibits changes in this case in the original admissions routine of the old college more than any drives for adopting the university's dominant procedures. It is the characteristics of the 'teleoaffective structure' of the admissions routine embedded in agents' understanding of conducting the routine that construct the ostensive aspects and explicate agents' willingness to approach routines with an orientation to iterate past performances (Schatzki 2002; Howard-Grenville, 2005; Nicolini, 2012).

In line with Feldman and Pentland (2003), I also found that in order to control the actual performances, modern management - crystallized here in the university way of administration - needs to control the decisions made in the course of conducting a routine. As a result of this upstream pressure, any variation would be regarded as resistance. In Feldman and Pentland's (2003, p. 110) words, "this analysis might suggest that the ostensive aspect of a routine is aligned with managerial interests (dominance), while the performative aspect is aligned with the interests of labour (resistance)" (see also Leidner, 1993). However, in contrast to those findings, my findings show that the ostensive aspects can be aligned with different constituencies within an organization including managerial, institutional and/or labour interests. The routine performance in practising changes might be aligned with managerial (dominance, or change in my model) or administrators' (resistance, or stabilization in my model) interests, depending on the domination of upstream or downstream pressures for consistency (see Figure 19). This is also in sharp contrast with what Zbaracki and Bergen (2010, p. 13) found in their longitudinal study of price-adjustment routines:

> "Consider first adaptation of routines, which we treat as a process of endogenous change. We find different processes depending on the magnitude of the change. For smaller changes, the performative aspects dominate. The routines define a 'zone of discretion' (from Nelson and Winter, 1982) in which the marketing group changes list price and the sales force then negotiates an acquisition price. For larger changes, the ostensive aspects dominate".

As their argument implies, the more abstract ostensive aspects are usually dominant in larger changes, as upstream pressures from managers determine the courses of action and overcome downstream resistance. My findings, on the contrary,

show that whether in small or large changes, either upstream and downstream pressures may dominate and shape the course of action.

Another very important aspect of my findings contributes to the change and stabilization of 'the routine in principle' (Feldman and Orlikowski, 2011). Indeed, as the findings show (also explicated in Figure 19), either change or stabilization in the performance of the admissions routine in this case could lead to change in ostensive understanding of the routine among various administrators (and stabilization of the understanding of others). This is critical when it concerns learning in organizations and when it comes to changes in ostensive aspects without any changes in the performance. Indeed, it reemphasizes that learning can actually take place in organizations without an immediate change in action.

Figure 19: A Model for Practising Change and Stabilizing Routines
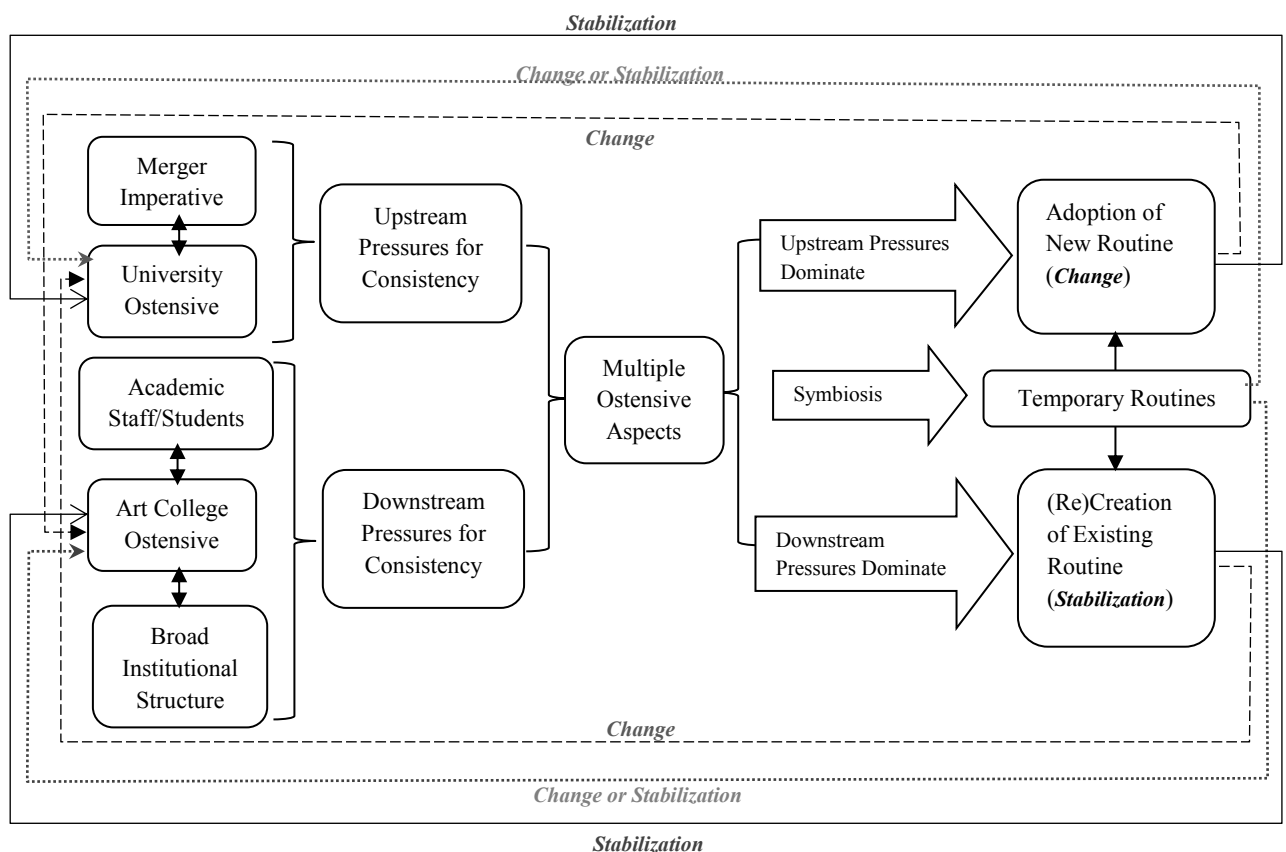
The next factor, one that has been largely ignored in previous research by routine scholars, is the creation of temporary routines in which neither upstream nor downstream pressure dominate but the course of action is shaped by symbiosis or

consensus of different pressures for consistency. This was the case in portfolio management in this case study, where the use of an external commercial system (Dropbox) was agreed on as an interim arrangement while the merged institution was developing the capacity to incorporate the technological complexities of the college's practice. As depicted in my model (Figure 19), the creation of temporary routines calls for changes and stabilizations in the ostensive aspects in the long term which plays an important role in the shaping of convergent or divergent routine performances. This opens up a new avenue for research in routine theory which explores the role of temporary routines in change and stabilization of organizational routines, and more importantly in the creation of new routines (hence innovation and novelty in organizational life).

My findings also confirm – again, in line with Feldman (2000) and Feldman and Pentland (2003) – that organizational context, which is the result of the interaction of internal upstream and downstream pressure and external institutional pressures, shapes the course of action by making it easier, and hence more likely, to take some actions, while making other actions harder and therefore less likely. The resultant performance, in response to external and internal changes, creates and recreates the ostensive aspects of organizational routines through time, which makes change conceivable from one action to the next.

