New Service Development in the Publicly Funded University: Overcoming Barriers and Developing Enablers

A dissertation submitted to

Trinity College Dublin, the University of Dublin

for the Degree of Doctor of Philosophy

Katrin Dreyer–Gibney, MBA, Dipl. Betriebswirt
Trinity Business School
Trinity College Dublin

26 February 2018

Declaration

I hereby declare that this thesis has not been submitted as an exercise for a degree at this or any other University, and that it is entirely my own work. I agree that the Library may lend or copy this thesis upon request.

Signed,

Katrin Dreyer-Gibney
26 February 2018

Summary

Today universities operate in an exceptionally difficult funding environment and in a context characterised by financial constraints, state imposed restrictions on critical strategic and operating issues and at the same time rising student numbers and a more diverse student population. Furthermore, the importance of universities as one of the pillars in a knowledge economy has received increasing attention in recent years (Engwall & Weaire, 2007; Hunt, 2010; Christensen & Eyring, 2011; Grant Thornton, 2014). A way to address these challenges is to engage in new service development (NSD). However, NSD requires NSD capabilities. In particular, in a mature and well established state funded university, existing NSD capabilities may not be sufficient to carry out the necessary changes to address the above challenges as they were developed in response to past and different policy priorities (Richards, 2006).

Authors such as Santos and Spring (2013) and Ostrom et al. (2015) identify NSD as an important yet under-researched field, offering a multitude of research opportunities that consider the complex and diverse nature of service provision. Other priorities quoted are service development within complex service systems, identifying drivers of sustained service innovation, and understanding the interrelationships among service product, service process and business model. The authors also propose that the field of service research needs to develop more contingency theories, reflecting for example contexts and individual differences.

My research questions are:

"What barriers and enablers to new service development are evident in the publicly-funded university; and how might the barriers be overcome and the enablers be developed?"

The research methodology I applied is that of insider action research (Coghlan & Brannick, 2010). Authors such as Biemans et al. (2015) advocate the application of more exploratory research approaches such as action research preferably using a longitudinal perspective to gain an in-depth understanding of how institutions develop new services and the factors governing behaviour.

Over the period of two years and eight months I conducted seven NSD interventions in the setting of a mature, publicly funded university. Four interventions involved the development

of commercial services and three involved non-commercial service development. In all, I was an actor engaged in service development.

Whilst the research questions are derived from practice the thesis research contributes to existing knowledge in the following way:

- The study contributes to the contingency perspective of NSD, considering the range of service development types, identified as an important area for research for example by Sousa and Voss, (2008) and Ostrom et al. (2015).
- In developing a framework for managing NSD the study contributes to understanding “what really happens in NSD” as authors such as Johnston (2005), Menor and Roth (2007) and Santos and Spring (2013) have called for.
- In this study I am applying the resource based view (RBV) to managing NSD in a publicly funded university and as such extending the understanding of the RBV in this domain.
- The study contributes to an understanding of the resources and capabilities perspective of NSD by researching the distinctive relationship between operations resources and NSD as for example called for by Froehle and Roth (2007) and Santos and Spring (2013).

My study contributes to the understanding of NSD not only in research terms but also in practical terms. It is of benefit to service operations practitioners who are tasked with NSD, in the publicly funded university and in other similar resource constrained environments. Over the course of the thesis research I developed an NSD framework for managing NSD that will help NSD managers to understand the informal and complex nature of NSD and how barriers and enablers to NSD might emerge. Further, the study provides insights how barriers could be overcome and enablers developed. The study proposes the application of Insider Action Research (IAR) as a tool for harnessing organisational learning and capability enhancements.

Acknowledgement

I would like to express my special appreciation and thanks to my supervisor Professor Paul Coughlan, who has been an incredible mentor for me. I am not only grateful for his advice, support and encouragement, but also for his challenging questions which encouraged me to widen my research from various perspectives.

I am also grateful to Professor David Coghlan who helped me with difficult choices and provided reassurance when I felt uncertain about which avenues to take.

Special thanks goes to my family both in Ireland and in Germany, in particular my husband Barry, my sons Kevin, Stefan and Christian and my parents for being understanding, patient and considerate while I pursued my PhD journey.

I would like to thank my friends for providing encouragement and support, reading thesis draft versions and listened when I needed to articulate new ideas for my research work.

I am immensely thankful to the faculty of the Trinity Business School, in particular Professor Joseph McDonagh, Professor Sinéad Roden, Professor Mary-Lee Rhodes and Professor Majella Giblin for providing insightful advice.

I also thank my employer, Trinity College Dublin who funded my research work and gave me time and opportunity to complete it.

Finally, I would like to thank my powerlifting strength team. Remaining healthy and getting physically stronger throughout my PhD journey enabled me to juggle the physical and mental challenges of combining research and practitioner work, as well as other life challenges both expected and unexpected.

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Chapter 1 – Introduction

1.1 Introduction

In this chapter I first present my motivation and personal profile. A synopsis of the thesis structure follows. Then I introduce the research context and the research questions. Thereafter I introduce the research methodology and expected outcomes. Then I outline the expected theoretical and practical research contributions. Finally, I describe the boundaries of this study.

1.2 Motivation and Personal Profile

My motivation to engage in this research comes from my employment in a university. In my responsibility as Service Operations Manager I have been charged with exploring, developing and implementing new service initiatives. As a part-time PhD student, this is the context in which I am carrying out my research. Prior to joining the university sector I worked for 11 years in a large international organisation, with responsibility for developing and implementing new services. Before that time, I worked in the hospitality industry. It had always intrigued me why learning was not transferred from one new service development (NSD) initiative to the next. It has been my desire for some time to understand how such learning could be “captured” and transferred, and how organisations could increase their capabilities for further service development, how practice could be improved through learning, and how we could improve our ability to develop new services – i.e. enhance our NSD capabilities. As a consequence, I turned to existing knowledge in an attempt to better understand NSD and NSD capabilities. I was not alone in questioning this area of practice. I realised that many scholars in the field of NSD commented on opportunities for research in the NSD area. Ostrom et al. (2015) in an international and interdisciplinary study for example identified 12 service research priorities, one of which was how service innovation could be stimulated in particular in the field of transformative services, which include the education sector. Transformative services are defined as creating uplifting changes and improvements in the wellbeing of individuals (as consumers and as employees), collectives (e.g. families and communities), and ecosystems (Anderson & Ostrom, 2015). Whilst the importance of transformative services is echoed in conceptual papers, (e.g. Rosenbaum, 2015) there are few empirical studies, none in the area of the university sector and so far there appears to be no framework that explains how wellbeing improvements may be achieved.

This sense of opportunity is echoed by Barczak (2012) who questions if research in the area of new product development and innovation applies readily to services and hybrid offerings.

Yet, NSD remains among the least studied and understood topics in both the service management and the innovation literatures (Menor and Roth, 2007; Ostrom et al. 2015). Both sets of literature call for further conceptual work and empirical research in an effort to understand the unique characteristics of NSD.

Turning to the particularities of services in a university setting, the services offered by a university can be summarised broadly under the heading of transformative services (Ostrom et al. 2015). So far, there does not seem to be any literature concerning the capabilities required for developing services in a university setting, in particular services with a non-academic focus. Academic journals and books offer research on self-funding and commercial activities of the academic offerings in the university (Wedlin, 2007). Further, a “Third Mission” for universities has been articulated, alongside teaching and research; and this third mission is understood as commercial engagement with society from an academic standpoint (Nelles & Vorley 2010).

Within the education sector, the university sector is a particularly challenging context and could benefit from NSD research for reasons that I further explain in the next section. In my second year of my employment in a traditional research university, I was tasked with developing and implementing a number of commercial and non-commercial services. During that time, I started with the PhD programme with the aim of contributing to NSD knowledge and improving NSD practice.

1.3 Thesis Structure

In structuring my thesis, I am guided by Zuber-Skerritt and Perry (2002) who divide research projects into two interconnected parts. One part is the core research project which is the thematic organisational initiative involving processes of management practice in a situation that may have happened anyway. The other part is the thesis research project which investigates the research problem associated with the core project; it is in line with conventional thesis writing and includes a literature review, research methodology, reflection of the PhD researcher on research outcomes and knowledge claims.

This section describes the thesis structure which consists of nine chapters.

In **Chapter 1** I introduce the research problem and put the research problem into context. I provide a short summary of the research motivation, the research context and research questions, the planned research contribution, the thesis structure, methodology and the boundaries of this study.

In **Chapter 2** I critically review existing knowledge of NSD. First I explore key themes and research directions in the field of NSD. Then I outline existing knowledge in the areas of NSD that have been identified by service operations management scholars as important areas for research, such as the NSD dimensions, the NSD process and system and barriers and enablers to NSD.

In **Chapter 3** I review existing knowledge of individual and organisational learning and learning mechanisms in order to build NSD capabilities.

In **Chapter 4** I outline the components of the initial NSD framework applied for investigating the research questions.

In **Chapter 5** I introduce the philosophical assumptions underlying the research work and the rationale for Insider Action Research. Then I outline the implementation of the research design, presented in terms of the core and the thesis action research projects.

In **Chapter 6** I describe the interventions of the core action research project. I evaluate the individual intervention outcomes in relation to the core and the thesis action research projects.

In **Chapter 7** I draw together the *research content* observations made in the thesis action research project and critically reflect on them.

In **Chapter 8** I draw together the *research process* experiences and critically reflect on them.

In **Chapter 9** I draw the thesis to a conclusion, firstly reflecting on the accomplishment of purpose and aims of the research objectives and the implications for practice. Thereafter I illustrate how I achieved the action research quality dimensions of rigour, relevance and reflection. Then I outline the limitations of this study and in conclusion I propose further research directions.

1.4 Research Context, Background and the Research Questions

1.4.1 The University Sector

Universities emerged in the late middle ages from academies and monasteries and have now grown to become the pillars of societies. From the very outset universities have enjoyed a high degree of independence from state interference or other external pressures. (Skillbeck, 2001; Engwall & Weaire, 2007; Hunt, 2010). The great change of recent times has been the explosive growth of the university sector (Christensen & Eyring, 2011; Grant Thornton, 2014). What was once offered to the privileged or talented few is now perceived to be a birth right for all. Universities are seen as knowledge engines, supporting economic development as well as urban institutions with significant local direct and indirect impacts on employment, the built environment, business innovation and the wider society (Goddard & Vallance, 2013).

1.4.1.1 The Global Context

Higher education has been affected by a number of changes in the past decade, including higher rates of participation, internationalisation, the growing importance of knowledge-led economies and increased global competition (e.g. Estermann et al., 2011; Pruvot et al., 2015). The UNESCO (2009) outlined the impact of the global financial crisis on education. Since 2008, global economic activities had slowed down and many governments faced the trade-off between maintaining fiscal balance and expanding spending to counter the economic slowdown. Public education financing was also undermined as a result of fiscal constraints. There were fewer resources from the private sector available such as donations and research contracts. The fall in stock market values reduced value of endowments and pension funds (Salmi, 2009b). Salmi notes further in his 2011 World Bank Report that there are changes in education needs, towards more flexible practices, for example from “on campus” to “online” learning. The increasing trend of lifelong learning also demands different education practices. The Bologna Accord accelerates the internationalisation of Higher Education (HE), thus increasing competition among HE institutions worldwide as new institutions from emerging economies such as China and India enter the market. Increased mobility enables students and researchers to choose a HE institution globally for their education or their career. Information technology makes the quality of courses and other criteria for selecting a university more transparent for potential students and researchers.

In addition to the financial crisis, universities worldwide are in the midst of a profound transition in which they are losing public credibility and becoming increasing subject to corporate forms of accountability and quality assurance (Levin & Greenwood, 2007). Teichler (2007) notes the loss of trust in the academic profession. The more that knowledge is viewed as the basis of the knowledge society, the more doubts are raised in public whether academics can conduct their "business by themselves". The knowledge society seems to be too important to be left to the scholars. This is a hostile setting and higher education institutions need to rethink their relationship with the environment they operate in.

1.4.1.2 The European University Sector

Global developments have implications for European publicly funded universities, operating in a difficult funding environment and in a context of state imposed restrictions on human resource management and other critical strategic and operating issues (EUA, 2014). The decline in available funding is happening while the demand for higher education continues to grow both, in line with labour market needs and demographic changes. Therefore, European universities are challenged to address the increasing demands with less available resources.

1.4.2 Opportunities to Generate Independent Funds

As demonstrated by the EUA (2014) European universities starting to rethink of how to develop a more diverse portfolio of income streams, including deriving commercial income from business. This diversification will lead many universities into the unknown territory of developing market driven cost-control processes such as procurement, energy management, space management, and the utilisation of facilities and services shared with external partners. This diversification also requires a new type of employee to become university enterprise managers, with a commercial mind-set, but also a profound understanding of, or respect for, the academic world and the pursuit of knowledge for its own sake (Hagen, 2007). Table 1 indicates examples of non-academic university generated funding source options.

Table 1: Non-Academic Funding Sources in Universities

Clark 2001	EUA 2011	Grant Thornton 2014
• Endowment and investment • Earned income from campus services ranging from hospitals to bookshops • Alumni fundraising • Royalty income	• Contracts with the private sector (mostly research contracts, but also for education-related activities), philanthropic funding, • Provision of services (consultancy, hiring out of facilities, residences, catering, libraries, museums) • Financial activities	• Alumni fundraising • Asset optimisation (effective deployment of the physical infrastructure e.g. space usage) • Alternative funding sources e.g. private equity investment, annuity funds)

The table indicates that there is a range of options to increase income in the sector. Already in 2001, Clark referred for example to campus services as a source of funding. The Grant

Thornton Report (2014) includes increasing income from international students and research activities, alumni fundraising, asset optimisation, programme review, philanthropy and online education. It is recognised that public funding for higher education is declining in many jurisdictions and that even in traditionally well-resourced and privately-funded systems funding for higher education is coming under pressure.

1.4.3 The Research Problem and Questions

As the above sections illustrate, European universities operate in a resource constraint context. In recent years, this sector has been hit with substantial reductions in allocations of exchequer funding. Other challenges include increased competition, globalisation, environmental volatility, calls for more accountability, value for money and more customer orientation. To alleviate the funding crisis universities may begin to explore NSD initiatives in the non-academic domain, aimed at achieving cost savings, enhancing the student and visitor experience, improving administrative practices or generating non-exchequer income. However, these kinds of initiative in the public sector challenge the dynamics, attributes, relationships and behaviours associated with the existing knowledge and skill base established in response to earlier and different policy priorities. Herein lies the challenge to management practice and the associated research problem.

In order to be better prepared for these challenges and to make an original contribution to knowledge, the research questions arising from practice are:

What barriers and enablers to new service development are evident in the publicly-funded university; and how might the barriers be overcome and the enablers be developed?

This thesis explores these questions.

1.5 Methodology

The research methodology I applied is that of action research (AR). AR is described as a ‘live’ case study, being written as it unfolds (Coughlan & Coghlan, 2009). AR methodology allows closeness to the full range of variables in settings where those variables may not emerge all at once. Insider action research (IAR) is particularly relevant in this study as I am also an insider in the researched system. IAR allows an inquiry into complex social events, within the field of service operations management in which actors construct and create meaning of their own environment and intervene accordingly with the aim to transform the system in which they operate in. In this study IAR fulfils the purpose of generating data and facilitating a structured approach to creating actionable knowledge. In order to build and develop theory, the researcher must apply a methodology that is suitable to address the research questions (Karlsson, 2009). IAR research can be used for theory building (Coughlan & Coghlan, 2009) such as identifying and describing key variables, identifying linkages between variables and identifying why these relationships exist. As such IAR is suitable to address the research questions, to fully understand the social phenomena and processes relating to them.

1.6 Core and Thesis AR Projects Expected Outcomes

In AR the researcher takes responsibility for change also. As such my overall research strategy is guided by Zuber-Skerritt and Perry (2002) who divide AR research projects into two interconnected parts. One part is the **core AR project** which is the basis for the thesis research project and the organisational initiative that happens regardless of any academic research work. As the manager–researcher I am working on an organisational project with organisational colleagues with an intended outcome of problem resolution (Coghlan, 2007). I commit to facilitating tangible service enhancements for the researched institution, help to build enhanced NSD capabilities, contribute to strategic planning and provide tools for overcoming barriers and developing enablers to NSD.

In the **thesis AR research project** I explore the action taken in the core project. The thesis project is in line with conventional thesis writing and includes for example the literature review, the research methodology, analysis and reflection by the practitioners, and the contribution and implications for theory and practice that emerge from the reflection on the action taken in the core project. The expected implications and contributions for theory and practice are further outlined in the following sections.

1.6.1 Expected Contribution to Theory

The expected contribution to theory is guided by Boer et al. (2015) who propose what is meant by theoretical contribution in general and in particular to the field of Operations Management (OM). These authors assert that there is no right way to making a contribution, what matters is consistency with the epistemological perspectives. If the ontological and epistemological stance taken is that the purpose of academic research is not just to describe, understand and explain the world but also change it, the researcher takes responsibility for change as well as for research. This means, whilst theory is the “fundamental engine” that drives knowledge creation, it does not have to be the starting point, it can be a messy problem deriving from practice. The authors further assert that OM is an applied science; it is practice-orientated, with an emphasis on problem solving rather than filling a knowledge gap.

As outlined earlier, the research problem in this thesis is such a starting point, from which my research aims at contributing to the theory of operations management (OM), in particular service operations management. Within service operations management, the study aims to contribute to the subcategory of New Service Development (NSD). I expect to offer rich insights on the identification of and response to the specific challenges of NSD in the university sector, particular to the non-academic domain of publicly funded universities.

I expect to contribute also by demonstrating how the act of knowledge creation can emerge from practice and travel into theory. I outline my expected contributions to theory in the following sections.

1.6.1.1 Expand Existing Knowledge of the Contingency Perspective of NSD

With this study I contribute to a contingent view of NSD. The underlying proposition is that the performance/outcome of NSD is contingent on the type of service to be developed. This relationship is moderated by the way the task system is constructed and managed by NSD actors. NSD scholars Storey and Hughes (2013) for example propose that to "disentangle" context that influences NSD is a future research priority. The contingency perspective in general operations management practice and service research has been deemed as an important consideration for example by Sousa and Voss, (2008) and Ostrom et al. (2015), as in the development of different types of services different barriers and enablers may emerge.

1.6.1.2 Develop a Framework for Managing NSD that Helps to Identify Barriers and Enablers in NSD

Many NSD researchers have highlighted the need to understand better what really happens in NSD (for example Johnston, 2005; Santos & Spring, 2013). In order to meet this need and to contribute both to theory and practice I will develop a framework for managing NSD that helps to identify and conceptualise barriers and enablers affecting NSD. This model not only will take account of the dimensions of NSD and the emphases on them, it will also consider actions that NSD actors carry out when developing new services. Further, the framework will highlight the NSD process sequence, the link to operations resources and apply a learning perspective to engaging in the process of NSD.

1.6.1.3 Expand Knowledge of the Resources and Capabilities Perspective of NSD

Santos and Spring (2013) assert that to understand NSD, the distinctive relationships between operations resources and NSD need to be investigated. The authors shift the focus from managing the new service to managing the resources that underpin the evolving and emerging service ideas and offerings. Similarly, in this thesis research study I expand theory of the resources and capabilities perspective of NSD as I investigate the relationship between NSD and operations resources and capabilities. I also focus on NSD capabilities and resources that are necessary to accomplish NSD but my emphasis is on investigating what actors in the NSD system *do* to build capabilities and put in place resources to accomplish NSD.

1.6.1.4 Resource Based View Application in the Publicly Funded University Sector

Barney's (1991) highlights with the resource based view (RBV) the importance of resources and capabilities in the transformation process. This point echoed by authors such as Froehle and Roth (2007) and Santos and Spring (2013). In this study I illustrate the specific factors affecting innovation and NSD in the publicly funded university and how the RBV may be applicable.

1.6.2 Implication for Practice

I expect the implications for practice to be as follows: The study may be of benefit to service operations practitioners tasked with NSD, in the publicly funded university and in other similar resource constrained environments. The study may provide a framework for managing NSD that may help to understand the informal and complex nature of NSD and how barriers and enablers to NSD might emerge. It may offer recommendations to how barrier overcoming and enabler developing capabilities could be created.

My implications for practice are guided by the *Guidelines for Implications for Practice* (Journal of Applied Behavioral Science, 2014) which assert that the implications should include a description of the issues to be addressed, the specific audience benefitting from the contribution, some recommendation for practice and descriptions of expected outcomes when carrying out the recommendations. Further, illustrations of what carrying out the implications might look like are to be included.

1.7 Boundaries of the Study

The boundaries of this study are as follows: First, the research is limited to one specific publicly funded university, in particular a well-established, traditional research university. The observations are context specific, but observations may be transferred for example by way of publications, presentations and my personal involvement in similar contexts. Second, the study explores NSD initiatives with a non-academic focus only. Third, this thesis considers only barriers and enablers within the transformation process, i.e. the development of new services in relation to operations resources, the means in an organisation that are involved in transforming inputs into outputs. The study does not include external factors such as the social and political environment that may influence a university's ability to develop new services.

1.8 Conclusion

In this chapter I first presented my motivation and personal profile. A synopsis of the thesis structure followed. Then I introduced the research context and the research questions. Thereafter I presented the research methodology and expected outcomes. Then I outlined the expected theoretical and practical research contributions. Finally, I described boundaries of this study.

Chapter 2 – New Service Development

2.1 Introduction

In this chapter I outline existing knowledge of NSD. First I provide definitions for the components of the NSD concept - service, development and newness. Then I explore key themes and research directions in the field of NSD. Thereafter I investigate literature on dimensions of NSD, NSD process and systems models. A section on barriers and enablers in NSD follows. Lastly I explore literature in relation to a contingency perspective in NSD.

2.2 Understanding of NSD

In this section I examine the components of the term “NSD”: firstly “service” as the main concept under investigation, secondly “development”, considering the nature of the task to be completed and thirdly “newness” as the attribute of service offering which influences the task under investigation.

2.2.1 What is Service?

There is a large range of services available to public and private customers, from many types of organisation, including business-to-business, business-to-consumer, the public sector and voluntary organisations. It is therefore not surprising that there appears to be no single, agreed and comprehensive definition of what a “service” is (Johnston & Kong, 2011). Even though service is sometimes defined as something intangible (as for example by Gummesson, 1987), many services also include some tangible elements.

Also, the perspective of service has a role to play, the perspective from the producer of service and the perspective of the receiver of services (Voss & Zomerdijk, 2007; Johnston and Clark, 2008). In addition there is the marketing and an operations perspective to consider. Marketing scholars focus mainly on the consumption of the service. Zeithaml et al. (1985) for example assert that services are characterised by their intangibility, inseparability, heterogeneity, and perishability. Inseparability refers to the idea that service production cannot be separated by service consumption. This interactive nature of service production and consumption (co-production) has been emphasised by Grönroos (1990) also. In this context, customers become involved in producing services while consuming them. Experiential services take this inseparability even further as the focus is on the experience of the customer when interacting with the service provider, rather than just the functional benefits flowing from the products and services delivered (Voss & Zomerdijk, 2007).

Conversely, authors in the operations management field focus on designing and delivering the service. Johnston (1994) and Spohrer et al. (2007) observe that the production of services requires input resources including people, materials and information in differing proportions. Johnston (2005) advocates that OM academics should apply their knowledge and skills to answer fundamental questions in the areas of quality, productivity and efficiency. The role of OM in designing and delivering service is outlined by Menor and Roth (2008) who focus on the competence to offer new services. Further, Zomerdijk and Voss (2011) concentrate on the distinctiveness of experiential services and the role operation managers play in designing them.

As the research questions explore new service development the concepts development and new also need to be explored. These two aspects are critically evaluated in the following two sections.

2.2.2 What is Development of Service?

Many authors in the NSD research field conclude that NSD is major competitive factor for the service industry both in the private and public sector. There is a trend to place service innovation at the heart of the firm's and institution's competitiveness (for example Fitzsimmons & Fitzsimmons, 2000; Forfas, 2006; Zomerdijk and Voss, 2011). In contrast to these trends in practice, research on how new services are developed remains fragmented and much less developed than for products (Menor et al., 2002; Ostrom et al., 2015). Piening (2011) asserts that research treats service development typically as a 'black box', neglecting to examine how inputs are transferred into outputs.

NSD is described as a set of interconnected tasks, actions and assessments (Johnson et al., 2000; Santos & Spring, 2013), from idea generation to launch or implementation. Typical stages are concept creation, analysis, detailed design, and launch (Froehle et al., 2000). NSD involves multifunctional and cross-disciplinary interactions such as customer management, technical support, human resources and marketing (den Hertog et al., 2010). Design issues are critical to the NSD process configuration. Service design specifies the structure, infrastructure and integration content of a service operations strategy (Roth & Jackson, 1995; Roth & van der Velde , 1991).

The concept of service innovation is usually seen as the output of NSD (Johnson et al., 2000). Some authors, however, define service innovation as the overall process, similar to NSD. For example Hansen and Birkinshaw (2007) and Hartley (2013) see innovation as concerning the process from idea generation (invention) to diffusion. In some literature “managing service innovation” is described in the same way as NSD. Bessant and Davies (2007) for example describe the process of innovation as steps including “search, select and implement”. In OM, many varying models of NSD can be found and some are described further later is this chapter.

As I further explore in this chapter, the development of new services ideas tends to be more emergent and informal (Santos & Spring, 2013) than new product ideas. Zomerdijk and Voss (2011) report that services can be seen as a “perpetual beta” requiring continuous fine-tuning and updating rather than bringing them to the market close to perfection as expected in product development.

Overall there does not appear to be an agreed view of what development of service is; only that it is different from product development, more informal, and consisting of different and connected dimensions. The inconsistences in terminology add to the lack of clarity.

2.2.3 What is Newness?

As “*new”* is part of the research questions, it is helpful to address the concept of “newness”, to effectively address and operationalise the research questions. In new service development the notions of radical/major and incremental/minor NSD may be useful (Tushman & Nadler 1986; Menor et al., 2002; Windrum & Koch, 2008).

NSD, NPD and innovation literature authors use a variation of terms when referring to the degree of “newness” in NSD and innovation as shown in Table 2. The table illustrates that innovation types can be classified under the Tushman and Nadler (1986) perspectives of major and minor innovation.

Table 2: Literature on Major/Minor NSD/NPD/Innovation and Assessment Conventions

Author (Year)	Research Type	Major	Minor	Assessment Conventions and Comments
Tushman & Nadler (1986)	Conceptual	Major: not defined, but provide examples of discontinuous innovation	Minor: Incremental Improvement	**Assessment:** Unknown Dominance of Innovation Dimension (Product and Process) Major innovation has higher learning needs than minor
Den Hertog (1999)	Conceptual	Major, not defined	Minor, not defined	**Assessment:** Unknown
Tatikonda and Rosenthal (2000)	Survey - Data were collected via a self-administered questionnaire	Completely new	Somewhat new, not new at all	**Assessment:** Scale is seven-point Likert- type, with 7 Completely New 4 Somewhat New 1 Not New At All Applied to Product and Process Innovation
Johnson et al. (2000)	Conceptual	Radical	Incremental	**Assessment:** Unknown
De Brentani (2001)	Survey Self-assessment by respondent	Discontinuous	Incremental	**Assessment:** Unknown
Menor et al. (2002)	Conceptual	Major innovation: Radical innovations New services for markets as yet undefined, innovations usually driven by information and computer-based technologies	Incremental innovations and improvements of existing services	**Assessment:** Unknown
Romijn & Albaladejo (2002)	Survey	Fundamental e.g. new to the world (Higher score) 'Major' is defined as an activity to which the firms' managers attached considerable importance for the firm as a whole.	Incremental (lower score)	**Assessment**: The variable is a simple unweighted average of the absence (0) or presence (1) of major product innovations, process innovations, and organisational innovations (maximum number 3) Range of innovations from fundamentally new to the world to no major innovations at all

Author (Year)	Research Type	Major	Minor	Assessment Conventions and Comments
Garcia & Calantone (2002)	Literature review	No agreement on terms in literature, common terms are radical, major	Incremental, improvement Agreement that there are many innovation dimensions	**Assessment:** Unknown
Mugge and Dahl (2013)	Experimental, using radical and incremental innovations as stimulus, asking consumers to assess newness of a new product	High level of newness – Radical	Low level of newness – Incremental	**Assessment:** Number of new features in a new product and consumer assessment of radical versus incremental innovation
Wirsich et al. (2016)	Quantitative newness assessed by joint publications and the patent data analysis	Exploration of a completely new technological field	Recombination of existing technology fields	**Assessment:** Number of new patents

Johnson et al. (2000) define radical NSD as “New services for markets as yet undefined” and incremental with “changing some features of an existing service or offering an existing service to new customer groups”.

Similarly, de Brentani (2001) asserts that there are degrees of product newness - a range - ranging minor adaptations, incremental in nature, to totally new or discontinuous. According to de Brentani “newness” means “innovativeness”. In her 2001 study, de Brentani investigated the factors affecting innovation success, for major or minor new product development and found that there were differences. The author also suggests that actors may have to apply different development strategies in line with the degree of newness.

The authors listed below explain the basis of their distinction:

- Tatikonda and Rosenthal (2000) apply a Likert-type scale, with (7) completely new, (4) somewhat new, and (1) not new at all. This scale is applied to product and process innovation.
- Romijn and Albaladejo (2002) assess fundamental (major) and incremental (minor) innovation by applying a simple count (1) yes (0) no, to their survey question if process, product or organisation innovation is considered as major.

- Mugge and Dahl (2013) assess the degree of newness by counting new product design features.
- Wirsich et al. (2016) count new patents issued in relation to new products.

It appears that assessing the degree of product newness is achievable by counting new and existing elements (Forza, 2009). Further, there does not seem to be any literature on the degree of newness - major or minor – in university services offerings and moreover, how the distinction between major and minor newness could be made.

As shown above, some authors mention dimensions in service development. However, the degree newness *within the new service dimension*, the emphasis on each NSD dimension development, offers opportunities for research also.

2.3 Key Themes and Research Directions in NSD Research

In their recent systematic literature review Biemans et al. (2015) examine how the field of NSD developed, its current status and make recommendations on how to move the field forward. They note the increase in NSD publications in recent times which, however, did not result into a coherent body of knowledge. The authors observe that compared with the new product development (NPD) literature, the NSD literature is fragmented and does not provide managers with a set of generally accepted tools and guidelines for success. The authors agree that NSD differs from NPD because of the inherent characteristics of services identified by Zeithaml et al. (1985), (intangibility, inseparability, heterogeneity and perishability), but it is unclear how these characteristics impact service innovation management and NSD. Biemans et al. (2015) and Papastathopoulou and Hultink (2012) suggest that future NSD research should include the organisational antecedents of NSD in more details, such as team skills, cross-functional integration and communication.

These opportunities for research are echoed by Ostrom et al. (2015) who identify explicitly service research priorities such as understanding the interrelationships among service product, service-process, and business-model innovation development. Other priorities identified were innovating within complex service systems, identifying NSD performance influencing factors, i.e. barriers and enablers. The authors also identify transformative services as an important area for research which includes the education and as such university sector, as outlined by Ostrom et al. (2015).

Finally, the need for a contingency perspective in OM has been identified by for example Sousa and Voss (2008). Similarly, Ostrom at al. (2015) propose that the field of service research needs to develop more ‘‘contingency theories,’’ reflecting contexts and individual differences.

In the next sections I outline specifically what is known about the areas identified previously as important areas for NSD research: NSD dimensions, NSD process models, framework and concepts and factors influencing NSD i.e. barriers and enablers. I also investigate what is known about the contingency perspective of NSD.

2.4 Dimensions of NSD

Authors have highlighted that NSD can refer to changes in various dimensions in services (business model, service process/service system and service product, (Ostrom et. al., 2015)) and NSD may involve more than one dimension (Voss & Zomerdijk, 2007; Hartley, 2013). It is critical to reach an understanding of what dimensions of NSD exist (Forfas, 2006; Barczak, 2012) and if different strategies are required for the different dimensions of NSD.

As I illustrate in Table 3, NSD authors identify multiple dimensions of NSD (e.g. Voss & Zomerdijk, 2007; Hartley, 2013). These dimensions can be categorised under the terms business model, service process/system and service product development.

Table 3: Dimensions of NSD

Author (Year)	Business Model	Service System	Service Product
den Hertog (1999)	Service Concept	Delivery System (Organisation) Technological options	Client Interface: the delivery aspect of the service provided
(Forfas) 2006	Business Model	Customer Interface	Service Product
Voss and Zomerdijk (2007)	Business Model	System /Process	Product
Bessant and Davies (2007)	• Paradigm innovation, changes in the underlying mental models which frame what the organisation does • Position innovation: changes in the context in which the products & services are introduced	Process	Product
Windrum and Koch (2008)	• Conceptual innovation • Systemic innovation • Policy innovation	• Service delivery innovation • Administrative and organisational innovation	Service innovation

Author (Year)	Business Model	Service System	Service Product
Hartley (2013)	• Strategy innovation • Position innovation • Policy innovation • Governance innovation • Rhetorical innovation	Process innovation	Service product innovation

Forfas (2006) adapted the den Hertog (1999) dimensions and identified the dimensions of new business model, new customer interfaces and new service products. In 2007 Voss and Zomerdijk adapted the Forfas (2006) model and depicted it as an iterative cycle that links business model innovation with product and process innovation. Similar to the view of Forfas (2006), Voss and Zomerdijk (2007) argued that technological options as mentioned by den Hertog (1999) play a lesser role in service innovation than might be expected. Some innovations were initiated by new technologies, others exploited them, but many were more complex and not technology dependent.

In contrast to the Zomerdijk and Voss (2007) dimensions, Bessant and Davies (2007) name four dimensions of service innovation: product innovation (changes in what an organisation offers such as products and services), process innovation (changes in the ways in which services are created and delivered), position innovation (changes in the context in which the products/services are introduced), paradigm innovation (changes in the underlying mental models which frame what the organisation does). Paradigm and position innovation have similarities with the business model definitions offered by den Hertog, Forfas and Zomerdijk and Voss.

Considering the public sector, Windrum and Koch (2008) suggest that in the public sector there are six separate dimensions of innovation. These are:

- Service innovation
- Service delivery innovation
- Administrative and organisational innovation
- Conceptual innovation
- Policy innovation
- Systemic innovation

The authors define *service innovation* in the public sector as the introduction of a new service product or an improvement in the quality of an existing service product. Improvement in quality includes all changes in the characteristics of service products and the design of services. It is directly comparable with product innovation of manufactured goods and the traditional focus of innovation studies of manufacturing innovation. *Service delivery innovation* involves new or altered ways of delivering to clients, or otherwise interacting with them, for the purpose of supplying specific public services. *Administrative and organisational innovation* changes the organisational structures and routines by which front office staff produces services in a particular way and/or back office staff support front office services. *Conceptual innovation* is the development of new world views, objectives strategies and rationales. *Policy innovation* changes the thought or behavioural intentions associated with a policy belief system. *Systemic innovation* involves new or improved ways of interacting with other organisations and knowledge bases.

Likewise, Hartley (2013) identifies innovation dimensions in the public sector similar to the private sector (Business model, product, service process). Similar to Windrum and Koch (2008), she also identified policy innovation - the adoption by new policies by government, governance innovation - which means new institutions and procedures to make decisions about policies and resources for the public sphere. She also named rhetorical innovation – new language and new concepts which are used to mobilise the public and other stakeholders.

Table 3 indicates that NSD dimensions identified in extant literatures can be grouped under business model, service system and service product development, with den Hertog's (1999) technological options included in the service system dimension. The next three sections identify further characteristics of these dimensions. The technological option is not included as it is not mentioned as a separate dimension in literature of later years, but absorbed in the service system dimension.

2.4.1 New Business Model Development

Many definitions for business model (BM) can be found in literature. Wirtz (2011) for example states that in simplified and aggregated form, a BM describes which resources flow into the enterprise and how these are transformed by the performance creation processes into marketable information, products, and/or services. Another definition is "the rationale of how an organisation creates, delivers, and captures value (Johnson et al., 2008). Business models can be found both in profit and not-for-profit (public) contexts, as value creation can be understood as social impact as well as financial value. Overall a BM or policy in a public sector context describes the value an institution is offering to the public, "who are we?"

In innovation and service development terms Windrum and Koch (2008) offer definitions for new BM development particular to the public sector, i.e. conceptual, systemic innovation and policy innovation which are similar to BM development. These innovation types were also found by Osborne and Brown (2013) who assert that policy innovation has similar characteristics to BM development. In summary, all BM definitions propose how value is created, some provide details of what the BM entails, some simply refer to a new thought for value creation.

2.4.2 New Service System Development

Roth & Menor (2003) suggest that a service system (SS) defines how a service is delivered. They identify structural, infrastructural and integration components. Maglio (2007) describes service systems as value co-creation, configurations of people, technology, internal and external service systems connected by value propositions, and shared information (such as language, laws, measures, models, etc. He also suggests that a service system can be seen as a type of complex adaptive system, a system that is characterised by non-linearity, emergence and self-organisation. Voss and Zomerdijk (2007) see service systems as a service delivery process, a series of actions or events that take place to deliver the service, including the way information is exchanged between a customer and a service provider. Similarly, Windrum and Koch (2008) suggest administrative and organisational innovation (similar to service system development) which are changes the organisational structures and routines by which front office staff produce services in a particular way and/or back office staff support front office services. As such service delivery innovation involves new or altered ways of delivering to customers, or otherwise interacting with them, for the purpose of supplying specific public services.

2.4.3 New Service Product Development

The “New SS development” relates to *how* the new service product (SP) will be delivered, i.e. what components the SS entails. However, extant literature does not refer to the degree of NSD “newness” whether major or minor, and how the degree of newness impacts on the service system. Unknown is also what actions NSD actors carry out in to implement the SS. Barras (1986) observes that service product (SP) development is preceded by process development, and Nightingale (2003) argues that it is enabled by *infrastructural* development which is defined similar to service system development. The service product is described by Roth and Menor (2003) as *“the customer perceived value of the total service concept”.* It is usually a combination of tangible and intangible outputs. New service product development the most analogous to traditional manufacturing based product development activity. It involves the introduction of new or improved services (Forfas 2006; Voss & Zomerdijk, 2007).

Similarly, Windrum and Koch (2008) describe service product development as the introduction of a new service product or an improvement in the quality of an existing service product. This description is also directly comparable with product development of manufactured goods. Overall a service product is the "*What"*, what does the organisation deliver and consequently new SP development asks, "W*hat do we want to deliver?"* However, from extant literature it is not clear how to assess to what degree a new service product is new (new to the world) or an improvement of an existing product. Also unknown is what NSD actors do to develop a new service product and how actors relate to the development of the business model when developing a new service product.

2.4.4 Summary of the NSD Dimensions

The descriptions of the three NSD dimensions above indicate that new BM development seems to be the starting point of NSD, a concept, an idea, a reason for developing a new service, be it for generating more income, providing a better service, implementing a new policy, offering value in general. A service system tends to enable the outcome, the service product as perceived by the customer.

Authors agree that there are multiple and differing dimensions of NSD and they are linked. As de Jong and Vermeulen (2003) point out, in real life it is difficult to provide 'pure' examples of the above-mentioned dimensions. Most new services will involve combination of changes in various dimensions at once (Osborne & Brown, 2005; Voss & Zomerdijk, 2007). The NSD dimensions identified in literature can be grouped under the broad categories of business model, service system and service product. There is an opportunity to research to what degree each dimension is involved in NSD and what combination of NSD dimensions exist.

2.5 NSD Process Models and Frameworks

In this section I outline NSD models and frameworks in reviewed literature. Having a systematic NSD process is often considered one of the key success factors for new service development (de Brentani 1991; Bullinger & Schreiner, 2000). A systematic process involves several activities aimed at improving the efficiency and effectiveness of launching a new service, such as a formal procedure for generating and evaluating new service ideas and testing new services with customers (Zomerdijk & Voss, 2011). Authors such as Cooper (2008) recognise the need for a specific development framework products and services and Menor et al. (2002) maintain that understanding the NSD process stages/activities and characteristics is critical for successful NSD execution. The following subsections outline what is known about different types of NSD process models and how they are linked to each other in history.