Finally, as already noted by routine scholars, the ostensive aspects are not only the result of existing performances and exogenous changes (hence upstream and downstream pressures for consistency), but are also "influenced by institutional dimensions such as the complex web of historical local institutions and systems of routines in which subroutines are involved" (Labatut, Aggeri, and Girard, 2012, p. 65). In my case, this was demonstrated by the way that interconnectedness of the admissions routine with other academic activities in the art college, as well as with the broader institutional structure in the art world, could shape the chain of interrelationships. This, in turn, results in multiple ostensive aspects leading to stabilization (or change in different circumstances) in the performance of the admissions routine (see Figure 19). The more the administrative routines are connected with academic activities and the outside world of art, the less possible it becomes to change the routines as a result of the merger.

Hence, an important output of this research demonstrates that the multiple ostensive aspects of routines are not only highly distributed all over the organization from the bottom to the top, but also extend over the vanishing boundaries of the organization into the institutional framework in which the organization performs. As D'Adderio (2008, p. 770) has observed, "…abstract understandings of routines are not simply people-embodied but highly distributed across a complex web of people and everyday artefacts". Distributed ostensive aspects outside the organization and in its institutional context can play the role of institutional 'inhibitors' or 'drivers' in practising change. In other words, the embeddedness of the routine's performances in other aspects of the organization and in the broader setting in which the organization acts creates possibilities for change and stabilization of the routine over time (Howard-Grenville, 2005). This contributes to filling the big gap in practice-based studies concerning organizational routines in which, somehow ironically, scholars were concerned so much with situated actions — "the specific actions of specific people in specific organizations" — that it led them to "ignore fundamental organizational attributes that exist above the level of the routine but nonetheless affect its performance" (Parmigiani and Howard-Grenville, 2011, p. 443), and, hence, to ignore fundamental differences between organizational routines regarding their accomplishment and those higher level organizational attributes influenced by its institutional setting. Indeed, there are situations in which practice would be kept in place (or would be changed in different circumstances) due to its occurrence amid a group of interconnected practices. Here the attention should be diverted back and forth between the practice itself and the texture of interconnected practices in which it is immersed. This necessitates scholars to widen their angle of research or, as Nicolini (2012, p. 228) proclaimed, to simultaneously "zoom in on the practice" and "zoom out to consider the field" in which the practice is carried out.

5.5.2. An In-Vivo Model for Practising Change and Stabilizing Routines

My findings identify the dynamics of performative–ostensive cycles which iteratively construct administrative mechanisms in practising exogenous changes. It has been widely discussed and broadly accepted that existing performances constantly and recursively create and recreate abstract patterns that have been

referred to as ostensive aspects as "they come to be articulated and experienced as states of being" (Jarzabkowski *et al.*, 2012, p. 919). These shape what Feldman and Pentland (2003) refer to as the processes of 'creation, maintenance, and modification' of ostensive patterns by performances. On the other hand, the ostensive aspects are recursively implicated in the performances that create them. This in turn is what Feldman and Pentland (2003) refer to as 'guiding, accounting, and referring' processes in the creation of performances by abstract understanding or as agents bring ostensive aspects to performances by enacting the routine in practice.

As an extension, I offer a dynamic model which constitutes exogenous changes in the performative-ostensive cycle of routine dynamics (Figure 20). An exogenous change, as an underlined disruption to the internal dynamics of routines, brings about additional dynamics in the performative-ostensive cycle which can help improve understanding of organizational change and stabilization phenomena. This disruption intensifies multiplicity of the ostensive and performative aspects of the routine. Even in cases such as the merger in which a convergent performance is agreed upon, the clashes among multiple ostensive aspects can result in either dominance or resistance in the collective performance of the routine in hand (Leidner, 1993; Feldman and Pentland, 2003). The dominance or resistance (in this case, change and stabilization respectively - however, as discussed before, it can be the other way around) in the routine's performances in turn would result in simultaneous change and stabilization in various groups of ostensive understanding held by multiple routine participants. At the end of the cycle, the continuation of 'the routine in principle' over time guides, accounts for, or is referred to in shaping existing performances, with a specific purpose of training novices in the process of socialization into the existing routine.

Figure 20: An In-Vivo Model for Practising Change and Stabilizing Routines
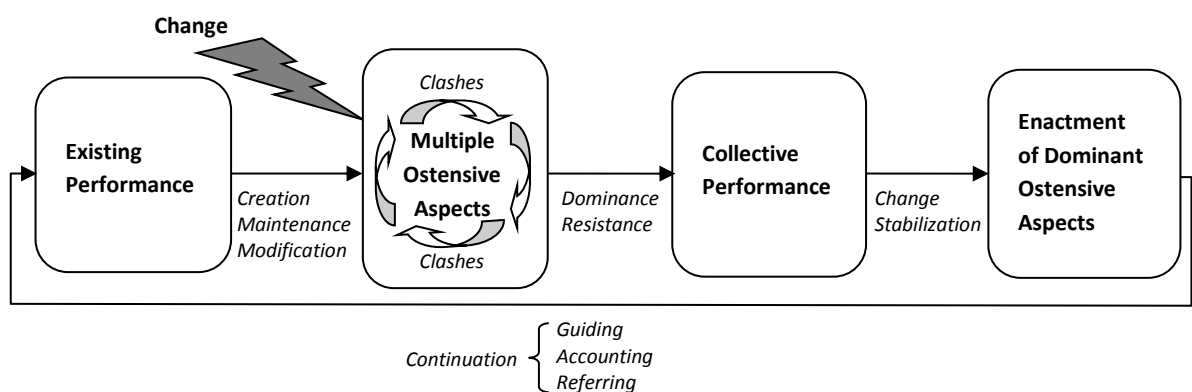
5.5.3. Implications of the Model

My proposed model for the ostensive-performative cycles that underpin change and stabilization in organizational routines (summarized in Figure 20) makes important contributions to the literature. First of all, it identifies two important but previously underappreciated aspects of moving from an existing routine (here an administration mechanism) to a new one in experiencing endogenous changes. These include the role of dominance/persistence processes in shaping performances and change/stabilization in 'the routine in principle'. The most important implication of the first contribution is that dominance or resistance both can lead to either change or stabilization of 'the routine in principle' in varied circumstances.

Second, my model contributes to the extant literature that examines routines as generative systems (Adler *et al.*, 1999; Pentland and Rueter, 1994; Feldman, 2000; Feldman and Pentland, 2003; Rerup and Feldman, 2011). Adopting a practice lens, routine scholars have shown that organizational routines used in daily organizational life for accomplishing various tasks are "neither static nor immutable, but rather, they contain the possibilities for novelty, flexibility, and change within their performance" (Jarzabkowski *et al.*, 2012, p. 921). My model suggests that the main source of the generativity of organizational routine is 'the recursive and mutually constitutive relationship' between the distributed multiple ostensive patterns, on the one hand, and the specific performances of routines, on the other (Feldman and Pentland, 2003; Howard-Grenville, 2005; D'Adderio, 2008; Turner and Rindova, 2012).

Third, my empirical research contributes to the shift from specifying the characteristics of organization mechanisms to a study of examining the enactment of organizing in practice. My study adds to this valuable extant literature on organizing (Adler, 1995, Cook and Brown, 1999; Orlikowski, 2002; Jarzabkowski *et al.*, 2012) by showing that an administrating routine is indeed created as it was performed by the routine participants (and not by deliberation). To put it simply, agents bring routine to life in its every iteration continually and therefore agency matters the most

to the shaping of individual performances of organizing routines (Howard-Grenville, 2005).

Finally, my model extends routine theory and the use of the ostensive-performative cycle in understanding organizational change and transformation by adding the element of exogenous disruptions to the cycle. Earlier works have explained how internal dynamics of routines can lead to change (or stabilization) in a state of relative stability. However, in those situations, the multiplicity in ostensive aspects of organizational routines might be overlooked. In the presence of external forces, this multiplicity can no longer be ignored because the clash of the understanding of routines becomes a central practical concern for the continuation of the routines in hand. My model elucidates that exogenously motivated changes also occur through the iterations between multiple ostensive aspects and routine performances (see also Jarzabkowski et al, 2012).

5.6. Conclusion

Revealing the internal structure of, and the interaction between, different aspects of organizational routines has undoubtedly provided useful insights into many of the under-researched aspects of organizational change and stabilization. However, there is still a lot to explore. Specifically, although the extant literature has noted that routines may have multiple ostensive aspects because different participants may have different understandings of how a routine should be carried out, this multiplicity is often overlooked and the simplifying assumption adopted that a given routine has a single ostensive aspect. When an organization experiences an exogenous change, such as a merger, this multiplicity becomes a vital issue. This chapter tries to make a contribution towards filling these important gaps in the understanding of the dynamics of routines. First and foremost, it provides a finer-grained picture of the micro dynamics of interaction between multiple ostensive aspects of routines and actual performances in the ostensive-performative cycles and in the presence of an exogenous change. It also allows us to incorporate the effect of the institutional framework surrounding routines into this picture - although this chapter does not fully develop this concept. However, this can open up a new avenue of investigation for routine scholars trying to contribute to this stream of research. The chapter

extends routine theory by explicating the formation of multiple ostensive aspects as a result of multiple pressures for consistency distributed throughout the organization, from bottom to top, and extending beyond the vanishing boundaries of the organization in which it performs.

The case study approach taken in the chapter does not result in statistical generalization (or predictions in the conventional sense) for all organizational changes and transformations - or even mergers and acquisitions - but rather provides bases for theoretical generalizability (Eisenhardt, 1989; Yin, 2003; Eisenhardt and Graebner, 2007; Jarzabkowski et al, 2012). Concerns about the external validity are not traded off in this study as there are specific patterns in my findings that can 'travel' through time and space and can be observed in other organizations, public or private, experiencing a major restructuring process (Feldman and Orlikowski, 2011). In particular, a certain level of generalization can be found in other organizations in terms of the sort of restructuring, time needed to accomplish a certain task, as well as the agents involved and their relationships in the reconfiguration of certain internal processes and practices and other contextual elements. Therefore, I can conclude that the presented model in this study may be a valuable basis for further research on the dynamics of organizational restructuring through the accomplishment of organizing mechanisms.

Chapter Six: Conclusion

6.1. Overview

This chapter is a conclusion to this four-essay dissertation, overviewing and summarizing its findings and main contributions. The four essays, comprising chapters two, three, four, and five, stand by themselves to be read independently, while demonstrating the chronological order of the study[54]. As a result of this self-sufficiency, certain levels of redundancy and repetition were unavoidable. This is particularly the case for the research setting and methodology sections. However, the four manuscripts are integrated here as one single dissertation based on one exploratory, single-case study.

By conducting this research, I aimed at contributing to three broad streams of research including 'organizational learning' (March, 1991; Leonard-Barton, 1992; D'Adderio, 2001; Nag and Gioia, 2012), the 'management of knowledge' (Kogut and Zander, 1992; 1993; 1996; Grant, 1996a; 1996b; Foss, 1996a; 1996b; Nahapiet and Ghoshal, 1998; Felin and Hesterley, 2007; Spender, 1996; Szulanski, 1996; Tsoukas, 1996), and 'change management' (Cook and Yanow, 1993; Orlikowski, 2000; 2002; Becker, Lazaric, Nelson and Winter, 2005). More specifically, I believe this dissertation contributes to three strands of literature, namely the 'knowledge- or capability-based perspective' (Zollo and Winter, 2002; Zollo and Singh; Nooteboom, 2008; Håkanson, 2010), 'organizational routines' (Feldman, 2000; Feldman and Pentland, 2003; Howard-Grenville, 2005; Zbaracki and Bergen, 2010), and 'micro-foundation of organizing' (Feldman and Orlikowski, 2011; D'Adderio, 2008; Jarzabkowski *et al.*, 2012). In particular, by standing between the capability and practice perspective (Parmigiani and Howard-Grenville, 2011), I have tried in this dissertation to bridge the big gap between these two schools of thought and to initiate

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[54] An important point that should not be neglected in reading this thesis is that the study reflects not only on the chronological order of the academic merger as the case study of this research, but also on the researcher's development through four years of PhD study. As a result, a slight diversity in the understandings of the phenomenon under investigation can be noticed throughout the various chapters of this thesis.

a dialogue between the two groups of scholars. In order to manage, design, (re)create or influence organizational routines and capabilities, our need to understand the internal dynamics of them and to dive further into the black box of agency (cognition and behaviour) is, I believe, as important as understanding the relationships between situated routines and organizational cultures or schemata, broader institutional settings and their impacts on routine performance (Parmigiani and Howard-Grenville, 2011; Nicolini, 2012).

Adopting this perspective, the lenses I have used throughout this text have changed several times. This enabled me to provide a fuller-fledged and finer-grained account of the phenomenon under study, i.e. the academic merger. As the reader of the text should have noticed, I provided various accounts of the phenomenon concerning the practice and/or capability perspective in the preceding chapters. For example, I was geared towards the capability perspective in chapters three and four, while I combined it with the insights from the practice school. On the other hand, in chapter five I was more concerned with the practice perspective. In this chapter I tried to depict the internal dynamics of the admissions routine, while still, however, my analysis was clearly informed by the capability perspective and the importance of the broader context, the network of actants outside the immediate setting of the research and the institutions in which the merger was taking place.

Chapter two, the only chapter written during the merger preparation stage, consisted of a comprehensive literature review alongside secondary document analysis produced by the focal merger and previous experiences by the university in mergers and acquisitions. These materials were combined with the early stages of my non-participant observation to provide a valuable account of potential knowledge and capability recreation processes, facilitators and obstacles. The immediate output of this chapter was a conceptual framework that informed the following chapters. This framework helped differentiate between knowledge and knowing at the organizational and technical/scientific levels.

Chapter three formed the main body of my dissertation. In addition to the vast document analysis I conducted for chapter two, this chapter benefited further from the first and second rounds of my semi-structured interviews. Informed by the

conceptual framework introduced in the previous chapter, and by adopting a performative perspective, this chapter represented the first emergent findings of the field data. The main focus here was on providing a valid account and big picture of the academic merger and the recreation of various organizational routines (incorporating both *Organizational/Administrative* and *Technical/Academic* ones), accompanied by a thick explanation of underlying phenomena. Chapters four and five were indeed offshoots from this chapter.

In chapter four, I 'zoomed out' of my immediate research field in order to provide a valid contrast between knowledge governance in university with knowledge governance in business firms. Benefiting also from the third round of interviews, this chapter was an endeavour to compare knowledge processes and governance structures in the British higher education sector with those of commercial firms by utilizing the insights that emerged from the academic merger. It was primarily aimed at providing an extension to the so-called 'knowledge- or capability-based view of the firm' by applying the theories in a different organizational setting. Similarities and differences between the two knowledge governance systems were discussed and the reasons behind these similarities and differences were explicated.