2.5.1 Linear Process Models

As Table 4 indicates the initial research relevant to the field of NSD processes was based on new product development (NPD) frameworks and findings (Cooper, 1994; Johnson et al., 2000; Bullinger & Schreiner, 2000) and until 1997 all NSD process models originated in the marketing literatures.

In 1968 Booz et al. for example carried out empirical research on NPD and revealed a six-step new product development process: exploration, screening, business analysis, development, testing and commercialisation.

In 1982 Booz et al. divided product development into seven sequential stages, as they identified and added another step at the very outset of the process: "new product strategy development". Both process models were based on survey results.

Scheuing and Johnson (1989) maintained that NSD can benefit from the vast experience gained by consumer goods companies and adapted the Booz et al. (1982) model to service development. The process presented by them draws on these insights and combines them with the results of exploratory survey research in NSD to form a systematic framework for NSD and management. As a result, Scheuing and Johnson (1989) proposed a sequenced model with 15 steps. It retained the main steps of the Booz et al. Model (1982) and also took into account the complexities at work and the many iterative steps during service design.

In parallel, however, Bowers (1989) also developed a process model for NSD, which was also based on the Booz et al. model of 1982. The author found that services in industries such as hospitals, banks and insurance differ from the Booz et al. process. He surveyed in total 900 institutions, 300 from each industry. Responding service organisations tended **not** to engage in formalised idea generation, product development and testing, or marketing testing. Bowers (1989) findings were that whilst it is assumed that new product (service) development is a critical function of any firm, service firms were doing an incomplete job of managing the process. Bowers (1989) proposed an eight step model for service development.

In 1997 Johnson and Menor developed a model situated in OM literature that incorporated all previous research in NSD processes. Their model has four phases: design, analysis, development and launch. The authors also suggested that there are major and minor feedback loops along the NSD process. The authors determine the incorporation of feedback loops as critical as they capture the intangible aspects of the service design.

However, services are different and the validity of applying the linear structure of NPD models for services remains to be demonstrated. For example Callon et al. (1996) recognise the need for a specific NSD framework. The authors identified three fundamental differences that might **invalidate** the NPD models applied to services. First, due to inseparability, there is simultaneous innovation in the product and in the procedure. Second, there is no separation between product innovation and organisational innovation. Third, there is no distinction between the creation of the offer and the activity of production and/or commercialisation. These differences have led to the NSD process being considered as different from the NPD process. A feature of the NPD based linear models is their lack of flexibility, because the development process follows a rigid pattern that often leaves very little scope for adapting to special services or project-specific features. Further, potential for shortening the development cycles is usually not fully exploited, because the process steps take place sequentially and the opportunities that exist for parallelisation tend to be largely neglected.

Linear NSD process models largely focus on what tasks need to be done, the steps to be taken in order to implement new services and as such are a helpful guide for managers to consider when engaging in NSD. However, as some authors assert, services are different from products and due to their nature, for example inseparability, other NSD models may be more useful. In addition, the capability of implementing the new service needs to be considered also.

Table 4: Linear Process Models for NPD, NSD and Managing Innovation

Author (Year)	Methodology	Process Model Stages
Booz et al. (1968)	Survey	1. Exploration 2. Screening 3. Business analysis 4. Development 5. Testing 6. Commercialisation
Booz et al. (1982)	Survey	1. New product strategy development 2. Idea generation 3. Screening & evaluation 4. Business analysis 5. Development 6. Testing 7. Commercialisation
Bowers (1985)	Survey sent to 300 randomly selected hospitals. Response rate of 20.3%.	1. Develop a business strategy 2. Develop a new service strategy 3. Idea generation 4. Concept development and evaluation 5. Business analysis 6. Commercialisation
Scheuing and Johnson (1989)	In-depth survey of 400 members of the Financial Institutions Marketing association, questionnaire with 68 questions and 141 variables. 66 replies received, response rate 16.5%	1. Formulation of new service objectives and strategy 2. Idea generation 3. Idea screening 4. Concept development 5. Concept testing 6. Business analysis 7. Project authorisation 8. Service design and testing 9. Process and systems design and testing 10. Marketing design and testing 11. Personnel training 12. Service testing and pilot run 13. Test marketing 14. Full-scale launch 15. Post – launch review
Bowers (1989)	Survey in banks, insurances and hospital, sample 900, 300 from each industry	1. Develop a business strategy 2. Develop an NSD strategy 3. Idea generation 4. Concept development and evaluation 5. Business analysis 6. Service development and evaluation 7. Market testing 8. Commercialisation
Johnson and Menor (1997)	All previous research of NSD models and review of archival cases	1. Design 2. Analysis 3. Development 4. Launch

2.5.2 Non-Linear Process Models

In 2000, Johnson et al. proposed a cyclical model for NSD, the NSD process cycle. It takes into account some of the unique characteristics of services (e.g. customer contact, intangibility, demand heterogeneity) and demonstrates the importance of matching service delivery system design with development activities. The authors see NSD as a non-linear process. Non-linear models are iterative reference models in which the linear process steps of the linear model are each repeated several times. It is thus possible to obtain initial, meaningful, intermediate outcomes at a very early stage and then to adapt and customise the process accordingly. The cyclical NSD model appears to be a progression of linear NSD models. However, further understanding of NSD, including operations resources and a systems perspective is outlined in the next section.

2.5.3 NSD Models Including Operations Resources and a Systems Perspective

Generally, reviewed literature in the broad fields of NPD, NSD and organisational design is consistent with Barney's (1991) resource based view (RBV), asserting that sustainable competitive advantage resides in the resources and capabilities controlled by the organisation. As suggested for example in the Johnson et al. (2000) NSD model, operations resources are important for NSD as they influence the organisation's capability to perform NSD. Table 5 provides examples from literature of operations resources that influence the ability of an organisation to innovate and to develop new services.

Table 5: Operations Resources Influencing NSD

Author (Year)	Operations Resources
Nadler & Tushman (1980)	Individual, formal organisation, informal organisation
Edvardsson & Olsson (1996)	Employees, organisation and control, physical and technical
Johnson et al. (2000)	People, technology and systems
Stevens & Dimitriadis (2005)	Proposing a learning perspective: individuals, groups, the organisation with its procedures and processes and communications flows, the infrastructures and the external environment
Froehle & Roth (2007)	Intellectual, organisational and physical resources, based on Barney's RBV (1991) in conjunction with a process-oriented dimension
Damanpour & Aravind (2011)	Functional differentiation, centralisation, managerial attitude towards change, managerial tenure, technical knowledge resources, administrative intensity, and internal communication
Santos & Spring (2013)	Means orientated NSD process composed of three stages: 1. Emergence 2. Accommodation 3. Consolidation

In 1980 Nadler and Tushman published a model that took into consideration the operations resources that influence the outcome of a transformation process. These factors include the task to be completed, individual (the people in an organisation), formal organisation arrangements (explicit and deliberately implemented structures and processes) and the informal organisation (Implicit and emerging arrangements).

In 1996 Edvardsson and Olsson published a frameworks which included employees, organisation and control, physical and technical resources as parts of the NSD system. In contrast to the Nadler and Tushman (1980) study, Edvardsson and Olsson did not consider any implicit or informal elements. In their framework, they focus solely on the architecture and resources that can be designed and controlled. The authors' findings are based on service system design publications, with the purpose to investigate the generic prerequisites for achieving a "good customer outcome."

Stevens and Dimitriadis (2005) followed a different school of thought. In addition to a systems perspective to NSD the authors found in their longitudinal case studies that the NSD process increased in efficiency when a "functional integrative and learning perspective" was adopted, setting up a less formal but more communicative organisation, improving shared information, decision-making agreement and decision-making authority agreement. Their NSD model focuses on interaction between actors and learning. Organisational factors are included also. Their model is quoted in Froehle and Roth's (2007) article who combine operations resources with process orientated NSD practices. The resources they include in their model are Barney's (1991) three types of capital resources: intellectual, organisational and physical resources.

Damanpour and Aravind (2011) identified different organisational determinants of innovation, such as functional differentiation, centralisation, managerial attitude towards change, managerial tenure, technical knowledge resources, administrative intensity, and internal communication.

In 2013, Santos and Spring (2013) advocated a means oriented NSD process composed of three stages: emergence, accommodation and consolidation.

Whilst authors quoted different elements, this section indicates a link between organisation resources and the capability to innovate and develop new services.

2.5.4 Summary – NSD Process Models and Frameworks

As reviewed literature indicates, linear models and frameworks help explain the development steps, the organisation of NSD, specifically in relation to lead times and due dates. But these models do not take into consideration for example the nature of services, customer contact, intangibility and demand heterogeneity mentioned earlier in this Chapter.

Consequently, researchers have responded by developing process models that take into consideration operations resources and a learning perspective when developing new services. The empirical studies also suggest taking into account system behaviour influencing the NSD process, as the overriding focus on process structure, reliability and control has tended to ignore the factors that govern the ability to innovate. Also, innovation can be chaotic, emergent and unpredictable (McCarthy et al., 2006; Hartley, 2013). However, only a few studies include behavioural factors, complexity and emergence even though NSD seems to be more emergent and informal than NPD (Zomerdijk & Voss, 2011; Santos & Spring, 2013).

As Table 4 shows, research methodologies applied such as surveys were able to detect the structured project plans and the NSD process steps, but they may not be appropriate to understand what really happens in NSD. Other methodologies as mentioned in Chapter 5 may produce a deeper understanding of NSD, methodologies that show what NSD actors ***do*** and the importance of operations resources when developing and innovating.

So, reviewed literature suggests that process **and** systems perspectives (the resource based view), are relevant in NSD. Process based models suggest the steps involved in NSD and resource based (systems) models suggest the factors influencing NSD. In the next section I review literature on the factors influencing NSD, the barriers and enablers in NSD and in what circumstances they may emerge.

2.6 Barriers and Enablers to NSD Performance

As barriers and enablers to NSD are a central part of the thesis research questions and factors affecting NSD have been identified as important areas for research, I critically evaluate in this section what is known about them. Barriers are understood as inhibiting factors and enablers as facilitating factors in relation to a planned accomplishment. In this section I review existing knowledge of barriers and enablers in NSD, NPD and innovation management literature, in public sector literature, in the publicly funded university sector and transformative services literature. The university sector is of particular interest as it forms the context of the study.

2.6.1 Barriers and Enablers in NSD and NPD Literature

Barriers are those factors within the NSD environment that hinder the organisation of successfully initiating and executing NSD activities. Enablers are those factors in an NSD environment that facilitate in successfully initiating and executing NSD activities. The absence of barriers may be an enabling factor and vice versa (Smith et al., 2008; Essman & du Preez, 2009). Both barriers and enablers may be internal or external to the organisation. In this study

I am only considering internal factors and not external factors deriving from the social, political and economic environment.

In this section I investigate existing knowledge of factors influencing NSD, NPD and innovation in NSD, NPD and innovation management literature. These domains are relevant to address the research questions as the context is that of service (product) development as well as the management of the development process. The review is structured in chronological order.

In 1980 Nadler and Tushman developed a framework for managing innovation with the following factors affecting innovation: the individual (the people in and organisation and their skills, needs and preferences), the formal organisation (structures, processes and systems) and the informal organisation (culture, informal communication channels and management practices). Nadler and Tushman (1980) assert that the factors have to fit, i.e. be congruent with the task (new service development) so the task can be successfully carried out.

In the NPD domain Chiesa, Voss and Coughlan (1996) found the following enabling processes: the deployment of human and financial resources the effective use of appropriate systems and tools providing the top management leadership and direction.

Within NSD literature Froehle et al. (1998) found a statistically significant relationship between NSD process formulation and speed of NSD. Beside the NSD process, Johnson et al. (2000) found further enablers to NSD. These can be summarized under the following headings: Nature of service, product market characteristics, project synergy and NSD process. The nature of service refers to the extent to which the new service is people or equipment based and is defined by other factors such as costs, complexity and innovativeness. Product-market success factors refer to the new service dimension that describe product – market fit and market attractiveness. Project synergy success factors capture two dimensions, whether the new or modified service is consistent with a firm's technical, capital, human and financial resources and whether it fits with the firm's current line of service and customer experiences. This view is similar to the concept of "fit" or congruence defined by Nadler and Tushman (1980) whereby the different parts of an organisation can fit well together and function effectively, or fit poorly and lead to problems and dysfunctions.

This assertion is echoed by Menor and Roth (2008) who argue that without the support from internal capabilities, structures and a supportive service culture, success in NSD cannot be expected and market performance will not be achieved. Contrary to Froehle et al. (1998) and Johnson et al. (2000) though, Menor and Roth (2008) found that formalised processes play a less important role in the success of NSD than market acuity, which captures the firm's ability to see clearly the competitive environment and to anticipate and respond to customers' evolving needs and wants.

The organisational culture is another NSD success factor identified by Johnson et al. (2000). Organisational culture has been explored in NPD research also. Quoting Cooper and Kleinschmidt (1993), Johnson et al. (2000) note for example that a positive culture and climate in NPD is a necessity for product development success. Organisational practices that promote a positive culture include support teamwork, the emergence of product champions, support in terms of rewards, risk taking, autonomy and treatment of failure, encouragement of employee submission of new product ideas and cross-functional teams.

Smith et al. (2008) developed a framework for factors affecting innovation, and potentially NSD, from a systematic review of innovation management literature. They identified nine factors: technology, the innovation process, corporate strategy, organisational structure, organisational culture, employees, resources, knowledge management, management style and leadership. Similar barriers and enablers to innovation are highlighted by several authors as well, such as Forfas (2006). Some other factors effecting innovation mentioned in literature are the retention and attraction of highly skilled and experienced workers (Forfas, 2006) and knowledge management (Smith et al., 2008).

One notable author in the domain of service innovation is Johnston (2008) who argues that the predominant barriers to improvement of external service are internal. Some of the internal barriers he names are employees' mind-set, managers and staff view their service from an organisational perspective only and the degree of arrogance that a department's own service is superior to that delivered by the others.

Edvardsson et al. (2013) however, found that contrary to management belief, a service development strategy is the most important enabler, the "missing link" in improving NSD performance. Other enablers quoted are, a formalised development process, integrated development teams and customer co-creation.

In summary there is a broad spectrum in NSD/NPD and innovation literature of factors influencing service and product development. Depending on the researched context there are factors concerning individual skills and knowledge, there are factors deriving from the "official" organisational structures and factors relating to the culture of an organisation.

However, there are variations in the way organisational culture is defined. Tushman and Nadler (1986) define culture as “how things get done”. Whilst not providing a definition for culture, Johnson et al. (2000) provide examples of factors that influence culture. These factors are mentioned above. For Smith et al. (2008) organisational culture relates to the values and beliefs of the organisation and how these impact the ability to manage innovation within the organisation. Their definition takes into consideration the organisation’s approach to collaboration, communication and risk. Overall, authors tend to describe organisational culture as espoused by the behaviour of the people in the organisation (how things get done), how they act, e.g. communicate, network, what behaviour is supported, ignored, rewarded or punished.

One useful concept may be that of Nadler and Tushman (1980) who see matters such as culture as part of the informal organisation**,** as opposed to formal organisational arrangements. They describe the informal organisation as unofficial and evolving and the formal organisation as official and planned.

2.6.2 Barriers and Enablers to NSD in Public Sector Literature

In this section I review barriers and enablers in the public sector service literature, as the context of the research questions is a publicly funded university. In reviewed literature Chapman (2004), Koch et al. (2006) and the Australian Government (2010) identified the following factors affecting innovation and NSD in the public sector: size, complexity, professional resistance and political push, presence of entrepreneurs and technology respectively. Specific barriers quoted in reviewed public sector literature are concerned with aversion to failure, failure of leadership and lack of direction, absence of a capacity for organisational learning at all levels. However, many of the factors affecting NSD in the public sector are applicable to the private sector, for example aversion to failure (Smith et al., 2008) and cultural factors such as the way power is exercised and the political process (Buchanan & Badham, 2008).

The degree of “publicness” will have to be taken into consideration also (Hartley, 2013). Hartley (2013) compares features of innovation in the private sector with those in the public sector. She argues that there is a common and in her opinion - mistaken - view that the private sector is better at innovation than the public sector. Part of this assumption is that competition will drive up innovation, so if competition is introduced then innovation is enhanced. Yet, there is no simple division between public and private sectors. First, there are interrelations and interdependencies and increasingly there are hybrid organisations, consisting of both private and public elements. Second, there are a lot of variations within one sector so simple binary comparisons are not sufficient to explain different organisational processes and outcomes. Third, all organisations have a degree of “public-ness”. As such barriers and enablers to NSD seem to be similarly occurring in the private and public sector.

2.6.3 Barriers and Enablers in the Context of the Traditional University Structure

There does not seem to be any literature on specific factors affecting innovation and NSD in the university sector. However, expanding the search to “change in higher education”, obstacles to change identified in this domain are for example: too many simultaneous changes, lack of vision, poor implementation strategies, lack of long-term planning, ineffective communication, poor or non-existent succession planning, bureaucratic structures, weak leadership (Allen, 2003; Nelles & Vorley, 2008; Kezar, 2009). However, all these factors have been identified in change and innovation literatures such as, for example, in Tushman and Nadler (1986) and Smith et al. (2008).

There is general agreement in the reviewed operations management, services operations management and organisation management literature that the organisational structure matters and can be a barrier/challenge or an enabler/solution for NSD and service innovation (for example Tushman and Nadler, 1986; Menor and Roth, 2008). Authors highlight linking mechanisms (Tushman and Nadler, 1986), the organisational structure in general (Forfas, 2006) and the quality of the organisation’s systems and processes as important factors for implementing new services (Johnston, 2007).

In a traditional university there are usually two structures observable (Denneen & Dretler, 2012): the administrative bureaucratic where power resides largely with the executive team and cascades down and the academic structure where power usually emanates from schools and faculties.

Mintzberg’s theory on the structuring of organisations (1979) may offer a way to analyse how the structure of a university affected NSD initiatives. Mintzberg (1979) defines an organisation as an organised group of people with a particular purpose.

According to Mintzberg there are five parts in each organisation. Each of these five parts has a tendency to pull the organisation in a particular direction favourable to them. The parts are:

- Operating core: Those who perform the basic work related directly to the production of products and services
- Strategic apex: Charged with ensuring that the organisation serve its mission in an effective way, and also that it serve the needs of those people who control or otherwise have power over the organisation
- Middle-line managers: Form a chain joining the strategic apex to the operating core by the use of delegated formal authority
- Technostructure: The analysts who serve the organisation by affecting the work of others. They may design it, plan it, change it, or train the people who do it, but they do not do it themselves
- Support staff: Composed of specialised units that exist to provide support to the organisation outside the operating work flow

Depending on the dominance of each part, five generic organisation structures can be identified and can be described in terms of the five parts within the organisation:

- The entrepreneurial organisation
- The machine bureaucracy
- The professional organisation
- The divisional (diversified) organisation
- The innovative organisation ("adhocracy")

Applying Mintzberg's (1979) theory, the university as explored is closest to the professional organisation with a dominant *operating core*. According to Mintzberg the professional organisation relies on highly trained professionals who demand control of their own work. This structure is typical when the organisation contains a large number of knowledge workers such as a university. Further, Mintzberg describes the professional organisation as complex, with many rules and procedures to adhere to. This allows it to enjoy the efficiency benefits of a machine organisation, even though the output is generated by highly trained professionals who have autonomy and considerable power. These features are reflected in the researched university.

Support staff within the professional organisation typically follow a *machine bureaucracy* structure, with tight vertical lines. Functional lines go all the way to the top, allowing top managers to maintain centralised control. However, this form can lead to specialisation and functional units can have conflicting goals that can be inconsistent with overall organisational objectives.

The disadvantage of the professional organisation structure is the lack of control that senior executives can exercise, because authority and power are spread down through the hierarchy. This can make these organisations hard to change. These characteristics found by Mintzberg (1979) can also be found in the researched university, as further explained in Chapter 8.

Another aspect to be considered in the Mintzberg (1979) theory model is the *ideology* which surrounds the five parts of the organisation. The definition of organisational ethos (Chapter 4) equals the definition of *ideology* in Mintzberg's theory– a set of norms about the goals and strategies an organisation pursues, pulling the organisation to pursue goals and strategies that matches its ideology/organisational ethos.

The investigation of barriers and enablers in relation to the presence of the administrative bureaucratic structure and the academic (collegial) professional structure in the same organisation in particular in a university offers an opportunity for research.

2.6.4 Barriers and Enablers to NSD in Transformative Services

Transformative services are defined as creating uplifting changes and improvements in the well-being of individuals (as consumers and as employees), collectives (e.g. families and communities), and ecosystems (Anderson et al., 2013). Transformative services include for example healthcare and education.

There is only sparse knowledge of NSD specific to transformative services available. Some authors have published conceptual views including the importance of transformative services, for example Sangiorgi (2011), Anderson et al. (2013) and Rosenbaum (2015). However, so far there does not appear to be any research on education in the context of transformative service provision.

The absence of NSD research in the domain of transformative services, in particular in the university sector, constitutes another opportunity for research

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2.6.5 Summary of the Barriers and Enablers Literature Review

In Table 6 I summarise factors affecting NSD in the reviewed literature under the Nadler and Tushman (1980) broad categories of organisational building blocks which are the operations resources of an organisation: individual, informal organisation and formal organisation. These categories were selected to guide an initial literature review. The review indicated that factors affecting NSD can be broadly grouped under these three categories.

For example, the factor named by Johnston (2008), the "employee mind-set" falls under the broad category of "needs and preferences", which is part of the building block "individual". The factor mentioned by the Australian Government (2010) and Koch et al. (2006) "technology" falls under the broad category of management systems", which is captured in the "formal organisation building block". The factor "availability of a vision" from the higher education literature (Kezar, 2009) falls under the broad category of "management practice" which is part of the "informal organisation" building block. These factors can be barriers and enablers to NSD depending on their absence or presence.

Table 6: Factors affecting NSD and Innovation

Individual Building Block/Operations Resource	Formal Organisation Building Block/Operations Resources	Informal Organisation Building Block/ Operations Resources
• Employees' mind-set, needs and preferences (Johnston 2008, Tushman & Nadler, 1980) • Recruitment, training and behaviour of employees and managers (Johnston, 2008) • Managers and staff view of the service they provide (Johnston, 2008) • Change agents' political skills (Buchanan & Badham, 2008) • Knowledge & Skills, Tushman & Nadler,1980; Smith et al., 2008) • Reward expectations (Tushman & Nadler, 1980) • Diverse Experience (Tushman & Nadler, 1980)	• Organisational structure (Smith, 2008, Forfas, 2006) • Management support for NSD (Klein & Knight, 2005, Johnston, 2007) • Coordination and communication (Johnston, 2007) • Quality of the organisation's systems and processes (Johnston, 2007) • Availability and allocation of appropriate resources (Australian, Gov.; 2010, Smith et al., 2008) • Availability of time (Chapman, 2004) • Availability of direction (Australian Gov., 2010) • Availability of measurement (Australian Gov., 2010) • Legislative limitations (Australian Gov., 2010) • Public/political profile and accountability • Innovation policies (Australian Gov., 2010) • Policy conflicts (Australian Gov., 2010) • Size and complexity (Koch et al., 2006)	• Attitude to risk (Australian Government, 2010) • Attitude to failure (Chapman 2004) • Attitude to uniformity/diversity (Chapman, 2004) • Management & Leadership Style (Chapman 2004, Smith et al., 2008) • Managerial patience (Klein & Knight, 2005) • Attitude towards innovation (Forfas, 2006) • Attitude to hierarchy (Australian Gov. 2010) • Attitude to command and control behaviour (Chapman, 2004) • Silo mentality (Australian Gov., 2010) • The pressure of uniformity in public services (Chapman, 2004) • Capacity to organisational learning, on all levels (Koch et al., 2006) • Tradition of secrecy and effect on feedback and learning (Chapman, 2004)

Individual Building Block/Operations Resource	Formal Organisation Building Block/Operations Resources	Informal Organisation Building Block/ Operations Resources
	• Heritage and legacy (Koch et al., 2006) • Need for consultation and unclear outcomes (Australian Gov., 2010) • Technology (Smith et al., 2008, Australian, Government 2010) • Knowledge management (Smith et al., 2008) • Evaluation of previous policies (Chapman, 2004) • Incentive structure (Windrum & Koch, 2008) • Public sector entrepreneurs/innovation champions (Windrum & Koch, 2008) • Innovation process (Windrum & Koch, 2008) • Implementation strategy (Klein & Knight, 2005) • Creation of a "nurturing environment" (Unsworth, 2010) • Long-term planning (Kezar, 2009) • Job design (Tushman & Nadler,1980) • Methods and Practices (Tushman & Nadler, 1980) • Standards and Measurement (Tushman & Nadler, 1980) • Physical Environment (Tushman & Nadler, 1980) • Human Resource Management Systems (T&N, 1980) • Reward systems (T&N, 1980) • Unresolved policy issues (Wheelwright & Clark, 1993)	• Turf wars between departments • Availability of a vision (Kezar, 2009) • Ability to see services provided from the customer's point of view (Johnston, 2008) • Management practices • informal working relationships, networks and working arrangements (Buchanan & Badham, 2008) • Interpersonal relationships • Informal working arrangement (Tushman & Nadler, 1980) • Nurturing environment" (Unsworth & Clegg, 2010)

2.7 The Contingency Perspective of NSD

The contingency perspective in operations management practice and service research has been deemed as an important consideration for example by Sousa and Voss, (2008) and Ostrom et al. (2015), as in the development of different types of services different barriers and enablers may emerge. Contributing to contingency theory of organisational innovation by evaluating the strength of moderators, Damanpour (1991) for example found that the organisation type and scope adopting innovations are more effective moderators of the focal relationships than the type of innovation and the stage of adoption. Other authors such as Storey and Hughes (2013) hypothesise on the specific impact of the individual antecedents on NSD.

MacKechnie (2006) suggests further that it is not the technical system or environmental conditions in themselves that are decisive, but the organisation's interpretation of how technology and environment might most usefully be exploited. Therefore the systems of tasks designed by an organisation, reflecting the strategy adopted to deal with the technical system and the environment need to be analysed, to assess how appropriate each organisational form is.

Based on a literature review of organisation contingency theory evolution, MacKechnie (2006) argues that the overall complexity of the task system arises from the degree to which four characteristics are present in the task system: variability, unanalysability, heterogeneity and interdependence. A system of tasks will be relatively less complex if none of the four are present and the task system becomes more complex the more these characteristics are present.

The contingency perspective application to service research in general and NSD in particular offers opportunity for further research.

2.8 Summary of NSD in Literature

Considering the diverse viewpoints of service in literature, the definition applied for the purpose of the thesis is based on Vargo and Lusch (2004), Zeithaml et al. (1985) and Gummesson (1987): "*Service is the application of tangible and intangible elements by one entity to benefit another".* This definition reflects three of the four service research priorities proposed by Ostrom et al. (2015). It includes design/delivery of service, value creation of service and outcome of service.

NSD and innovation literature refers to degrees of *"New"*, major or minor. Also, there is agreement that there are multiple dimensions in service development. However, the degree of newness *within* the new service dimensions, the emphasis on each NSD dimension development offers opportunities for research.

Reviewed extant literature refers to a number of development **sequence** variations. Barras (1986) for example identifies that a service product is often seen as the outcome following on from developing an initial service concept (and associated business model) and then implementing a service system or process which enables the outcome, the service product. In a complementary way Santos and Spring (2013) researched the sequence of steps in an NSD process, as preparatory work to research how the dynamics between services and operations resources can be managed. However, the authors do not distinguish between the **NSD dimensions**. The sequence in which **NSD dimensions** are developed would offer an area for further research, in particular in the university sector. Further, and exploration what actors **do** to implement new services within the NSD dimensions would enhance an understanding of what causes NSD barriers and enablers to emerge (See Chapter 4). The emergence of barriers and enablers may be contingent on the type of NSD which means that the contingency perspective in NSD is a research opportunity also.

2.9 Conclusion

In this chapter I outlined existing knowledge of NSD. First I provided definitions for the components of the NSD concept - service, development and newness. Then I explored key themes and research directions in the field of NSD. Thereafter I investigated literature on dimensions of NSD, NSD process and systems models. A section on barriers and enablers in NSD followed. Lastly I explored literature in relation to a contingency perspective in NSD.

Chapter 3 - NSD Capabilities and Their Development

3.1 Introduction

In this Chapter I am firstly reviewing the literature around the concept of NSD capabilities, as distinct from organisational or project management capabilities. Then I am exploring views in literature on individual and organisational learning in order to build capabilities. NSD authors have indicated that NSD provides a learning and capability building dimension (e.g. Santos & Spring, 2013). As the second research question is: *how might enablers be developed and barriers be overcome*, I investigate existing knowledge of how enabler-developing and barrier-overcoming capabilities can be developed in the context of NSD. Lastly I review literature in relation to learning mechanisms.

The concept of capability development has its roots in organisational capability theory (Börjesson et al., 2014). It is a relatively recent idea aligned to the resource based view of the firm (Barney, 1991). Börjesson et al. (2014) asserts that, in the context of NSD, learning from experience means learning from development initiatives and these capabilities of value to the firm.

3.2 NSD Capabilities

This section provides a review of the literature around the concept of NSD capabilities, the most important NSD capabilities as distinct from organisational or project management capabilities.

According to Storey and Hughes (2013), a firm's *NSD capability* captures its proficiency and expertise (or otherwise) at specifically developing new services. It reflects the firm's knowledge and expertise in this area, and its set of different skills, complementary assets and routines for NSD. NSD capabilities include the accumulation of facts, insights and lessons learned from previous and emergent service development activities. Correspondingly Sousa and da Silveira (2017) define capabilities in relation to servitization as the capacity of the organisation to "perform a particular activity in a reliable and at least minimally satisfactory manner".

NSD authors (e.g. Voss and Zomerdijk, 2007; Storey and Hughes, 2013) tend to agree that NSD requires specific capabilities as service development is different from product development and engaging in other organisation activities. The reasons for the difference are highlighted in reviewed literature as follows:

Firstly, NSD demands the consideration of the multidimensional features of NSD (for example Voss & Zomerdijk, 2007). This means that each of the NSD process dimensions has to be developed to achieve a service output which adds complexity to the development process and which may not be required in project management.

Secondly, as NSD authors (for example den Hertog et al., 2011; Santos and Spring, 2013) emphasise when developing new services one has to take into account the nature of service, with its features of intangibility, inseparability (co-production), heterogeneity, and perishability. As Zomerdijk and Voss (2011) assert, services are in a perpetual beta, requiring continuous fine-tuning action and *learning* from the process rather than bringing them to the market close to perfection as expected for example in product development projects.

Thirdly, in project management, resources are usually clearly defined and the outcome is a once off response to standard requirements. The newly developed service however may be delivered on an ongoing basis and longer lasting resources and processes will have to be designed and managed and put in place also.

When analysing NSD literature many NSD authors identify the underlying operations resources as capabilities which can facilitate NSD. Menor and Roth (2008) for example quote formalised NSD processes, market acuity, NSD strategy and IT use and experience as NSD capabilities. Froehle and Roth (2007) refer to resource orientated NSD practices and process oriented NSD practices. They list the resource oriented practices and state that, from a behaviourist perspective, these resources can be seen as systems which utilize various types of resources through a variety of practices and routines, but they do not provide details of what these practices and routines are. Santos and Spring (2013) build on Froehle and Roth’s (2007) resource and process combined view. They refer to the importance of managing the underlying NSD resources when engaging in the NSD process. Similarly, Edvardsson et al. (2013) maintain that an integrated development team can capture the skills and capabilities of the employees, and the team should be comprised of individuals representing a diverse set of capabilities, but they do not refer to what these NSD capabilities are.

The operations resources quoted in literature that potentially could facilitate NSD are captured in Chapter 2 where literature on factors affecting NSD (barriers and enablers) is reviewed. Other notable NSD capabilities mentioned in literature are for example continuous fine-tuning and learning from the NSD process (Zomerdijk and Voss; 2011) learning from customers (Sousa and da Silveira, 2017), learning with members from various areas within the organisation (Edvardsson et al., 2013) and learning how to learn (Noke and Hughes, 2010). Also quoted in reviewed NSD literature is the capability to transfer what has been learned from NSD experience to subsequent projects for example by den Hertog et al. (2010), Santos and Spring (2013) and Witell et al. (2017).

In contrast to NSD capabilities, in the reviewed literature *organisational capabilities* are generally associated with what an organisation overall is (or is not) able to do. The capabilities are the know-how that enables an organisation to achieve its intended outcomes (Dosi et al., 2000). For instance, organisational capabilities have been seen as the abilities of firms to deploy their available resources to achieve the desired end results (Prahalad & Hamel, 1990; Helfat et al., 2007). They are the capacity of the organisation to “perform a particular activity in a reliable and at least minimally satisfactory manner” (Helfat and Winter, 2011, p. 1244). Similarly Storey and Hughes (2013) define (organisational) capabilities as complex bundles of skills and accumulated knowledge that enable firms to coordinate activities and make use of their assets to shape complex advantages.

Specific project management capabilities quoted in reviewed literature are often associated with the ability to deliver projects within agreed timelines, budgets and quality criteria (For example Paulk et al. 1993; Crawford, 2006) There is focus on planning, tools and process stages and reporting and governance.

In summary, in the reviewed literature authors agree that services can be very specific and unique, as the context in which they are developed. Whilst there appears to be no agreed definition for NSD capabilities, authors indicate that the NSD actions and practices actors have to be able to carry out in order to develop new services are significant and as such most important. To assess what these actions and practices are in a university environment offers an opportunity for research.

3.3 Individual and Organisational Learning

As outlined in the previous section NSD authors have indicated that there is likely to be a learning dimension to NSD (e.g. Santos & Spring, 2013) which may facilitate the development of NSD capabilities. In this section I first review how in selected extant literature the terms learning, individual learning and organisational learning are defined. Then I explore extant literature on views of how individual and organisational learning takes place and is related.

3.3.1 What is learning?

Kolb (1984) states that learning is the process whereby knowledge is created through the transformation of experience. The accumulation of experience is presented as a prerequisite to learning (Crossan, 1999; Lipshitz et al., 2007). Learning is deemed to be a prerequisite for capability development (Tushman & Nadler, 1986; Roth et al., 2007) and seen as guiding the evolution of capabilities (Eisenhardt & Martin, 2000). These definitions of learning are relevant in an NSD context as NSD actors take actions in the NSD process. Learning is seen as an output of the transformation process and can happen on individual and organisational levels (Mezirow, 1991; Crossan et al., 1999, Tushman and Nadler, 1986). Based on what actors experience they may learn, and acquire knowledge, through individual learning or joint meaning construction. Transactive knowledge is defined by Lipshitz et al. (2007) as "knowing who knows what". In the context of NSD in a complex organisation the concept of transactive knowledge is relevant. In the next sections I review what is known about individual learning and its relationship to organisational learning.

3.3.2 What is Individual Learning?

Marsick and Watkins (2001) define learning at the individual level as the way in which people make meaning and acquire knowledge and skills. Similarly Crossan et al. (1999) see individual learning, at its most basic level, as perceiving similarities and differences, patterns and possibilities. These two definitions complement Kolb's (1984) definition of learning. In extant reviewed literature there is the view that organisations ultimately learn via their individual members (Kim, 2003).

3.3.3 The Relationship between Individual to Organisational Learning

An organisation is understood to be a group of people with a particular purpose.

For the purpose of identifying and developing an appropriate working definition for organisational learning for this research work, this section outlines and critiques some existing definitions of organisational learning.

For Argyris and Schoen (1996) organisational learning is simply the detection and correction of errors. Lipshitz et al. (2007) refer to this definition of organisational learning and add that organisational learning is the discovery and exploitation of opportunity which includes both insight and action. The authors view learning as a cyclical process involving the evaluation of past behaviour, the discovery of error or opportunity, the invention of new behaviours, and their implementation.

There is the view that organisations ultimately learn via their individual members (Kim, 2003). Hedberg (1981) states that although organisational learning occurs through individuals, it would be a mistake to conclude that organisational learning is nothing but the cumulative result of their members' learning. Organisations do not have brains, but they have cognitive systems and memories. As individuals develop their personalities, personal habits, and beliefs over time, organisations develop world views and *ideologies*. Members come and go, and leadership changes, but organisations' memories preserve certain behaviours, mental maps, norms and values over time (Hedberg 1981, p.6).

Hedberg's statement is relevant for two reasons; it links organisational learning to the manifestation of an overall organisation ideology (see Chapter 8). Hedberg also mentions an organisation's cognitive systems, one of the organisational learning mechanisms proposed by Shani and Docherty (2009). Learning mechanisms are further explored in the next section.

Whilst Marsick and Watkins (2001) define learning at the individual level as the way in which people make meaning and acquire knowledge and skills they define learning at the team level as the mutual construction of new knowledge including the capacity for concerted, collaborative action. Again the focus is not only on knowledge alone but also the ability to act on that knowledge which is mutually constructed – in collaboration.

To distinguish between individual and organisational learning Argyris and Schoen (1996) propose that once interpersonal inquiry takes place, organisational learning happens. This view is echoes by Coghlan and Rashford (2006) who argue that that organisational learning is a systemic phenomenon going beyond the learning of individuals. They propose that organisational learning involves the following steps:

- Individuals bring their learning to their team for comment, critique, negotiation and acceptance
- The team brings that learning to other teams and the wider organisation for their comments, critique, negotiation and acceptance
- And the organisation brings that learning to its stakeholders and network partners

Similarly Crossan et al. (1999) present organisational learning as an iterative process between the individual, the group and the organisational level. They identify four processes in their framework: the "4 Is" – intuiting, interpreting, integrating and institutionalising. *Intuiting* refers to the preconscious recognition of the pattern and/or possibilities inherent in a personal stream of experience. *Interpreting* is the explaining, through words and/or actions, of an insight or idea to one's self and to others. *Integrating* is the process of developing shared understanding among individuals and of taking coordinated action through mutual adjustment. *Institutionalising* is the process of ensuring that routinised actions occur. Tasks are defined, actions specified and organisational mechanisms put in place to ensure that certain actions occur. Institutionalising is the process of embedding learning that has occurred by individuals and groups into the organisation, and it includes systems, structures, procedures, and strategy. Two of these processes relate to individual learning – intuiting and interpreting – while two relate to group and organisational learning, – integrating and institutionalising.

Views in literature on how learning mechanisms facilitate learning so capabilities can evolve are explored in the next section.

3.3.4 Learning Mechanisms

For Eisenhardt and Martin (2000), **learning mechanisms guide the evolution of capabilities**. The authors see practice, codification, mistakes and pacing as "well known learning mechanisms". Similar to Lipshitz et al. (2007), Shani and Docherty (2009) and Coughlan and Coghlan (2011) view learning mechanisms as key organisational capabilities and a source of competitive advantage. In contrast to Eisenhardt and Martin (2000), the authors define three broad categories of leaning mechanism: Cognitive, structural and procedural. Shani and Docherty (2009) contend that at the heart of failed organisational transformation and change interventions one can find the inability to create develop and sustain learning mechanisms. According to Shani and Docherty (2009), learning mechanisms are the formalised and institutionalised results of active decisions by management based on the company's position regarding various aspects of learning.

Cultural or cognitive mechanisms are the bearers of language, concepts, symbols, theories, frameworks, and values for thinking, reasoning, and understanding consistent with the new capabilities. Cognitive mechanisms for example are the main means of creating an understanding among all employees on both the need to develop new organisational capability as the means to realise it. They include for example vision statements and the articulation of the processes and methods.

Structural mechanisms are separate organisational structures created for the purpose of learning. They are created in order to house and enable the collaborative inquiry required for collective learning of a new practice. These may include communication channels, the establishment of lateral structures to enable learning and inquiry of new practice across various core organisational units.