Finally, in chapter five, in contrast to the previous chapter, I 'zoomed in' on one single, somehow unique organizational routine in this merger, namely the admissions routine, in order to provide a detailed account of the internal dynamics of organizational routines in the presence of an exogenous change. Similar to chapter 4, this chapter also benefited from tertiary interviews conducted with the highest possible level of theoretical sampling necessary for satisfying theoretical saturation for an inductive inquiry. By depicting the recursive relationship between multiple ostensive aspects created by different pressures for consistency, on the one hand, and change and stabilization in performances in the merged entity, on the other, this chapter explicates how the existence of multiple ostensive aspects, distributed throughout the organization from the bottom to the top and beyond its vanishing boundaries, simultaneously enables and constrains changes in performance as routine participants enact the routine in practice

6.2. Theoretical Contributions

6.2.1. Chapter Two: Essay I

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 (Hitt *et al.*, 1991; Lundvall and Nielsen, 2007; Bresman *et al.*, 1999; Birkinshaw *et al.*, 2000). Taking a performative view of knowledge as knowing in action (Cook and Brown, 1999; Orlikowski, 2002; 2006; Feldman and Orlikowski, 2011), I asked in this chapter what this transfer really means in practice. This relates to my first broad research question of "how do organizations through the course of a merger strike a balance between achieving the necessary level of organizational integration and minimizing the disruptions that mergers of this order of complexity typically entail to existing competencies". I found that it implies the creation of a community in which joint action leads to the development of a common language allowing for knowledge sharing, mutual learning, and capability recreation (Nooteboom, 2008; Håkanson, 2010). In the context of a knowledge-intensive public service sector (higher education), I investigated 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.

Drawing a line between two kinds of knowing in any given organization (cf. Nooteboom, 2008; see also, Nelson, 1982 and Coriat and Dosi, 1998), namely 'organizational/administrative knowing' and 'scientific/technical knowing', I concluded 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 these communities (Cook and Brown, 1999; Nooteboom, 2008; Håkanson, 2010). This can potentially lead to a higher intended (deliberate) level of integration for organizational COPs and a more emergent integration process for scientific ones. Without the development of COPs, it is very difficult, if not impossible, for a given merger to lead to capability transfer (recreation), 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 recreated in everyday activities.

6.2.2. *Chapter Three: Essay II*

Organizational transformations, such as mergers and acquisitions, disrupt the steady state of organizational routines in academic institutions (Feldman, 2000; 2003). Under some conditions, these kinds of disruptions may actually alter the organizational and occupational structure of academic work. However, current theories of organizational routines are inadequate when it comes to the potential number of structural variations inherent in an organizational transformation in non-commercial settings. Taking a practice lens, this chapter proposed a finer-grained picture of these structural variations by depicting the recursive relationship between changes in knowledge content and knowledge-use practices in an academic merger.

Taking a performative view of knowledge as knowing in action (Cook and Brown, 1999; Orlikowski, 2002; 2006; Feldman and Orlikowski, 2011), this chapter explicated what organizational routines recreation really means in the practice of an academic merger, and where and when exploitation and exploration may take place. This indeed relates to my second broad research question of "how do organizations strike a balance between learning aimed at absorbing or mastering the existing knowledge of others (exploitation), and learning in the sense of discovery (exploration) during the course of a merger, and what are the main barriers for achieving that balance". The answer resided in the categorization of organizational routines as 'organizing' and 'competence-based' routines and the identification of four dominant knowledge (re)creation processes, namely replication, articulation, integration, and combination (adopted from Håkanson, 2010). The findings showed that the cognitive backgrounds of the routines participants within organizational knowledge communities, which I identified as either organizing or competence-based (Nelson, 1982; Coriat and Dosi, 1998; Nooteboom, 2008), were as important as the knowing processes they aimed to recreate (Nag *et al.*, 2007). While the organizing routines recreation was generally associated with a lower level of cognitive distance and aimed at exploitation of existing knowledge and capabilities,

the pace of recreation decreased as the tacitness of the knowledge informing the knowledge-based practices increased. Replication and articulation were defined as prevailing processes in the latter scenario. As for competence-based routines, since they were characterized by greater cognitive distance aimed at exploration of new knowledge, the knowing recreation processes were much more complex and time consuming. Prevailing recreation processes varied from integration at lower levels of tacitness to combination at higher levels. Since a dominant issue in the current thread of research in organizational routines tries to identify ways in which organizations can facilitate collaboration across multi-disciplinary knowledge communities, this chapter contributed to managing cross-boundary work and adaptive organizational learning, as well as organizational change and adaptation and organizational knowledge and capability recreation (Cook and Yanow, 1993; Orlikowski, 2000; 2002; Becker, Lazaric, Nelson and Winter, 2005; D'Adderio, 2008).

6.2.3. Chapter Four: Essay III

The knowledge-based theory of the firm is based on the idea that firms are in a privileged position to manage knowledge-intensive processes (Grant, 1996a; 1996b; Kogut and Zander, 1992; 1993; Nahapiet and Ghoshal, 1998; Nickerson and Zenger, 2004). In line with its origin in a critique of transaction cost based explanations of the existence and boundaries of firms, this stream of research has allotted its exclusive empirical and theoretical focus to the governance properties of 'business firms' as compared to those of arms-length markets. The lack of attention to other forms of governance raises concerns regarding the validity of its claims (Foss, 1996a; 1996b; Galunic and Rodan, 1998; Håkanson, 2010; Janowicz-Panjaitan and Noorderhaven, 2009; Kogut and Zander, 1996; Spender, 1996; Szulanski, 1996; Tsoukas, 1996; Felin and Hesterley, 2007; Dosi, Faillo, and Marengo, 2008).

Applying insights from the knowledge-based theory of the firm and the literature on post-merger integration (Haspeslagh and Jemison, 1991; Zollo and Singh, 2004; Ranft and Lord, 2002; Greenberg and Guinan, 2004; Cassiman and Ueda, 2006) to an inductive analysis of an academic merger, this chapter explored similarities and differences between the knowledge governance properties of firms with those of universities. This endeavour is indeed a reflection on the third broad

research question of this dissertation of "how do the learning processes and knowledge governance systems of an organization affect, and how are they affected by, the characteristics of the knowledge processes undertaken within them, and how this creates the differences between the intended level of integration before the merger and actually realized level of integration afterward". In other words, this chapter inductively examined how governance structures in universities impact the creation and exploitation of knowledge, both in core academic activities (research and teaching) and in related and supporting administrative tasks. Similarities and differences in relation to knowledge governance in firms were also identified. Likewise, the reasons behind these similarities and differences were explained, possible extensions of the knowledge-based theory of the firm were proposed and some tentative managerial implications for the organization of knowledge work in modern universities were outlined.

Within the limits of its exploratory nature, the findings of this chapter suggested that universities may be superior to firms in governing knowledge processes involving the transfer of tacit knowledge in master-apprentice type of relationships, and in knowledge creation through articulation, often too time-consuming and expensive for profit-oriented firms in competitive environments. The findings also suggested that under prevailing institutional conditions and incentive structures (Locke, 1989; Clark, 1998; Lee, 2007; Mosey *et al.*, 2012; Martin, 2012; Taylor, 2013), universities can often match business firms in their ability to exploit existing knowledge through *integration* and *replication*. In other words, universities seem often able to match business firms in their ability to exploit existing knowledge through integration and replication at the administrative level.. Conversely, it appears that universities are relatively disadvantaged in the governance of processes involving combination of knowledge across epistemic boundaries in conducting inter-disciplinary research. The low prestige and impact factors of the few inter-disciplinary journals available, the difficulty of finding reviewers capable of appreciating inter-disciplinary research and the personal investments necessary to acquire sufficient mastery of another field make such endeavours exceedingly unattractive.