Procedural mechanisms concern the inquiry rules, routines, methods, and tools that can be institutionalised in the organisation to promote and support learning. These may include experimentations, tests and assessment tools, and methods for specific types of collective learning, such as action learning routines. Enquiry processes may be built directly into practice routines if steps are defined in the work processes themselves where people share knowledge and/or combine it. Organisations may also adopt action research methodologies to facilitate the conduct of dialogues for collective reflection in groups and build these as pervasive core routines to carry out the learning required to implement new capabilities.

3.3.5 Summary

In summary of the preceding review, and in the context of the research questions, l*earning* is an enabling mechanism that allows people in organisations to develop new (NSD) capabilities. *Organisational learning* is a systemic phenomenon going beyond the learning of the individual. Individual learning is transferred into organisational learning when groups of people evaluate and reflect on past action; discover error and opportunity through joint meaning construction. It involves the invention of new behaviours and their implementation. In order to learn and to build capabilities organisations may adopt cognitive, structural and procedural learning mechanisms in development activities. How a publicly funded university may build NSD barrier-overcoming and enabler-developing capabilities through learning on individual and organisational level, applying learning mechanisms, offers research opportunities.

3.4 Conclusion

In this Chapter I firstly reviewed the literature around the concept of NSD capabilities, the most important NSD capabilities as distinct from organisational or project management capabilities. Then I explored views in literature on individual and organisational learning in order to build capabilities. Lastly I reviewed literature in relation to learning mechanisms.

Chapter 4 - The Research Framework

4.1 Introduction

This chapter presents my considerations taken into account for developing an initial framework to enquire into the research questions, *what barriers and enablers to new service development are evident in the publicly-funded university; and how might the barriers be overcome and the enablers be developed?*

Firstly I outline the rationale for the inclusion of framework components and secondly I introduce the initial framework.

4.2 The Components of the Research Framework

In order to address my practice derived research questions, I turned to literature (Chapters 2 and 3) to investigate what insights from NSD scholars could help me. First I needed to fully understand the subject under investigation, NSD.

As the NSD focussed literature review in Chapter 2 illustrated, the NSD process may entail a number of **dimensions,** with differing **emphasis** on them. Actors may carry out diverse **actions** in the process of developing NSD, and these actors may develop these dimensions in a particular **sequence**. Literature also supported what I had experienced in practice, **barriers** and **enablers** emerge when carrying out these actions. The capability development literature review in Chapter 3 also supported what I had experienced: actors may be able to overcome these emerging barriers and find and develop enablers to NSD by **developing** barrier-overcoming and enabler developing **capabilities.** However, as outlined in Chapters 2 and 3 I had to further investigate specific issues relating to my research questions that are not explicitly addressed in existing literature (e.g. the degree of newness *within* NSD dimensions, actions, development sequence, barriers and enablers in the publicly funded university, are barriers and enablers different depending on the type of NSD, strategies to overcome barriers and developing enablers). So, by empirically investigating a problem that derived from practice I contribute to existing knowledge.

Figure 1 illustrates the relationships between the main research questions and the sub-questions which investigate the aspects of interest deriving from the main research questions.

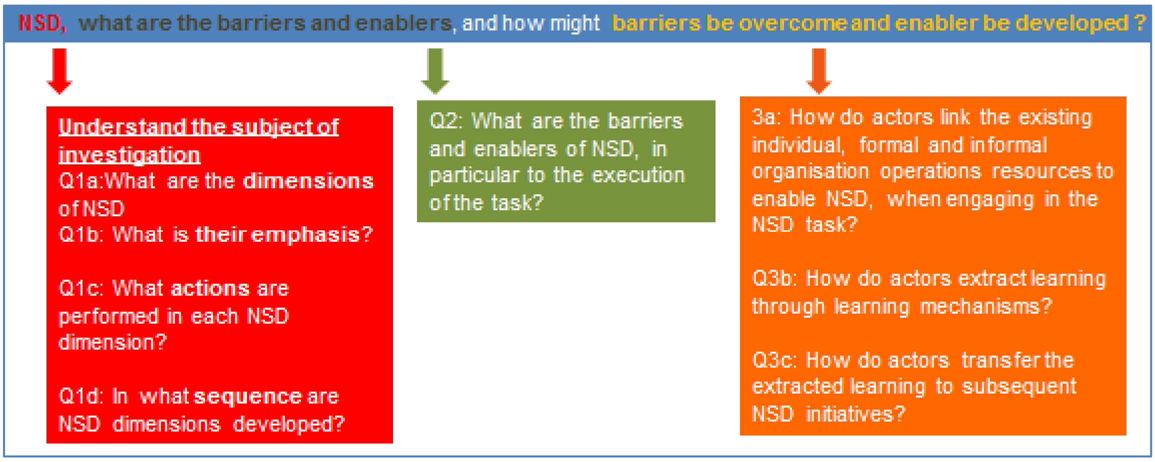

Figure 1: Relationship between the Main Research Questions and Sub-questions

The next sections illustrate how the sub-questions evolved from the two main research questions as shown in Figure 1, and how the use of existing knowledge helped me in defining key construct and build an initial framework to address the research questions.

4.2.1 Dimensions of NSD

As I illustrated in Chapter 2, NSD authors identify multiple dimensions of NSD (e.g. Voss & Zomerdijk, 2007; Hartley, 2013). These dimensions can be categorised under the terms business model (BM), service system (SS) and service product (SP) development. To investigate how these dimensions are evident and influence overall NSD in the publicly funded university the first sub-research question is:

Q1a What are the dimensions of NSD?

In the following paragraphs I provide definitions for the three NSD dimensions and their development. They are a synthesis of definitions for example from Barras (1986), Roth and Menor (2003), Voss and Zomerdijk (2007) and Wirtz (2011).

4.2.1.1. New Business Model Development

A *business model* explains how a firm or institution transforms inputs into outputs to create value. *New business model development* is the process (action) of creating a complete or substantial change in the way by which resources flow into an organisation and how these are transformed into value, from conception to implementation.

In the public sector Windrum and Koch (2008) and Osborne and Brown (2013) offer definitions for policy and policy development which are consistent with definitions for BM and new BM development.

The BM dimension can be broken down further by applying the Osterwalder and Pigneur's (2009) nine elements of the Business Model Canvas, consisting of customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partners and cost structure. The Osterwalder and Pigneur (2009) components contain aspects other authors in BM literature have named (Johnson et al., 2008; Chesbrough, 2010; Zott & Amit, 2010).

4.2.1.2 New Service System Development

New services system (SS) development is the process (action) of creating new or altered ways of delivering to customers, exchanging information or otherwise interacting with them, for the purpose of supplying specific services, from conception to implementation.

An SS can be broken down into the eight elements identified in Roth and Menor's Architecture for Service Delivery Systems (2003): people, physical facilities, information systems, non-information support systems, equipment, location, customer management and policies. The Roth and Menor service system contains aspect other authors in service system literature have applied also (Maglio, 2006; Essen, 2009).

4.2.1.3 New Service Product Development

New service product development is defined as the process (action) of introducing a completely new service, an improvement in the quality of an existing service or changes in the characteristics or design of a service product, from conception to implementation. New service product (SP) development can result either in a completely new service product or an incremental improvement of an existing service (Forfas, 2006; Windrum & Koch., 2008).

4.2.2 Emphasis on NSD Dimensions

As discussed in Chapter 2, the degree of newness may be assessed as either major or minor. NSD authors agree (e.g. Osborne & Brown, 2005; Voss & Zomerdijk, 2007) most new services will involve combination of changes in various dimensions at once and the newness is evident in the different dimensions of NSD. As the degree of newness, the emphasis on each NSD dimension may entail different development challenges the emphasis on the NSD dimensions is to be investigated. Therefore my next question is:

Q1b: What is the **emphasis** on the dimensions?

4.2.3 Types of Actions in NSD

Literature suggests that there are certain actions in developing new services, and they may follow a linear, a circular or a recursive pattern. Some of these actions will be common across dimensions; others will be specific to particular dimensions. As the actions NSD actors carry out may trigger barriers and enablers to emerge I need to know what they are:

Q1c: What **actions** are performed in each NSD dimension?

Generally, an action is described as the act or process of doing something, typically to achieve an aim.

In Chapter 2 I outline existing knowledge on the steps, stages and actions in an NSD process. The number of steps ranges from as little as three steps to up to 15 steps. Recurring themes are outlined in Table 7. The main headings derived from an initial analysis that indicated that creating, selecting, planning and implementing are consistently named in innovation and NPD/NSD literature as actions and steps carried out in the process.

Table 7: Actions in NPD/NSD Processes

Author (Year)	Creative Actions
Bowers (1987)	Formal process for soliciting ideas for new products
Booz et al. (1982)	During the idea generation stage managers conduct a self-assessment to determine what services are of primary interest. Managers solicit ideas from employees, customers and vendors. The ultimate purpose of this state is to produce a wealth of ideas.
Hartley (2013)	For Hartley this phase is similar to invention, and corresponding to Tidd and Bessant's (2009) searching and selecting stages. It includes finding and harvesting ideas, or recognising needs or opportunities as a starting point for innovation.
Selecting Actions	
Booz et al. (1982)	This stage involves the screening and evaluation of ideas, to determine which discoveries should be further investigated and selected for potential for success and can be afforded
Bowers (1989)	Determine the profitability and feasibility of the new products
Planning Actions (referred to as "development" by some authors)	
Booz et al. (1982)	(Development) Assembly of all components required for the service to be offered, such as office space, equipment, operating permits and personnel.
Bowers (1985)	(Concept Development and evaluation) refining and developing the concept of the new service product

Johnson et al. (2000)	(Development) this phase includes the service design and testing, personnel training and pilot run
Implementing Actions	
Booz et al. (1982)	Introduction to the market, “bugs” are identified and remedied
Hartley (2013)	Turning ideas into concrete changes for the service, making ideas happen
Bowers (1989)	Full scale introduction to the public
Johnson et al. (2000)	Full scale launch

The definitions for each of the actions, for the purpose of this study, are described as follows:

Creative actions can be formal or informal, structured or unstructured actions that purposefully or accidently generate new (service) ideas.

Selecting actions involve the screening, evaluation and selection of ideas for further development. This phase can sometimes involve the application of formal selection criteria and discussions in groups. Sometimes this stage is excluded (in particular in the public sector) if the NSD is mandated, for example for compliance reasons.

Planning actions involve assigning timelines, owners and resources to the service development actions. It also entails the assembly of all component required for the service to be offered, such as office space, equipment, operating permits and personnel, securing service support and gaining permission to use and apply facilities & devices.

Implementation actions involve sometimes physical changes to the environment but also sometimes just the agreement to change behaviour and carry out an action in a different way. They include the introduction of the service to the public, “bugs” are identified and remedied.

In my empirical research work I will investigate what actions NSD actors engage in, while developing the NSD dimensions (Business Model, Services System and Service Product Development).

4.2.4 The Development Sequence of NSD Dimensions

Reviewed extant literature on the sequence of the steps in service development refers to a number of sequence variations. Barras (1986) identifies that a service product is often seen as the outcome following on from developing an initial service concept (and associated business model) and then implementing a service system or process which enables the outcome, the service product. In a complementary way Santos and Spring (2013) researched the sequence of steps (Emergence, Accommodation, Consolidation) in an NSD process, as preparatory work to research how the dynamics between services and operations resources can be managed.

Hartley (2013) notes that the NSD process in the public sector can be reversed, by having a desired SP in mind, e.g. the implementation of a new policy.

Overall, reviewed Literature suggests that new services may be developed in a certain sequence, but we do not know in what sequence they are developed in the university sector and if the sequence varies depending on the type of NSD. Therefore the next sub-question is:

Q1d: In what **sequence** are NSD dimensions developed?

4.2.5 Barriers and Enablers in NSD

After an understanding of NSD has been reached I need to identify and understand barriers and enablers particular to NSD in the university sector. As highlighted in Chapter 2 there are many types of barriers and enablers in NSD. Literature on factors affecting NSD and innovation covers many industries, but not the university sector. In Chapter 2 I also note that the barriers and enablers in relation to NSD, NPD and service innovation can be classified under the three operations resources/operational building blocks named by Tushman and Nadler (1986), the individual as an operations resource, the formal organisation and the informal organisation. These operational resources are defined later in this section. All of these resources have to be seen in relation the task, how they fit to the task to be carried out (Nadler & Tushman, 1980; Froehle & Roth, 2007; Santos & Spring, 2013).

Therefore my next sub-question is:
Q2: What are the barriers and enablers of NSD, in particular to the execution of the task?

Sub-question Q2 addresses the first part of the main research questions: “what are the barriers and enablers to NSD?

4.2.5.1 Individual Operations Resources

The *individuals* are the people in the organisation who, as actors, are tasked with NSD. Their knowledge and skills, needs, perceptions and preferences, and other background factors (such as demographics) may potentially influence their ability to perform NSD.

4.2.5.2 Formal Operations Resources

Formal operations resources include the range of structures, processes, methods, procedures, and so forth that are explicitly and formally developed to get individuals to perform tasks consistent with organisational strategy.

4.2.3.3 Informal Operations Resources

The final components are the *informal operations resources*. Despite the set of formal organisational arrangements that exists in any organisation, another set of arrangements tends to develop or emerge over time. These arrangements are usually implicit and unwritten, but they influence behaviour. They include the different structures, processes, and arrangements that emerge while the organisation is operating. These arrangements sometimes complement formal organisational arrangements by providing structures to aid work where no structures exist. In other situations they may arise in reaction to the formal structure, to protect individuals from it. They may therefore either aid or hinder the organisation's performance. The behaviour of leaders (as opposed to the formal creation of leader positions) is an important feature of the informal organisation, as are the patterns of relationships that develop both within and between groups. It also includes the organisational ethos defined as the fundamental character or spirit of an an institution Pfeffer (1992).Finally, there are the various communication and influence patterns that are part of the informal organisation design.

4.2.6 Overcoming Barriers and Develop Enablers to NSD

The second main research question is: "*How barriers might be overcome and the enablers be developed".* This question points towards developing NSD capabilities, i.e. NSD barrier overcoming and enabler developing capabilities.

As analysed in Chapter 3 there are definitions for NSD capabilities in reviewed literature. In Table 8 I am categorising the practices and actions that constitute NSD capabilities as mentioned in reviewed literature. The headings are to **link** (operations resources), to **learn** (from and with) and to **transfer** NSD capabilities, as from initial research these seem to be the main practices NSD actors carry out when developing new services, as highlighted in extant relevant literature.

Whilst some of the research work quoted in the table is conceptual, some authors base their research on case studies, for example Noke and Hughes (2010), Santos and Spring (2013) and Sousa and da Silveira (2017). These authors assert that the most important NSD capabilities are to combine, to mutually adjust and to co-produce services, to learn from development project and with other NSD actors, and to redeploy capabilities.

Table 8: NSD Capabilities Reviewed Literature

Author (Year)	Methodology	Link (operations resources)	Learn (from and with)	Transfer
den Hertog et al. (2010)	Conceptual paper	• Co-producing and orchestrating • (Un-)bundling capability	• Learning and adapting • Conceptualising • Signalling user needs and technological options	• Scaling and stretching
Noke and Hughes (2010)	Case studies	• Combine different strategic approaches	• Learning how to learn (learn along the whole spectrum of firm activities, and use this knowledge to innovate in ways that add new value to customers	
Zomerdijk and Voss (2011)	Case research		• Services as a perpetual beta, requiring continuous fine-tuning and learning from the process	
Santos and Spring (2013)	Multiple case studies	• Management of the underlying resources • Reconfiguration of operations resources • Ongoing mutual adjustment between the existing services provided and the operations resources		• Redeploy operations resources and capabilities to implement emerging service ideas
Sousa and da Silveira (2017)	Statistical analyses of a large survey	• Ability to design services and products jointly	• Ability to learn from customers	
Witell et al. (2017)	Conceptual paper (Forthcoming)	• Bricolage capabilities – link existing services, making do with what is available • Re-combine resources	• Learning from failures and successes	• Networking

For the purpose of this PhD study I define NSD capabilities as the ability to link, recombine and manage the underlying operational resources of the service, adapt and learn from NSD initiatives and with other NSD actors and to deploy and transfer NSD capabilities to other (subsequent) NSD initiatives.

Resulting from this analysis, three sub-questions in relation to the second main research question emerge.

Firstly I need to investigate how NSD actors **link** the underlying resources when developing new services.

Q3a: How do actors link the existing individual, formal and informal organisation operations resources to enable NSD, when engaging in the NSD task?

Secondly I need to investigate how NSD actors learn by applying learning mechanisms. As illustrated in Chapter 3, in extant literature NSD actors learn through the application of learning mechanisms.

Therefore the next sub research question is:
Q3b: How do NSD actors extract learning through learning mechanisms?

Thirdly I need to investigate how NSD actors transfer these new NSD capabilities to subsequent projects, as for example, the ability to redeploy, scale and stretch operations resources and capabilities is named in extant literatures as a NSD capability.

Therefore the next sub-question is:
Q3c: How do actors transfer the extracted learning to subsequent NSD initiatives?

4.3 The Initial Research Framework

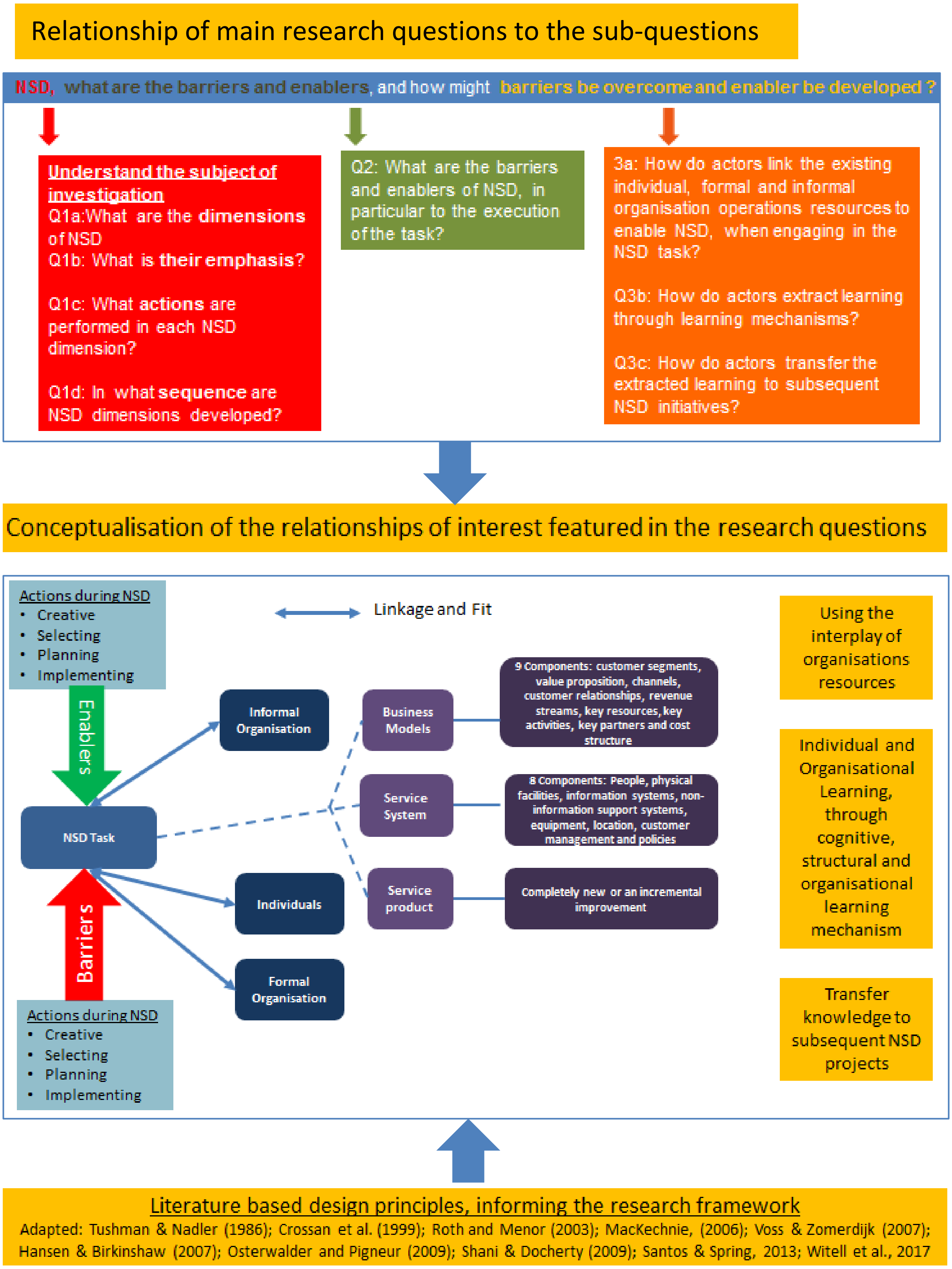

Figure 2: Initial Framework for "Managing NSD"

As outlined in the previous section, in order to address the research questions deriving from practice I developed a framework which is shown in Figure 2. The Figure illustrates how the research questions (shown also in Figure 1) translate into the literature informed framework. The framework includes the subjects under investigation – NSD, barriers and enablers, and how barriers might be overcome and enablers be developed. It presents the conceptualisation of the relationships of interest featured in the research questions.

The literature based design principles informing the framework are as follows:

- Allow for different **dimensions** of NSD and the **emphasis on them** as different NSD dimensions and the **emphasis** on them may entail different challenges and require different NSD processes and practices (den Hertog, 1999; Voss & Zomerdijk, 2007; Hartley, 2013)
- Can identify the types of **actions** carried out in new service development (Scheuing & Johnson, 1989; Hansen & Birkinshaw, 2007)
- Consider operations resources and capabilities, and identify where **barriers and enablers** might emerge (Nadler & Tushman, 1980; Froehle & Roth, 2007; Santos & Spring, 2013)
- Allow for the reconfiguration and adaptation (**linking**) of resources and capabilities to achieve fit to the task of NSD (McCarthy et al., 2006; Santos & Spring, 2013)
- Consider **learning** when engaging in NSD (Crossan et al., 1999; Shani & Docherty, 2009) through the application of learning mechanisms and how that learning may be captured and **transferred** to other NSD tasks (den Hertog et al., (2010), Santos & Spring, 2013; Witell et al., 2017)

Also highlighted in Chapter 2 there are various types of framework to facilitate the understanding of critical components and steps in NSD. Linear and cyclical frameworks help explain how the organisation NSD processes relate to NSD performance, specifically to lead times and due dates. But these models do not take into consideration the nature of services, the relationship between many areas and facets of an organisation and the importance of matching service delivery system design with development activities.

In contrast, Katz and Kahn (1966) argue that organisations can be better understood if they are considered as dynamic and open social systems. This argument is echoed by Nadler and Tushman (1980) who assert that traditional ("static") organisational models exclude important factors such as leadership behaviour, the impact of the environment, informal relations and power distribution. I also see the initial research framework as an open transformation system, reflecting the Nadler and Tushman (1980) operations resources (*the individual*s, the *formal* and the *informal operations resources)* and their relationships with the NSD task. The framework is also consistent with Barney's (1991) resource based view (RBV) as it highlights the importance of resources and capabilities in the transformation system.

The nature and complexity of the task to be performed determines the adequacy of other components of the system to a large degree. Barriers and enablers can be triggered by actions actors carry out. Their occurrence depends on the relationship between the operations resources and the type of the NSD task.

Figure 2 proposes that "Managing NSD" includes the management of the operations resources (Individual, formal and informal) as well as the task of NSD. The NSD task includes three dimensions: Business model, services product and services system development. These three dimensions are broken down further as explained earlier in this chapter.

Actions taken are **creative**, **selecting**, **planning** and **implementing**. Actions trigger barriers and enablers to emerge and as such affect NSD. Actors engaging in the task endeavour to overcome barriers and develop enablers by **linking** operations resources, they also **learn** through engagement with the task. Learning takes place on individual and organisational level applying cognitive, structural and procedural learning mechanisms. Actors **transfer** newly acquired knowledge to subsequent NSD initiatives, enhancing their own the organisation's capabilities.

4.4 Conclusion

In this chapter I presented an initial framework to enquire into the research questions. This framework includes the NSD dimensions, the emphasis on them, types of actions carried out in the NSD dimensions, the sequence in which the dimensions are developed, the barriers and enablers that may emerge when executing the task of NSD and how actors may overcome barriers to NSD and create enablers.

Chapter 5 - Research Methodology and Design

5.1 Introduction

In the first section of this Chapter I provide the philosophical assumptions guiding this research. In the second part I outline my research strategy considerations, including **what** to include in the study. Thereafter I illustrate my overall research strategy of core and thesis action research. Then I explain the concepts and application of first, second and third person AR and what these concepts mean for me and the study, during the course of the study. An outline of the research strategy components follows. Thereafter I outline the quality criteria for core and thesis AR projects. Finally I explain the principles I applied of **how** to write up the study.

5.2 Philosophical Assumptions

Social scientists approach their subject via explicit or implicit assumptions about the nature of the social world and the way in which it may be investigated. First there is the notion of the *overall research paradigm*. A researcher can take the stance of positivism, assuming that the social world can be studied in the same way as the natural world. This means that explanations of a causal nature can be provided (Holian & Coghlan, 2013). Positivists aim to test a theory or describe an experience. Conversely, a researcher can take the stance of constructivism, that is in social sciences truth is constructed and reality, as well as knowledge of it, are social products and therefore incapable of being understood independently of the social actors (including the researchers) that construct and make sense of that reality.

Then there are assumptions of an *ontological* nature, the beliefs about reality, assumptions which concern the very essence of the phenomena under investigation. Relativism for example takes the view that realities are co-constructed, shaped by the context, findings are not generalisable but may be transferred to similar contexts.

When conducting qualitative research, the idea of multiple realities is embraced (Creswell, 2007). Different researchers embrace different realities, as do the individuals being studied and the readers of a qualitative study. When studying individuals, qualitative researchers conduct a study with the intention of reporting these multiple realities.

Social scientists are faced with a basic ontological question: whether the 'reality' to be investigated is external to the individual – imposing itself on individual consciousness from without - or the product of individual consciousness; whether 'reality' is of an 'objective' nature, or the product of individual cognition; whether 'reality' is a given 'out there' in the world, or the product of one's mind (Burrell & Morgan, 1979).

Closely coupled with ontology and its consideration of what constitutes reality, *epistemology* considers views about the most appropriate ways of enquiring into the nature of the world (Easterby-Smith et al., 2004), "*what is knowledge and what are the sources and limits of knowledge*". Blaikie, (2000) describes epistemology as *"the possible ways of gaining knowledge of social reality, whatever it is understood to be",* in short, claims about how what is assumed to exist can be known. *Objectivists* believe that knowledge exists whether we are conscious of it or not. *Constructivists* believe that we come to "know" through our interactions. That means that the researcher and participants are co-creators of the findings, the researcher is interventionist. The researcher and research participants come to "know" through interactions, such as attempting to transform a system. As such the purpose of academic research is not just to describe, understand and explain the world but also to change it. Knowledge is not found but constructed.

Returning to the research questions: "*What barriers and enablers to new service development are evident in the publicly-funded university; and how might barriers be overcome and the enablers be developed?",* the research is carried out in the context of a *socially constructed* organisational setting. The research paradigm of constructivism (Easterby-Smith et al., 2004) claims that reality, as well as our knowledge of it, are social products and therefore incapable of being understood independently of the social actors (including the researchers) that construct and make sense of that reality (Croom, 2009). From an epistemological perspective the constructivist paradigm is based on the belief that social processes can only be fully known through the immersion inside the world of those being studied, to interact with it, to intervene.

As such, constructivism is relevant for this research as the actors in the researched environment construct and co-construct the meaning of their environment and act in accordance with their constructed reality which is one of many possible realities. As this research work aims at investigating what actors do, what actions they carry out to overcome barriers and develop enablers to NSD, the way they construct their reality is relevant. Interventions are being made in a complex system (Coghlan & Brannick, 2014) with a desired outcome of transformation. The assumption is that there is no single truth to be discovered and no right way to organise that is independent of the people who make up that organisation.

The ontological and epistemological perspectives on social reality have implications for the way knowledge is acquired, i.e. the way research is conducted, the overall research *methodology.* The purpose of the methodology is to help in understanding the subject under investigation (Burrell & Morgan, 1979), and addressing the research questions. Conducting a qualitative study means that researchers try to get as close as possible to the participants being studied. In practice, qualitative researchers conduct their studies in the "field" where the participants live and work. These are important contexts for understanding what the participants are saying and doing.

5.3 Research Strategy Considerations

Papastathopoulou and Hultink (2012) note in a systematic literature review that empirical-qualitative research in NSD has increased from seven studies between 1982 and 1995 to seventeen between 2002 and 2008. Building on the Papastathopoulou and Hultink work, Biemans et al. (2015) reveal in a systematic literature review that in NSD research most studies apply a survey (43.3%). Questions addressed by survey methodology are concerned with testing specific hypotheses, often about the effect of various antecedents on NSD success, critical success factors and the NSD process but not with investigating causal relationships. Case research is used in 26.9% of publications examined. For example some notable authors using case study methodology for NSD studies are de Brentani (1991), Stevens and Dimitriadis (2005), Shekar (2007), Zomerdijk and Voss (2011) and Santos and Spring (2013). Biemans et al. (2015) advocate that case research, action research, ethnographic research, and participant observation, preferably using longitudinal methods are ideally suited to gain an in-depth understanding of how organisations develop new services and the factors governing that behaviour.

The research questions "*What barriers and enablers to new service development are evident in the publicly-funded university; and how might barriers be overcome and enablers be developed?",* derived from practice, aiming both to solve a problem and to generate theory. This nature of the research question ("How") merits consideration of a qualitative research methodology such as case study, longitudinal field research or action research.

5.3.1 Case Study

The case study allows question of why, what and how, to be answered (Karlsson, 2009). It can be uses for research purposes such as exploration, theory building and theory testing. It enables the researcher to closely examine the data within a specific context. Yin (2009) maintains that, in general, case studies are the preferred strategy when the researcher has little control over events, and when the focus is on a contemporary phenomenon within some real-life context. Such "explanatory" case studies also can be complemented by two other types-"exploratory" and "descriptive" case studies. As Voss et al. (2002) state, in OM case study research offers opportunities for theory development and testing. The research question may be revisited during case analysis, constructs refined and redefined during field research and analysis. As the researcher has to rely on evidence given by the researched subjects and data provided by them, cause and effect of a phenomenon may be distorted if not rigorously triangulated.

5.3.2 Longitudinal Field Study

Longitudinal field studies allow in-depth research of change processes inside an organisation. They are similar to case studies but are distinguished by studying phenomena over time, in real time. Similar to case studies, the researcher depends on evidence given by the researched subjects. As argued by Åhlström and Karlsson (2009), a major obstacle of conducting longitudinal field studies is access, as organisations often have the need to hide their inner workings from the researcher. A *clinical research approach* (Åhlström & Karlsson, 2009) for longitudinal studies could minimise this issue, as the researcher participates from within the organisation and aims to contribute both to knowledge advancement and change from within the organisation. However, a characteristic of clinical research is that the researcher is invited and will leave the organisation after the research has been completed. The researcher does not have control over the scenarios he or she is invited to research.

5.3.3 Action Research

In 2002 Coughlan and Coghlan posed the question: “How can operations managers and researchers learn from the applied activity that characterises the practice of OM?” They concluded that action research (AR) methodology serves that purpose and is increasingly applied in OM (Coughlan & Coghlan, 2002, 2016), as it allows closeness to the full range of variables in settings where those variables may not emerge all at once. AR is described as a ‘live’ case study, being written as it unfolds (Coughlan & Coghlan, 2009). For Gummesson (2000), AR is the most demanding and far-reaching method of doing case study research.

But AR *requires* more and *is* more than “traditional” case study research and a clinical approach: It addresses a real life problem in addition to researching a phenomenon. AR works for a “better future” (Miles & Huberman, 2014; Zuber-Skerritt, 2000). It is a well-established research approach introduced by Kurt Lewin in 1946 to address social system change through action that is both, a means of effecting change and generating knowledge about the change.

There is no universally accepted definition of AR. It is a collaborative approach between the researcher and the organisation or unit. It is appropriate when the research questions relate to unfolding series of actions over time in a given group or organisation, understanding as a member of the group how and why their action can change or improve the system (Coghlan and Brannick, 2014). The main idea is making an impact and change happen by being involved in the process so that the situation can be researched effectively. The central assumption is that complex social processes can best be studied by introducing change into these processes and observing their effects (Baskerville, 1999). It embraces co-construction between the people in the organisations and the researcher (who also could be a member of this organisation), participation, real-life problems, and workable solutions. AR, in particular insider action research (IAR), alleviates access issues that can occur in longitudinal field research.

AR can be used for theory building (Coughlan & Coghlan, 2009) such as identifying and describing key variables, identifying linkages between variables and identifying why these relationships exists. Further, in AR researchers are themselves instruments in the generation of data (Coughlan and Coghlan, 2009) and therefore no other research methodology allows the researcher to get closer to the social phenomenon under investigation. The researcher can in collaboration with others understand and add meaning to what happens.

5.3.4 Insider Action Research

As Coghlan (2001) and Zuber-Skerritt and Perry (2002) observe, managers are increasingly undertaking action research projects in their own organisations. Insider action research (IAR) is a type of action research whereby the researcher is a member of the organisation and intends to remain a member of the organisation after the research work has been completed. It involves opportunistically planned interventions in real time situations and a study of those interventions as they occur, which in turn informs further interventions.

Working with the epistemological assumption that the purpose of academic research is not just to describe, understand and explain the world but also change it, insider action researchers take on responsibility for change as well as for research.

IAR is particularly relevant in this study as I am also an insider in the researched system. IAR allows an inquiry into complex social events, within the field of service operations management in which actors construct and create meaning of their own environment and intervene accordingly with the aim to transform the system in which they operate in. In this study IAR fulfils the purpose of generating data and facilitating a structured approach to creating actionable knowledge. IAR research can be used for theory building (Coughlan & Coghlan, 2009) such as identifying and describing key variables, identifying linkages between variables and identifying why these relationships exist. As such IAR is suitable to address the research questions, to fully understand the social phenomena and processes relating to them.

IAR includes the researcher as one of the actors in the researched system, working in collaboration with other actors to change the system. The insider action researcher then also informs theory by reflecting and writing about what happens during the change initiatives and the insights gained. Further, IAR is viewed as a means and an end in the development of new organisational capabilities (Roth et al., 2007). It is regarded as a process that pulls together bundles of competencies, skills, knowledge and technologies within and organisation for the purpose of creating new organisational capabilities, enabling an organisation to achieve its intended outcomes (Dosi et al., 2000). In addition, IAR combines the challenge of balancing the demands of the intellectual rigor required by the research community and the relevant applications required by the organisational members (Roth et al., 2007).

To address the research questions, IAR is more suitable than case study and longitudinal field study research. The research questions derived from practice, from a real life problem that is being addressed in real time. No other research method allows me to get as close to the subject of investigation as I need to be, to find out how for example barriers emerge due to particular actions and what actors do to overcome them.

For this research work, the research questions not only merit IAR, but also enable it, as I am fully employed by the organisation that I am investigating and planning to continue my employment after the research work is concluded. I am an “insider”.

How I am in detail designing the IAR strategy and address the challenges particular to IAR is illustrated in the next sections.

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5.4 The Research Strategy - Core and Thesis Action Research Projects

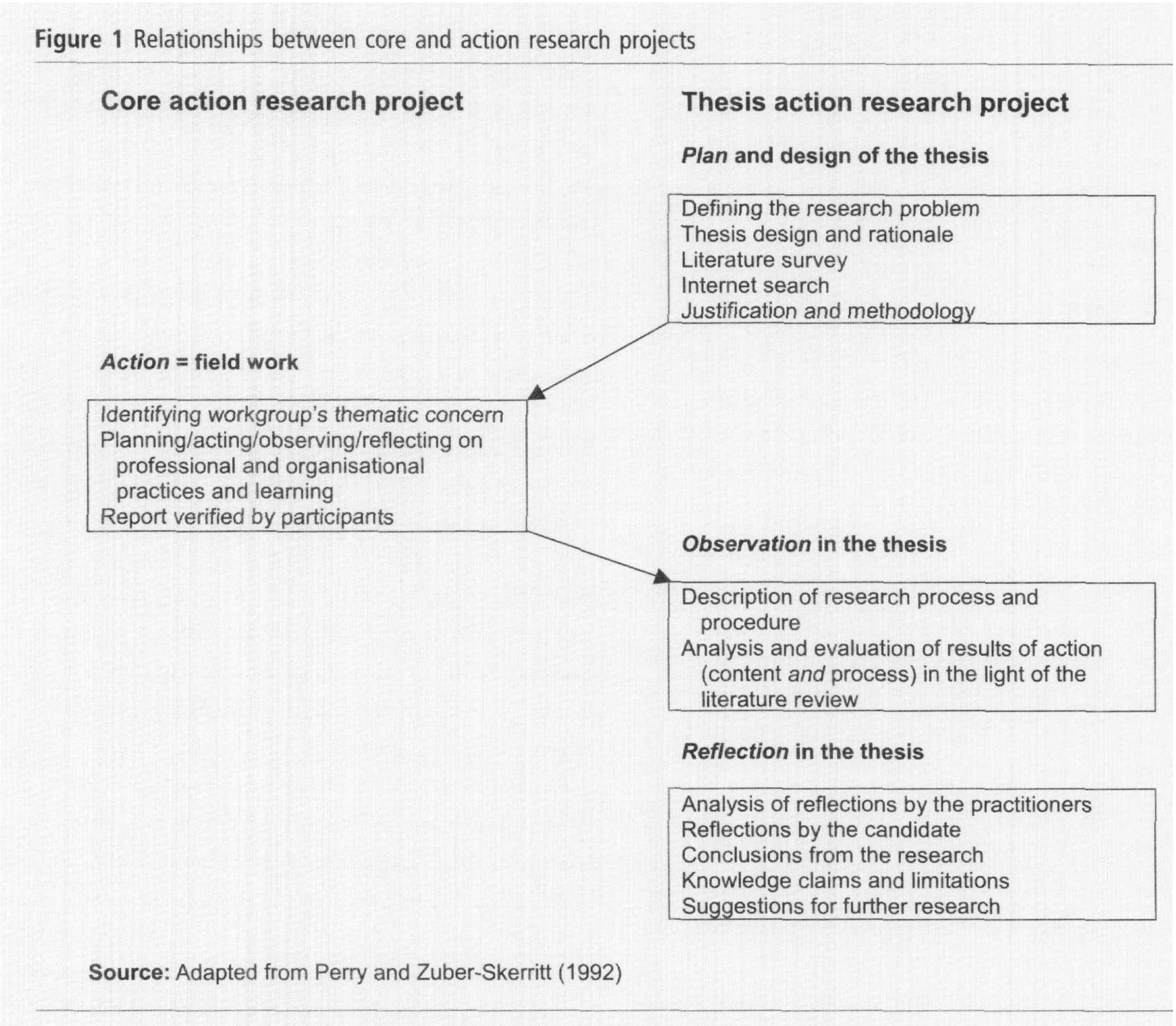

Figure 3: Relationship of Core & Thesis AR Projects (Zuber-Skerritt & Perry, 2002)

My overall research strategy is guided by Zuber-Skerritt and Perry (2002) who divide AR research projects into two interconnected parts – the core action research project and the thesis action research project as shown in Figure 3. The **core action research project** is the basis for the thesis action research project and is the organisational initiative that happens regardless of any academic research work.

As the manager–researcher I am working on an organisational project with organisational colleagues with an intended outcome of problem resolution or successfully implementing a change project (Coghlan, 2007).

The **thesis action research project** inquires into the core AR project and is in line with conventional thesis writing. It includes for example the literature review, the research methodology, analysis and reflection by the practitioners, my reflection of the research process and content/outcome, knowledge claims, limitations and suggestions for further research. As McKay and Marshall (2004) explain, the second goal of AR is to generate new knowledge and understanding. Within the context of this research work the knowledge contribution is aimed at PhD level. Trafford and Lesham (2009) propose three components of PhD level contribution or “doctorateness”: high levels of competence in research, deep discipline knowledge and competence in the presentation of the argument.

As such my representation of the study content (The **“what”** of the core and the thesis AR projects) is driven by giving the reader an understanding of what happened in the operational project (the core AR project) and **how** that **“what happened” led to my knowledge claims.** These knowledge claims are presented in the thesis AR project.

The initial *research framework* (Chapter 4) will be explored and further developed through the research work. I follow the steps of action research cycles described by Coghlan and Brannick (2014) as constructing, planning action, taking action and evaluating action. In cooperation with my co-workers and my associates, I enquire in real time into an NSD programme, recording and evaluating actions as they happen. As such, as the practitioner and the researcher, I link interventions practically and analytically.

5.4.1 Intervention Description and Considerations

The core AR project is the basis for the thesis AR project. Within the core AR project it was my role as Commercialisation Project Manager (CPM) and as Manager in the Operations Director’s Office to lead a number of university NSD initiatives on behalf of the Operations Director (OD). Therefore I played a central organising role in the NSD initiatives. During the research timeline I was involved in many initiatives. However I selected seven interventions fulfilling the following selection criteria:

- They had to be NSD initiatives
- They had to overlap in time (so could demonstrate the learning transferred to subsequent initiatives)
- I would be an actor in all of the NSD initiatives (so I would be able to make interventions and report on the outcomes)

I chose the interventions from an array of potential NSD initiatives based upon the potential to produce a valuable contribution to knowledge in the field of NSD, as summarised in Table 9.

Table 9: Criteria for Selecting NSD Initiatives

Core AR Criteria	Thesis AR Criteria
Carrying out the interventions offers value to researched organisation	Potential to add to knowledge to the field of NSD
Interventions to be carried out in my place of work and remit	The interventions promise interesting research findings, at least one actor (me) had to be the same in all interventions, contain multiple dimensions of NSD, overlap in time
I am naturally part of the interventions	I can make interventions in an under-researched area of NSD
I can conduct the core AR project while carrying out the day–to-day job	I have primary and secondary access

As I expected that in accordance with the contingency perspective of NSD (Damanpour, 1991; MacKechnie, 2006) (Chapter 2) different phenomena would occur for different types of NSD I selected two types of intervention.

I refer to the first type of intervention as *Mission Extension Initiatives* (MEX). The concept of “Mission Extension” derived from the idea of the “Third Mission” of the university. As explained earlier in this thesis, the concept of the third mission means that in addition to the core missions of teaching and research, universities are carrying out often commercially-oriented activities for the purpose of social engagement and income generation. Nelles and Vorley (2010) see the third mission as an extension of the range of missions universities fulfil or seek to fulfil. For the purpose of this research, *mission extension* means that the university is carrying out NSD initiatives and activities that *extend* the existing missions of teaching and research, so these initiatives and activities are located outside the existing mission of teaching and research. The rationale for actors in the researched university to take MEX actions was to generate independent income for the university by commercialising non-academic university services.

I refer to the second type of intervention to as *Mission Enhancing* (MEN). MEN interventions are interventions that result into supporting and improving the quality of the university’s existing activities. These interventions are located within the traditional range of a university’s mission. The rationale for actors in the researched university to take MEN actions was to enhance the quality of existing services.

5.4.1 Mission Extension Interventions

The MEX interventions took place between December 2010 and March 2012. Based on the selection criteria summarised in Table 9 I chose the following MEX NSD interventions:

Intervention 1: Development and implementation of a new outdoor café
Intervention 2: Offering the university campus as a location to make movies
Intervention 3: Developing and implementing new experiential services for tourists/visitors
Intervention 4: Exploiting a heritage trademark for merchandising opportunities

All interventions were aimed at generating commercial income. They were new to the university, supporting structures were not in place, the general climate of university was not supportive of commercial activities and the people skills required were unknown. Table 10 provides the main characteristics of the four MEX interventions.

Table 10: Summary Mission Extension Interventions

Features	Intervention 1 Café	Intervention 2 Filming	Intervention 3 Experiential	Intervention 4 Heritage
Objective	Development and implementation of a new outdoor café to increase income	Offering the university campus as a location to make movies, to increase income	Developing and implementing new experiential services for tourists/ visitors to increase income	Exploiting a heritage trademark for merchandising opportunities, to increase income
Time	Jan 2011 – May 2012	Apr 2011 – Oct 2011	May 2011 – Apr 2012	Feb 2011 – May 2012
My Role	Commercialisation Project Manager (CPM)	CPM and Filming Coordinator	CPM and Experiential Project Manager	CPM and Group Adviser
Groups involved	• Commercialisation Project Group (CPG) • Café Subgroup	• CPG • Filming Subgroup	• CPG • Experiential Services Group	• CPG • Heritage Subgroup
Actual Operat. Outcome	Implementation with a delay of one year	Film was completed on time, within existing resources	New commercial services ideas were implemented within existing resources	Registration of the Heritage brand in markets abroad

5.4.2 Mission Enhancing Interventions

Also based on the criteria outlined in Table 9, I chose three MEN interventions which were concerned with service enhancing activities. Similar to interventions 1 to 4, MEN intervention criteria applied for selection were concerned with adding value to the researched university and to the research domain. They had to overlap in time so I could research if learning was carried forward, they had to entail different dimensions of NSD and one or more actors had to remain the same. The interventions took place between April 2011 and August 2013. The selected interventions were:

Intervention 5: Improving and implementing an emergency response plan for the university

Intervention 6: Developing and implementing a service level agreement between university services and an external academy

Intervention 7: Developing and implementing a risk management policy for the university

The interventions were based on existing support structures and individuals involved had relevant skills to carry out the interventions. I would be involved in all interventions by either being the project manager, secretary or expert adviser.

Table 11: Summary of Mission Enhancing Initiatives

Features	Intervention 5 Emergency	Intervention 6 Service Level	Intervention 7 Risk
Objective	Improving and implementing an emergency response plan for the university	Developing and implementing a service level agreement between university services and an external academy	Developing and implementing a risk management policy for the university
Time	Aug 2011 – Aug 2013	Jul 2012- Jan 2013	Aug 2012 – Aug 2013
My Role	Group Secretary and OD Representative	Project Manager and OD Representative	Project Manager and OD Representative
Groups Involved	• Emergency Management Group • Drill Planning Subgroup • Information Line Team • Psychological Response Team • Information Management Team	• Director of the External Academy • Heads of all university services	• OD • Faculty Deans • Heads of all university services
Actual Operational Outcome	A new emergency planning system	A service level agreement between the university and the external academy	Risk registers added for all major university initiatives

Table 11 shows the main characteristics of MEN interventions. These initiatives meant to *enhance* services that already existed in the university.

5.5 First, Second and Third Person Action Research Considerations

Action research incorporates three categories of research, audiences, voices or practices: first, second and third (Reason & Bradbury, 2007; Coghlan & Brannick, 2014).

First person research is characterised as a form of inquiry I do on my own, attending to my own life and assumptions, and the actions I take based on my assumptions (inquiry for me). Coghlan and Brannick (2014) identify two forms of first person inquiry, upstream (inquiry about own life assumptions and actions) and downstream (relationship with others, effect of actions on others).

Second person research is collaborative inquiry through cycles of face-to-face conversation, debate, joint action and reflection. Here I am engaging and working with others on interventions that are of mutual interest and concern (inquiry for us).

Third person research is inquiry "for them". It takes the combined views of first and second person research to a broader, impersonal context where there has been no direct involvement and where the audience is removed from the direct experience. In the context of this dissertation, the development of new and improved services (core AR) is aimed at firstly creating value for wider community of the researched university not directly involved in the NSD initiatives. This happens for example through reports, policy contribution, presentations to university staff and students and workshops. Secondly the research outcome may be transportable to other institutions through the dissertation document (thesis AR) and other academic work (e.g. conference presentations and journal articles).

In Table 12 I illustrate what first, second and third action research means for me and the study, during the course of the study.

Table 12: 1st 2nd 3rd Person Research - Meaning for Me and the Study

	Meaning for me	Meaning for the study
1st	Consider consequences for me (upstream) (Chapter 8) • Preunderstanding and personal and professional development • Role duality and role conflict Consider consequences of my actions in relation to others (downstream) e.g. • power, politics and organisational ethos (Chapter 8)	• Clarify Access Issues (Chapters 5 & 8) • Keep records in real time e.g. by keeping a daily diary, intervention log • Ensure data collection and generation from many sources to allow for triangulation (Chapter 5) • Describe the research strategy and fieldwork accurately (Chapters 5 & 6)

2nd	Consider consequences for us (Chapter 8) • Ensure we work in collaboration, address a real life problem, find a workable solution, with joint meaning construction (content, process, premise) • Listening to my co-workers and relevant others, collaborating, manage disagreement project management, facilitate meetings • My own observations are tested and enhanced by including views and observations of my co-workers/ co-researcher other participants.	• Ensure anonymity (Chapter 5) • Ensure good research practice with regards to ethics (Chapter 5) • Informed consent considerations (Chapter 5)
3rd	**Core AR :** Consider consequences for the researched institution • Comply with school and university regulations (Chapter 5) • Be mindful that the whole system may change as a result of the study (Chapter 8) **Thesis AR: (Chapters 7 & 9)** Consider consequences for the wider research community • Produce practical knowledge • Generate understanding and theory • Produce publishable work	**Core AR: (Chapter 9)** • Ensure contribution to strategic planning for the university e.g. produce reports and policy contribution **Thesis AR: (All Chapters)** • Thesis AR is extrapolated from experience • Describe fieldwork accurately • Ensure triangulation • Ensure that theoretical claims are justified • Contribute to knowledge not only based on own conclusions but in conjunction with of 2nd person interaction • Write up study adhering to research ethics principals and the university Code of Governance • Allow for feedback and input from PhD supervisors and other scholars • Make clear to the reader other research strategy and field work considerations

The points are guided by Torbert (1998) Coghlan and Brannick (2001), Reason and Bradbury (2007) and my initial assessment of potential factors affecting me and my research work. The table indicates that my *first person research* means how I address points related to for example access, pre-understanding, role-duality, power and politics and what consequences these issues may have for me. For the study it means how I include the data I generate and gather into the study in a research ethical way. *Second person research* means for me to be mindful of the consequences for us, in terms of e.g. collaboration and democratic participation. For the study it means to ensure the anonymity of other participants. *Third person research* means for me to be mindful that the whole system may change as a result of the study (Core AR project) and to produce practical knowledge (thesis AR project). For the study it means to produce reports and policy for the researched university (core AR project) and to describe the fieldwork accurately, under consideration of general research ethics (Thesis AR project). Table 12 also indicates in which Chapters I am critically evaluating the experience of first, second and third person research.

In the next subsections I am providing further details and reflection on the salient items mentioned in Table 12.

5.5.1 Pre-understanding

Pre-understanding includes both explicit and tacit knowledge (Coghlan & Brannick, 2014). It is concerned with the issue of inquiring into something that is close and familiar, insights and experience before engaging in a research programme (Gummesson, 2000).

I had already been an employee of the university for two years and as a consequence had some knowledge, insights and experience before engaging in the research programme. I knew most of the actors, their roles, and their preferences and concerns. Their attitudes to change and to commercial initiatives were familiar to me. I also had a good idea about which subjects caused controversy and which were red-hot issues (Bjoerkman & Sundgren, 2005).

A disadvantage of pre-understanding is that I may not see critical items as they are too close to the subject area of study (Holian & Coghlan, 2013). However, as I had been working in a private multinational organisation for 11 years, I hoped that I would have enough objectivity on critical items and my judgement would not be clouded by my familiarity with processes in the researched university.

In addition I had to be mindful that my pre-understanding of me in this world, my skills, knowledge, current practice and attributes, the way I relate to others and how I am perceived by others, the effectiveness of my practice and my relationship with others. By engaging in action research, first person research is about how I can improve what I am doing, become more effective in impacting positive change.

5.5.2 Role Duality

Roles are building blocks of a social system in terms of position and requirements (Katz & Kahn, 1966). Further, roles are socially constructed (Coghlan & Brannick 2014). In action research literature reference is made to role duality. Role duality is referred to when managers augment their organisational role with that of the researcher (Coghlan & Brannick, 2010, 2014). It is characterised by competing commitments. The insider action researchers may find themselves caught between organisational loyalty, past and present role relationships and problem identification (Holian & Coghlan, 2013).

In action research the traditional separation between the researcher and the researched diminishes. Literature provides guidance on how to deal with role duality for example Nielson and Repsted (1993). Williander and Styre (2006) highlight the benefits arising from role duality. The insider action researcher acts as a dual channel between academia and practice, i.e. information flows in two directions. Carrying out the organisational and researcher roles would require different skillsets. Wearing my organisational hat, I would have to carry out planning, organising and development activities. Wearing my researcher's hat requires reflection and theorising. It was my own personal aim that through carrying out the research work and hold my operational role, to combine the two skillsets, to become a reflective practitioner (Schon, 1991) to be both, a highly skilled practitioner and a scholar.

5.5.3 Power and Politics and Organisational Ethos

In this section I first define power, politics and organisational ethos and how these concepts are linked in literature, in the context of this PhD study. Then I outline my considerations in relation to organisational ethos, power and politics prior to starting the core AR project.

Pfeffer (1992) and Buchanan and Badham (2008) for example propose organisational politics are linked to power and the ethos of an organisation. Managing organisation politics is named as one of the challenges in IAR, for example by Coghlan & Brannick (2014).

Definitions of Power, Politics and the Organisational Ethos

Power and Sources of Power

In the reviewed literature there are many definitions for power in the context of organisational change. Researching a means oriented view for NSD Santos and Spring (2013) for example refer to Van de Ven and Poole (1995). The authors define power as a means to change the status quo. In management literature Pfeffer (1992) defines power as "*the potential ability to influence behaviour, to change the course of events, to overcome resistance, and to get people to do things that they would not otherwise do"*. Buchanan and Badham (2008) list a variety of power definitions from different authors (page 11) for example *"power is the ability to get people to do what you want them to do"* and quintessentially they refer to power as the possession of authority and influence over others.

Whilst there is no unified definition of power, there is the view in literature that there are **sources of power** (Pfeffer, 1992; Buchanan & Badham, 2008). In the reviewed operations management literature, whilst not defining the nature of power, Papke Shields and Malhotra (2008) for example identified four sources power in manufacturing firms – position, expertise, resource, and political. Baines et al. (2017) analysed the preconditions for service transformation. They found a number of factors such as organisational structure, corporate culture, power and leadership, political characteristics and strategic directions.

In summary, in the reviewed literature authors provide diverse definitions of power but these authors tend to agree that there are sources of power, formal and informal in nature, and that individuals in organisations have personal attributes that are seen as sources of power for example stamina, resilience and the willingness to engage in conflict.

Politics

According to authors such as Buchanan and Badham (2008) having the sources and basis of power is not enough. Individuals in an organisation must have the ability to implement change. This is echoed by authors such as Pfeffer (1992) who sees the ability to implement and manage the consequences of decisions made as a critical indicator of power. He defines politics as processes and actions and behaviours through which **potential** power is utilised and realised. Similarly, Allen et al. (1979) see organisation politics as an act of influence, to enhance and protect the self-interest of individuals or groups.

In summary and for the purpose of this study I amalgamate the views of Pfeffer (1992) and Buchanan and Badham (2008) and define ***politics* as the practical exercise of power; it is power in action to for example secure resources, time and support to fulfil a mission, applying a range of techniques and tactics.** Techniques and tactics in the context of this study include the application of power sources, located in formal organisational arrangements, the informal organisation and individual properties.

Organisational Ethos

Pfeffer (1992) defines the *organisational ethos as* the fundamental character or spirit of an an institution. This definition is echoed by Johnston and Staughton (2009) who see the ethos of an organisation as a summary of its organisational values. Similarly Voronov and Weber (2016) understand the organisational ethos as the fundamental institutional ideals. The authors theorize that passionate attachment to institutional ethos enables people to transform into actors who, in order to sustain their self, think and act but also feel according to their position within an institutional order.

In reviewed literature there tends to be agreement that the organisational ethos, whilst intangible, is a source of power (Nicholls, 1984; O'Donnell & Boyle, 2008; Johnston, R., & Staughton, 2009). It affects informal work practices, leadership behaviour, informal working arrangements and informal communication modes and networks. In literature there is also the view that the organisational ethos determines the norms/rules for behaviour in organisations, and as such set the boundaries within which power and politics should be exercised (Nicholls, 1984; O'Donnell & Boyle, 2008; Johnston, R., & Staughton, 2009).

Therefore power, the execution of power through politics and the organisational ethos which sets the boundaries for power and politics are interlinked. As highlighted in Chapter 2, Mintzberg (1979) defines an organisation's *ideology* similar to the organisational ethos, a set of norms about the goals and strategies an organisation pursues.

Considerations in Relation to Power and Politics and Organisational Ethos prior to starting the Core AR Project

I knew that I had been asked to lead a highly controversial commercial initiative. I expected that my formal education in project management and my experience in service operations, both in the private and public sector, my status within the university, the support of my sponsor, the OD, would help me to survive the changes. I expected that the wider university community would see the necessity to generate additional funds through commercialisation and provide support accordingly.

On the downside, I had to manage a team in which all members were more senior in the organisational hierarchy, had been longer employed by the university and as such had had more time to establish informal networks. Many comments from colleagues indicated that the University's ethos did not accept commercialisation as appropriate to generate income. Also, I had to carry out my commercialisation duties in addition to my existing responsibilities. I would depend on work to be done by other commercialisation team members who also had to carry out duties I asked them to do on top of their "official" organisational roles.

Also, there was the divide between the academic and the administrative community. To work effectively on NSD initiatives, I would have to work with both. I not only had to play two roles – researcher and manager, I also had to deal with "two tribes", both tribes being generally opposed to commercialisation of university services and on top of that not appreciating each other's contribution to the university. I would have to frame the research project in a way to make acceptable to its opposing stakeholders. The applied language for different audiences would have to be considered, performing and backstaging activities (Buchanan & Badham, 2008) needed to be carried out and strategies to survive the political system applied.

5.5.4 Access Issues

Primary assess refers to the ability to get into the organisation and to be allowed to undertake research (Coghlan & Brannick, 2014). As I was already a member of the researched organisation and project manager of the interventions that formed the units of analysis when embarking on the research work, I expected having primary access to the actors and events that were shaping the development of the new services. Secondary access refers to areas and information outside a researcher - managers remit but relevant to the research work. Due to the seniority of my job and that of my sponsor I expected that there would be no secondary access issues, either. As the research work indicates my expectations were correct.

5.5.5 Compliance, Good Research Practice and Informed Consent Considerations

In this section I explain how this PhD thesis complies with both school and university regulations and also meets good ethical research practices in terms of its methodological approach. I also outline the application of informed consent.

Steps Taken to Ensure Compliance with School and University Regulations Regarding Research Ethics

At the time my field research work commenced in January 2010 (Figure 4) the university Policy on Good Research Practice (2009) covering Research Ethics was in place which also applied to the university's business school. It includes sections on ethics, integrity, good publication practice, supervision of research and data security. In section 2, page 4, this overarching university Research Ethics Policy (2009) makes reference to overarching research principles (respect, beneficence and justice). How these principles were met in my research work is explained later in this Chapter.

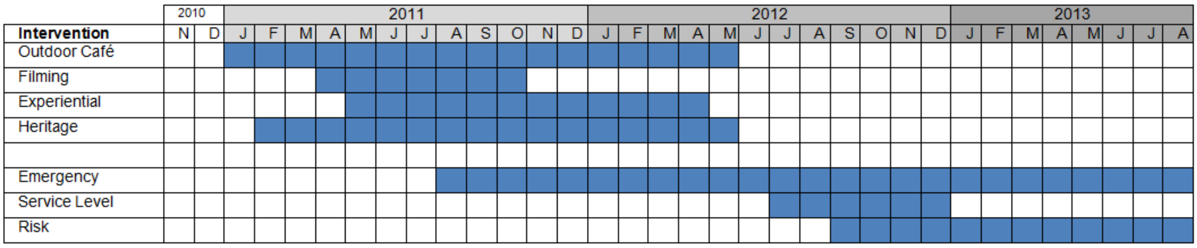

Figure 4: Core Action Research Project Timeline

I sought workplace approval from my manager, the Chief Operations Officer who approved, supported, and facilitated my research work. The core AR project was completed in July 2013 as Figure 4 illustrates.

As the core action research project was integral to my day-to-day work the overall University Ethics Policy (2009) guiding practice in the researched institution applied. This policy refers to conduct of university affairs under a number of ethical standards such as public interest, integrity, accountability, openness and honesty and treatment of confidential information. The University has the overall responsibility for ensuring that the policies are complied with. However all employees and students of the university are individually responsible for compliance. Throughout my research work and my daily work in the university I complied with these standards. I insured that all research data was and is safely stored and protected and only I had and have access to the data.

Steps Taken to Ensure the Research Meets Good Practices with Regards to Ethics

Brydon-Miller and Greenwood (2006) and Zuber-Skerritt and Fletcher (2015) agree that the established code of research and the principles of respect, beneficence and justice in the ethics of traditional research are not only reflected in the shared values of action researchers, but are more fully embodied and extended in AR. These shared values are predominantly linked to the commitment to co-research, participation, collaboration and mutual respect. AR more than fulfils the ethical requirements of a formal ethics policy. As Brydon-Miller and Greenwood (2006) explain, there are differences in ethics and values between traditional and action research. Brydon-Miller and Greenwood (2006) explain that traditional (positivist) values focus on avoiding harm to human beings and the institution's legal liability for violation. These standards derived from Helsinki Declaration of the World Medical Association in 1964 and were put in place to ensure the ethical treatment of human research subjects. As mentioned above they include:

- Respect for the individual subject or population
- Beneficence & the absence of maleficence (research should have the maximum benefit with minimal harm)
- Justice (all research subjects and populations should be treated fairly and equally)

Brydon-Miller and Greenwood (2006) explain further that these ethical regulations have been designed for conventional positivist research that are able to articulate well–defined hypothesis, pre-determined methods and predicable or expected outcomes in advance. In AR there cannot be such predetermination because, by its very nature, AR is open-ended, collaborative, situation specific, methodologically eclectic and thus not prescriptive in its use of methods, processes or final goals.

Eikeland (2006) goes even further. He refers to the ethical principles in traditional (positivist) research as “condescending” and “othering”, treating research subjects as “others”, to be researched upon. A natural consequence of an ethics board would be to protect these research subjects by research principles such as respect, beneficence and justice.

Eikeland (2006) advocates that AR is more in line with Aristotle’s concept of phrónêsis which means prudence, practical wisdom or judgement. Aristotle conveys that deliberation and dialogue cannot be separated and delegated to specialists within a social or technical division of labour but that the “natives” themselves start “dialectical gatherings” in order to map their social, intellectual, organisational, relational, emotional, economic, etc. topographies, enabling them to experiment, learn, deliberate, choose, act, and cooperate more wisely.

However Wallace and Sheldon (2015) demonstrate that the traditional research ethics principles (respect, beneficence and justice) can be applied in low risk research such as business and management research. The principle of *respect* for example may be compromised by not ensuring confidentiality. The principle of *beneficence* may be compromised by not informing participants of benefits or risks of the project. The principle of *justice* can be violated by poor design of surveys (e.g. length) as it may place an unfair burden on participants.

How my action research work met the principles of respect, beneficence and justice is outlined in the following paragraphs.

Respect

As Wallace and Sheldon (2015) explain, respect for the individual and the organisation means to ensure confidentiality, to protect the reputation of individuals partaking in this study and the entire organisation. Examples are non-disclosure of sensitive commercial information and non-disclosure of personally confidential and embarrassing information. To ensure confidentiality I had to "go beyond anonymity" as Coghlan and Brannick (2014) advocate, I had to remove details from my narratives that could have identified the organisation.

The steps taken to secure respect were as follows:

- Before conducting semi-structured interviews, I gained permission from the prospective interviewee to conduct the interview. I disguised the identity of all interviewees
- I ensured anonymity in recording my observations, in particular when participant actions could damage their reputation if revealed
- The identity of the researched university was disguised as well as the identity of informants
- All electronically recorded data was and is password protected and only I have access to electronic folder containing the research data
- Respect for the researched institution was ensured as I was mindful to only engage in and support actions that were deemed beneficial to the university. Therefore, I did not support proposed initiatives that could damage the reputation of the university, even though they could have provided interesting research outcomes

Beneficence

As stated in the research university's Ethics Policy (2009) Beneficence in positivist research means that research should have the maximum benefit with minimal harm. Applied to AR beneficence means that there were no harmful outcomes to the research projects. Potentially harmful outcomes were eradicated by disguising/deleting the identity of the individuals and the researched institution, as outlined in the previous section. Maximum benefits were achieved by the application of IAR as the overall research methodology, by not only contributing to knowledge and practice (Thesis AR project) but also contributing by making improvements to the operations of the researched university and solving real life problems (Core AR project) as outlined in detail in Chapter 9.

Justice

Justice in positivist research means that all research subjects and populations should be treated fairly and equally. As the people involved in the core AR project participate as part of their day-to-day work in the core AR project we (the work groups) adhered to university ethical guidelines. As part of our contractual agreement with the university we are required during our employment to comply fully with all 49 university policies and procedures which include:

- Data Protection Policy
- Dignity and Respect Policy
- Ethics Policy
- Equality Policy
- IT Security Policies
- Records Management Policy

In addition, the principles of AR, participation, joint meaning construction, result in a workable solution to a real life problem. Therefore AR is the epitome of justice, as “research subjects” are true “participants” and they co-determine with the researcher the cause of action.

The steps taken to meet the research ethics criteria of justice are:

- Building and facilitating work groups with NSD stakeholders
- Discussing the issues associated with the NSD initiatives with NSD work group members
- Collaboratively planning and implementing action
- Jointly evaluating actions taken and “re-plan” further actions

As I am the student seeking a doctorate it is my responsibility to write up the PhD thesis by truly reflecting the essence of the work conducted by the NSD teams – as such “doing us justice”.

As ethical issues in IAR are inherently linked to role duality for example by being a researcher as well as an operations manager (Holian & Coghlan, 2013) I was both guided by good practitioner practice in the core AR project good research practice in the thesis AR project. The above analysis demonstrates how general practitioner and research ethics principles apply to an action research project.

Informed Consent

The research principle of informed consent has its roots in the Helsinki Declaration of the World Medical Association in 1964. It was put in place to ensure the ethical treatment of human research subjects. It meant that when taking the principle of informed consent as a precondition for participation the criteria are:

• The consent should be given by someone competent to do so
• The person giving the consent should be adequately informed
• The consent is given voluntarily

Brydon-Miller and Greenwood (2006), Coghlan and Brannick (2014) and Zuber-Skerritt and Fletcher (2015) explain that informed consent in an action research context means the permission to use the data generated and gathered by all participants in the core AR project in the thesis AR projects.

Brydon-Miller and Greenwood (2006) argue:
"Democratic collaboration, co-generation of knowledge, and a commitment to the democratisation of human situations are the major guidelines that AR follows and so it stands to reason that the interests of human subjects involved would be respected with care throughout the process."

My manager/sponsor consented, facilitated and supported the research. By keeping all research data generated and gathered protected, selecting initiatives that would not harm the reputation of the university, I ensured that my practitioner and researcher conduct was ethically sound, guided by the university practitioner ethics policies and research ethics policies (2009) of the university and the school.

As the core AR project progressed, some of my co-workers were aware that I was a PhD student and some of my day-to-day work would transfer into the thesis. As I was a trusted member of the university community, nobody questioned my integrity and trusted me that I would conduct all practitioner and academic work ethically.

Two of my service operations manager colleagues who knew I was conducting academic work and were also part of the work groups offered to further support my research. I subsequently asked them if they would be prepared to engage more deeply in a semi-structured interview. They were delighted to do so and provided informed consent appropriate for the policy context at the time.

Similarly, when travelling to other universities to find out about their NSD initiatives I asked service operations managers if they would engage in a semi-structured interview in the context of the research. They were delighted to do so also.

Before engaging in the interviews, I asked the informants for consent first, explaining why I was conducting the interview and ensured the informants that I would anonymise the hardcopies of the interview and also their identity in the thesis.

Conclusion

The above mentioned traditional research ethics principles derived from a positivist viewpoint where research subjects have to be protected from harm. From the AR perspective nested in the constructivist epistemology the research principles of respect, beneficence and justice do not have to be specifically pointed out and protected – they are naturally part of the research work, as demonstrated in earlier in this section.

With increasing application of AR as a research methodology within a generally positivist research policy environment university ethics board may have to consider how best to facilitate ethical approval for research nested in a constructivist epistemology. This section adds to the understanding of how this facilitation may be achieved by providing examples how the inherently positivist research ethics principles can be met by constructivist research.

Figure 5 represents my actual application of informed consent principles. It illustrates that the core AR project happened anyway, regardless of the research work. *Institutional ethics principles apply* i.e. the overall University Ethics Policy (2009). This policy explains for example ethical values as well as the treatment of confidential information, as explained above.

During the core AR project data is gathered and generated which my manager had given informed consent to. I gained further informed consent from actors who engaged in semi structured interviews.

Once the research work is reported to the outside world through the Thesis AR project the *research principles* of respect, beneficence and justice apply. To ensure that **all** actors are protected and no harmful consequences would arise, the identity of **all** actors (even those who had given informed consent) and the research site was anonymised.

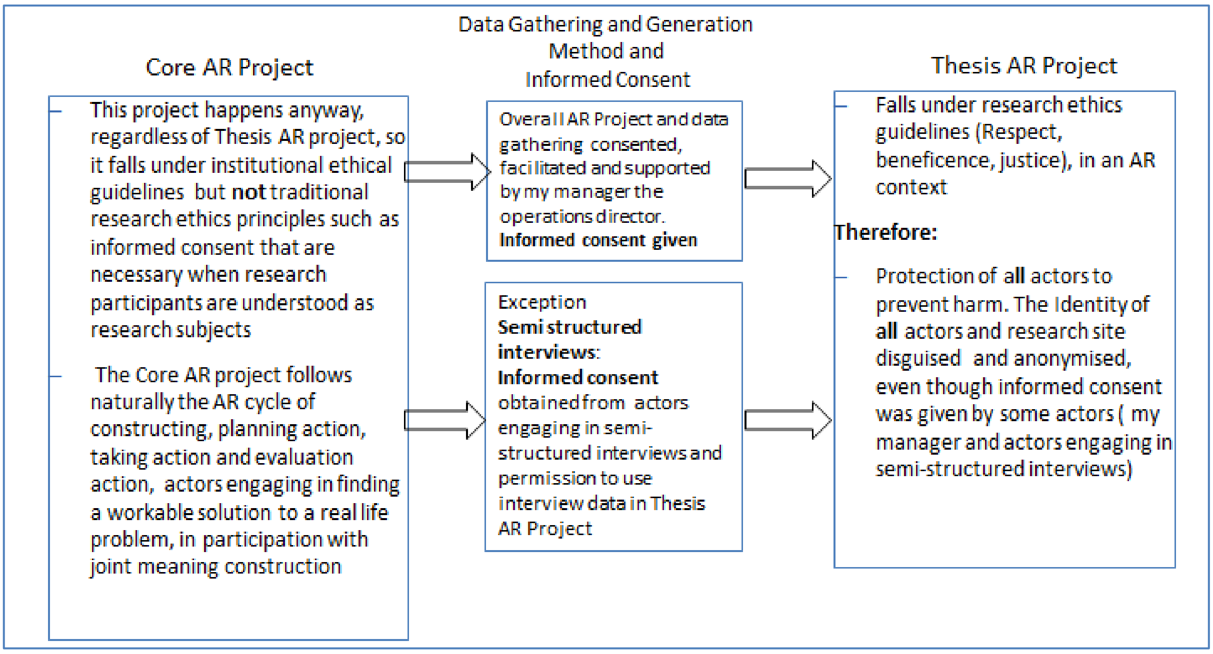

Figure 5: Informed Consent Application in Action Research

5.6 Components of the Research Strategy

In this section I outline the components of my research strategy which are:

(1) Generating and collecting data (Core AR Project)
(2) Writing up the narrative (Thesis AR Project)
(3) Iteratively coding, displaying and interpreting the data (Thesis AR Project)
(4) Operationalising the research questions (Thesis AR Project)

5.6.1 Generating and Collecting Data

During the Core AR project I generated and gathered data. My co-workers and I made interventions and recorded what happened in our meeting notes. In addition, I recorded my thoughts on these occurrences in a reflection log. I also interviewed operations and services managers from inside and outside the university on their experience with NSD. I gathered secondary data from documentations, archival records and participants' observations. I also collected physical artefacts such as invitations to film premiers and emergency response utensils. To manage the different types of data I maintained a database, including data from the seven interventions.

To verify my own observations and to ensure that my observations were triangulated with those of my co-workers, and to make sense of what the events mean to us I fed back what I thought I observed through meeting minutes, reports and confidential conversations, made changes to my records where my observations differed from those of other participants and noted possible causes for differences in observations and opinions. Overall, we planned, implemented and reflected on new services, verified minutes and reports, reflected on what happened and what we learned and how we could improve future approaches to NSD. The data sources and examples in relation to the research questions are outlined in Appendix B. They include for example direct interventions/ reflection logs, archival records and meeting notes. **Participant observations** and **semi-structured interviews** are particularly referred to in the next sub-sections.

5.6.1.1 Participant Observation

In accordance with Coghlan and Brannick (2010) action research as the overall research methodology can include all types of data gathering methods. As two AR projects ran concurrently, the purpose of the data gathered was not only to inform the thesis AR project by strengthening the narrative but also to inform practice, the core AR project.

In the reviewed literature participant observation is defined as observations that are made and recorded by researchers (for example Åhlström and Karlsson, 2009). In participant observation, situations are observed and recorded while participating in the organisation. It is often complemented by more informal "semi-structured" interviews as shown later in this Chapter. Walker and Haslett (2002) advocate that in AR a different approach to participant observations has to be taken, as the people in the organisations are participants in the core AR project.

In general terms the purpose of AR is to solve a real life problem and to contribute to knowledge (Levin, 2003). Work-group members engaged in constructing, planning actions and implementing actions are deemed to be both co-problem-owners and co-researchers by authors such as Reason (1999) Holian and Coghlan (2013) and Coghlan and Brannick (2014).

As action research is in its nature participatory (Many actors *participate* in solving a real life problem, with joint meaning construction to find a workable solution), participant observations as a data gathering method extends to all individuals participating in the core AR project.

Therefore, in AR, participant observation as a data-gathering method not only applies to the researcher who communicates the research findings to the scholarly community, but it extents to co-problem owners. Co-problem owners become co-researchers when they investigate a problem to find a workable solution, and as such contribute to (local) knowledge, which is made transportable by the researcher who communicates with the scholarly community by way of the PhD dissertation, academic articles and conferences.

For this dissertation data is collected and generated through three types of participant observation:

1. **My observations and subsequent (private) reflection on my observations** (see also first person research and practice) In this scenario I am conducting (direct) participant observation in the traditional sense, as described for example by Åhlström and Karlsson (2009), and whilst not central, deemed permissible in AR by Coghlan and Brannick (2014). It is observation *of* participants. As I am also a participant in the core AR project, I am observing from an insider point of view also which is observations *by* participants.

2. **Merged observations and reflection.** (See also second person research and practice whereby my (direct) observations and reflections are challenged and enriched by other participants). As my role in the work groups was either that of the projects manager or group secretary I would issue the meeting notes. I would circulate the draft versions of my observations in these meeting notes to the other participants (i.e. co-workers/co-researchers) for verification and comments. These observations contained outcomes of our collaborative actions planned and taken, and decisions made for further action. These meeting notes were confirmed or rejected by my workgroup colleagues, i.e. co-workers/ co-researchers. I rewrote the meeting notes in accordance with my co-workers/co-researchers comments. Therefore the meeting notes are a combination of views, reflections and observations of more than one participant. They are observations *by* participants. All meeting notes fed as data into the thesis AR project for analysis, as consented by my manager and sponsor of the research project.

3. **Other participants' (co-researchers) observations and reflection**. These observations and reflection were brought to me as I had not participated in some events but these events were relevant to the NSD initiatives and the PhD research project. They are observations *by* participants.

As Appendix B shows for MEX interventions I included three participant observations from my co-workers/co-researchers within the Café, Experiential and the Heritage intervention. These were concerned with commercial subgroup meetings. I did not attend these meetings but received written meeting notes and related emails. The participant observations enriched the narrative included in the thesis AR project and also fed into the commercialisation strategy for the university.

For MEN interventions I included one participant observation in my PhD thesis. It contained a participant's observations in the form of meeting notes from an emergency planning table top exercise in which I did not participate in. The participant observation helped to enrich the narrative of my thesis AR project and supported the development and implementation of the university emergency planning policy.

5.6.1.2 Semi-Structured Interviews

Since the early 1980s semi-structured interviews and other survey methods are data collection methods that are increasingly applied in operations management research to increase its usefulness to operations management practitioners (Forza, 2009). In the reviewed literature semi-structured interviews are defined as a method of inquiry that combines a pre-determined set of open questions (questions that prompt discussion) with the opportunity for the interviewer to explore particular themes or responses further (Kvale, 1996; Yin, 2009). As opposed to structured interviews which have a rigorous set of questions which does not allow diversion, a semi-structured interview is open, allowing new ideas to be brought up during the interview as a result of what the interviewee says. As such, in the AR spirit of co-inquiry, semi-structured interviews allow exploring workable solutions to a real-life problem within a given context with "external others".

This study includes eight semi-structured interviews, two with internal and six with external operations and services managers in publicly funded universities. All service and operations managers who took part in semi-structured interviews were informed of my academic research work and I gained their permission to use anonymous feedback in my thesis and for the purpose of improving the service operations in the university. The two internal semi-structured interviews were carried out with co-workers/co-researchers who knew about my PhD project and offered to engage deeper in the research work. I conducted the six external interviews together with another Commercialisation work group member and we both carried out the questioning. The structured part of the interviews contained mainly university service structure questions and the type of services offered by their university. Once the structured part was completed, we engaged into lively conversations about barriers and enablers to NSD and how to overcome barriers which provided rich data for the research project as well as commercial service development ideas for the university.

5.6.1.3 Conclusion Participant Observation and Semi Structured Interviews

This PhD study demonstrates duality not only in the researcher's role, the dual contribution to NSD knowledge and NSD practice; it also demonstrates the dual purpose of data generation and gathering, to gain knowledge for both practitioners and scholars. This duality in data gathering and generation methods is demonstrated with participant observation and semi-structured interviews.

Firstly, this study contributes to the understanding of the particular nature of participant observation in action research. This study identifies three types of participant observation in AR:

1. Participant Observations by the researcher/practitioner who communicates with the scholarly community ("Communicator"): My observations and subsequent (private) reflection on the observations (see also section (see also first person AR)
2. "Merged" participant observations: A combination of the "communicator"/ researcher/practitioner and the other co-workers/co-researchers participant observations. This process presents itself in "Joint meaning construction, as further illustrated in the individual intervention analysis in Chapter 6 (see also second person AR)
3. Co-worker/Co-researcher participant observations conveyed to the "communicator"/ researcher/practitioner

Secondly, this study illustrates that in AR semi-structured interviews are particularly useful as a data generation and gathering method as they allow for joint problem resolution with "external others" on a particular problem.

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5.6.2 Writing up the Narrative

This section outlines the principles I applied to decide **what** to include when writing up the core AR part of the study – the narratives. The narratives captured the action research steps of constructing, planning action, taking action and evaluating action. I frequently consulted the collected primary and secondary data to triangulate.

When writing up the details of the seven NSD interventions I was guided by Coghlan and Brannick (2014), Zuber-Skerritt and Perry (2002), Brannick and Coghlan (2007) and McTaggert (1998) and Levin (2003).