6.2.4. Chapter Five: Essay IV

Revealing the internal structure of, and the interactions between, different aspects of organizational routines has undoubtedly provided useful insights into many of the under-researched aspects of organizational change and stabilization (Feldman, 2000; Feldman and Pentland, 2003; Howard-Grenville, 2005; D'Adderio, 2008; Zbaracki and Bergen, 2010; Turner and Rindova, 2012; Pentland *et al.*, 2012). Although the extant literature has noted that routines may have multiple ostensive aspects, because different participants may have different understandings of how a routine should be carried out, this multiplicity has been often overlooked and the simplifying assumption adopted that a given routine has a single ostensive aspect (Feldman and Pentland, 2003). This chapter contributed towards filling these important gaps in the understanding of the dynamics of routines. When organizations change, for example when they merge with or acquire other organizations, this multiplicity can no longer be ignored because the clash of processes and routines becomes a central practical concern for everyone involved. The questions that are addressed in this chapter include (a) how do routine participants from two merging institutions balance multiple pressures for consistency (multiple ostensive aspects) in delivering a collective performance of an organizational routine (the admissions routine) while experiencing an exogenous change, and (b) how do the micro dynamics of interaction between multiple ostensive aspects of routines and actual performances enable/hinder an organizational transformation.

Drawing on, and contributing to, recent debates on performative-ostensive cycles in routine theory (Turner and Rindova, 2012; Jarzabkowski *et al.,* 2012), this chapter proposed a framework which can better characterize the mutual adaptation between existing multiple understandings and actual performances in practising change and stabilization of organizational routines. This framework, combined with the exploratory case study of an exogenous change, enabled a better understanding of the structural variations in routine dynamics by depicting the recursive relationship between multiple ostensive aspects created by different pressures for consistency, on the one hand, and change and stabilization in performances in the merged entity, on the other. It provided a finer-grained and fuller-fledged picture of the micro

dynamics of interaction between multiple ostensive aspects of routines and actual performances. The suggested framework explicated how the existence of multiple ostensive aspects, distributed throughout the organization from the bottom to the top and beyond its vanishing boundaries, simultaneously enables and constrains changes in performance as routine participants enact the routine in practice. It allowed us to incorporate the effect of organizational context and the institutional framework surrounding the organization into this picture, opening up new avenues for future research. The chapter extended 'routine theory' by explicating the formation of multiple ostensive aspects, as a result of multiple pressures for consistency distributed throughout the organization, from bottom to top, and extending beyond the boundaries of the organization in which it performs.

6.3. Methodological Contributions

In a world of research still vastly dominated by deductive, quantitative research, conducting an inductive, qualitative study needs a great deal of encouragement and effort, which deserves appreciation. Dealing with the ambiguity and hence the uncertainty associated with an inductive, qualitative inquiry, and its implicit companion case study research, constitutes a considerable contribution to the organization studies and management research in its own right.

In an exploratory, single case study (Eisenhardt, 1989; Yin, 2003), I adopted a grounded theory approach (Strauss and Corbin, 1990) based on a combination of problematization and gap-spotting strategies for research (Alvesson and Sandberg, 2011). An inductive, case-based approach was seen as appropriate because of the exploratory nature of the topic, examining micro-foundations of organizational transformation phenomena that need an in-depth inductive approach (in order to extend the domain of existing theories since little research has explicated these micro-foundations).

On the other hand, organizational routines constitute my unit of analysis, enabling 'zooming in' on and 'zooming out' of organizational changes (or stabilities) taking place as a result of the merger, change drivers (or deterrents), and processes of emergence, persistence, and institutionalization of new routines (or stabilization of

current ones) (Becker *et al.*, 2005, Feldman, 2000; Pentland and Feldman, 2005). The data analysis is conducted in an iterative fashion in order to satisfy the development of inductive theory, meaning I was constantly traveling back and forth between the collected data, emerging findings, and extant literature (Locke, 2001). I also analysed the data collected in the familiarization and sampling stages using analytical techniques for qualitative content analysis (Miles and Huberman, 1994).

Triangulation of the rich data resulting from this approach (interviews, field studies, document analyses, etc.) accompanied by appropriate bottom-up coding and memoing (Urquhart, 2013) formed the basis of the discussion in my dissertation. I heavily relied on constant comparison of multiple respondents over time in order to discover the similarities and differences. This enabled me to detect conceptual patterns in my vast qualitative data (Strauss and Corbin, 1990).

I believe this endeavour not only added to the growing pool of inductive, qualitative research, but also provided an example for conducting a single case study satisfying the development of inductive theory. I believe the single case study approach taken in this dissertation provides a basis for theoretical generalizability (Eisenhardt, 1989; Yin, 2003; Eisenhardt and Graebner, 2007; Jarzabkowski *et al.*, 2012). Theoretical generalizations are different from statistical generalizations (or predictions in the conventional sense) in that they explain situated dynamics, not universal variation. Although each research context is different, "the dynamics and relations that have been identified and theorized can be useful in understanding other contexts. In this way, theoretical generalizations are powerful because they travel" (Feldman and Orlikowski, 2011, p. 1249).

6.4. Practical Implications

Since budget cuts are giving highly-ranked British universities cause for concern about their future, a conceivable reaction by the boards of directors of a number of UK universities is merger with institutions that have complementary resources and capabilities. As a result, the issues raised in this dissertation are not only of great theoretical interest, but they have considerable empirical and managerial relevance. Specifically, in the face of increasing global competition, cost pressures and demands

to increase research output and services to students, a wave of mergers have affected the university sectors in the States, Canada, the UK and many other countries in Europe (Eastman and Lang, 2001; Lang, 2002). Dozens of institutional mergers have occurred in the British higher education sector in recent decades. These pressures have affected the organizational systems, managerial practices and organizational cultures of individual universities and colleges to different degrees. As extant literature proposes, while some institutions have moved to become 'professionalized managerial systems', others have retained a more scholarly, collegial approach (Clark, 1998; Mosey et al, 2012; Deiaco, Hughes and Kitson, 2012).

To be specific, the importation of managerial practices from business firms into the very different epistemic environment of academia has had some familiar consequences, such as the tendency to focus on performance indicators (number of articles in specified prestigious journals) rather than on actual performance (quality, novelty or usefulness of new ideas), leading to an emphasis on orthodox, methodology-driven and consensus-seeking research (Macdonald and Kam, 2007; 2010). An inadvertent consequence of the introduction of these practices and incentive systems into academia has been the strengthening of its disciplinary focus. I found that effective managerial intervention in the practice of academic teaching and research requires a more fundamental consideration of the epistemic characteristics of academic communities and the governance structures that shape their members' identities and moral aspirations.

As the case study illustrated, knowledge processes within the confines of an individual epistemic community are subject to a very different logic than those taking place across epistemic boundaries. In the case of the former, knowledge processes are facilitated both by shared mastery of the theory, codes, and tools of a common practice and by the moral obligations associated with community membership and professional identity. In the case of the latter, both the ability and the motivation to engage in collaborative knowledge exchange need to be ensured through governance structures superseding those of individual epistemic communities. This involves not only the creation and maintenance of a common infrastructure – including, for example, shared organizational culture, common

vocabulary, and boundary objects (Håkanson, 2010) – but also the provision of an incentive structure encompassing both intrinsic (identity) and extrinsic (money, prestige) rewards. The creation and maintenance of such governance configurations are a main and ongoing accomplishment of the modern day business firm but they are alien to most universities as these have historically evolved.

I also found that the matching of governance structures with knowledge processes requires a holistic perspective. For instance, for inter-disciplinary research to flourish, new institutional frameworks need to be devised, in many ways radically different from those now prevailing in most universities. Conversely, the need for such matching suggests that the importation of managerial practices suitable for business firms and public service organizations into the largely disciplinary environment of universities will generally be ineffective or counterproductive.

I believe this project is proved to be of value not only to the whole UK higher education sector, contributing to the success of future mergers that will happen in this sector, but also to the similar organizational settings full of prominent knowledge processes elsewhere in the UK or around the world. Therefore, my findings in this dissertation are relevant to other organizational settings in which organizational restructuring takes place in the presence of an exogenous change. Even beyond such organizations, reconfiguration and restructuring of taken-for-granted relationships among various divisions of organizations may occur in every single organization. This thesis, hence, provides some implications for the way of accomplishing administrative mechanisms in practising change and stabilization of those routines with regards to their internal dynamics and distributed understandings all over the organization (see Jarzabkowski *et al.*, 2012).

6.5. Limitations

The main, classic limitation of this research resides in its single-case research design. I understand that by focusing on only one type of organization — in this case, an academic organization — and one type of organizational transformation – here, a merger – I might be limiting the applicability of the findings to other types of organizations and other types of organizational transformations. However, I believe

that the grounded theory, in general, and the specific findings of this case study are transferable to many academic organizations, which are facing ever-increasing pressures to stay on the cutting edge academically (research and teaching), while preserving their marketability at the same time. I also believe that the findings can broadly benefit organization studies since the major concepts of knowledge (cognition or ostensive aspects) and knowing (practice or performative aspects) are apparently pertinent to all types of organizations. As mentioned before, "the 'theoretical generalizations' produced through the use of practice theory are not predictions in the conventional sense but may be better understood as principles that can explain and guide action. They articulate particular relationships or enactments that offer insights for understanding other situations while being historically and contextually grounded. Although each context of study is different, the dynamics and relations that have been identified and theorized can be useful in understanding other contexts… theoretical generalizations are powerful because they travel" (Feldman and Orlikowski, 2011, p. 1249).

6.6. Future Research Suggestions

Epistemic Communities (ECs) are defined by their unique theories, codes, and artefacts, which make, and are made by, the sense of identity of their members. This reciprocal process can affect and be affected by integration processes in mergers and acquisitions (or change and adaptation processes in organizational transformations in general). Since universities generally deal with a duality of identities in nature – which itself is a part of their identity – namely normative (oriented toward cultural and educational functions) and utilitarian (centred on economic production), future research is suggested to scrutinize this recursive relationship between organizational routines recreation processes and identity (re)creation at organizational, group, and individual levels. Contemporary work on identity construction and reinvention has much to offer in this area (see, e.g., Nag *et al.,* 2007; Nag and Gioia, 2012).

Also, as this research demonstrated, the role of temporary routines in change and stabilization of the 'routine in principle' is underappreciated. There seems to be a huge gap and vast area for further research in this regard. The role of 'affordance' (cf. Gibson, 1979; 1984; Hutchby, 2001) in practising change and stabilization of

organizational routines also needs more consideration. An implicit companion of this would be the role of artefacts in practising change and stabilization of routines. Although a few existing works have already initiated the conversion (e.g., Hutchby, 2001; D'Adderion, 2008; 2011), there is still a lot to be explored in this area. It is advised that future research should scrutinize this relationship in fuller detail.

Last but not least, there were many interesting areas in this research that, due to the lack of time, were left unexplored. These include the role of projects in integration and combination processes of knowledge governance, the role of project champions in bridging epistemic boundaries between disciplinary groups and communities of practice, the role of trust as facilitator of the integration process, and the role of power and hierarchy in change and stabilization of organizational routines and capabilities. These areas are all of great interest and mergers and acquisitions in particular provide an excellent context for study of these phenomena. It is also advised that future research should further explore these areas of study.

6.7. Conclusion

By conducting this research, I believe that I contributed to the understanding of how an organization's canonical knowledge may be subject to variation across the organization's membership, due to the presence of various, possibly conflicting, interests, both within the organization and beyond its boundaries. This suggests that in situations of significant shock such as organizational mergers, it is not only the most tacit aspects of organizational culture that may pose roadblocks on the way to integration, but also unlooked-for inconsistencies in canonical practice of which those given responsibility for execution of the merger may be unaware. What may appear to them as resistance may in fact be the result of cross-organizational differences in the understanding of relevant routines that need to be resolved by dialogue that begins before an exogenous organizational change, such as a merger, by building an understanding of the circumstances giving rise to variation in routine performance, and makes it possible to arrive at a convergence in practice.

The conclusions sketched in the preceding paragraphs are, of course, tentative at most. However, I hope that the study reported in this dissertation has demonstrated

the potential inherent in expanding the scope of research on knowledge processes beyond the institutional conditions of business firms. By comparison and contrast, analyses of knowledge-intensive activities in other types of institutional environments hold, I believe, great promise in increasing our understanding as to the unique roles and properties of different governance modes for the creation and exploitation of productive knowledge.

The case study approach taken in this dissertation does not result in statistical generalization (or predictions in the conventional sense) for all organizational changes and transformations – or even mergers and acquisitions – but rather provides bases for theoretical generalizability. Concerns about the external validity are not traded off in this study as there are specific patterns in my findings that can 'travel' through time and space and can be observed in other organizations, public or private, experiencing a major restructuring process. In particular, a certain level of generalization can be found in other organizations in terms of the sort of restructuring, time needed to accomplish a certain task, as well as the agents involved and their relationships in the reconfiguration of certain internal processes and practices and other contextual elements. Therefore, I can conclude that the presented models in this study may provide valuable bases for further research on the dynamics of organizational restructuring through the accomplishment of organizing mechanisms.

Personal Reflection

I decided to include a personal reflection at the end of my dissertation to allow the reader to comprehend the mental processes that I passed through whilst carrying out this research.

When setting out on the PhD journey, which seems an endless process, I was not really sure what to expect. I knew that I wanted to investigate organizational learning and the processes associated with the management of knowledge in organizations particularly because it seemed that our understanding on these topics, which are so important in organizational study, strategic management and related subject areas, was fragmentary. I was also aware that I would have to conduct a comprehensive literature review first, to determine if this impression, which was only partly based on past experience, could be corroborated by the extant evidence base. This was specifically the case for me since I started with a purely quantitative background (a BSc in Electrical Engineering and an MSc in Information Technology Management), moving gradually to the world of qualitative research favoured more in the new academic context I had joined by then. In other words, I was unsure what I would find in the literature and how this would influence the direction of my research. In this context, the first year of my PhD study, which was totally allocated to various courses in conducting research in the field of social science (comprising 120 credits), helped me greatly in changing my mindset from a quantitative, deductive approach to a qualitative, inductive one. Having gathered information about this approach in the first year, I decided it would lend itself well to the task at hand, namely to shed light on the dynamics of organizational learning and the management of knowledge. Had I known at the time that I would be confronted with sifting through roughly 3,000 references, I am not so sure I would have made the same decision in favour of a systematic review. Still, I am pleased that I did, as it meant I had confidence in the findings from my review. From understanding the basics of a qualitative approach, to finding the correct epistemology, anthology,

methodology and methods, to knowing how to interpret the results and what to report, everything was new to me. It was, however, a very useful experience that not only taught me how to undertake inductive research, but also inspired in me the confidence to try new things, even if no immediate assistance may be available.