I applied in particular McTaggert's (1998) principles, who asserts that the narrative of the core AR project, has to be sufficiently comprehensive to allow the reader at the end of it to judge for themselves the validity of the research, its knowledge claims, and claims for extrapolation. As such I wanted to give the reader a true and authentic account of how we, the NSD actors, constructed our reality, how we planned and took actions and how we learned from them. I wanted to show the struggles, the difficulties and the successes, the barriers and the enablers we applied to overcome barriers.

Levin (2003) provides quality criteria for AR studies as outlined in detail later in this Chapter. Coghlan and Brannick (2014), and Zuber-Skerritt and Perry (2002) provide guidance on AR thesis writing for the purpose of academic accreditation. These authors emphasize that there is no hard boundary between the research work and the operational work (the core AR project) or as Coghlan and Brannick (2010, p.44) suggest:

"Action research rejects the separation between thought and action which underlies the pure–applied distinction that has traditionally characterized management and social research".

The narratives can be found in Chapter 6.

5.6.3 Iteratively Coding, Displaying and Interpreting the Data

Given the narratives and the data, I had to consider a strategy of how best to code, display and analyse the data. Initially I put information into different arrays, placed evidence into categories, created data tables, flowcharts, mind maps and other graphics for examining the data. I put key events in chronological order, referring back to the initial data for confirmation and triangulation of several data sources. I noted possible patterns and themes; I contrasted between the interventions, noted relationships between variables, identifying intervening variables. After this initial analysis of data, I operationalised the research questions. This process is described in the next section. After operationalising the research question more detailed coding, displaying and interpreting of data followed.

5.6.4 Operationalising the Research Questions

NSD Dimensions, Emphases, Actions and Sequence

To address *Q1a, what are the **dimensions** of NSD* and Q1b**,** what is the **emphasis** on them, I applied a convention similar to that used by Tatikonda and Rosenthal (2000) and Romijn & Albaladejo, (2002), and Mugge and Dahl (2013) in the context of NPD; I assessed the emphasis on each of the dimensions (major or minor) by applying a simple count of the components, as outlined in Chapters 2 and 4.

My assumptions are as follows:

- All dimension components have the same weight/importance
- The literature based components of each dimension are the only components within each dimension
- The literature based dimension components apply to the publicly funded university

If 5 or more new components then **'Major'** New BM Development
If 4 or less new components the **'Minor'** New BM Development

Business Model Dimension	New	Existing
Key Partners		
Key Activities		
Key Resources		
Value Proposition		
Customer Relationships		
Channels		
Customer Segments		
Cost Structure		
Revenue Streams		
TOTAL		

If 5 or more new components then **'Major'** New SS Development
If 4 or less new components then **'Minor'** new SS Development

Service System Dimension	New	Existing
People		
Physical Facilities		
Information Systems		
Equipment Technology		
Non-Information Systems		
Location		
Customer Management		
Policies		
TOTAL		

If completely new SP, then **'Major'** new SP development
If improved existing SP then **'Minor'** new SP development

Service Product Dimension	Yes	No
Completely New		
Improved		

Figure 6: Emphasis Assessment Convention

To assess the degree of new business model (BM) development I used the Osterwalder and Pigneur (2009) Business Model Canvas, consisting of nine components: customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partners and cost structure.

If five or more components in this model were new, it meant that it was a major new business model. If less than five components were new it was a minor new business model development. The Filming BM for example had seven out of nine new components and was therefore a major new BM development.

For the emphasis on service system development I applied the eight components of Roth and Menor's Architecture for Service Delivery Systems (2003). Again, if five or more components of the SS were new, then the overall initiative was major new SS development. If four or less components were new, then it was a minor new SS development.

To determine whether a major or minor service product was developed, I assessed if the service product was completely new or it was an incremental improvement of an existing service product. Filming was a completely new service product to the university so the service product development was major. Figure 6 depicts this assessment convention.

To address Q1c, *What **actions** are performed in each NSD dimension,* I investigated the following types of action: creative, selecting, planning and implementing actions, carried out for each NSD dimension. The definitions of these steps can be found in Chapter 4. The analysis template is depicted in Figure 7.

		MEX				MEN		
	Intervention	1 CA	2 FI	3 EX	4 HE	5 EM	6 SL	7 RI
NSD Dimensions	**NSD Actions**							
Business Model	Creative Selecting Planning Implementing							
Service System	Creative Selecting Planning Implementing							
Service Product	Creative Selecting Planning Implementing							

Key: CA: Café, FI: Filming, EX: Experiential, HE: Heritage, EM: Emergency, SL: Service Level, RI: Risk

Figure 7: NSD Actions Analysis

As the development order of NSD dimensions may cause barriers and enablers to emerge, I also asked Q1d, *In what **sequence** are NSD dimensions developed.* A summary template of how the sequence of NSD dimensions was investigated is shown in Figure 8.

		MEX				MEN		
	Intervention	1 CA	2 FI	3 EX	4 HE	5 EM	6 SL	7 RI
NSD Dimensions	**Sequence (1,2,3…Iterations? Overlap?)**							
Business Model								
Service System								
Service Product								

Key: CA: Café, FI: Filming, EX: Experiential, HE: Heritage, EM: Emergency, SL: Service Level, RI: Risk

Figure 8: Sequence of NSD Dimension Development Analysis

Barriers and Enablers to the Execution of the NSD Task

As highlighted in Chapters 2 and 4 when NSD actors carry out NSD related actions barriers or enablers may emerge. These barriers and enablers emerged in relation to the three operations resources individual, the formal and informal organisation and may differ depending on the type of NSD, MEX or MEN. Figure 9 depicts the summary table applied to analyse barriers and enablers that may emerge in relation to the operations resources when actors “act”.

		MEX								MEN					
	Intervention	1 CA		2 FI		3 EX		4 HE		5 EM		6 SL		7 RI	
Operations Resources	**NSD Actions**														
Individual	Creative	B	E	B	E	B	E	B	E	B	E	B	E	B	E
	Selecting														
	Planning														
	Implementing														
Formal Organisation	Creative														
	Selecting														
	Planning														
	Implementing														
Informal Organisation	Creative														
	Selecting														
	Planning														
	Implementing														
Summary		**Mission Extension**								**Mission Enhancing**					

Key: CA: Café, FI: Filming, EX: Experiential, HE: Heritage, EM: Emergency, SL: Service Level, RI: Risk, B = Barrier, E = Enabler

Figure 9: Barriers and Enabler Analysis

Overcoming Barriers and Developing Enablers

The second main research question is, "H*ow might barriers be overcome and the enablers be developed".* This question points towards developing NSD capabilities, i.e. NSD barrier overcoming and enabler developing capabilities. The literature review on the most important NSD capabilities (Chapter 3) and the building of the research framework in Chapter 4 highlight that the most important NSD capabilities can be seen as the ability to "link, learn and transfer".

Question Q3a, *How do actors link the existing individual, formal and informal organisation operations resources to enable NSD, when engaging in the NSD task?,* enquires into the evidence of actors linking operations resources to create enablers to NSD and overcome barriers. Figure 10 depicts the summary table applied to analyse how actors **linked** operations resources when they carried out creative, selecting, planning and implementing actions in both MEX and MEN NSD.

		MEX				MEN		
	Intervention	1 CA	2 FI	3 EX	4 HE	5 EM	6 SL	7 RI
Operations Resources	Actions							
Individual	Creative							
	Selecting							
	Planning							
	Implementing							
Formal Organisation	Creative							
	Selecting							
	Planning							
	Implementing							
Informal Organisation	Creative							
	Selecting							
	Planning							
	Implementing							
Summary		Mission Extension				Mission Enhancing		

Key: CA: Café, FI: Filming, EX: Experiential, HE: Heritage, EM: Emergency, SL: Service Level, RI: Risk

Figure 10: Linking Operations Resources Analysis

Question *Q3b, how do NSD actors extract learning through learning mechanisms*, points towards the extraction of learning. The framework facilitates the investigation of how actors learn and what mechanisms they applied. Figure 11 indicates how learning mechanisms were investigated for each intervention.

	MEX				MEN		
Intervention	1 CA	2 FI	3 EX	4 HE	5 EM	6 SL	7 RI
Applied Learning Mechanism							
Cognitive							
Structural							
Procedural							
Summary	Mission Extension				Mission Enhancing		

Key: CA: Café, FI: Filming, EX: Experiential, HE: Heritage, EM: Emergency, SL: Service Level, RI: Risk

Figure 11: Extraction of Learning through Learning Mechanisms Analysis

As mentioned in Chapters 3 and 4 another aspect of learning is the level on which it occurs. Figure 12 indicates how I investigated individual and organisational learning in each step of the AR cycle.

Individual Learning, "Learning for Me"

Intervention	Pre- step	Constructing	Planning Action	Taking Action	Evaluating Action
1 Cafe					
2 Filming					
3 Experiential					
4 Heritage					
5 Emergency					
6 Service Level					
7 Risk					

Organisational Learning, "Learning for Us"

Intervention	Pre- step	Constructing	Planning Action	Taking Action	Evaluating Action
1 Cafe					
2 Filming					
3 Experiential					
4 Heritage					
5 Emergency					
6 Service Level					
7 Risk					

Organisational Learning: Learning for Them"

To the wider university community (Transfer of Learning)	To scholarly community (Thesis Project)

Figure 12: Individual and Organisational Learning

Question Q3c, *how is the extracted learning carried forward to subsequent NSD initiatives,* queries how NSD actors transferred what had been learned to other (subsequent) initiatives as indicated in Figure 13. In order to investigate "learning transferred" evidence of the application of new learning and capabilities was identified in subsequent NSD initiatives.

To \ From	CA	FI	EX	HE	EM	SL	RI
CA							
FI							
EX							
HE							
EM							
SL							
RI							

Key: CA: Café, FI: Filming, EX: Experiential, HE: Heritage, EM: Emergency, SL: Service Level, RI: Risk

Figure 13: Transfer of Learning to Subsequent Interventions

Summary of the Research Questions Operationalisation

This section outlined the operationalisation of the research questions. It indicated that the overall research questions had to be broken down into sub-questions. The breakdown of the research questions facilitated the investigation of the various and emerging phenomena.

5.7 Quality in Core and Thesis Action Research Projects

As authors such as Susman and Evered (1978) suggest AR does not have to justify itself in relation to alternative epistemologies and research approaches, It must be justified within its own terms. There is reluctance to use the term validity in relation to AR, quality is preferred. Focussing on the ***Core AR*** project Levin (2003) suggests four criteria for judging quality of AR: participation, real-life problems, joint-meaning construction and workable solutions:

- *Participation* means how well the AR reflects cooperation between the researcher and the members of the system.
- *Real-life problem* means that the AR intervention is guided by a concern in real life, practical outcomes and is governed by constant and iterative reflection as part of the process.
- *Joint meaning construction* is the process of reflecting on and interpreting events, articulating meaning and generating an understanding as a collaborative process between the researcher and the members of the system. In the evaluation part of each

intervention the quality of joint meaning construction is assessed by applying the *content, process* and *premise* reflection, as explained below, under thesis AR project.

- *Workable solution* means that the action research projects result in significant work and sustainable outcomes.

Focussing the ***Thesis AR* project** *relevance, rigour* and *reflection* have been identified by action research scholars (for example Coghlan and Brannick, 2014) as criteria to assess quality.

- Under *relevance* the authors group: practical, codetermined, re-applicable, teachable, face-valid, interesting, true significance and specific.
- *Rigour* refers to how data are generated, gathered, explored and evaluated, how events are questioned and interpreted through multiple action research cycles. The authors group under the *rigorous* criterion: data-driven, multiple methodologies, reliability across settings, co-evaluation, causality, underlying mechanisms and publish-ability.
- Under *reflection* they group: historical impact, referential, co-interpretation, community of practice, collection and repeated application. Of relevance is Coghlan and Brannick's (2014) use of Mezirow's (1991) three forms of reflection - content, process and premise - in an action research context.
  - *Content reflection* is where the researchers, co-workers and associates think about the issues, **what** is happening.
  - *Process reflection* is where they think about strategies, procedures and **how** things are being done.
  - *Premise reflection* is where they critique underlying assumptions and perspectives **(Why).**

In action research, all three forms of reflection are critical. When content, process and premise reflections are applied to the core action research cycle, they form the meta cycle of inquiry (Coghlan and Brannick, 2014) which informs the thesis AR project.

In Chapter 9 I perform a quality assessment of the *core and thesis AR project* applying the above principles.

5.8 Principles for *How* to write up the (Overall) Study

My decisions of how to write up the overall study were guided by the underlying principles (1) academic accreditation, (2) research ethics principles, (3) AR specific principles (Zuber-Skerritt & Perry, 2002; Coghlan & Brannick 2014), and (4) show how I arrived at knowledge claims.

Academic Accreditation Principles

As the aim of producing the thesis is academic PhD accreditation, I structured the document in the conventional thesis structure, including the purpose and rationale of the research, the context of the study, research framework and the methodology and methods applied, the story and outcomes, my self-reflection and learning as an action researcher, original contribution, and how the Core AR project led to knowledge claims and potential extrapolation to a broader context.

Ethical Principles

As described in detail earlier in this chapter I applied the research principles of respect, beneficence and justice to the way how the thesis was written. I was guided by the College Ethics Policy (2009) and the University Code of Governance (2008). This application is demonstrated for example by keeping the identity of the research site and that of actors disguised.

AR Principles

The description of all seven interventions reflects the action research cycle of constructing, planning action, taking action and evaluating action (Coghlan and Brannick 2014).

Show how I arrived at knowledge claims

The thesis AR project is presented in two stages:

- Routinely applying the eight sub-research-questions after each of the seven individual interventions, as the unit of analysis (see Chapters 5 and 6).
- Combining all findings from the seven interventions and comparing, contrasting and reflecting on them in Chapters 7, 8 and 9.

5.9 Conclusion

In the first section of this Chapter I provided the philosophical assumptions guiding this research. In the second part I outlined my research strategy considerations, including **what** to include in the study. Thereafter I illustrated my overall research strategy of core and thesis action research. Then I explained the concepts and application of first, second and third person AR and what these concepts mean for me and the study, during the course of the study. An outline of the research strategy components followed. Thereafter I outlined the quality criteria for core and thesis AR projects. Finally I explained the principles I applied of **how** to write up the study.

Chapter 6 – Interventions

6.1 Introduction

In Chapter 6 I first describe the context of the researched university and the purpose of the action and the research. I report then on each of the seven interventions, including a discussion of meaning and implications of the findings from individual interventions, following a pre-designed analytical routine of evaluating core and thesis AR projects. From the researcher's point of view the seven NSD initiatives are referred to as "interventions". Whilst the term "project" is used in relation to thesis and core AR project, it is also applied to account for an actor's or a group's specific role such us "Commercialisation Project Manager" or "Commercialisation Project Group".

6.2 Context and Purpose

In this section I set the NSD research in the context and I outline the purpose of carrying out the NSD initiatives. I describe the history of the university, why the initiatives were performed, how the initiatives were set up, who was involved and what the challenges were. To anonymise the researched university it will be referred to as "Traduny" in this Chapter.

Since its foundation about 400 years ago Traduny had enjoyed income streams from many sources, such as philanthropic funding and student fees. At some point the government became involved in capital investment within Traduny. With the growth in student numbers, reflecting the introduction of free second-level education and of third-level student grants, Traduny came to depend increasingly on the state and it became publicly accountable. But despite the ever-increasing involvement of the state in directing higher education, policy and practice, the contribution of the state grant to the university's total income declined. With growing student numbers there was the demand from the president, fellows and the wider Traduny community to reform the administrative and services activities of the university and to look for alternative funding sources.

In early 2009 the role of Operations Director (OD) was created and the Office of the OD was set up shortly afterwards. The role of the OD was to provide strategic leadership, management and organisation of the university's professional administration and services functions. These functions included initially 13 areas with almost 1,000 staff. The idea was that the OD should lead all of Traduny's non-academic areas. In 2010 the OD was tasked with leading the

Commercialisation initiative, i.e. generating independent income from non-academic funding sources.

From 2009 to December 2013, the OD had two support staff: A personal assistant and a senior manager which was my role. I was recruited to the OD Office in October 2009, six months after its creation, and remained throughout the seven interventions.

6.2.1 The University's Mission

In literature a number of classifications for universities can be found. Table 13 highlights the differences and similarities in these classifications under the broad focus of the core mission (teaching and research) and the third mission of the university, subdivided into social engagement and economic engagement.

The concept of the third mission means that in addition to the core missions of teaching and research, universities are carrying out often commercially-oriented activities for the purpose of social engagement and income generation (see Etzkowitz et al., 2000; Clark, 2004; Nelles & Vorley, 2008). In broadest terms, the third mission is defined as everything that is not traditional teaching and research (Jongbloed et al., 2008). Nelles and Vorley (2010) see the third mission as an expansion of the range of missions universities fulfil or seek to fulfil.

Table 13: University Classifications - Core and Third Mission

University Focus / Author (Year)	Core Mission: Teaching and Research	Third Mission: Social engagement	Third Mission: Economic engagement
Cummings (1998)	Traditional research university	Service university	Service university
Bleiklie (1998)	Government agencies	Cultural institutions	Corporate enterprises
Clark (1998)	Traditional University		Entrepreneurial university
Olsen (2005)	• Self-governing community of scholars, • Representative democracy	Instrument for national political agendas and purposes	Service enterprise embedded in competitive markets
Byrne & Bond (2014)	Intellectual model		• Managerial model • Consumerist model

Table 13 shows that Cummings (1998) for example distinguishes between *traditional research* and *service universities* whereby a traditional research university is defined as arts and sciences centred, with life-long staff and is funded by gifts and grants. The service university consists of professional schools, has many adjuncts and is funded by contracts. In contrast, Bleiklie (1998) makes a distinction between the university as a *government agency*, a *cultural institution* and a *corporate enterprise.*

Deriving from the above analysis the concept of “traditional research university” fits best to characterise the researched university Traduny. It represents a collegial format and long established focus on the core mission of teaching and research, supported by an administrative structure, as outlined in Chapter 2.

Having established that Traduny can be classified as traditional research university, leading commercial NSD initiatives can expected to be challenging, as these represent an *extension* of the university’s core mission and decisions to divert from the core mission would entail extensive and complex effort.

6.2.2 The Commercialisation Initiative

One of the first programmes of the administration reform in Traduny was to generate additional commercial income from non-academic areas. In October 2010 the OD was asked by one of the senior university decision making groups to initiate the generation of new income streams and to lead a number of commercialisation initiatives which, as presented in Chapter 5, are referred to as MEX (mission extension) initiatives. As the senior manager in the OD office, the OD appointed me as commercialisation project manager (CPM).

However, the Commercialisation initiative was not well received within the wider university community, academic and non-academic alike. The general view was that Traduny should not pursue commercial activities as it would interfere with the research and educational focus. The objections were understandable, given the classification as a traditional research university. The service areas under the OD saw themselves as service providers to students and not as commercial units with the aim of generating income. The main argument from commercialisation opponents was that the country was aiming at being a knowledge economy, so the Government should provide educational institutions with funding to support this mission and not expect them to generate income, to finance university operations. Another obstacle was Traduny’s maturity – its survival and success over centuries. It had survived civil and world wars, recessions and religious battles. The commercialisation initiative was seen as a minor nuisance by many academics and administrative officers, a nuisance which would soon pass.

6.2.4 Setting up the Commercialisation Project Group

After receiving an overview of commercial activities that were being carried out already from her support staff, the OD invited Hospitality Director (HD) and me as the OD Office Manager to discuss how we could plan for attracting income from commercial sources.

As no formal support structures for commercial NSD initiatives were in place, the OD, HD and I had to design them and put them in place. This design challenge meant thinking about who would lead sub-projects, who would be in the group and contribute (what, how much, when) how to generate ideas and implement initiatives. We also had to develop an overall commercial strategy, decide how we would measure progress and success, and how we would embed the commercial structure in the overall university.

In an intial meeting between the OD, the HD and me a plan emerged: The HD and I would visit other universities which had already commercial activites in place and learn how they organised themselves. We would also talk to stakeholders within Traduny, ask for new ideas and see who else we could involve in the initiative. As there were no resources to support the commercial activities, the initiative had to be run by the individuals that would be selected to join the group. Eventually we formed the Commercialisation Project Group (CPG), consisting of five senior members of the OD's management team the HD, the Library Director, the Press Secretary, the Facilities Manager and me. Figure 14 illustrates the organisational roles relevant for this study. Members of the CPG are highlight in red.

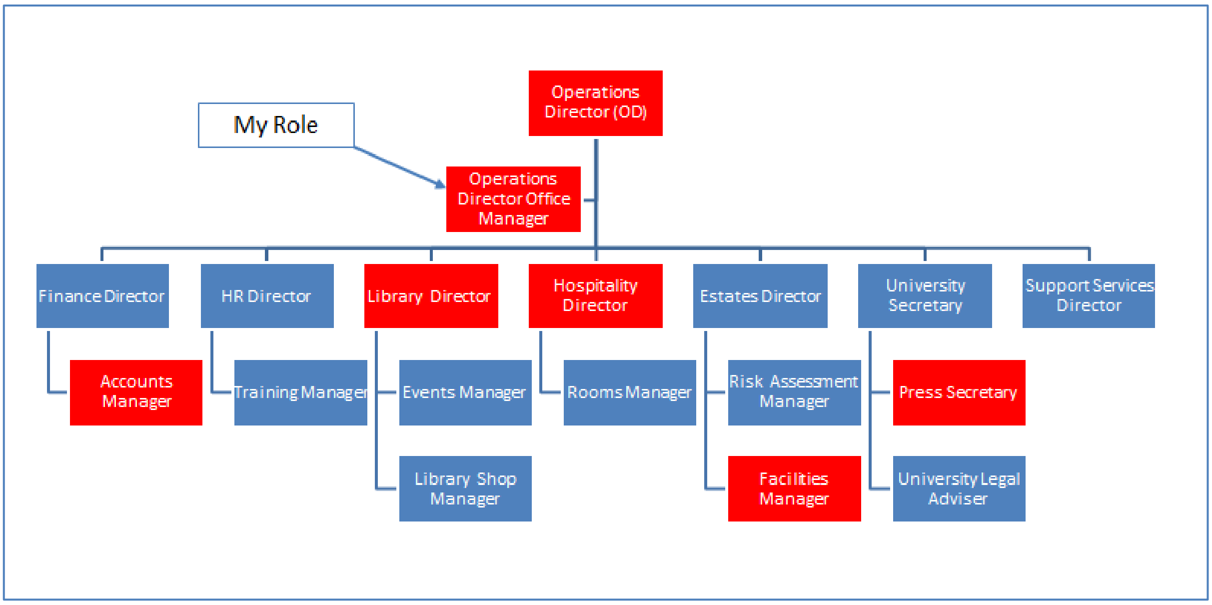

Figure 14: Organisational Roles Relevant to this Study (Red: CPG Members)

Figure 15 illustrates the structure of the CPG.

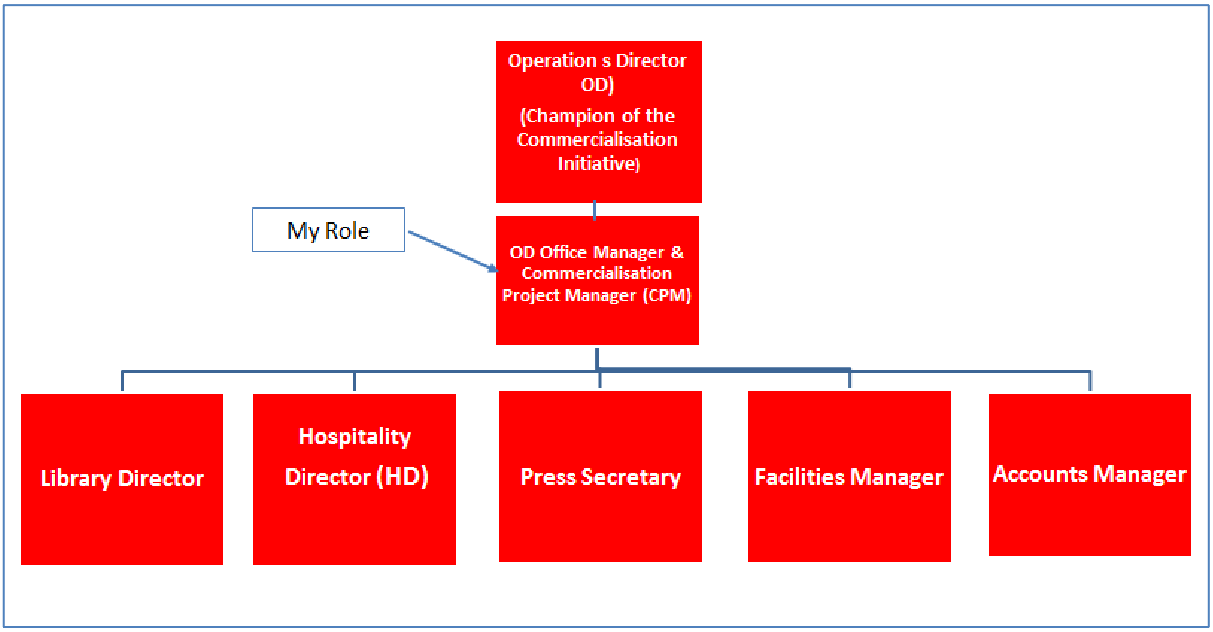

Figure 15: Commercialisation Project Group (CPG) Structure

6.2.4.1 Selecting Commercial NSD Initiatives

For my first meeting in January 2011, as the newly appointed CPM (Figure 15) I asked the CPG members to talk to their teams and bring commercial ideas “to the table”. Other ideas that came from the general university community - after sending out a mass-email to solicit commercial ideas - would also be tabled, as well as commercial activities that were carried out by other universities. Listing all new ideas the Group applied the Johnson and Scholes’ (2008) Strategy Selection Criteria of Suitability, Feasibility and Acceptability. I had proposed these selection criteria as I had found them useful in previous project management work in another organisation. We defined suitability as suitable to what we were asked to do: generate additional income from commercial sources. Acceptability was defined as acceptable to Traduny's internal stakeholders and feasible as having the resources to implement the ideas. All CPG members were asked to score with a maximum of three points for each criterion. From an initial 70 new ideas, 13 were selected for further investigation. From these 13 initiatives we needed owners or project managers for at least another six. The OD asked Heads of Areas (her direct reports, not members of the CPG) to take ownership of projects that fell into their areas but nobody wanted to get involved.

Finally, we discussed which commercial activities could be managed by members of the CPG. We decided to proceed with four initiatives which would fall under the remit of the OD and each member would take the lead on one of them. As CPM I continued with the overall management of the group, but also took on the "Traduny Experience" initiative, referred to in this thesis as "Experiential". The distribution of initiatives is listed below:

- The Outdoor Café (HD)
- Heritage (Library Director)
- The Traduny Experience (Coordination of Tourist and Visitor Service) (KDG from May 2011 – Experiential)
- Filming, Photography, Advertising, Promotions (Press Secretary)

These mission extension (**MEX)** initiatives are described in more detail in the following sections. Owners drew in support from their areas where possible. Due to lack of resources and expertise the Finance Manager suggested to hire external specialists to plan and implement new initiatives. This was strongly opposed by both the Library Director and the HD as they felt they had enough expertise to implement their initiatives. Also, there was no funding in place to commit to this investment. The Finance Manager argued that the experts could be funded from new income generated. However, the Group decided to continue as planned with existing owners and revisit getting external help at a later stage. Yet, the lack of resources (time, human) and skills (Financial, planning and project management skills) did become a constant issue within the Group.

6.2.4.3 Evaluating Performance

As the OD had to report detailed financial projections and more detailed timelines to the Financial Oversight Group (High level university decision making group with a financial focus, chaired by the Vice President) she asked me and all members of the Group to provide this information. However, as there was no project accountancy system in place, projections could not be supplied. Due to lack of resources and unknown workloads none of the initiative owners wanted to commit to timelines and completion dates.

From the start of the commercialisation initiative I had worked with the Finance Office and the Finance Manager to set up project accounting. That proved to be extremely difficult as there was no automated system in place and all income had to be tracked manually. In the past, Traduny's governance had not required to report of any surplus; the existing accountancy systems were not set up to centrally report income. Therefore, any increase in income and surplus – and the financial success of the initiative – was impossible to measure on a regular basis.

I had a number of meetings with Finance Office staff to find out how the key financials could be extracted from the existing system. This took at least five meetings over a period of two months. Financials could now be downloaded, but manual adjustments still had to be made.

6.2.4.4 Conclusion

The CPG struggled to gain momentum within an environment where commercial activities were unusual, viewed with suspicion and seen as a threat to the academic ethos of the university. Except for me, no other CPG member had formal project managing skills, but still each was asked to lead sub-initiatives. A project accountancy system had to be set up manually.

Yet, after one year the Group was in the position to make recommendations to the Executive Forum (High level decision making group, chaired by the President) on how the Commercialisation initiative could be embedded into the university structure. Overall financial targets set for 'year one' were exceeded. So, despite all the challenges, the CPG was able to make progress.

However, the Executive Forum felt that progress was not made quickly enough. In May 2012 the decision was made that the Finance Director would head the initiative from then on, with the OD reporting to him. Recommendations made in the initial CPG were implemented another year later.

6.3. The Seven Interventions – Core and Thesis Projects

As noted in Chapter 5, four interventions were of a MEX and three interventions of a MEN nature. MEX interventions are drawn from the commercialisation initiative, as described in the previous section. The three MEN interventions are concerned with service enhancing activities, improvements of existing services.

The description of all seven interventions reflects the action research cycle of constructing, planning action, taking action and evaluating action (Coghlan and Brannick 2014). The *evaluating action* step includes two sections:
First I evaluate the meaning and implications of the *core AR project*, applying Levin's (2003) four criteria for judging AR quality: Real-life problem, workable solutions, participation and joint-meaning construction. Joint meaning construction is detailed with content, process and premise reflection. These terms were explained earlier in Chapter 5.

Then I evaluate the meaning and implications of findings from the individual *thesis AR projects,* supported by routinely applying the research sub-questions as follows and also outlined in the Research Strategy (Chapter 5):

Q1a: What are the **dimensions** of NSD and
Q1b: What is **the emphasis** on these dimensions?
Q1c: What **actions** are performed in each NSD dimension?
Q1d: In what **sequence** are the NSD dimensions developed?

Q2: What are the **barriers and enablers** of NSD, in particular to the execution of the task?

Q3a: How do actors **link** the existing individual, formal and informal organisation operations resources to enable NSD, when engaging in the NSD task?
Q3b: How do NSD actors **extract learning** through learning mechanisms?
Q3c: How do actors **transfer** the extracted learning to subsequent NSD initiatives?

6.3.1 Intervention One: Café (MEX)

6.3.1.1 Constructing

In one of our early Commercialisation Project Group (CPG) meetings, in January 2011, the HD reported that he had accidently met the Buildings Manager outside the Stone Building, a concrete building block built in the 1970s, and had a conversation about the empty space to the right of the main entrance. They both thought that the empty space would be ideal for an outdoor café. We discussed their idea and agreed that the benefits of opening the outdoor café would be twofold: the outdoor presence would increase visibility for the indoor catering facility and additional seating would increase income for the university. The HD insisted that he would lead the initiative as he was the line manager for all Traduny's catering facilities.

6.3.1.2 Planning Action

We planned to have the Café in place by April 2011, in time for the Easter vacation period. We expected that the influx of overseas visitors during the Easter holiday period would generate additional income and that would positively reflect on the value of the Commercialisation initiative. Despite these benefits, we encountered a number of difficulties. Firstly, the initial business plan which the HD presented to us lacked future income estimates, profit margins, customer number projections and performance indicators, as he did not think these details were necessary. He argued that nobody had ever asked for these details before. He was always ever asked to "break even". As a result, I met with the HD separately and we composed a new business plan that included financial projections and performance indicators.

Secondly, whilst the benefits of implementing new income sources were clear to us, the café was opposed by a university committee. The HD had not asked for input from other relevant university areas, as he deemed the support from the OD was sufficient. The initiative was halted by the HD, as he did not want to take a risk and implement the Café without a clear mandate by either the committee or the OD. On a number of occasions, it was not clear to us who had the authority to decide for or against the Café. Other issues emerged such as an unrelated absence of the OD for a period of time which nevertheless delayed decision making.

At one stage I was asked to take the OD's place and to attend the Financial Oversight Group meeting. During that meeting I explained the difficulties we faced in implementing new commercial initiatives when we had to wait for a decision from a committee that only met three times a year. I proposed a special "task force" that would deal with all the commercial decisions to be made. Whilst this point was noted in the minutes, it was never implemented as the OD was meant to lead the group and she was still absent. On her return she insisted that artist's impression for the Café needed to be drawn so all stakeholders would know what the Café would look like. This delayed the initiative again for a number of weeks. In addition, suppliers had to provide sample materials for tables and chairs. A member of staff had written to the committee demanding that the planned Café should not interfere "with the iconic beauty of the [Stone Building]".

After the committee was satisfied that the Café would not damage the appearance of the surrounding buildings, the OD sent an email to all stakeholders, mandating the implementation of the initiative, *"unless there are any showstoppers".* However, as the role of the OD was not even reflected in Traduny's statutes, nobody in the CPG was sure if she had the authority to do so.

6.3.1.3 Taking Action

After the mandate of the OD, the Outdoor Café was eventually installed over the period of three weeks, under the watchful eyes of many members of the university community. The HD assigned existing catering staff to service the outdoor cafe area, and many students, staff and visitors started to use the new facility.

6.3.1.4 Evaluating Action

Meaning and Implications of Core Project Findings

We implemented the Outdoor Café with a delay of one year, due to a number of barriers in relation to individual skills, the formal and the informal operations resources. A workable solution to a real life problem was achieved i.e. an additional commercial income generating unit was implemented with participation of many actors (Table 14). This means that the university now has a new income generating outlet we, the NSD actors, developed ourselves, applying internal existing resources only. This new outlet has a signalling function that the university is "open for business", fulfilling a third mission, as outlined earlier in this Chapter. The university community is willing to use its underlying resources for commercial purposes to address the funding crisis. Food and beverage can now be consumed outdoors.

Table 14: Participation in the Cafe Intervention

Who was involved?	Who was consulted?	What were my roles?
• CPG • Café Subgroup, including front line staff • Buildings Manager • Catering Staff	• Financial Oversight Group • Environment Committee • Student Union • External Suppliers	**Facilitator**: Overall CPG project manager and process facilitator **Adviser**: in financial and budget matters **Conveyer**: Conveying information to HD, OD, Financial Oversight Group **Legitimiser:** As OD representative, defending the initiative in the university Financial Oversight Group

Joint meaning construction
During the course of the Café intervention, 24 CPG meetings took place over a period of 16 months during which the HD reported back to the group on progress made. Each time we discussed what actions worked well and which actions had not been successful in driving forward the implementation of the initiative. The main *content* issues discussed were in relation to design issues, what to include in the business plan and when to open the Café. The main *process* issue was about achieving clarity on who would decide on the "go ahead" of the Café and what is needed to support the decision and who else we needed to communicate with. *Premise* reflection was not noted in our minutes of the meetings. However, we often talked about the difficulty with and mistrust of many university staff towards the group. We observed that there was a disparity between the espoused vision for commercialisation and income generation of the senior management and the actual support they provided to make the vision happen. We often commented on the lack of communication from the senior management team concerning the need to have additional commercial units such as the Café in place and we questioned ourselves on many occasions if we really had their support for the initiatives. During that time the OD and I had many conversations about the possibility of putting in place a commercial structure headed by a Commercial Director and a dedicated support team, as our workload was increasing, and the mandate of the CPG to implement new commercial services did not appear to be strong enough.

Meaning and Implications of Thesis Project Findings

This section outlines the analysis and reflection from the intervention narrative.

<u>Q1 NSD Dimensions, Emphasis, Sequence and Actions</u>
According to the emphasis assessment convention introduced in Chapter 5 (major or minor business model, service system and service product development), the Café intervention consists of minor new business model development (NBMD), minor new service system development (NSSD) and major new service product development (NSPD). All three NSD **dimensions** as proposed by Voss and Zomerdijk (2007) are evident in university service development. Further, there are different emphases on these dimensions. The Cafe intervention provides an example that minor NBMD and NSSD resulted into a major NSPD (Appendix C).

The **sequence** of the NSD dimension implementation (Figure 16) occurred as follows: The initial BM emerged in an accidental meeting. At this stage there was no commercialisation strategy in place, other than to increase university income through commercial activity. A subgroup led by the HD planned the service system (SS) and service product (SP). The HD developed in parallel a more comprehensive BM. However, this second BM had to be revised again after an unexpected consultation process ensued. The third BM contained details that were asked for in this consultation process. We adjusted the SS several times and finally implemented it, after all communication needs were met, and this led to the creation of the SP, the Café. As such the intervention provides evidence that when developing a new service an initial BM may be reviewed several times, even after NBMD and NSSD, similar to the "perpetual beta" Zomerdijk and Voss (2011) report.

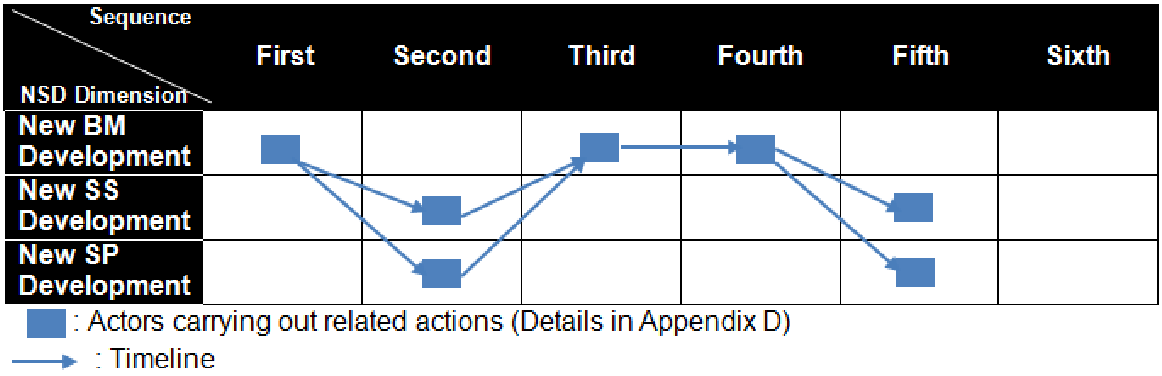

Figure 16: Sequence of NSD Dimension Development - Café

During the initiative execution and for the development of each NSD dimension actors carried out creative, selecting, planning and implementing actions as detailed in Appendix D. As such developing new services did not follow a predesigned sequel of actions as suggested in the early days of NSD research, for example by authors such as Scheuing and Johnson (1989). Instead, for each service dimension development, actors took a variety of actions.

<u>Q2: Barriers and Enablers</u>

The barriers and enablers we faced in the Café interventions in relation to all three operations resources, Individual (IN), Formal (FO) and Informal Organisation (IO) emerging from each of our actions are shown in Appendix E and further analysed in Chapter 7. An enabler provided by the formal operations resource for example was that the outdoor location already existed on the grounds of the university. However, the informal organisation was a barrier, as generally commercial activities were not appreciated by the university community and as such not facilitated.

The intervention illustrates the importance of taking a research based view (RBV) in NSD as proposed by authors such as Santos and Spring (2013). The particular findings of the Café intervention illustrate that barriers and enablers can emerge in relation to all types of operations resources.

Q3a: Linking Operations Resources

In Appendix F I demonstrate that, while engaging with the Café task, we linked resources and as such created new NSD capabilities. We achieved this in part through experimentation, rule-breaking and exploratory action, usually pulling together expertise from different area in cross-functional teams. We for example implemented a new (self-designed) financial performance system by linking financial and operational competence. As proposed in Chapter 4 Sousa and da Silveira (2017) for example suggest that NSD actors may demonstrate the ability to design services and products jointly. In the Café intervention actors not only designed a service jointly, they also linked existing resources for example they designed a new financial and operational performance measurement system, similar to what Witell et al. (2017) call “bricolage” i.e., making do with what is available. In Chapter 7 I critically evaluate the linking of existing resources throughout all interventions.