Thus, having ascertained what to focus on for the remaining parts of my research, I was able to plan the rest of my study more closely. This was the time that I faced my second round of problems: getting access to field study. Due to the nature of inductive research requiring access to rich qualitative data, I have to admit that this was the hardest part of my research and took a lot of energy and effort. Finally, after a year of stress and anxiety (in which I conducted a survey in order to gather some initial data and to add to my understanding of the phenomenon), the possibility of studying this academic merger opened up a new possible avenue for my research. I have to acknowledge that I was privileged with the access I was granted since those people I worked with were extremely helpful and understanding. Conducting inductive research, doing in-depth interviews and collecting field notes on non-participant observations, for someone with no history of such previous experiences, and as a non-native speaker, were certainly hard tasks to do. However, the great support from the considerate people I worked with assisted me to accomplish my task of gathering extremely rich data that I believe can feed my future research for a decade or so.

Conducting the interviews, especially, was a very good experience. After a few attempts to adjust to an appropriate interview style I had not experienced before, it seemed a joyful experience talking to people from the administrative and academic levels about daily jobs in academia. Also, mastering the capability to direct the interviews and to dig inside the mindset of interviewees in order to understand their deeper level of reasoning was an extremely useful skill to acquire. However, transcribing and coding the collected data were an extremely painful experience. Believing that the advancement of technology would make such a burdensome experience meaningless in the near future, the time-consuming process of transcribing interviews seemed even more painful to me. Thanks to my first supervisor, I received a small budget which helped me to outsource a big portion of

the painful task of transcribing. However, I have to admit that line-by-line coding and writing memos were fruitful and helped me familiarize myself with the data to a great extent. Surprisingly, these processes built the main part of the theory development in my dissertation since a considerable number of these memos ended up being cut and pasted into the various chapters of my PhD thesis.

Taking a wider outlook on the PhD, I note that this has also enabled me to gain experience in digesting the problems associated with publishing some of my research. Although I was already aware that publishing, and the associated peer review exercise, can be a painful process, the experiences of publishing out of the PhD research added a lot to my understanding. Being exposed to various reviewers, including conference reviewers, journal editors and peer reviewers, end-of-year internal and external examiners, etc. was hard at the beginning, making me wonder why scholars put themselves through such misery by criticizing junior scholars that harshly. Yet, I came to the conclusion that such experiences are part of academic life and so I have to carry on refining my manuscripts for submission to various journals or conferences using those critics.

Another facet of my life as a doctoral candidate was concerned with my duties relating to the teaching and research assistantships I had taken. Having no studentship with very little savings, just enough for the initiation of studying a PhD as an international student, I had to take on various responsibilities, some of them totally irrelevant to my PhD study. However, I should admit that this was something I always enjoyed as I was able to gain varied experiences of working in academia as well as gaining financial aid. For example, through tutoring and lecturing I could improve my communication skills, or through reporting, marking and writing feedback I could manage to improve my academic analytical and writing skills.

In addition to these, in the third year, I had the opportunity to organize a world-class mini conference. Thanks to the generous funding that the school provided to a very limited number of students, I managed to gather an amazing team of organizers to practice one of the best experiences in my academic life. Organizing this mini conference helped me greatly to improve my network through which I was able to find amazing co-authors for my forthcoming articles.

Looking back, then, on the experience of doing this PhD, I can say that I thoroughly enjoyed it and the amount of things I learnt over the years is vast. Probably one of the best things I take away from the experience is the introduction to a stimulating and open scholarly community via conferences and other relevant events and activities. Naturally, I am also immensely pleased and honoured to have been recruited as a full-time faculty member at the end of my third year of study by my Business School. The early career fellow opportunity, offered by the school to those who have not yet finished their PhD but are capable of delivering lectures and organizing courses at a world-class level, played an important role in my academic career. Not only did it guarantee a position in a top business school to develop further in, this opportunity also released me from the time- and energy-consuming practice of job hunting. Although being a full-time staff member and a full-time PhD student can be a hard job, with the help of my colleagues in the department I managed to accomplish both responsibilities quite satisfactorily, as the feedback on my teaching duties has confirmed (and as hopefully the result of my viva and my research outputs will also confirm).

Finally, even though there is not much I would change with hindsight, there is one aspect I believe I should have put more focus on right from the beginning: communicating my research to the wider public, both in order to inform practice, but also to facilitate the establishment of collaborative relationships. This I could have done and might now do, for example by presenting at more local conferences and workshops and other practitioner events, publishing my findings more widely in the trade press or joining online debates on professional networking websites more regularly. In summary, I note that having travelled this path has inspired in me the desire to continue work in academia, and to attempt to contribute further to our knowledge of the criterion domain and other topics.

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Appendices

Appendix 1: Questionnaire No. 1

Sir/Madam
Vice-Chancellor's Office
University of …
Address

UNIVERSITY OF EDINBURGH
Business School

26 April 2011

Dear …,
Vice-Chancellor, University of …

"Developing a Knowledge Base for Academic Mergers in UK Higher Education"
Considering the importance of mergers in today's highly competitive academic environment, the Strategy and International Business Group of the University of Edinburgh Business School is conducting research on the organizational learning challenges facing mergers in the UK Higher Education sector, particularly with regard to the level of integration achieved between the merged entities. This survey questionnaire targets the Russell Group of UK universities. Due to the fact that the group consists of the twenty UK universities that receive two-thirds of research grant and contract funding in the United Kingdom, we consider it to be representative of the UK Higher Education sector.

Relying on your interest in promoting high quality research in the United Kingdom, we invite you to participate in this study. For this purpose, please provide us the requested details in the attached **one-page questionnaire** about the mergers you have had since 1st of January 1990 in reverse chronological order. This purpose of this questionnaire is to identify the mergers that have occurred in your university as well as the proper contact persons for further investigation and should not take more than **10 minutes** of your time. Your accurate and quick response will be an invaluable aid for this research effort.

The results of this survey will be used only for academic purposes, and we guarantee all your rights deriving from this kind of research including anonymity of the respondents, institutions, and universities. The result of this survey would be made available for all the participants. The return envelope is provided.

Thank you very much in advance for your interest and cooperation.

Yours faithfully,

Mehdi Safavi
PhD Researcher
University of Edinburgh Business School
Mobile: +44(0) 7898622660
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General Information about the University and the Correspondent(s)

1. **What is your position in the University of...?**

   …………………………………………………………………..……......