Q3b: Extracting Learning through Learning Mechanisms

Table 15 shows evidence of cognitive and structural learning mechanisms through which we extracted learning. For example, by creating a common understanding about the task in our regular CPG meetings we applied both cognitive and structural learning mechanisms.

Table 15: Learning Mechanisms - Cafe

Cognitive	Structural	Procedural	Level
• Creating shared understanding • Agreed service & commercial objectives	• CPG meetings • Café implementation team meetings • Minutes and meeting notes of each meeting taken	None	• Individual • Organisational

The findings of the Café intervention support for example Börjesson & Elmquist’s (2011) view of capability development theory (2011): NSD actors learn from development initiatives and as such develop NSD capabilities on individual and organisational levels, as they apply cognitive and structural learning mechanisms.

Q3c: Transfer Learning

In Table 16 I provide evidence of the learning in the Café initiative and the method through which the learning was transferred from the Café initiative to subsequent NSD initiatives. I analyse the transfer of learning for all initiatives in Chapter 7. For example NSD actors in the Experiential initiative learned about the university’s requirement for a business model and its required reporting format, as I took on this initiative as project manager and brought that knowledge with me from the Café intervention. Therefore this intervention is an example that actors transfer learning not only through networking and stretching as conceptualised by Witell et al. (2017) and den Hertog et al. (2010) they also transfer learning by moving to and getting involved in new initiatives.

Table 16: Learning Transferred From Café to Consecutive Interventions

From – To	What learning ?	How transferred?
Cafe → Experiential	More consultation and cross functional involvement needed to progress NSD & overcome barriers	Through KDG,HD, face-to-face meetings, applying different communication modes and more appropriate level of management attention
Cafe → Experiential	• Experts are available internally but how to find them other than knowing a lot of people – Transactional knowledge • Application of appropriate communication mode necessary to convey message	Through KDG and assistant, documentation (However, documentation and where it can be found is not always known, reliance on people)
Cafe → Filming	• Service areas to involve - “Who knows what” • Application of appropriate communication mode necessary to convey message	Through KDG, HD, face –to-face
Café → Heritage	Business model requirements learned, but then a consultant was asked to develop the BM – but is was flawed	Through KDG face-to-face
Café → all other Initiatives	Detected universally accepted reporting format and applied to project reporting	Through KDG face-to face and in documentation presented in meetings and forwarded by email meetings

<u>Implications for Practice</u>

The implications for practice (Traduny, the publicly funded university and in other similar resource constrained environments who are tasked with NSD) are that NSD actors have to be mindful that NSD contains three dimensions which can be major or minor and are developed in an unpredictable sequence. Actors have to expect that creative, selecting, planning and implementing actions may have to be performed during all (BM, SS, SP) dimension development processes, triggering unexpected barriers to emerge. These barriers may be associated with all three operations resources (Individual, formal, informal). NSD actors develop capabilities addressing these barriers. Additional income can be achieved when the NSD actors involved persistently develop enablers drawing on both internal capabilities and internal and external knowledge. Learning is captured through learning mechanisms and transferred by actors moving to different interventions.

6.3.2 Intervention Two: Filming (MEX)

6.3.2.1 Constructing

To generate new income streams we (the CPG) had made it known to the National Film Board that the university campus would be available as a location for filming. Shortly afterwards a well-established Indian film production company approached us as they wanted to use the campus as a location for a major Bollywood movie that would be seen by more than 100 million people around the world. Traduny would be part of the script as the storyline cast the two heroes of the film, two major Indian film stars, as students at Traduny. The filming would include the male lead climbing up a drainpipe of one of the historic buildings, inhabited by the university's fellows. It also included a major song and dance scene on campus with 100 dancers, typical for Bollywood movies.

6.3.2.2 Planning Action

Due to the complexity of the initiative, we (the CPG) established a filming subgroup to coordinate the location management. The OD nominated me as the Co-ordinator of the subgroup, to ensure strong links with her office. The initiative was supported by the Vice President (VP), as the movie would be seen internationally, potentially attracting large numbers of international applicants, generating additional income streams if converted to fee paying students. There was opposition to filming from support services, as it was felt that filming was a "non –core" activity and would negatively affect buildings, hinder building works and disturb students, staff and visitors living in campus accommodation. We (the filming subgroup) listened to all objections, but the objections did not affect the decision made by the VP, to go ahead with the movie. In one of the group meetings we agreed that it would help to promote the initiative if the VP, as a respected academic, would send out an email to all staff and students announcing the benefits of the filming to the university but also that there may be restricted access for short periods of time. He agreed and a few days later the email was sent.

6.3.2.3 Taking Action

During the filming work we had to deal with issues such as changes in schedules, health and safety, security and insurance. For their own reasons, the producers kept changing the filming dates. Rooms were vacated and additional security called in, only to be told they were not needed. The male lead for example did not like the dance routine so the shooting of the main dance scene had to be postponed to allow the supporting actors to learn a new routine. Then some filming dates clashed with critical Traduny events such as the week and the weekend prior to term start when most students would drive onto the campus to move into their new rooms with their entire luggage. The accommodation manager raised the issue that visitors and residents of the university would complain about the noise and parking restrictions. A risk assessment and new insurance certificates had to be issued. Each time an issue arose we either met as a group, had conversations over the phone or quick face-to-face meetings to debate how best to facilitate the movie and overcome objections and obstacles. As the project manager I spent a considerable amount of time pacifying irate staff and explaining why the filming initiative was important to Traduny.

Despite all the internal difficulties and debates, externally the publicity around the movie exceeded expectations. All national media covered news about the movie. Its potential to attract oversees students and visitors was generally welcomed as this would benefit the national economy by increased spending and job creation. Many Indian students studying in the country contacted Traduny to volunteer as ushers, to be close to the film set and the stars.

The dancing scene attracted both positive comments and controversy. An additional day of filming had to be scheduled as it had rained during filming. The producers suddenly decided to have the dancers dance on a different part of the university square, where no risk assessment had been carried out and the ground had not been checked for suitability. The risk assessment manager was on site to make sure that pedestrians were not injured. He was angry as the film crew had put cable everywhere on the food path. As I was on site also observing the events I asked the Risk Assessment Manager not to stop the filming, but to keep a watchful eye on the dancers and to divert the traffic of onlookers, so nobody would trip over cables. He would have the opportunity to air his concerns at a “lessons learned” meeting after the event, so perceived dangerous events like this would not happen again. He reluctantly agreed, but promised to complain to the OD in writing. The dancing scene was featured in all the national news, television and newspapers alike. The film making created a number of temporary jobs which was generally viewed as positive, as the country at the time had to deal with a high unemployment ratio. During the course of the filming we developed a filming policy, incorporating the learning from the Bollywood movie and providing guidelines for future filming initiatives. A week after filming was concluded the OD invited the filming subgroup, to evaluate the filming initiative.

6.3.2.4 Evaluating Action

Meaning and Implications of Core Project Findings

The film was completed on time and within existing resources. Based on the experience, a filming policy was developed. Therefore we achieved a workable solution to a real life problem with the participation of many actors (Table 17).

This intervention facilitated both income generation, a mission extension activity and attracting international students, a mission enhancing activity. There were some disruptions to the day to day running of the university, but these were only short term. Both content and process of the intervention meant a demonstration of our openness to international cultures and to activities outside our core mission of teaching and research.

Table 17: Participation in Filming Intervention

Who was involved?	Who was consulted/informed?	What were my roles?
• CPG • Filming Subgroup, including front line staff • OD • VP • Estates Department • Communication Office	• The entire university community was informed be the VP • Stakeholders such as student groups, residents in the university, the filming team	**Facilitator**: Overall CPG project manager, Filming subgroup coordinator and process facilitator **Adviser**: in financial and budget matters, marketing value reporting **Conveyer**: Conveying information to Filming group, OD, Financial Oversight Group **Legitimiser:** As OD representative **Pacifier:** Addressing concerns and protests **Gatekeeper**: Providing location services information from other organisations

Joint meaning construction

We reflected on Filming related issues during 16 CPG meetings as well as during Filming subgroup meetings. The *content* discussions were concerned with what building locations would be included, what insurance and legal issues should be covered. *Process* reflections were concerned with logistical issues such as the filming schedule and how we could work around the university calendar. The underlying *premise* discussions were about the rationale of causing major disruption to the university life when we would not generate additional income. As a Group we found eventually consensus that Filming "was here to stay". However, there were still strong objections from some Traduny staff. The OD and I invited them to individual meetings, listened to their concern, but also endeavoured to convince them that this commercial initiative was necessary for Traduny's future.

Meaning and Implications of Thesis Project Findings

<u>Q1: NSD Dimensions, Emphasis, Sequence and Actions</u>

According to the evaluation process outlined in Chapters 4 and 5, applying simple count of the components, the Filming intervention included all three NSD **dimensions**, consisting of a major NBMD, a minor NSSD and a major NSPD. The initial BM was decided in a meeting between the VP and the filming director in India. After we analysed the BM requirements it was major as it contained seven new elements: new customer segments, value proposition, channels, customer relationships, revenue streams, key activities and key partners. However, for the SS there were only three new element, the information systems, customer managements and the new policy.

The findings show that similar to the Café intervention all three NSD dimensions are evident (Appendix C). This time however, there was a major NBMD, a minor NSSD and a major NSPD, implying that a major NSPD may result from different combinations of NBMD and NSSD emphases.

The NSD process **sequence** (Figure 17) shows that the dimension development process was not only iterative, but SS and SP development overlapped in time, same as in the Café intervention. This may imply that in addition to the Voss and Zomerdijk (2007) proposal that NSD dimension development process is iterative, it may also overlap.

At the start of the intervention, there was no formal BM in place only the decision to carry out the initiative. A more formal BM evolved during SS and SP implementation and was established by the time the filming policy was written and reflected in it.

Similar to the Café intervention this implies that the initial BM can be quite informal, illustrating again the informal NSD nature as conceptualised for example by Zomerdijk and Voss (2011) and Santos and Spring (2013).

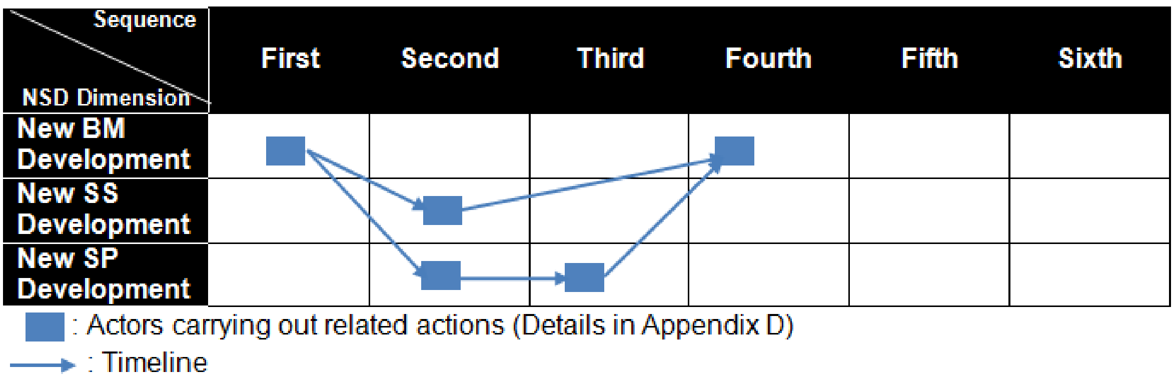

Figure 17: Sequence of NSD Dimension Development - Filming

The **actions** we carried included creative, planning, and implementing actions (Appendix D) Similar to the Café intervention there were a number of iterations between planning and implementation. The Filming initiative did not undergo a selection process. However we as

NSD actors applied selecting actions for the SS, as we had to select workable solutions to put resources for the SP in place.

This illustrates again that contrary to older NSD models, actors apply for each service dimension development a variety of actions, as deemed necessary by them to implement the SP.

Q2: Barriers and Enablers

As in the Café intervention we experienced barriers and enablers to the execution of the task as shown in Appendix E and further analysed in Chapter 7. Similar barriers and enablers arose such as risk aversion (barrier) and learning from other universities (enabler). We also applied enablers for example applying similar, already known skills and knowledge to filming, such as large scale event management. We felt confident to ignore the old decision making structure, as the VP, a senior academic, sponsored the initiative. In addition, ignoring the old structure during the Café intervention had had no adverse consequences.

This intervention illustrates again that in NSD barriers can emerge in relation to individual (filming experience), formal (structure and job design) and informal resources (risk aversion). However, NSD actors develop enablers in all resources also as further illustrated in the next section.

Q3a: Linking Operations Resources

The findings outlined in Appendix F and analyses in Chapter 7 show that we linked existing resources. For example we linked the physical university environment to filming requirements. We linked our experience with organising large events to organising location management, implying that NSD capabilities are developed by “making do with what is available” or “bricolage”, (Witell et al. 2017).

Q3b: Extracting Learning through Learning Mechanisms

The findings in relation to learning mechanisms are outlined in Table 18. They indicate that we applied cognitive and structural learning mechanisms. During the cause of the Filming intervention we learned for example all about the components necessary for location management and amalgamated them in a Filming Policy. This illustrates that NSD capabilities are developed by NSD actors and then embedded into the organisation and as such institutionalised by extracting learning through learning mechanisms.

Table 18: Learning Mechanisms - Filming

Cognitive	Structural	Procedural	Level
• Vision of attracting overseas students and visitors • Creating shared understanding agreed service & commercial objectives	• Regular cross-functional team meetings • Post project review	None	• Individual • Organisational

Q3c: Transfer Learning

The findings (Table 19) imply that it helped that I had already experience with the Café intervention and was able to identify potential barriers and this experience helped us to overcome them, such as the necessity of senior academic support. Therefore for the filming intervention we asked for a mandate from a senior academic, in absence of a filming policy. As illustrated in the Café interventions also, moving to a subsequent initiative facilitates capability development.

Table 19: Learning Transferred from Filming to Consecutive Interventions

From – To	What learning?	How transferred?
Filming → Heritage	• Need to involve internal experts, • Experts required, but even the *external* experts do not know enough about the workings of the informal organisation • Major projects require more management attention than smaller projects • Blame culture rather than learning culture evident	CPM, OD, (in papers and reports)
Filming → Experiential	• Details of locations, contacts, remits • People with interest in commercial activities • Physical areas of the university that could provide an experiential service product	Through KDG
Filming → All other initiatives	Value of Post project review meetings and distribution of learning points to all people concerned	Through KDG

Implications for Practice

The implications for practice are similar to those mentioned for the Café intervention. In addition they imply that a potentially controversial intervention, outside the current university mission may need academic sponsorship to link it to the overall mission of the university.

6.3.3 Intervention Three: The Traduny Experience (MEX)

6.3.3.1 Constructing

In May 2011 we (the CPG) agreed that external expertise should be sought to assess if external consultants could add value in exploiting Traduny's potential to raise revenue by enhancing experiential services for tourists and visitors. Experiential services can be defined as services where the focus is on the customers' experience of the service, rather than the service provided (Voss & Zomerdijk, 2007). As a result, I was assigned to meet with three individual marketing consultants. The initial idea was to combine and develop Traduny's existing buildings, facilities and art work in new ways to enhance the experience of visitors who would in turn pay entrance fees and purchase gifts and entertainment on offer.

After some reflection and consultation amongst the CPG members, we deemed the consultants' involvement as unsuitable. Whilst they had good ideas which would work in a centrally structured organisation, implementing a university-wide approach would be nearly impossible to achieve through external providers, as the internal strategies, policies, ownership and culture would have to be considered. For example, the questions who owns which building, who makes which decision needed to be solved first. Yet, all three consultants said that Traduny had substantial potential to generate new commercial income.

6.3.3.2 Planning Action

We decided that experiential services workshops, in conjunction with internal services managers would be more effective than external consultants, as they would be familiar with Traduny's culture and the informal network (in absence of a formal commercial structure). I asked the relevant directors to allow their managers to participate. One of the directors was reluctant to let his managers partake in the workshops as he felt that all new ideas should go through him. "Forming a workshop with middle managers would just waste time and resources and not add any value". As a result, I went over to his office to convince him to free up time for his services managers. I promised that if no new ideas would be implemented, the Group would be resolved again. Reluctantly he gave permission for his managers to partake. However, he also requested that one of his managers who I had not considered initially would be part of the Experiential workgroup. Later I found out that this person informally and confidentially fed back everything that was discussed to the director. He also kept complaining that all the discussions were a waste of time for everybody and would not lead to any income generation as everything had been tried before. Luckily the other members of the group did not see it this way as they were quite enthusiastic about the opportunity of working with services managers from other areas for the first time.

After taking into account a number of stakeholder comments the objective of the Experiential group was developed:

> *“Optimising income streams from tourists and visitors to [the university] by coordinating existing and future facilities and [university] attractions”*

In August 2011 the first experiential services workshop took place and all invitees attended. These were the catering manager, the accommodation manager, the library shop manager, the events manager, the sports centre manager, an exhibition space manager and the commercialisation officer.

Even though it had not been required, most managers brought lists of new ideas; two had mock-ups of possible new posters and brochures for example one was called “Welcome to the Traduny Experience”, and listed existing attractions on a map. All managers engaged and debated which ideas could be implemented. I indicated that there had been difficulties advancing the Café initiative as there had initially not been a business plan in place. Also, the lack of consultation with other areas in the university had delayed progress. As a result, the Group developed a business plan template and ensured that experts from within and outside the university community gave input to the proposed initiatives. The newly formed group interacted well. We discussed and brainstormed what ideas could be implemented initially – some “quick wins”. There was some debate, but also a lot of support for each other’s areas. Most managers volunteered to develop ideas further. We decided to meet again in a month, with more details on costs and income from new ideas.

The second workshop took place in September. Some tasks had been implemented, some had progressed and new ideas where generated for further development. All members of the Group had committed to head projects, even though some had not done so after the first meeting.

6.3.3.3 Taking Action

I had experienced in previous interventions that new commercial initiatives would attract a lot of opposition from the wider university community if not supported by a very senior (preferably academic) sponsor. Without such support, I kept the initiative hidden. However, during workshop meetings, ideas evolved and we experimented and explored these ideas. We visited each other's areas and gained an understanding for challenges and opportunities in these areas. Over the course of nine months, we developed and implemented a joint ticket system whereby visitors could use combined and reduced price entrance tickets in various catering outlets and visitor attractions. We introduced special offers to sell coffee mugs in a Traduny souvenir shop that could be used to purchase coffee at a reduced price in a Traduny catering outlet. Branded goods usually only on sale in one shop, were put on display in other outlets managed by different staff members attending the workshop. Also, standardised and themed advertising and flyers, sign posts and other marketing tools were put in place to enhance sales.

I also received criticism about the scale, the effectiveness and the usefulness of some of the initiatives from senior administrative officers.

I reflected on these comments and also discussed them with the OD. As there was not yet an overall commercial strategy developed, there was no funding in place to support larger scale initiatives. Again we reflected that Commercialisation will need to be supported by a dedicated team.

Working cross-functionally with service managers highlighted many issues that needed to be resolved before larger scale initiatives could be developed. For example, when looking at different tourist and visitor events the Group had run into difficulties as there was no central database that held information on Traduny's bookings. Planned construction and maintenance initiatives were not communicated university-wide either. After several attempts we were able to set up a central database of university events. Reporting what I thought was a positive development to the senior management group, I was asked to include construction and maintenance projects into the database so they would not clash with commercial events.

6.3.3.4 Evaluating Action

Meaning and Implications of Core Project Findings

The implications of Experiential were that for the first time service operations managers worked together cross-functionally implementing cross-functional new commercial services within existing resources (content/process).

At the time of writing this thesis, most of these service managers are now working in a structured team, reporting to the new Commercialisation Director. Therefore, a workable solution to a real life problem was achieved with participation of many groups, as shown in Table 20. This meant that initial experimentation with cross-functional teams, developing cross-functional services led to a structural change, impacting the entire university.

Table 20: Participation in Experiential Intervention

Who was involved?	Who was consulted/informed?	What were my roles?
• CPG • Experiential Subgroup including front line staff • OD • Catering manager • Library Shop Manager • Gallery Manager • Sport Services Manager • CPM • Commercialisation Executive Officer	• OD • Financial Oversight Group • Services Directors • CPG	**Facilitator**: Overall CPG project manager, Experiential subgroup coordinator and process facilitator **Adviser**: in financial and budget matters **Conveyer**: Conveying information to Experiential group and OD **Legitimiser:** As OD representative **Gate keeper**: Providing services information from other organisations

Joint meaning construction

During the Experiential initiative, we had 13 CPG meetings and 5 Experiential subgroup meetings. We reflected on the *content* by discussing what activities are feasible to be carried out, if a budget was available and what impact the initiatives would have. The *process* reflection of the initiative concerned for example what steps needed to be taken in order to achieve specific outcomes. The *premise* discussion took place mainly in the first subgroup meeting when the overall objective was discussed and decided upon.

Meaning and Implications of Thesis Project Findings

<u>Q1: NSD Dimensions, Emphasis, Sequence and Actions</u>

The Experiential intervention entailed all three NSD **dimensions**, a major NBMD, a minor NSSD and a major NSPD, so the **emphases** on the dimensions were the same as the Filming intervention (Appendix C). However, we applied more existing elements in our BM, customer segments and key activities aiming at increasing the number of customers from existing groups by offering combined services (e.g. more tourists that would not have purchased our services before). Our key activities stayed the same also (e.g. serving food and beverages, selling merchandise) but sales increased, as the items were available in more outlet.

The preliminary BM contained the "simple rule" to combine existing services, enhance the visitor experience and to generate new income. Applying this rule we developed at the same time a new SS resulting into new SP. This indicates that the development of the three NSD dimensions, BM, SS and SP, can overlap, as the **sequence** in Figure 18 indicates. The BM was not further developed until a year later when a new commercial structure and strategy was created and a budget for developing larger scale initiatives was put in place. As such our initial BM, SS and SP fed into an overall commercial strategy for the university.

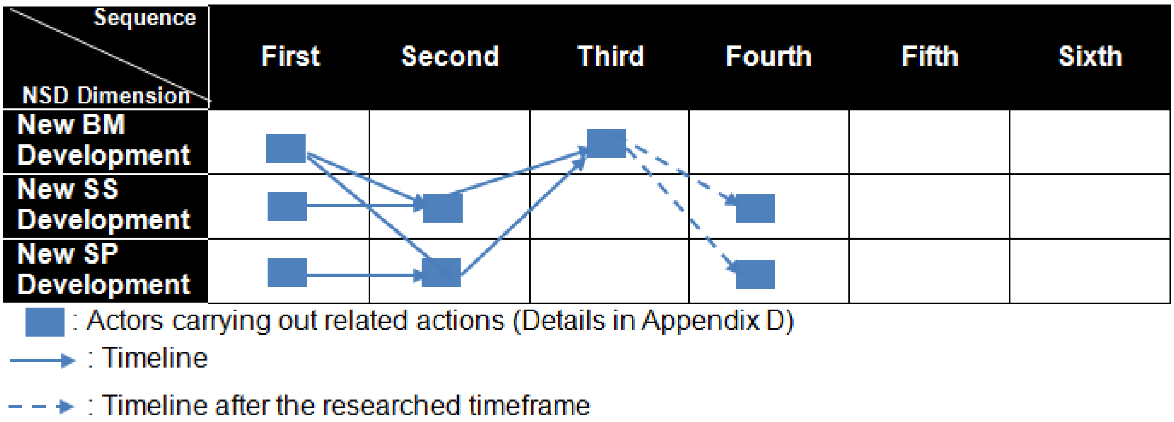

Figure 18: Sequence of NSD Dimension Development - Experiential

While executing the initiative, we carried out creative, planning and implementing actions while developing all NSD dimensions. Similar to Filming the BM was not selected by the NSD actors, so again "implementers" were detached from the overall selection decision. However selecting action took place for NSSD and NSPD, similar as in previous projects.

<u>Q2: Barriers and Enablers</u>

Similar to the previous two interventions we encountered barriers and enablers, but they were different from the previous interventions. As the initiative was hidden from the general university community the informal organisation did not emerge as a barrier. However, the formal organisation did, as some senior line managers did not want front line staff to partake. As the "obstacle forming managers" were easily identified (easier than when addressing informal obstacles), I addressed objections individually. This may imply that informal barriers are harder to identify and to address then formal ones.

<u>Q3a: Linking Operations Resources</u>

Examples in Appendix F imply similar linking activities as in the Café and the Filming service development initiatives, but above all we experienced the value of selecting our own SS and

SP components and working in a cross-functional team to link our skills and resources. As such we built new capabilities.

Q3b: Extracting learning through Learning Mechanisms

Table 21 indicates that we applied cognitive and structural learning mechanisms. Learning took place for example in workshop meetings that we organised in 6-week intervals, always at different locations. These meetings were organised by different service managers who also provided tours through their service facilities. This means that we creatively developed our own learning mechanisms, facilitating learning on individual and organisational levels.

Table 21: Learning Mechanisms – Experiential

Cognitive	Structural	Procedural	Level
• Understanding agreed service & commercial objectives • Particular experiential services objectives	• Workshop meetings in 6-week interval, always at different locations, facilitated by different service managers	None	• Individual • Organisational

Q3c: Transfer Learning

Table 22 provides evidence that learning was transferred from the Experiential initiative to subsequent NSD initiatives as I got involved in the Emergency Intervention. I learned through engagement in the Experiential initiative the value of all group members contributing (not just one person doing all the work and all the others are decision makers). Also I was able to transfer in knowledge “who knows what” i.e. transactive knowledge and the ownership of buildings which speeded up the implementation process. As such transfer of learning is an important for capability development, similar to scaling, stretching and networking (Chapter 4).

Table 22: Learning Transferred from Experiential to Consecutive Interventions

From - to	What learning?	How transferred?
Experiential → Emergency	• KDG for each initiative and sharing labour is necessary • All members of a group need to contribute (not just one person doing all the work and all the others are decision makers) • Areas and “who knows what” identified • Cross functional meeting work as learning meetings	Through KDG

Implications for Practice

The Experiential intervention is an example for the application of power and politics, indicating that acting politically may be a necessary skill when engaged in NSD. The HD applied his formal power (acted politically) by initially blocking his staff from participation and then assigning a staff member of his choice to the team. I acted politically by negotiating support and by keeping the project hidden, until a tangible outcome was achieved. The application of power and politics will be addressed further in Chapter 8. Similar to previous interventions, learning mechanisms were applied and learning transferred.

6.3.4 Intervention Four: Heritage (MEX)

6.3.4.1 Constructing

Prior to the initiation of the CPG, Traduny had secured the trademark ownership of an established heritage name both nationally and internationally. It was the objective of the university and the CPG to optimise revenue streams by exploiting the commercial potential of the heritage name as a merchandise brand, without incurring marketing or development costs and without impinging on the iconic status and reputation of the heritage name and, by association, of Traduny.

6.3.4.2 Planning Action

The initiative started with a conversation between the Library Shop Manager and an external consultant who advised that the Heritage name as a trademark would have considerable commercial value, as it had international recognition.

In February 2011 the Library Director and owner of the initiative asked me as a representative of the OD, to join the Heritage Group, as progress had been slow so far. The objective of the group was to exploit the commercial value of the Heritage name trademark. The driver for inviting an OD representative was not the Library Director or the initial Heritage Group, but the branding consultant advising the group. The consultant insisted that the initiative was a very important university initiative and it needed the OD or at least her representative joining the Group. So, the Group consisted of the Library Director as the chair, the external consultant, the library shop manager and me. I consulted with relevant staff and then the Executive Forum, the university’s highest decision making forum, who authorised the initiative. However, some mistakes made at an earlier stage due to the lack of commercial experience and capabilities of the group emerged.

Public sector procurement obligations prescribe that at certain value levels contracts have to go out to tender. We (the Heritage Group) argued that the tender process should not be required as no money would be spent on suppliers. On the contrary, money would be made by the suppliers and a percentage given to the university. Yet, the procurement department insisted that a European-wide tender process had to be launched. As a tendering process did not happen in the beginning, it had to be carried out at a later stage, after the initially chosen suppliers had already produced samples. I suggested inviting the procurement manager to the Group to help with his expertise.

Early financial projections conducted by the external branding consultant indicated the commercial potential of the product.

Yet, we had to overcome many emerging barriers.

- The media heard of the university's plan to exploit the commercial value of the Heritage Brand and falsely published that the name of this (inherently religious) national treasure would be used on toilet paper and alcoholic drinks.
- A hopeful "would be supplier" challenged the university's ownership of a specific trademark section.
- A private person claimed that one of the previous presidents of the university (already deceased) had commissioned him to manufacture 10,000 Heritage branded merchandise. They were now stored in his attic in the USA. He maintained that the university had the obligation to purchase the merchandise from him. No written agreement or contract could be found, neither by the individual, nor the university. However, to avoid further publicity, the Library Director said that he would pay for the merchandise from the Library account, because even after extensive debate the Heritage Group could not agree whether to pay or not to pay for the merchandise.
- A large global commercial organisation challenged the abbreviation letters used in the Heritage logo, as it used the letters already in its own name. Even though confusion between a commercial and a university brand was highly unlikely, we had to spend money and resources to address the objections.
- A region challenged Traduny's right to house and take care of the national treasure, as it felt it had the historic right to do so as the treasure originated there.

At the end of a predetermined timeframe and fee payment the initial branding consultant's work was over. He had produced financial projections which had been presented to the Executive Forum. These numbers were now challenged by the Finance department as being completely unrealistic. None of us had doubted the figures and had trusted the expertise of the external consultant and the OD had already used these numbers in financial reporting and indicating the success of the initiative over a 5-year period. She now felt extremely uncomfortable having to review these figures. She called for a meeting with the Library Director, a financial manager and me to produce a more realistic financial forecast. But we had to eventually admit that we did not have the expertise to truly estimate the potential of the brand. There was no precedent and Traduny's need for certainty could not be satisfied. I argued that even if the lowest forecasts could not be reached, there would not be a financial risk as Traduny was not investing anything; all financial risk was with the suppliers. There was no reason to halt the initiative based on limited financial returns. The only risk was reputational, if the Heritage brand was not designed in a "tasteful and sophisticated" way.

The challenges gave us an indication about the range of expertise required for such a complex NSD initiative. We agreed that that expertise could not be found within the university. This realisation in combination with the on-going challenge from the global commercial organisation caused the Group to put the initiative on hold. At the time of writing this thesis however, the initiative has been revived and Heritage products are now on sale in the USA and in Traduny's Library shop. A major international court dismissed the commercial Organisation's claim that the abbreviation of the Heritage brand logo could cause confusion with their own brand.

6.3.4.3 Taking Action

As the Heritage intervention was halted, we only had taken planning actions during the research timeframe. Other than developing Heritage product prototypes, we did not develop any other services. However, we managed to register the Heritage brand in many markets abroad, and therefore paved the way for future endeavours to launch the Heritage brand.

6.3.4.4 Evaluating Action

Meaning and Implications of Core Project Findings

The intervention was not implemented during the research timeline; however we registered the Heritage brand in markets abroad. Actors worked in collaboration, but no workable solution was implemented during the time of the research work. Implementation followed a year later after a new formal commercialisation structure was created and a dedicated commercial team was put in place. Participation of many individuals and groups is shown in Table 23.

The many barriers we experienced let to halting the initiative until a formal structure was put in place, indicating the high level of complexity and newness for the university. We were not able to source the required branding expertise internally.

Table 23: Participation in Heritage Intervention

Who was involved?	Who was consulted/informed?	What were my roles?
• Branding Subgroup • External Branding Consultant • CPM	• CPG • OD • Financial Oversight Group	**Facilitator**: Overall CPG project manager, Branding subgroup member **Adviser**: university decision making path **Conveyer**: Conveying information to and from branding group, OD **Legitimiser:** As OD representative

Joint Meaning Construction

Initially the *content* of the initiative was discussed prior to my joining the Heritage subgroup. An external branding consultant had supplied the group with business forecasts, logo designs and potential supplier names. The *process* was less clear as the consultant had no awareness of Traduny's "internal workings". I was able to add expertise in this matter as I had the experience from the OD office on how major decisions were made, formally and informally.

Premise meaning construction had also taking place prior to my arrival at the group. However, only after receiving the official "go-ahead" from the Executive Forum in July 2011, we felt comfortable to proceed, as the initiative had already attracted media attention about "selling out" a religious artefact.

Meaning and Implications of Thesis Project Findings

Q1: NSD Dimensions, Emphasis, Sequence and Actions

As in the previous three interventions the three NSD **dimensions** are evident for the Heritage intervention also with a major **emphasis** on NBMD, potentially a major emphasis on NSSD and potentially a major emphasis NSPD. Therefore this intervention is different from the previous ones, as all NSD dimensions are major. We had to abandon this intervention which may imply that when all dimensions are major additional specific capabilities have to be in place.

The process **sequence** shown in Figure 19; indicates that the steps were not only iterative, but SS and SP development overlapped in time. This implies as in previous interventions that the development of the SS enables the SP, as proposed for example by Barras (1986).

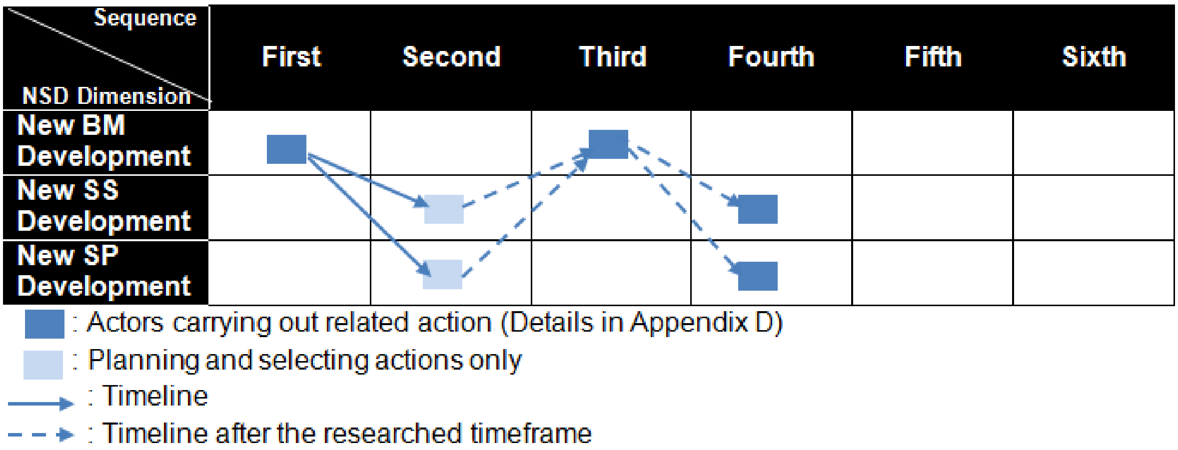

Figure 19: Sequence of NSD Dimension Development - Heritage

During the intervention we carried out creative, selecting and planning actions. However, as Heritage was halted, we did not execute implementing actions during the research timeline.

Q2: Barriers and Enablers

Barriers and enablers to the Heritage initiative are outlined in Appendix E and further analysed in Chapter 7. As the evidence shows, hardly any enablers emerged in this intervention and the lack of expertise and the fear of reputational damage brought the initiative to a halt, which implies that the barriers we encountered were insurmountable with our existing capabilities.

Q3a: Linking Operations Resources

Appendix F provides evidence how we linked resources during the Heritage intervention. We linked knowledge from external suppliers and university departments' relevant knowledge to branding, even though Heritage was not implemented at the time of writing. However, as Appendix F shows in comparison to earlier initiatives fewer relevant resources that could be linked were available which may indicate the degree of newness of the Heritage initiative.

Q3b: Extracting Learning through Learning Mechanisms

Table 24 indicates that we applied cognitive and structural learning mechanisms. Learning was facilitated for example through legal and procurement support.

Table 24: Learning Mechanisms – Heritage

Cognitive	Structural	Procedural	Level
• Vision from Branding consultant on commercial potential • from other university brand suppliers • University visits • Internet searches • Accountant 'reality check' • Procurement policy requirements	Regular Heritage team meetings, inviting university solicitor, procurement officers as required	None	• Individual • Organisational

Q3c: Transfer Learning

As I had already worked in three other commercial (MEX) interventions I was able to transfer in knowledge from previous interventions, e.g. the business case model. *Learning from* the Heritage initiative (Table 25) was transferred to subsequent intervention, for example that so-called external experts can produce flawed BMs. This implies that resources to check external expertise have to be available. Also we learned and I was able to transfer that a secondary plan (Plan B) is required when the initial plan fails (Plan A), as for example proposed by Mullin and Komisar (2009). Senior management support was needed for this high profile initiative to sponsor the intervention and remove barriers. The initial (part-time) team passed on learning to the new team as some actors are still involved in managing the Heritage initiative, at the time of writing this thesis.

Table 25: Learning Transferred from Heritage to Consecutive Interventions

From - To	What learning?	How transferred?
Heritage → Risk and Overall	• Acceptance that there is a "Plan B" needed • No appropriate expertise, consultants can produce flawed BMs - no resources to check them • Senior management support needed for high profile initiatives to sponsor them and remove barriers • Learning potential	• KDG • HD • Accountant

Implications for Practice

The Heritage intervention may illustrate that an NSD intervention majoring in all three NSD dimensions may to too complex for NSD managers, without specific expertise and dedicated resources.

6.3.5 Intervention Five - Emergency (MEN)

The next three interventions, including the emergency intervention, are of a mission enhancing (MEN) nature.

6.3.5.1 Constructing

Universities can be subject to emergencies caused by disasters such a campus shootings, hostage situations, bomb situations, chemical, biological, radiological hazards and fires. Therefore, universities need to ensure an emergency plan is in place, so the university community can act quickly and effectively to minimise risks to students, staff and visitors.

In August 2011 the OD asked me to coordinate the operationalisation of the Emergency Response Plan for Traduny. That meant to take the existing Emergency Plan documentation and implement functions so that Traduny staff would be able to react quickly should there be a major university emergency.

6.3.5.2 Planning Action

The OD and I formed an emergency planning group consisting of university officers who had positions in the university that could support emergency planning: the OD, the OD Office Manager (my role), the University Secretary, the Security Officer, the Risk Assessment Manager, the Director of Student Counselling and the Press Secretary. The emergency planning task had to be carried out on top of our existing duties. But as our efforts were seen as “for the common good” and connected to the overall mission of Traduny to care for staff, students and visitors, everybody we asked for help contributed in attending drills, giving up space and volunteering for duties.

Between August 2011 and Oct 2011 we met four times. As there was already a policy document in place outlining the overall objective of an emergency response plan, the meetings were mainly about deciding what activities should be carried out if there was a serious emergency. For example we had to decide where injured people should be treated, what crowd control measures to put in place, how and where to care for traumatised people.

6.3.5.3 Taking Action

In September 2011 we (the Emergency Planning Group) decided that a tabletop exercise would help to determine the level of preparedness. A tabletop exercise is an activity in which key staff with assigned emergency management roles and responsibilities are gathered to discuss, in a non-threatening environment, various simulated emergency situations.

The exercise simulation was a hostage situation in one of the university buildings. All senior officers carrying decision making roles in an emergency situation took part in the exercise. The exercise highlighted issues that we still needed to resolve. For example we had to put in place a dedicated telephone line and other means of communications for the general public in case of an emergency. Our support teams had to be trained. We needed to address questions such as what should be done if there was a power failure in the middle of a major emergency and computers and telephones would not work. Who should contact the relatives of deceased students and staff? Should there be a memorial service and if so where and when? We documented lessons learned and further action items to be executed.

Within the research timeframe we held three more table top exercises, in October 2012, February 2013 and July 2013 with key emergency management staff and their deputies. Each time we engaged in discussing the emergency situation and planning for solutions. After each exercise we held lessons learned meetings and documented our findings. Prior to the exercise in July 2013 we hired an emergency consultant for a one-day training course on emergency planning. We all found the training valuable as he had specific knowledge about handling emergencies in universities.

6.3.5.4 Evaluating Action

Meaning and Implications of Core Project Findings

We (the ERP Group) put in place a new emergency planning system which was approved by the University Board. In collaboration we developed a workable solution to a real-life problem. Many actors participated as shown in Table 26. The content of the interventions implies that we care for our students, staff and visitors, ensuring that we can respond to a university wide emergency in a coordinated way. We operationalised the emergency response policy. Overall we felt that whilst they were not perfect in handling university emergencies, we had increased "resilience" and capability to handle emergencies. Resilience in the context of emergency management is defined as the ability of a human system to respond and to recover (Cutter et al., 2008).

Table 26: Participation in Emergency Intervention

Who was involved?	Who was consulted/informed?	What were my roles?
• ERP Group • ERP Drill Planning Group • Emergency Response Agencies • Information Line Team • Psychological Response Team • Information Management Team	• Various facility management staff across the university • University Board	**Facilitator**: ERP subgroup secretary, coordinator **Adviser**: in financial and budget matters **Conveyer**: Conveying information to ERP and Drill Planning groups and OD **Legitimiser:** As OD representative

Joint Meaning Construction

In a number of meetings we (the ERP Group) discussed and made decisions regarding the ERP *content*, the service system, for example which locations to include and what support teams to involve. *Process* issues concerning for example how to communicate when the phone lines were down, how to inform next of kin of emergency victims were discussed and decided also. The *premise* to protect lives and to prevent harm was given from the start, so meaning construction in this regards did not feature in meetings. However, a common question was how much resilience and ability to respond within the given means and capabilities were often a matter for discussion. As I was responsible for the budgeting, I often had to manage the group's expectations on what protective equipment could be purchased and installed. During the cause of the initiative a different premise also emerged – legal liability limitation.

Meaning and Implications of Thesis Project Findings

Q1: NSD Dimensions, Emphasis, Sequence and Actions

The Emergency NSD intervention consists of a major NBMD, a major NSSD and a minor NSPD. The Emergency initiative illustrated that a university policy can be similar to a business plan, but financials are not included. Otherwise the Emergency policy had all the components a commercial BM would entail, as further detailed in Appendix E. The emphasis on the NSD dimensions implies that even though NBMD and NSSD are major, the NSPD can be minor, as a similar Emergency plan already existed, but had to be improved.

The process **sequence** emerged as follows: the BM started as the current university policy. Then the SS as SP were developed and implemented in parallel, as the SS *was* the SP. We repeated this process several times, “fine-tuning” the SS/SP by testing it in tabletop exercises. We then revised the BM (Emergency Planning Policy) taking into consideration the lessons learned from the exercises. This means that NSSP and NSPD can in parallel go through several iterations before a new BM is developed. The process is shown in Figure 20.

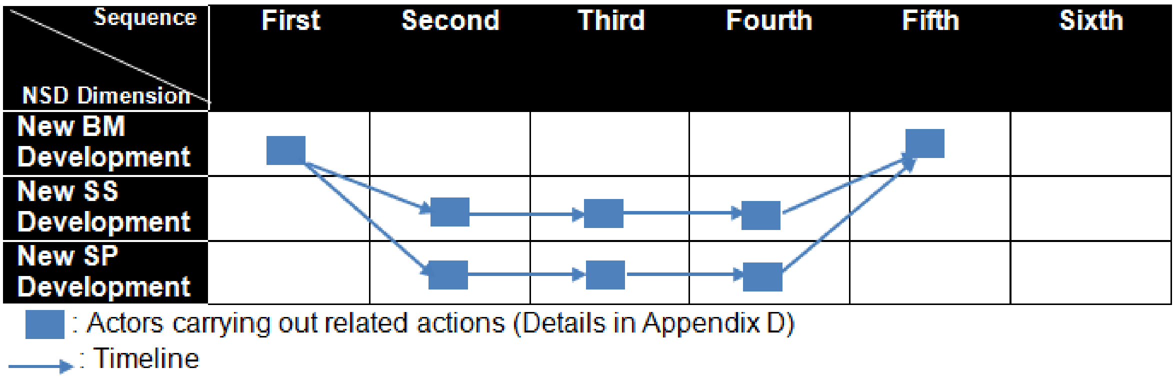

Figure 20: Sequence of NSD Dimension Development - Emergency

During the intervention we carried out creative, selecting, planning and implementing actions as further detailed in Appendix D. Same as in the three previous interventions, the BM was already pre-selected by senior management as policy implementation. However, we, the NSD actors, selected support staff, facilities and work practices. This implies that policy implementation still incurs many discretionally selection actions.

Q2: Barriers and Enablers

Appendix E illustrates that as expected for MEN interventions we encountered numerous enablers, but only one barrier, the availability of funding. The informal operations resources supported the initiative as caring for students, staff and visitors, as well as avoiding reputational damage was part of the university’s culture. As such it appears that MEN NSD is easier to carry out than MEX NSD.

Q3a: Linking Operations Resources

We were able to link resources in such a way that improved emergency services were put in place. Due to the service enhancing nature of the initiative we did not need to “break rules” to overcome barriers, such as ignoring existing policies or structures. We had most of the skills required; the formal organisation and the informal organisation did not form a barrier. We did not have to work as hard to link resources as in MEX initiatives. We were able to overcome the ‘funding’ barrier for example by gaining commitment to use facilities in other areas for emergency planning.

Q3b: Extracting Learning through Learning Mechanisms

Table 27 indicates that for the Emergency initiative we learned for example, through regular exercises (procedural) and post exercise reviews (structural). An emergency policy was developed which was communicated to the entire university community, enabling the institutionalisation of what we learned. As most of the required skills were already in place we did not learn as much *from* the participants, but we learned *with* the other actors in the group, as the regular exercises show.

Table 27: Learning Mechanisms – Emergency

Cognitive	Structural	Procedural	Level
• Initial Emergency policy, university values • Learning from consultant, internet, books, bringing past experience to the table	• Regular cross functional meetings • Post exercise reviews	Table top exercises	• Individual • Organisational

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Q3c: Transfer Learning

In Table 28 I show learning was transferred from the Emergency initiative to the subsequent NSD initiatives Risk and Service Level, in particular the requirements to implement a university–wide policy and what items a policy document should contain.

Table 28: Learning Transferred from Emergency to Consecutive Interventions

From – To	What learning?	How transferred?
Emergency → Risk & Service Level	A policy document is similar to a business plan but does not need to contain any financial information	KDG

Implications for Practice

The operationalisation of university services to support emergency response planning is possible and findings may by transferrable to other universities.

6.3.6 Intervention Six – Service Level (MEN)

In this intervention I describe the university's endeavours to design and implement a Service Level Agreement between Traduny and an adjunct academy which was connected with the university by name, but was funded and managed separately.

6.3.6.1 Constructing

On 20 July 2012 I returned from vacation. In my email inbox I saw an email from the OD, instructing me to contact the Director of the adjunct academy, (DOL) to "work with him to develop a series of SLAs (Service Level Agreements) for the support he is requesting from Traduny."

As the OD was now on vacation and no further details were available to me, I phoned the DOL to find out more about the issues and what had already been done to solve them. We agreed to meet after the DOL's return from vacation.

On the 8 August 2012 the meeting took place. Our initial conversation included getting a general idea about each other's background, work responsibilities, and experience with the university. The DOL explained the background and history of the Academy. A wealthy family had established a trust fund, in order to set up an academy, the family would be commemorated by naming of the academy building unit. The Academy opened its doors to the first students in September 2011. At around the same time the DOL was recruited to manage it.

The DOL and I made our own objectives clear: The DOL needed to ensure that the Academy could maximise its services to students and staff. One of his objectives given by the Academy Board was to put in place a SLA. I wanted to enhance Traduny's reputation of being service focussed and able to collaborate with external units, in addition to having the mandate from the OD to implement the SLAs with the DOL. It was the first time a SLA was developed between Traduny and an external company and I felt that the Academy SLA could be a model for other partner institutions that may be set up in the future. The services provided to an external institution would generate income – a commercial opportunity.

The DOL and I had an understanding of administrative work and an appreciation for the service needs of schools. As we both had the same objectives, implementation of a SLA that would work for both, the Academy and Traduny, our relationship was free of conflict. In addition, we agreed to contribute an equal amount of work to the initiative. We had the permission to act given by a senior officer in Traduny, the OD, and as there were no restrictions at the time of how to proceed. However, we set our own timeline of having the SLA completed by mid-November, before I would go on leave. We felt that two and a half months were sufficient time to put the SLA in place.

At the meeting it was agreed that I would retrieve and review current Traduny SLAs and SLAs from external organisations and send them to the DOL. The DOL would forward to me the email traffic that had occurred so far, services that had been agreed already and a memo from the academy administrator outlining the minimum services required to function as a school.

6.3.6.2. Planning Action

On 06 September 2012 a quick update meeting between the DOL and me took place. We agreed to use a standard template for all SLAs. Overall there were 17 service areas with 53 detailed service provisions identified. I volunteered to design and populate the template with the information available at the time. The template would list the services provided by each area, then describe the SLA it in more detail. The charge for the service and in what instances it would occur was also included.

At this stage, after having done the initial groundwork of data gathering, learning what SLAs were applied by other universities and agreeing parameters, we felt that it was time for Traduny's department heads to get involved. The heads would have to commit what services they could provide to the Academy and at what levels they would charge for them. The complication was that academy students had full university student status and therefore the right and access to all university services. The Academy staff were not employed by the university though and thus could not, under the current university policy, avail of the services. However, some services where essential to have, e.g. access to the student database for student records.

After a number of attempts to schedule meetings, finding delegates for department heads, rescheduling meetings and finally meeting with the heads or their delegates a number of issues contentious emerged, for example

- One area head remarked: "First they (the Academy) want to be independent, now they come back and want our services!" He was not happy with the extra work entailed in providing services to the Academy, knowing that he would not get extra resources.
- Access to the student database could only be provided with a Traduny email address.

- Giving a Traduny email address to external employees was a controversial item as it allowed access to all student records, IT helpdesk services and the online library for free.
- There was concern raised by a senior IT administrator about granting Academy staff access to internet services as external employees do not need to adhere to IT policies and access restrictions.
- The provision of facility and maintenance services and its costs
- The security arrangements for pictures from the university art collection
- The sign-off for the new Service level policy

The DOL and I addressed each concerns with the “service providers” and in collaboration found eventually solutions for each issue.

6.3.6.3 Taking Action

Implementing the SLAs was completed by each area agreeing to the SLA as stated. The only complication was to change the data base in Human Resources and IT services. It took until May 2013 to activate the email addresses (as there had been no need for usage beforehand). This was quickly initiated after I asked HR staff to make the changes in the database.

6.3.6.4 Evaluating Action

Meaning and Implications from Core Project Findings

Our SLA was approved and put in place with a delay of a few months, due to the absence of key decision makers. We developed a workable solution to a real life problem with participation of several groups as shown in Table 29. For the university the new SLA meant that we welcome the service provision to adjunct institutions. We also learned that we can combine service level agreements from various suppliers and are able to do it again, as we now have a template.

Table 29: Participation in Service Level Intervention

Who was involved?	Who was consulted/informed?	What were my roles?
• The Director of an external Academy, (DOL) • CPM	• All Service Directors in the university • Academy Board • OD	**Facilitator**: Service Level Meeting **Adviser**: university decision making path, Service Level information **Conveyer**: Conveying information to and from university units the Academy and the OD **Legitimiser:** As OD representative

Joint Meaning Construction

The DOL and I met on several occasions to discuss what services the SLA should contain *(Content)* and how the process of service execution should be designed *(Process).* We agreed that the SLA could service as a pilot for other SLAs between university services and agencies *(Premise).*

Meaning and Implications of Thesis Project Findings

Q1: NSD Dimensions, Emphasis, Sequence and Actions

According to the NSD framework the Service Level initiative is a major NBMD, a minor NSSD, and a major NSPD. The initial BM was just a sentence in an email. Then the SS and SP were planned and implemented. The more detailed BM as part of the Service Level Agreement was then approved by the Academy Board and the OD (Figure 21). For the first time all Traduny services took a coordinated approach to providing services.

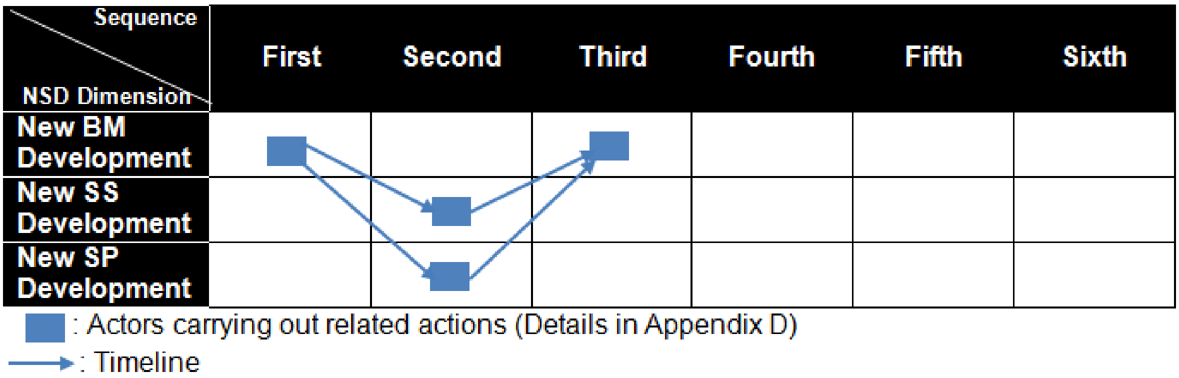

Figure 21: Sequence of NSD Dimension Development – Service Level

All three NSD types contained creative, selecting, planning and implementing actions. Appendix D provides further details on the actions carried out. Whilst the overall initiative was already pre-selected by senior management, the DOL and I selected suitable service options for BM, SS and SP development, which is consistent with findings of the previous interventions.

Q2: Barriers and Enablers in Relation to Task Execution

The analysis of barriers and enablers is demonstrated in Appendix E. The findings imply that the only barrier to the intervention was that we had no precedent of combining different services in one service level agreement (SLA) and service providers had to adjust to this practice. We had sufficient skills for the task and new systems did not need to be implemented. The SLA template was “unofficially” sent to three other university areas who wanted to implement similar service level agreements. A workable solution was implemented.

We did not need additional resources for this initiative. Our skillsets were appropriate for the task. The structure and decision making processes were sufficient. The informal structure did not hinder the initiative; we handled objections as we had appropriate conflict resolution skills (Appendix E)

Q3a: Linking Operations Resources

We were able to link resources in a way that a service level agreement was put in place as shown in Appendix F. We set up ad –hoc cross-functional teams when required.

Q3b: Extracting Learning through Learning Mechanisms

Table 30 indicates that for the Service Level we learned through one-to-one and group meetings. We developed the Service Level Agreement and then communicated it to all service providers within the university and the Academy staff, similar to the Emergency initiative. As a policy was communicated, existing formal channels were sufficient. This implies that there may be a pattern in terms of learning mechanisms. Existing formal communications channels may be sufficient for MEN projects.

Table 30: Developing NSD Capabilities through Learning Mechanisms – Service Level

Cognitive	Structural	Procedural	Level
Learning from existing internal departmental SLAs and external SLAs	One-to-one and group meetings with project managers and service managers	None	• Individual • Organisational

Q3c: Transfer Learning

Learning achieved within the Service Level initiative was not transferred to any other researched interventions, as none was planned within the timeframe of the thesis. However, as I moved to a different department in the university after completing the Service Level intervention, I was asked to implement a service level agreement there. Here I was able to apply skills, knowledge and capabilities even when the research project was completed. Overall this implies that knowledge, once acquired, can be transferred to many diverse areas.

Implications for Practice

Our combined SLA can offer benefits to external academies. It also demonstrates the value of having a combined SLA for all university support services. All support service managers are able to learn from each other's service provision and the service levels they may offer to both internal customers and external agencies.

6.3.7 Intervention Seven – Risk (MEN)

In this intervention I describe Traduny's journey to change and improve the management of risks in the university. Traduny's initial risk policy of 2008 defines risk as "any threat to the achievement of objectives and recognises that risk is unavoidable and that the effective management rather than elimination of risk is its objective".

6.3.7.1 Constructing

Public sector organisations globally are now facing similar challenges as private sector organisations, including cost pressures, staffing and skills shortages, demands for improved services and meeting efficiency targets (Mazars, 2013). Risk management has in recent years emerged as tool to manage the risks associated with achieving strategic goals under adverse conditions resulting from changes in the economic environment. Many publicly funded organisations have now in place risk management guidelines. Traduny's Code of Governance for example states that the University Board has to ensure that "the risk assessment and management process is integrated into existing management systems and that roles and responsibilities are clearly assigned and that appropriate persons at a senior level will be nominated in academic and administrative areas for risk management. According to the Code, all members of the university community have a responsibility to engage in effective risk management.

Prior to my appointment as OD Office Manager, the University Secretary had carried out the task of compiling a Traduny risk register. On my appointment I was tasked with this responsibility. The University Secretary warned me that there was currently very little commitment from university officers to engage in risk management and contribute information for the register. It was seen as a "paper exercise", additional and unnecessary work that was carried out for compliance sake. The Secretary also warned me that whilst administrative heads of areas were somewhat supportive, the academic heads of areas had little interest in engaging with the process. There was currently no academic risk included in the register, even though teaching and research was the university's main activity.

Over the years the university's auditors - whilst acknowledging progress being made - had often criticised that the risk management process was not sufficiently embedded in the university's management process. As a member of the Senior Management Group I proposed several incremental process improvements to the senior administrative officers which were usually agreed and implemented. However, the apparent "non-engagement" of the academic heads remained an issue. This was partially caused by the risk management practice (as opposed to the “official” reporting structure.) Traduny’s risk register was administered and compiled by me, in the OD Office. The VP (Traduny’s most senior academic) did not engage in the process, mainly due to other conflicting priorities. Therefore the OD presented the university’s risk register to the Executive Forum and proposed changes, as I reported to her.

Whilst the faculties where asked to submit their risk register on a biannual basis to me, all risk listed were of a financial or HR nature and were ultimately amalgamated under non-academic headings. The Deans usually nominated their Faculty Managers to meet with me, to update the risk register biannually.

6.3.7.2 Planning Action

In order to compile an updated Risk Register and Policy due to be presented to the Executive Forum, Board and the Audit Committee in June 2013, I met with one of Traduny’s auditors to determine what the main improvement needs were. After he had explained the improvement needs to me, I met with acting OD on 19 April 2013 (the OD was on long-term leave) to discuss views on how the updating process should work, in order to have the report ready for the June deadline. We agreed I should meet with all risk owners and the Faculty Deans to get their input. Then I would draft a new register and return the register to the risk owners to see that all changes were implementing and to give them further editing opportunities.

6.3.7.3 Taking Action

In total I held thirteen meetings, mostly with risk owners, in two cases with their designated deputies. Two requested meetings did not take place as risk owners were too busy and had no designates available. However, they stated that no updates were necessary. One of the University’s Deans said that he would not engage with the risk register as his perceived biggest risk – academic risk – was not even on it. I suggested that the academic risk could be the overarching risk which would be mitigated by managing all of the other risks. I also queried why this issue had not yet been highlighted by the Executive Forum, a group that consisted mainly of academics? He replied that usually the OD would introduce the Risk Register, talk about it for about 10 minutes and then ask for input. This meant that the overall format was not challenged, just the wording of the details in the Register. I committed to including new section on Academic Risk on the Risk Register, and asked the Dean if he could name academic risks that are not already covered by the other risks in the Register. The Dean agreed to send his input (through the administrator). I also committed to ask the other Deans for academic risks.

The written input from the first meeting and my subsequent meetings with the other two Faculty Deans, the Global Relations Director and the Student Services Director resulted in a new Academic Risk section in the university- wide Risk Register.

After the Register was drafted I returned it to all risk owners to verify that all comments had been correctly included.

6.3.7.4 Evaluating Action

Meaning and Implications of Core Project Findings

The new Risk Register was approved, but the implementation of a new risk management process is still outstanding at the time of writing the thesis. This means that whilst we believe in our obligation to manage our risk (content) the implementation process may be tedious and time consuming (process).

Whilst not explicitly planned, there is now a risk register added for all major university initiatives (administration reform, capital project planning process, commercialisation, academy service level agreement, emergency planning) which implies general acceptance of the university community that risk management is an important aspect of university operations. Therefore, with participation (Table 31) of many individuals and groups a workable solution to a real-life problem was achieved.

Table 31: Participation in Risk Intervention

Who was involved?	Who was consulted/informed?	What were my roles?
• CPM • OD • University Auditor • Audit Committee • All Faculty Administrators	• Facility Deans • Heads of Areas	**Facilitator**: Risk Register Coordinator **Adviser**: On Risk Management **Conveyer**: Conveying information to and from, OD **Legitimiser:** As OD representative

Joint Meaning Construction

As I was the only person coordinating the risk policy implementation I met with “risk owners” to gain input on what the high level risks are *(content)* and how they could be mitigated. The University Auditor was able to give me advice on the views of the audit committee in this regard *(process)*. Meaning construction about the *premise* emerged usually when risk owners questioned the usefulness of compiling a risk register when many risks are unpredictable. The risk register was an audit committee requirement and was seen by some as a “paper exercise”, which made it challenging for me to get time commitment from stakeholders to develop risk responses.

Meaning and Implications of Thesis Project Findings

Q1: NSD Dimensions, Emphasis, Sequence and Actions

The risk intervention entails all three NSD **dimensions;** it is a minor NBMD, a minor NSSD, and a minor NSPD. Despite all three NSD dimensions being minor, the interventions encountered a number of barriers, as outlined in the next section. This implies that the **emphasis** on the NSD dimensions is not a good predictor of what barriers may emerge.

The **sequence** of NSD dimension implementation followed the typical pattern for mission enhancement initiatives: the initial BM was an existing policy which through the parallel implementation of new SS and new SP was revised and put in place. The revision date was stated in the new policy (usually one year). The process is depicted in Figure 22.

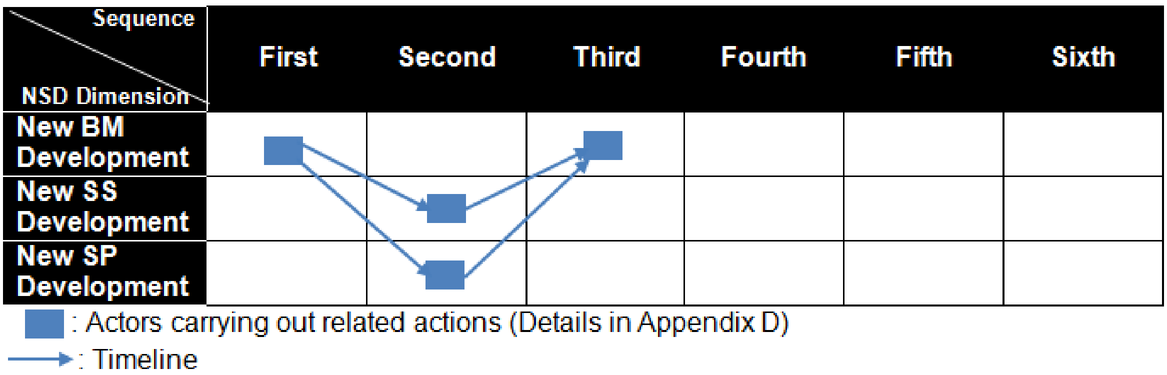

Figure 22: Sequence of NSD Dimension Development - Risk

As the SS and SP mainly contained changes in how to carry out the risk management process, I facilitated and carried out meetings with stakeholders to develop new risk management procedures. The revised risk management policy was developed by carrying out creative, planning and implementing actions**,** as shown in Appendix D, similar as in previous interventions.

Q2: Barriers and Enablers

Appendix E indicates the barriers and enablers of the Risk intervention. As risk management was seen as a paper exercise by many members of the university community (barrier) that does not add any value, I provided examples where risk management had a positive impact and simplified the templates to track risks (enablers). The findings also suggest that there can be different barriers and enablers in different organisational structures in the university.

Q3a: Linking Operations Resources

Linking resources enabled me to make incremental improvements to the risk management of the university. For example knowledge gained in the Emergency intervention about the general university community's propensity to avoid risk helped me to implement improvements. Whilst the overall risk management process is not yet embedded officially, unexpected outcomes included incorporation of a risk assessment into all major university initiative proposals. This implies that the inclusion is likely to be due to increased university community awareness that risk management is prudent and a workable solution was achieved.

Q3b: Extracting Learning through Learning Mechanisms

Table 32 indicates that for the risk initiative learning took place in regular meetings with risk owners. Meetings with individual staff from various areas in the university appear to be useful structural learning mechanisms.

Table 32: Learning Mechanisms – Risk

Cognitive	Structural	Procedural	Level
• Initial risk policy and university values • Learning from other universities, internet, benchmarks	Regular meetings with risk owners, review at executive meetings	None	• Individual • Organisational

Q3c: Transfer Learning

As the PM I was able to transfer learning to the Emergency intervention as I was still involved in it during the research timeline, indicating that learning can be transferred when involved in interventions that run in parallel.

Table 33: Learning Transferred from Risk to Consecutive Interventions

Transfer of Learning	What learning was transferred to later initiatives?	How was learning transferred?
Risk →Emergency	• Senior management attention is essential when senior managers are gatekeepers, until then only getting by with self-management – high risk • Highlighted lack of structure resources and need to change policy	KDG

*→Learning Transferred

Implications for Practice

The identification of different risks and their impact can be useful in implementing services. However, practitioners need to be aware that in a dual structure environment different barriers may emerge.

6.4 Conclusion

In Chapter 6 I first described the context of the researched university and the purpose of the action and the research. I reported then on each of the seven interventions, including a discussion of the meaning and implications of my findings from individual interventions, following a pre-designed analytical routine of evaluating core and thesis AR projects.

Chapter 7: Research Content Observations and Critical Reflection

7.1 Introduction

Following on from the individual intervention description and analysis, I now draw together my observations and critically reflect on the research content. Firstly I outline the application of a contingency perspective to NSD. Then I demonstrate the development of the framework for managing NSD, comparing and contrasting MEX and MEN interventions. In each subsection I show with each step of the analytical work an edited version of this framework how it evolved, applying the sub research questions and as such mirroring the analytical process applied for individual interventions in Chapter 6.

7.2 The Contingency Perspective of NSD: MEX or MEN

As explained in Chapters 2 and 5, Nelles and Vorley (2010) for example see the third mission as an *extension* of the range of missions universities fulfil or seek to fulfil. *Mission extension* means that the university is carrying out NSD initiatives that *extend* the existing mission of teaching and research, so these initiatives and activities are located *outside* the existing mission of teaching and research. The rationale for actors in the researched university to take MEX actions was to generate independent income for the university by commercialising non-academic university services.

NSD interventions located within the traditional range of a university's mission are referred to as *Mission Enhancing* (MEN) initiatives. The rationale for actors in the researched university to take MEN actions was to enhance the quality of existing services.

The underlying proposition is that the performance/outcome of NSD is contingent on the type of service to be developed. This means that the service type matters, and MEX and MEN are fundamental service type distinctions.

In Chapter 2 I outlined MacKechnie's (2006) view that the overall complexity of the task system arises from the degree to which four characteristics are present: variability, unanalysability, heterogeneity and interdependence. The four characteristics are defined as follows:

- Variability: the level of unpredictability
- Unanalysability: the understanding of cause and effect relationships, the level of uncertainty
- Heterogeneity: the number of different types of activity contained in the task system

- Interdependence: the degree of influence of sub-activities on the task system

A system of tasks will be relatively uncomplex if none of the four characteristics are present and the task system becomes more complex the more these characteristics are present. Applying this perspective to the thesis research, the underlying proposition to be explored is that the performance/outcome of NSD is contingent on and *mediated* by the type of service to be developed. This relationship is *moderated* by the way the task system is constructed (based on the interpretation/construction by NSD actors of the environment and technical systems) and managed as illustrated in Figure 23.

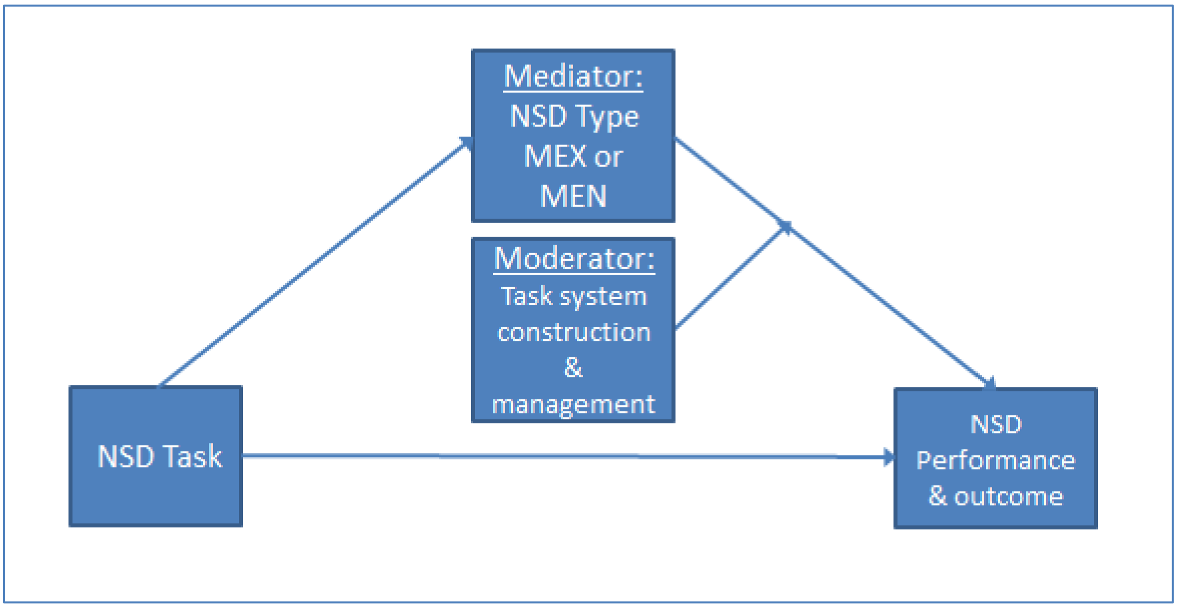

Figure 23: NSD Moderators and Mediators

In the following sections I develop a framework for NSD guided by the application of the research sub-questions. While doing so, I am taking account of contingent characteristics in MEX and MEN service development types. Based on the seven NSD intervention analyses (Chapter 6) I critically investigate, compare and contrast:

- MEX and MEN NSD process dimensions and the emphasis on them
- MEX and MEN NSD actions
- MEX and MEN NSD dimension implementation sequences
- MEX and MEN NSD barriers and enablers

7.3 The Framework for Managing NSD: MEX/MEN NSD and Barriers and Enablers

7.3.1 Introduction

In this section I commence the development of the framework for managing NSD, taking account of contingent aspects. In each subsection I present an edited version of this model showing how the model evolved with each step of the analytical work. The final framework version is shown in Figure 24.

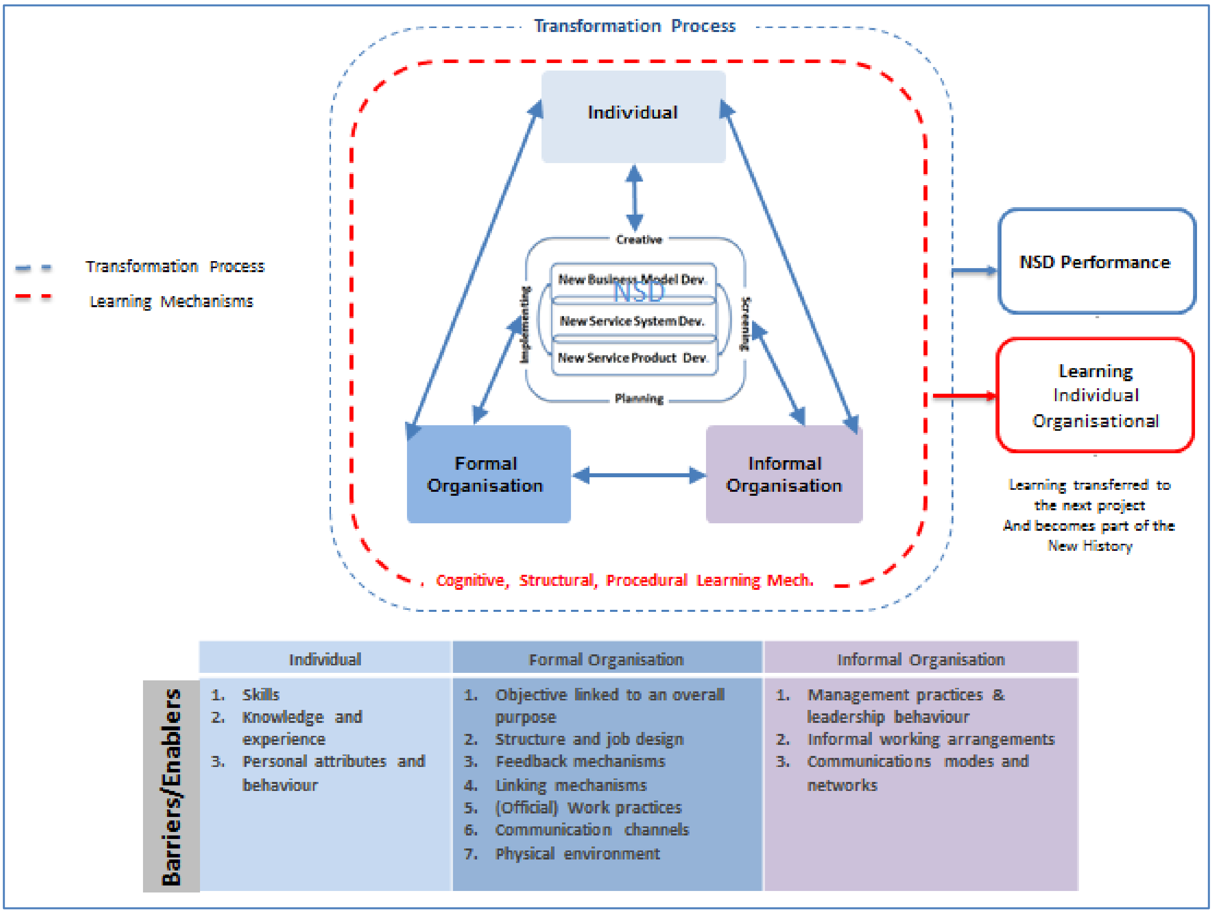

Figure 24: Framework for Managing NSD

For the steps of the analytical work I was guided by the two overall research questions and the sub-questions with which I operationalised the overall research questions (Chapter 5). I also compare and contrast MEX and MEN interventions, to illustrate that the NSD Framework is applicable for both NSD types and how the framework may aid in identifying these differences and potential task outcomes.

This section is structured as follows:

Based on the evidence outlined in Chapter 6, I analyse in this section the dimensions of NSD, their emphasis, the actions performed and the development sequence of the NSD dimensions, by addressing the research sub-questions as follows:

Section 7.3.2.1 Q1a: What are the **dimensions** of NSD and (Q1b): What is the **emphasis** on them?
Section 7.3.2.2 Q1c: What **actions** are performed in each NSD dimension?
Section 7.3.2.3 Q1d: In what **sequence** are NSD dimensions developed?

In **section 7.3.3** I progress to analyse barriers and enablers in NSD by addressing sub- question Q2: What are the barriers and enablers of NSD, in particular to the execution of the task?

The outcome of each of the analyses will be reflected in the model for managing NSD.

7.3.2 NSD Process Dimensions, Emphases, Sequence and Actions (Q1)

7.3.2.1 NSD Process Dimensions (Q1a and Q1b)

Authors in the reviewed literature have highlighted that NSD can involve changes in various dimensions in services (business model, service system and service product) and NSD may involve more than one dimension (e.g. Forfas, 2006; Hartley, 2013).

In Table 34 I illustrate the differences and similarities between MEX and MEN NSD dimension development. I analyse them further in the following sections.

Table 34: MEX and MEN Process Dimension Development

	MEX	MEN
New BM Development	BM did not emerge from a structured idea finding process, but unplanned. BM contains financial information Revised after initial implementation phase, as deemed appropriate by implementation team	BM (outcome) was pre-designed BM does not contain financial information The BM was revised after a predetermined timeframe
	Value proposition always new, **Key resources** always old	
New SS Development	When developing a new service the SS does not have to change, in order to design a new service product, in both MEN and MEX initiatives.	
New SP Development	**Always major** – a completely new service offering, outside the university mission	**Always minor -** Improvement/change in quality of existing service features

New Business Model Development in MEX and MEN Initiatives

For MEX interventions a new BM did not emerge from a structured idea finding process, but was unplanned. In the Experiential intervention, actors explored ideas together, but actors brought ideas to the meeting they had thought about previously, sometimes many years ago. As we had never before engaged in the development of experiential services, there was a high level of variability and unanalysability present as none of the initiatives had been performed before. Heterogeneity and interdependence was present also.

In the three MEN interventions the BM (outcome) was predesigned. The interdependencies of the BM categories would be known at least by some actors in the project team, for example key activities and partners. However, for MEX interventions these subcategories would have to be explored by the NSD team first, interdependencies were unknown to us.

The exception was the financial information (cost structure and revenue streams), this detail was not included in MEN business model as it was expected that additional costs would be absorbed by existing resources. This might explain the long revision time horizon for MEN intervention, six months to one year. Therefore variability did not matter. MEX interventions would usually be revised within weeks of the initial implementation, to ensure that financials would materialise as planned. Variability *did* matter.

Of interest is that the *key resources* (e.g. staff, estates and facilities) in both MEN and MEX interventions existed already. This may have been caused by being in a resource constrained environment. NSD work had to be absorbed by existing resources. This way the individuals within the researched university were able to learn new capabilities, even though the workload was challenging.

The *value propositions* (i.e. seek to solve customer problems and satisfy customer needs) were new in all interventions (e.g. offering combined services, high quality products endorsed by a heritage brand, location service on a historic campus). This phenomenon indicates that a new value proposition seems to be a required factor for a new service, if customers do not see a new or improved value, a reason to acquire it does not exist. The underlying key resources however can be reconfigured to provide services both in MEX and MEN services.

New Service System Development in MEX and MEN Initiatives

The study illustrates that when developing a new service the service system does not have to radically change, in order to deliver a new service product. This is the case in both MEN and MEX interventions. In many ways, staff practices and service processes have to change only.

Some services are intangible (e.g. customer experience) and the value to the customer is elusive and hard to quantify, suggesting unanalysability. There does not seem to be a commonality in which components of the services system change: Sometimes new people get involved (Emergency, Service Level) in two cases the information system was new (Filming, Experimental). Sometimes the location layout changed, or the customer management. This could indicate that the development of a new or improved service product does not require that an entire service system has to change, re- configuring existing components may be sufficient and which components to alternate depends solely on the service product to be delivered. It appears that whilst existing service system components are known, the way they are re-organised to arrive at a service product affects levels of variability, unanalysability, heterogeneity and interdependence in NSD.

New Service Product Development in MEX and MEN Initiatives

New SP development was major (completely new) in all four commercial (MEX) and minor (incremental improvement) in all three non-commercial (MEN) interventions. In the Café intervention for the first time in the history of the university an outside catering facility was introduced. Offering the university estate as a filming location and potentially charging for that privilege was also new. Offering combined Experiential Services was new and provided new models that were to be important aspects of the university's commercial strategy. As the Heritage interventions contained significant risk and complexity, it had to be halted, but the BM also indicated a radically new service was planned for the university. The development of MEX SPs all entailed high variability, unanalysability, heterogeneity and unknown interdependencies, the Heritage initiative so much so that we felt that we had to abandon it. For MEN initiatives the SP was always an improvement or enhancement of existing service features. Similar to BM development, variability, unanalysability, heterogeneity were lower than in MEX and interdependency levels mostly known.