2. **Since 1 January 1990 how many institutions have been merged with your university?**

   ……

3. **Please provide us the requested information about the institutions involved in each merger in reverse chronological order (that is, most recent first):**

No.	Year	The name of the merged institution before the merger	The name of the merged institution after the merger	Contact person in the merged institution
1				
2				
3				
4				
5				
6				
7				
8				

4. **Are you involved in any planning or preparation for a merger at the moment?**
   YES ☐   NO ☐

5. Have you used third parties as consultants in planning the mergers?

Not at all ☐   For some of the mergers on occasion ☐
For considerable numbers of the mergers ☐   Virtually for all of the mergers ☐

If so, could you please provide the name(s) (if the information is not confidential)?
…………..…..

6. Are you able to devote 30 minutes to an interview with us?   YES ☐   NO ☐

- **If you have any questions, comments, suggestions, or feedback please use this space to inform us about that.**

Thank you very much for your time!

Sir/Madam
University of …
Address

UNIVERSITY OF EDINBURGH
Business School

26/May/2011

RESEARCH TITLE
"Interplay between Knowing in Practice and the Level of Integration in UK Higher Education Mergers"

Dear Sir/Madam,

Considering the importance of mergers in today's highly competitive academic environment, the Strategy and International Business Group of the University of Edinburgh Business School is conducting research on the organizational learning challenges facing mergers in the UK Higher Education sector, particularly with regard to the level of integration achieved between the merged entities. This survey questionnaire targets institutions that have been merged with members of the Russell Group of UK universities since 1 January 1990.

In summary, two main topics are investigated through this survey:

   1) Organizational Learning before, during and after the integration
   2) The level of integration intended before the merger and level of integration actually realized afterward.

Relying on your interest in promoting high quality research in the United Kingdom, we invite you to participate in this study. For this purpose, please provide us the requested details about the merger your institution underwent. This questionnaire should not take more than 15 minutes to complete. Your accurate and quick response is appreciated.

The results of this survey will be used only for academic purposes, and we guarantee all your rights deriving from this kind of research including anonymity of the respondents, institutions, and universities.

Again, thank you very much in advance for your interest and cooperation.

Yours faithfully,

Mehdi Safavi
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General Information about the Institution and the Respondent

1. **What is your position in the institution/school/department?**
    …………………………………………………………
2. **Had you merged with any other institution or university before this one?**
    …………………………….…………

3. **Are you able to devote 30 minutes to an interview with us?** YES ☐ NO ☐

The Merger

1.Which year did this merger happen?

…………………………………………………………………………………………………..

2.What was (is) the area(s) of expertise of your institution?

…………………………………………………….……

3.How long (approximately) did it take from the very beginning of the discussions of the merger idea until the finalization of the merger proposal?

☐ Years   ☐ Months

4.How long (approximately) did the integration processes take from the finalization of the merger proposal till the formal integration? ☐ Years ☐ Months

5.How long (approximately) had your institution had joint projects and/or courses with the university before the merger? ☐ Years ☐ Months

6.How many joint projects and/or joint courses had you had with the university before the merger?
Not at all ☐   Some on occasion ☐   Considerable numbers on occasion ☐
Considerable numbers every year ☐

7.How many new projects and/or courses have been developed in the institution (department or school) created by the merger?
Not at all ☐   Some on occasion ☐   Considerable numbers on occasion ☐
Considerable numbers every year ☐

8.From your point of view, what was the main reason(s) for this merger? Please tick all that apply.
To get a foothold in new geographical area ☐
Improve the number of courses the university offers ☐
Improve the research potential ☐   Improve the university's global ranking ☐
Reduce the costs of parallel process in both institutions while working together ☐
To fill a capability gay of the University ☐   Other ☐

9.To what extent do you believe the main goal(s) of the merger have been achieved?
Not at all ☐   To some extent ☐   To a great extent ☐   Absolutely ☐

10. **Based on your knowledge today of the consequences of the merger, if you had a chance to do it again, would you suggest this merger again to the university?**
Yes ☐   No ☐

11. **Did your institution:**
   A. **Retain an independent organizational identity, e.g. retaining its old name?** ☐
   (please answer 12 &13)
   B. **Merge with an entity within the university to create a new department or school?** ☐
   (please ignore 12 & 13)

12. **To what extent have the systems, procedures and services aligned or centralized after the integration?**
Few or no features were aligned or centralized ☐
Only selected systems, procedures or services are aligned or centralized ☐
Many but not all systems, procedures, and services are aligned or centralized ☐
All systems, procedures, and services are completely integrated ☐

13. **To what extent has the executive leadership of your institution been changed by the university?**
No substantial change ☐   Some changes ☐   Many changes ☐
Virtually all the top management team has changed ☐

14. **When were the employees of your institutions informed about the merger?**
Since the first negotiation ☐   When the proposal was made ☐
After the submission of the proposal to the government ☐ After the government approval ☐
After the formal merger by the university ☐   After the formal merger by media broadcasting ☐

15. **Please provide us the requested information in the table:**

A. The Institution's Year of Establishment		
B. Number of Academic Staff	Before the merger	Now
C. Number of Administration Staff	Before the merger	Now
D. Number of Students	Before the merger	Now
E. Number of Postgraduate Students	Before the merger	Now
F. Number of Applicants		

- **If you have any questions, comments, suggestions, or feedback please use this space to inform us about that.**

Thank you very much for your time!

Appendix 3: Field Access Request Letter to the Project Manager

UNIVERSITY OF EDINBURGH
Business School

Professor David Fergusson
Vice-Principal, University of Edinburgh

Dear Professor Fergusson,

I am a second-year PhD student based in the Business School. My dissertation project concerns organizational learning in Mergers and Acquisitions (M&A) and focuses on the issue of integration between the merged entities. For this reason I would be very interested in the opportunity to study certain aspects of the proposed merger between the University of Edinburgh and Edinburgh College of Art. My supervisor has discussed this with Prof. Nick Oliver, Head of the Business School, who has suggested that I discuss this with you in the first instance, to see if such a study might be possible. While I am, of course, aware of the potential sensitivities of such a study and will take great care to address these, I believe the study can be very beneficial to the University.

Existing research on M&A shows how important and difficult it is to strike the right balance between achieving the necessary level of integration between the merged organizations, on the one hand, and minimizing the disruptions that mergers of this order of complexity typically entail, on the other. In order to deepen the understanding of the phenomenon achieved in the literature to date, I plan to investigate the processes of mutual learning in which the two affected organizations are involved before, during and after the formal merger. In particular, I intend to focus on the extent to which (and the ways in which) "organizational learning" may start long before the formal integration (merger) begins as well as exploring how this might affect the differences between the intended and actually realized levels of integration.

The merger between Edinburgh University and ECA would provide a great context for in-depth case study analysis. Within this context, I would like, to the extent that it will be possible, to observe the work of the Merger Implementation Strategy Group. I am prepared to agree to any conditions necessary to preserve the anonymity or confidentiality of data and respondents as required, and I would ensure that anything I write or publish will be first submitted to your attention and that of the relevant participants in the project for approval.

I believe this project may prove to be of value to the University as well as contributing to the success of the UoE-ECA merger. Moreover, given that dozens of institutional mergers have occurred in the British higher education sector in the last twenty years, this area of work could be used to develop a database and a repository of knowledge relating to such mergers that could be drawn on not only by the University of Edinburgh itself in its own future mergers, but by other UK universities as well.

I would like to ask for the opportunity to meet with you to discuss the feasibility of such a research project and hopefully the arrangements that we would need to make for it to happen.

I look forward to your response. In the meantime, please do not hesitate to get in touch should you require any further information.

Yours faithfully,

Mehdi Safavi
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