Based on the assessment convention (Chapters 4 and 5) Figure 25 summarises the major or minor emphasis of each process dimension of each NSD intervention. Whilst MEX interventions always entailed a major NSPD, and MEN interventions always entailed a minor NSPD, the emphases on BM and SS development did not appear to influence the emphasis of the SP.

	Mission Extension				Mission Enhancing		
	Café	**Filming**	**Experiential**	**Heritage**	**Emergency**	**Service Level**	**Risk**
Business Model Rating	Minor Old = 7/9 New = 2/9	Major Old = 2/9 New = 7/9	Major Old = 4/9 New =5/9	Major Old = 1/9 New = 8/9	Major Old = 4/9 New = 5/9	Major Old = 2/9 New = 7/9	Minor Old = 6/9 New = 3/9
Service System Rating	Minor Old = 5/8 New =3/8	Minor Old = 5/8 New= 3/8	Minor Old = 4/8 New = 4/8	Major, **no implementation** Old = 3/8 New = 5/8	Major Old = 2/8 New = 6/8	Minor Old = 5/8 New = 3/8	Minor Old = 6/8 New = 3/8
Service Product Rating	Major New	Major New	Major New	Major, **no implementation** New	Minor Improved	Minor Improved	Minor Improved

Business Model (BM) Components: Key partners, key activities, key resources, value proposition, customer relationships, channels, customer segments, cost structure, revenue streams
Service System (SS) Component: People, physical facilities, information systems, equipment devises and technology, non-information support systems, location, customer management, policies
Service Product (SP) Classification: New or improved

Figure 25: Major/ Minor Business Model, Service System & Service Product Dev.

7.3.2.2 NSD Actions in MEX and MEN (Q1c)

In the next four subsections I describe and reflect on the differences and similarities between MEX and MEN **actions**, relevant to the management of NSD. Table 35 compares and contrasts the actions actors carried out in MEX and MEN projects.

Table 35: Actions in MEX and MEN Initiatives

	MEX	MEN
Creative	**Creative** actions were carried out in all three NSD dimensions, BM, SS and SP	A BM was given (a policy), but NSD actors always had to **creatively** address emergent issues in the service development Process
Selecting	Three out four MEX interventions were pre-selected before NSD actors got involved Yet, interventions **selecting** actions took place throughout the interventions	All MEN NSD initiatives were mandated, and based on a policy decision, but NSD actors applied **selecting** actions when faced with implementation choices
Plann ing	Same in MEX and MEN	
Imple menti ng	Same in MEX and MEN	

Creative Actions

We carried out **creative** actions in all three NSD dimensions, BM, SS and SP, and in both MEX and MEN interventions, showing that the NSD process is not entirely predesigned, but NSD actors always have to creatively address emergent issues when engaging in NSD. In the Café, Filming and Heritage intervention a BM emerged by chance, without planning or looking for new service products i.e. new BM did not emerge from a structured idea finding process, but unplanned.

In MEN NSD, a BM was given (a policy), but same as in MEX initiatives, we always had to **creatively** address emergent issues in the service development, as we encountered variability and unknown interdependencies.

Selecting Actions

In MEX interventions we took **selecting** actions throughout the interventions as choices had to be made between different planning and implementation options. The only overall NSD intervention that was selected through a formal selection process was the Café initiative (based on feasibility, acceptability and suitability). The other three MEX interventions were selected because they were mandated by a senior academic (Filming) as potentially attracting more students and potentially facilitating new income streams, or deemed as the "right thing to do" by senior managers, or had potential to open up new income streams (Experiential, Heritage).

MEN NSD interventions were instigated as part of policy decision. We applied **selecting** actions when faced with implementation choices. This analysis illustrates Hartley's (2013) point that the NSD process in public sector can be reversed, by having a desired SP in mind - the new policy - with the plan of implementing it. However, not only in policy implementation was the NSD process reversed, but also for MEX interventions where the departure point was a mandate from senior university staff. A reason for the NSD reversed process may be that NSD implementation is seen as budget neutral and work can be absorbed by existing actors at "zero costs". It also means that in six out of the seven interventions we, the NSD actors concerned with planning and implementation actions were not involved in selecting the overall NSD interventions. However, we applied selection actions when faced with implementation choices, indicating that, whilst the new service may be pre-selected, we still have to consider development options and select them. This indicates that whilst overall policy selection is removed from NSD actors, NSD actors still have to deal with levels of variability, unanalysability, heterogeneity and interdependence and select options on how to best implement the new service.

Planning Actions

Planning actions involve assigning timelines, owners and resources to the service development actions. Regardless of the type of NSD, MEX or MEN, we still had to carry out planning actions at all stages of the NSD process. However, planning actions in MEX interventions took longer and were more complex as we had to deal with more variability and unknown interdependencies.

Implementing Actions

Implementing actions involved physical changes to the environment (Café, Filming, Emergency), and the agreement to change behaviour and carry out an action in a different way (Risk, Service Level). As the new service consisted often of a new service process and new service staff behaviour, planning and implementation were not easily distinguishable. This phenomenon occurred in both MEN and MEX initiatives. However, implementing actions took longer for MEX interventions, as unexpected barriers kept emerging, an indication of high levels of heterogeneity and interdependence.

Conclusion on NSD Actions

In this study I illustrate that whilst a systematic NSD process was planned, in reality steps are constantly adapted to fit into an unforeseen and misinterpreted environment. As such we, the NSD actors, through our creative, selecting, planning and implementing actions, bridged the gap between the reality constructed by actors deciding that a new service should be implemented and the reality constructed by us - NSD insiders. This phenomenon occurred in both, MEN and MEX initiatives, to various degrees, depending on the MacKechnie (2006) complexity factors.

7.3.2.3 MEX and MEN Process Dimension Implementation Sequence (Q1d)

In all researched NSD interventions, we generated a major or minor new BM first. This BM could have been the result of a formal (Café – second BM) or informal (Filming) action, or it could have been a policy (Emergency, Risk) that needed to be operationalised. We always had to revise the BM, in MEX interventions shortly after the SS and SP were designed or implemented and needed to be tweaked; in MEN interventions after a predetermined timeframe of six months to a year.

We started with the development of the SS and SP either while still developing the BM or afterwards. SS and SP development happened in parallel in most interventions, as in six out of the seven interventions the SS was in part or in total the SP. This illustrates not only the iterative nature of NSD as described by Johnson et al. (2000) and Voss & Zomerdijk, (2007) but also an 'overlapping' and integrative characteristic of service dimension development.

In all MEX interventions the initial new BM was tested through our SS and SP development. Then we adjusted the initial BM. In two of the three MEN initiatives the BM was explicitly stated as an initial policy document. None of the policies contained financial information. All policies included a revision date, after the SS and SP would have been 'live' for at least six months, perhaps because financial benefits are not expected in non-commercial (MEN) settings, so a quick policy adjustment was not deemed as urgent.

The SP is seen as the output or perceived value to the customer and is preceded and enabled by the SS. There is evidence that the way the SS is configured determines the new SP. A structured and comprehensive business model (BM) is beneficial to have prior to SS and SP implementation as it provides guidelines to what the final SP should look like, but usually needs to be revised after being tested in a "live" environment. In NSD, the "Plan B" – BM evolves through engagement with the NSD task. This is an indication that high variability, unanalysability, high levels of heterogeneity and unknown interdependence call for testing MEX NSD first (Plan A) and once details are known, implement plan B.

	Café	Filming	Experiential	Heritage	Emergency	Service Level	Risk
BM	**1,3,4** BM first and revised after planning of SS/SP, then revised again after further input to SS/SP, then final SS and SP implemented	**1,4** BM first and revised after SS and SP	**1,3** BM First and then revised after SS and SP Implementation	**1** BM first, but SS and SP were not implemented until a formal commercial structure was in place	**1,5** BM first but no selecting to place revised after each SS/SP testing phase	**1,3** BM was formed while SS and SP was formed and implemented when SS and SP were completed	**1,3** BM first, revised after one year
SS	**2,5** SS and SP overlapped	**2** SS and SP Overlapped and started while final BM was developed	**1,2,4** SS and SP overlapped and started while BM was developed Feeding into Commercial strategy	**X** SS and SP not implemented during research timeline	**2,3,4** SS and SP overlapped, initiated by policy, several iterations and testing	**2** SS and SP overlapped and formed a new policy	**2** SS and SP overlapped, imitated by policy
SP	**2,5** The SP is the SS	**2,3** The movie was completed as a result of the SS	**1,2,4** SS and SP overlapped	**X** SS and SP not implemented during research timeline	**2,3,4** Same as SS, as SS is the SP (overlap)	**2** Same as in BM and SS	**2** Same as in SS – policy implementation

1 = first, 2 = second, 3 – third, 4 = fourth, ……X = None Identified

Figure 26: Sequence of BM, SS and SP Development

Figure 26 depicts the iterative and overlapping nature of the NSD dimensions in the seven interventions. It is a summary of the "Sequence of NSD Dimension Development", shown for each intervention in Chapter 6 (Figures 16, 17, 18, 19, 20, 21 and 22).

7.3.2.4 Conclusion of Process Dimensions, Emphases, Development Sequence and Actions

Figure 27 depicts the Framework for Managing NSD. The issue on focus in this Figure and the following Figures is highlighted in white. Figure 27 illustrates that the NSD dimensions BM, SS and SP are developed in an iterative and overlapping way and while developing these dimensions, actors carried out four types of actions, creative, selecting, planning and implementing. This applied for both MEX and MEN; however actors encountered more complexity factors in MEX interventions.

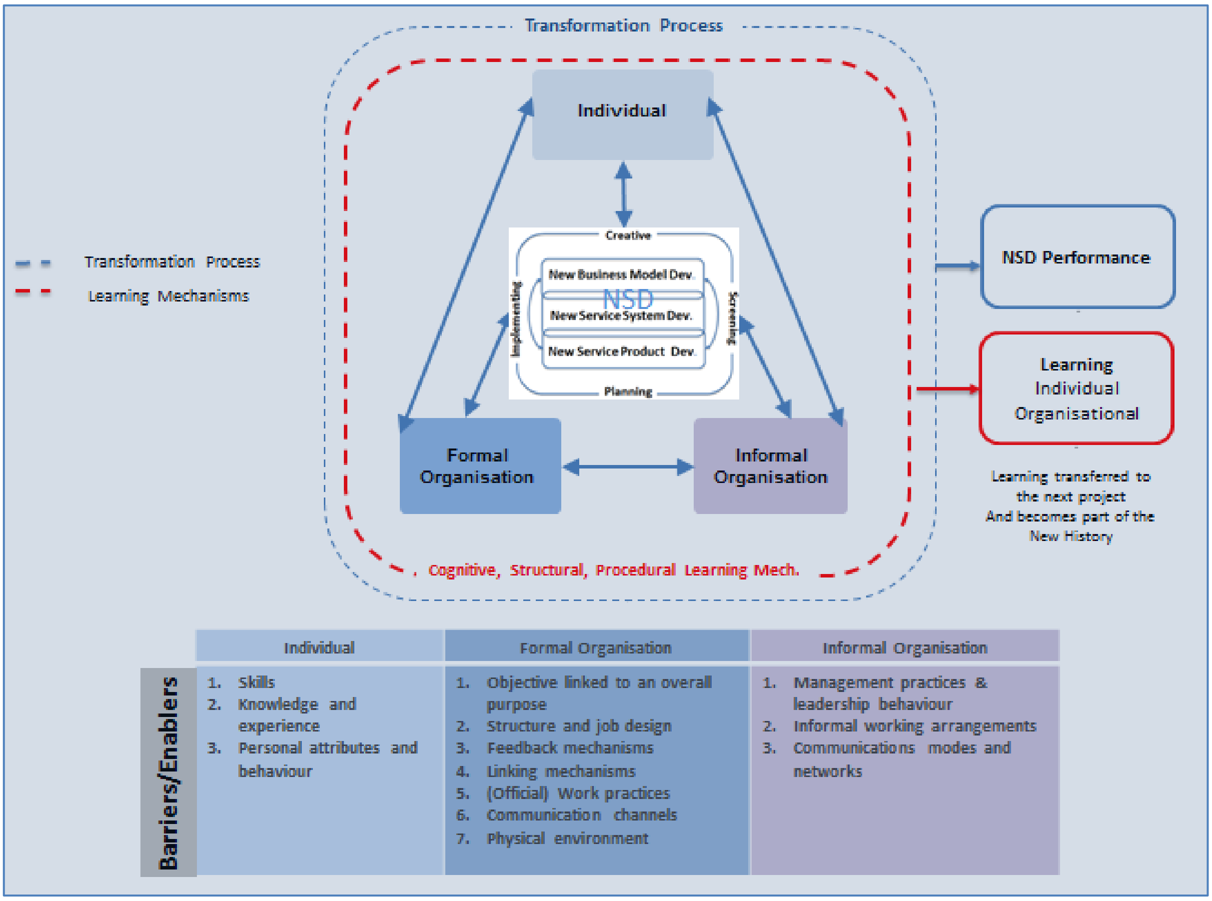

Figure 27: NSD Dimensions, Sequence and Actions

7.3.3 Barriers and Enablers in MEX and MEN (Q2)

In this section I am comparing and contrasting the MEX NSD tasks with MEN tasks and how the way the task system was organised either brought about barriers or enablers.

Many authors in the reviewed literature e.g. Rhodes (2012) have commented on factors, obstacles and facilitators to NSD (Chapter 2). This study of seven interventions (Chapter 6) illustrates that the barriers and enablers emerging when actors engage in NSD can be classified in relation to three operations resources, individual, formal and informal (Tushman & Nadler, 1986).

7.3.3.1 Barriers and Enablers in Individual Operations Resources

Based on the intervention analysis in Chapter 6, Table 36 and Figure 28 capture the NSD components relevant for the Individual as an Operations Resource, which are skills, knowledge and experience and personal attributes and behaviour. As also illustrated in Appendix E, for MEX interventions we had to apply a number of skills in order to develop the new services, for example, the ability to combine knowledge from different areas, being able to learn from other institutions and understanding which activities were suitable for the researched university. While carrying out the NSD interventions we learned what technical skills are needed and we improved our problem solving and political skills. As MEN interventions where not as complex and controversial, our existing and problem solving skills were adequate as enabling factors (low variability, low unanalysability). Similarly, there was a better fit between our knowledge and experience and other personal attributes for MEN interventions. MEX interventions required us to be courageous, resilient and determined to implement the new service despite controversy. Table 36 indicates that more barriers and less enablers emerged in MEX interventions, in relation to the “Individual” operations resource.

Table 36: Enablers and Barriers in Relation to the Operations Resource "Individual"

Category	MEX	MEN	References in Extant Literature
Skills Proficiencies (know how) developed through training or experience	**Enablers** • Ability to combine knowledge from different areas • Openness to learning • Being able to notice what "technical skills" are needed and draw them together • Being able to learn from other institutions • Problem solving skills • Interpersonal and political skills	• **Enablers** • Existing skills developed in own area • Adequate problem solving skills	Tushman & Nadler (1986), Smith et al. (2008); Australian Government (2010)
	Barriers • No commercial, project managements and business planning, accounting skills	**Barriers** • Lack of (political) skills to engender collaboration from the academic community, to engage in the Risk management	
Knowledge and experience (know what) includes the theoretical and practical understanding of a subject (here NSD)	**Enablers** • **Transactive knowledge** • Diverse experience • Experience with NSD • Knowing the organisation	**Enablers** • Existing knowledge and experience • Awareness of existing university services	Tushman and Nadler (1986); Kezar (2009), Chapman (2004); Klein & Knight (2005
	Barriers • Limited knowledge of how to select suitable initiative • Limited knowledge of who in the university community to consult with prior to NSD implementation	**Barriers** • None identified	
Personal attributes and behaviour They are character or personality traits of a person and become visible and are displayed in a person's behaviour repertoire	**Enablers** • Courage and the behaviour repertoire in general • Motivation (e.g. to join cross functional teams) • actors reputation • Openness to ideas from other stakeholders • resilience and determination	**Enablers** • Actors reputation supported gaining access to information	Johnston (2008, 2011), Tushman & Nadler (1980), Australian Government, (2010) Chapman (2004), Buchanan & Badham (2008)
	Barriers • Fear to take risks • Fear to propose unusual ideas	**Barriers** • None identified	

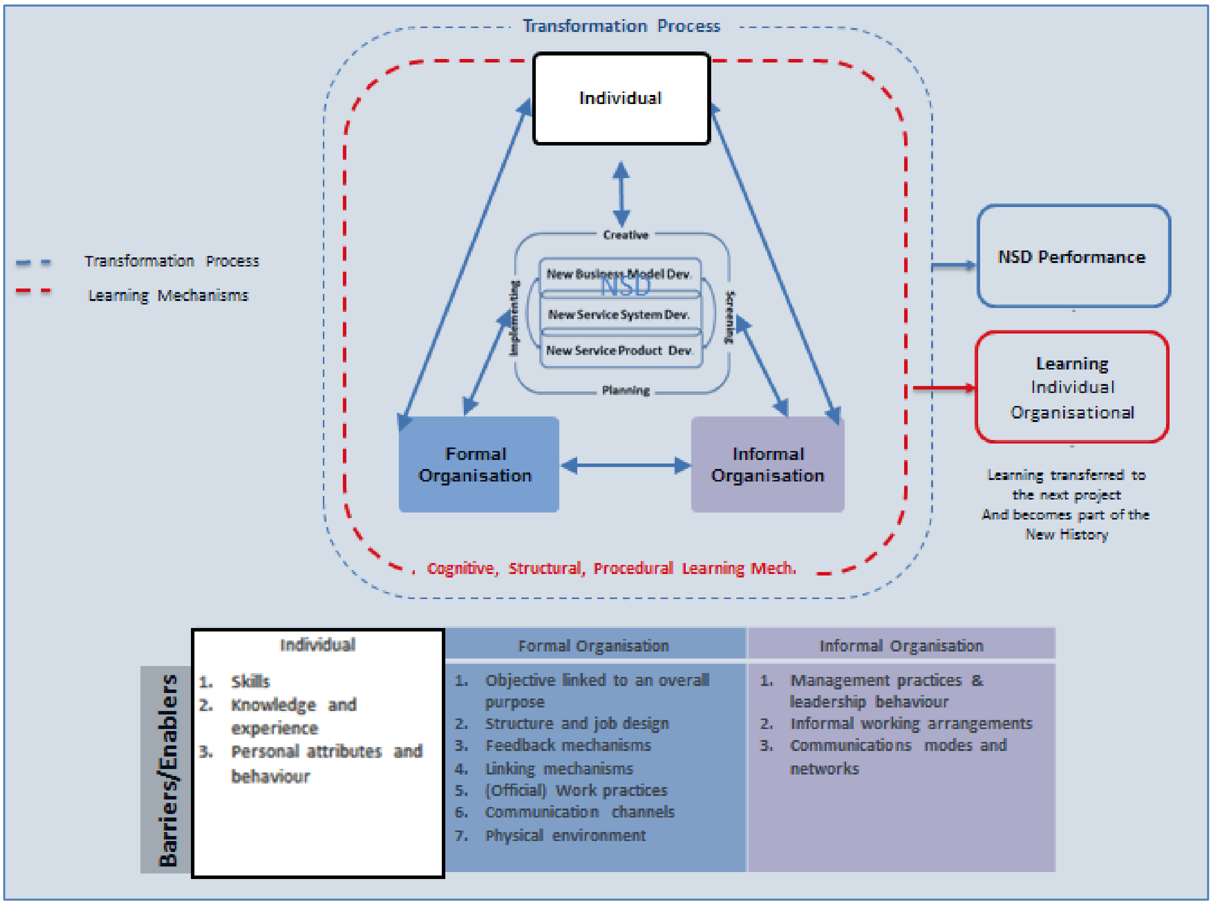

Figure 28: Managing NSD and the Individual Operations Resource

7.3.3.2 Barriers and Enablers Formal Operations Resources

Similar to the previous section Table 37 and Figure 29 capture the NSD components (Chapter 6 and Appendix E) relevant for the Formal Operations Resource, which are

1. Objective linked to an overall purpose
2. Structure and job design
3. Feedback mechanisms
4. Linking mechanisms
5. Work practices
6. Communication channels
7. Physical environment

While MEN interventions were already *linked to the overall purpose (the organisational ethos),* indicating known interdependence, we had to reframe MEX interventions (for example Filming – useful to attract international students).

The *structure and job design* was a particular barrier as they did not support MEX interventions (high heterogeneity). In the researched university two organisational structures exist in parallel, the administrative (machine bureaucracy) and the academic (professional organisation) (see Chapter 8). As a result was not clear who should decide on MEX related decisions. There were a number of unresolved policy issues, for example who should benefit from the newly generated income. We did not have slack resources, so all MEX activities had to be carried out on top of our existing workload, which slowed down progress. There was lack of succession planning in senior leadership which delayed interventions. To address conflicting messages, a clear mandate from the “new service owner” was enabling to NSD. Beyond the remit of the “new service owner”, only negotiation, persuasion and other interpersonal skills (problem solving, reframing, gathering support) facilitated the implementation of new services.

In MEN initiatives the *structure and work design* was capable of supporting the Emergency and the Service Level interventions (low heterogeneity). However, the Risk intervention was different. The existing formal organisation was only recognised by the administrative community of the university, not the academic. It appeared that generally the academic community felt that risk management was not relevant to them and saw it as an administrative task. It seems that the formal organisation can be a barrier or enabler in different parts of a university, for the same task. Otherwise, for MEN interventions, existing decision making structures were suitable for application, as there were no financial urgencies or seasonality involved as in commercial (MEX) interventions.

The absence of adequate feedback mechanisms also was a barrier for MEX interventions (high unanalysability). There was the inadequacy of management information systems, in particular the finance system which had to be designed and implemented by NSD actors. For MEN initiatives as existing feedback mechanisms were appropriate.

The absence of *linking mechanisms* also was a barrier in MEX NSD as we had to communicate and work with actors from many departments, resulting into unknown interdependencies. For all MEN NSD actors linked almost automatically, as the expertise of actors was known and in the past we had worked together on other initiatives.

Work practices provided enablers for both MEX and MEN NSD, but different ones.
Enablers for MEX NSD were:

- Having the freedom to experiment
- Keeping interventions hidden, similar to an innovation incubator, so they could not be sabotaged
- Freedom to look externally for new ideas

- Adjusting the intervention timeline to the academic year calendar
- A clear mandate (permission to act) from senior managers, to break rules and to experiment. A clear mandate was helpful, but only worked in the remit of the person who gave it. Beyond the remit (for example in the Filming and Experiential interventions), only negotiation, persuasion and other interpersonal skills (problem solving, reframing, gathering support) facilitated the implementation of new services

MEN NSD had the following enablers:

- None of the interventions were deemed as mission critical, delays were acceptable
- It was recognised by the university community that continuous improvement was achieved over time; timelines for intervention implementation were guidelines only

Existing decision-making processes (e.g. decisions are being made bi-annually in scheduled committee meetings) were not suitable for application to MEX interventions; however, this was not an issue for MEN interventions.

Employment of external consultants for *complex* tasks in MEX interventions proved to be counterproductive as the proposal brought forward did not take into consideration many aspects of the university decision making structures and the university's reputation in the national and international context. Employment of external consultants in MEN interventions for *routine* tasks was an enabler. This indicates that only in interventions with low variability, analysability, heterogeneity and known interdependence outside expertise is useful.

Initially *communication channels* for MEX interventions did not exist, so we had to first use informal channels and work practices and then design and develop communication channels provisionally. We found the existing communication channels were adequate for MEN interventions.

In the *physical environment* category the lack of access to buildings and the ownership caused delays for MEX interventions (high heterogeneity). The unclear ownership was also an issue for MEN interventions, but buildings owners (once identified) were more inclined to support MEN NSD, in particular Emergency, as being unsupportive would have meant to put lives of students, staff and visitors in danger in case of an emergency. Similar to the Individual operations resources less barriers and more enablers emerged in MEN projects.

Table 37: Enablers and Barriers in Relation to Formal Operations Resources

Category	MEX	MEN	References in Extant Literature
Objective linked to an overall purpose The NSD purpose is explicitly reflected in the overall goals of the university	**Enablers** • Reframed commercial interventions as useful to attract international students (Filming) rather than emphasising the financial benefits. **Barriers** • MEX purpose initially framed as generating commercial income	**Enablers** • Reframing was not necessary for MEN interventions, as they were already linked **Barriers** • None identified	EUA (2007), Menor & Roth (2007)
Structure and job design Structure and job design are concerned with how the university organises its work through the organisational structure ("Who does what?")	**Enablers** • providing a temporary commercial support structure of cross-functional teams **Barriers** • Two structures, administrative and academic • Unresolved policy issues • No slack resources • Lack of succession planning	**Enablers** • no financial urgencies • Supporting Emergency and Service Level interventions **Barriers** • Not supporting Risk intervention	Barney (1991) Wheelwright & Clark(1993), Chapman (2004), Koch et al. (2006), Forfas (2006), Johnston (2008), Smith et al., (2008), Windrum & Koch (2008), Australian Gov.(2010)
Feedback mechanisms Availability of measurement Evaluation of previous policies, management systems, standards and measurements	**Enablers** • None identified **Barriers** • Inadequacy of management information systems • existing decision-making processes, • Lack of Feedback mechanisms	**Enablers** • New management information systems and financial data were not required and their absence did not form a barrier **Barriers** • None identified	Tushman & Nadler (1980), Windrum & Koch, (2008)
Linking mechanisms Coordination and communication Technology knowledge management	**Enablers** • None identified **Barriers** • Actors had to develop their own work structures such as cross functional- teams which caused delays	**Enablers** • Existing linking mechanisms adequate **Barriers** • None identified	Johnston (2008), Smith et al. (2008), Australian Government (2010)
Work practices Agreed methods, practices and policies that define how work is completed	**Enablers** • Freedom to experiment • Keeping interventions hidden • Freedom to look externally for new ideas. • Adjusting the intervention timeline to the academic year calendar • Permission to act from senior managers, to break rules and to experiment **Barriers**	**Enablers** • Delays were acceptable. • Continuous improvement timelines are guidelines only. • **Employment of external consultants** **Barriers** • None identified	Klein & Knight (2005), Kezar (2009), Windrum & Koch, (2008) Tushman & Nadler (1980), Unsworth (2010)

Category	MEX	MEN	References in Extant Literature
	• Existing decision-making processes • Unclear ownership of facilities • Too many competing commitments • Policies to provide boundaries not in place • **Employment of external consultants**		
Communication channels A type of media through which a message is delivered and received	**Enablers** • None identified	**Enablers** • Existing communication channels adequate	Barney (1991) Johnston (2008)
	Barriers • Actors had to find appropriate communication channels and, in absence of those, they had to resort to informal communication channels	**Barriers** • None identified	
Physical Environment The visible items in which actors carry out NSD, e.g. building work and facilities	**Enablers** • Historic Buildings valued by visitors and external firms and enhanced commercial value	**Enablers** • None identified	Barney (1991) Tushman & Nadler (1980)
	Barriers • Lack of facilities (e.g. access to buildings) caused delays • The ownership of facilities was unclear in all MEX initiatives	**Barriers** • Lack of facilities (e.g. access to buildings)	

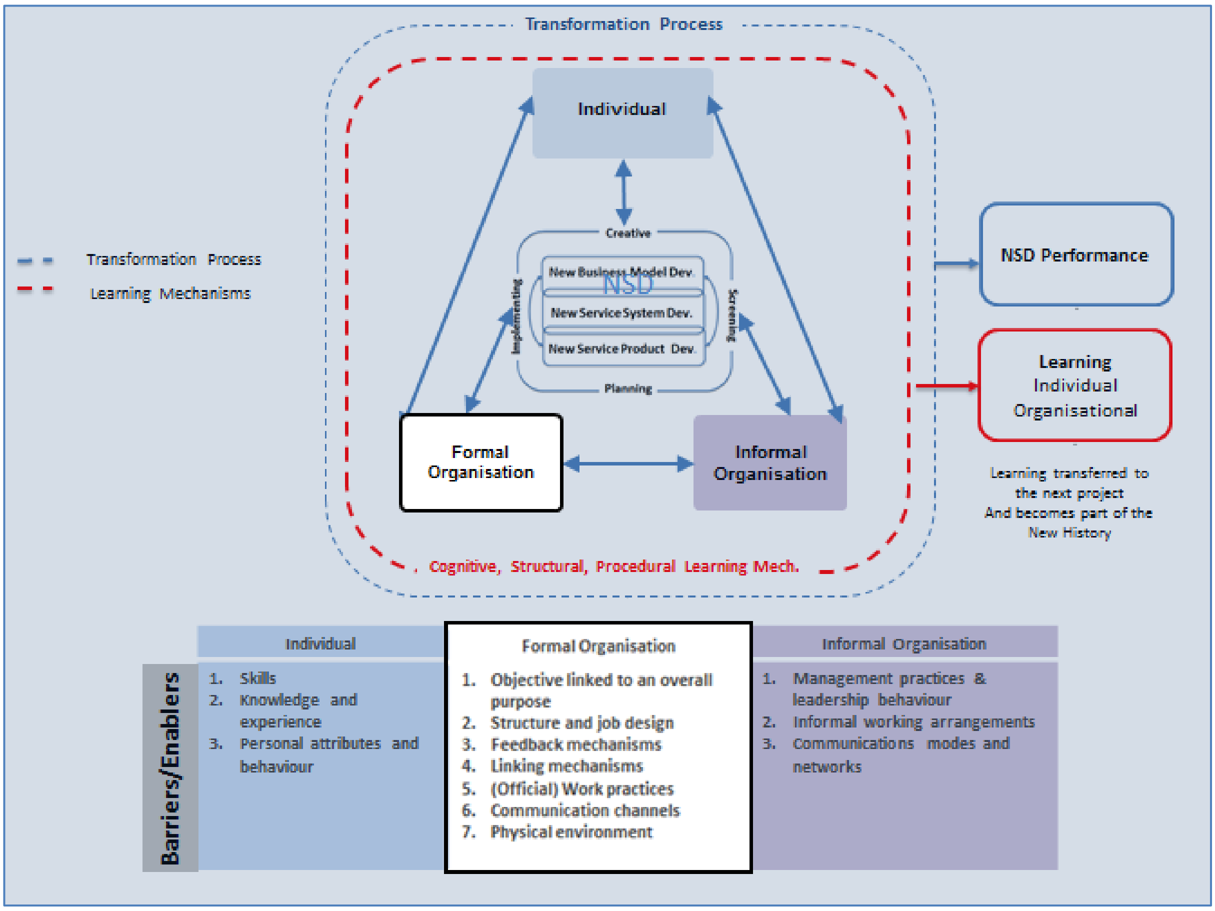

Figure 29: Managing NSD and the Formal Operations Resources

7.3.3.3 Barriers and Enablers in Informal Operations Resources

Similar to the previous sections Table 38 and Figure 30 capture the NSD components relevant for Informal Operations Resources, which are management practices and leadership behaviour, informal working arrangements and communications modes and networks. Derived from the findings outlined in Chapter 6, in the table I compare and contrast the emergence of barriers or enablers between informal operations and the NSD tasks in both MEX and MEN initiatives.

For management practices and behaviour the MEX enablers were:

- Creating a (hidden) nurturing environment in the Experiential intervention, where unusual ideas could be tested without risk of reputational damage
- Identifying and communicating successful precedents from other universities respected by stakeholders
- Allowing experiential learning, having tolerance for failure, allowing for experimentation and exploratory action and conducting post-project reviews

The Barriers were:

- Perceived threat to the organisational ethos of the university
- Management attention at the beginning of interventions was not sufficient considering their magnitude and novelty, when managers could have influenced the outcome of the initiative better than later in the interventions, for example by providing a comprehensive approach to commercialisation, the creation and pursuit of an overarching development strategy
- Senior management were reluctant to empower front line staff (Experiential) because of the disruption of the status hierarchy.

There were differences in the *Informal working arrangements* category also. Enabling factors for MEX were involving stakeholders in the development process and exchanging information informally. Barriers emerged when managerial staff were tasked with NSD leading interventions, but their decisions were not accepted and their activities challenged by the wider university community (high variability, variability and unknown interdependence). Existing informal working relationships, networks and working arrangements did not support commercial activities. The organisational ethos of the university proofed to be a barrier in all commercial initiatives.

For MEN NSD the *informal work practices* were adequate (low variability). Whilst it was unusual to combine different services in one service level agreement, I addressed objections quickly by pointing out the benefits and as such delays did not occur.

Informal communications modes and networks presented one barrier for MEX – the reluctance to share information cross-functionally, resulting into unanalysability and variability. This category did not present a barrier in MEN NSD.

Table 38: Enablers and Barriers in Relation to the Informal Operations Resources

Category	MEX	MEN	References in Extant Literature
Management practices and leadership behaviour Conduct, actions, methods and techniques applied by staff with implicit or explicit decision making power in order to achieve an objective	**Enablers** • Creating a (hidden) nurturing environment • Identifying and communicating successful precedents • Allowing experiential learning • Having tolerance for failure • Allowing for experimentation and exploratory action • Conducting post-project reviews	**Enablers** • Existing practices and behaviour adequate for majority of actions	Chapman (2004), Smith et al. (2008), Klein & Knight (2005), Forfas (2006), Australian Gov. (2010), Koch et al., (2006), Tushman & Nadler (1986), Wheelwright & Clark (1993), Börjesson & Elmquist (2011), Unsworth & Clegg (2010)
	Barriers • Perceived threat to the academic ethos • Management attention • Creation and pursuit of an overarching development strategy • Senior management reluctance to empower front line staff	**Barriers** • None Identified	
Informal working arrangements Unwritten, constantly evolving arrangements, including "culture" which define how things get done	**Enablers** • involving stakeholders in the development process • Exchanging information informally	**Enablers** • Existing informal working arrangements are adequate for majority of actions	Tushman & Nadler (1986) Chapman (2004), Australian Government (2010), Koch et al. (2006), Buchanan & Badham (2008),
	Barriers • Decisions made by NSD manager challenged • Existing informal working relationships, networks and working arrangements did not support commercial activity • Academic ethos	**Barriers** • Unusual to combine different services in one policy (Service Level)	

Category	MEX	MEN	References in Extant Literature
Informal communications modes and networks Unofficial channels that do not follow any rules or formalities i.e. grapevine	**Enablers** • None Identified	**Enablers** • Existing informal communication modes and networks arrangements are adequate for majority of actions	Kezar (2009), Johnston (2008), Tushman & Nadler (1986), Wheelwright & Clark (1993), Buchanan & Badham (2008)
	Barriers • Reluctance to share knowledge cross-functionally between senior managers	**Barriers** • None Identified	

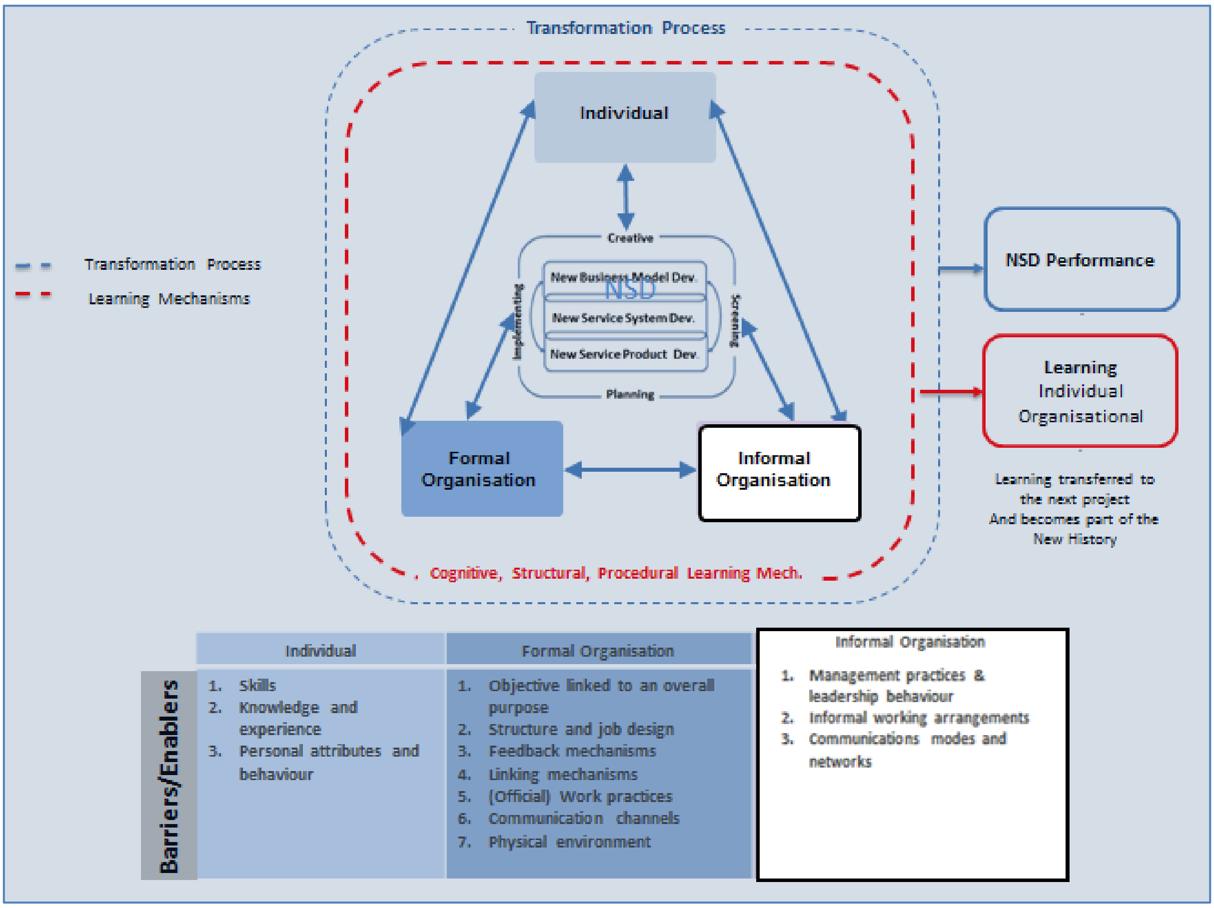

Figure 30: Managing NSD and the Informal Organisation

7.3.3.5 Conclusion Barriers and Enablers to the Execution of the Task

The analysis of barriers and enablers illustrates that their emergence is contingent on the type of NSD MEX or MEN.

In relation to *individual operations resources,* MEX interventions encountered more barriers than MEN interventions, in particular the lack of specific skills, knowledge and experience. In general, skills, knowledge and experience existed for MEN interventions and were enabling factors, as such there was “fit” between the individual operations resources and the NSD task (exception: Risk), variability, unanalysability and heterogeneity was lower than in MEX interventions. The interdependencies of sub tasks were known.

In the absence of commercial skills, knowledge and experience, MEX NSD actors had to display certain personal attributes and behaviours in order to carry out MEX NSD, for example courage to take risks, political skills, transactive knowledge and resilience. When they did, these personal attributes were NSD enablers. For MEN interventions, actors did not have to depend on these attributes, as their existing and proven technical skills and knowledge provided them with the credibility needed to gain support and implement the new services – there was fit.

The analysis of the relationship between the *formal operations resources* and NSD showed that in the researched university two organisational structures existed in parallel, the machine bureaucracy structure and the professional organisation (Mintzberg, 1979), as explained in detail in Chapter 8. For MEX initiative similar barriers emerged in both structures and linking the objective to an overall purpose helped to overcome barriers.

The analysis of the relationship between *informal operations resources* and NSD demonstrates that in particular the mismatch between the organisational ethos of the university (espoused in the informal working arrangements) and the NSD interventions formed a barrier. MEX interventions also demanded more management attention.

Practical implications are that NSD actors have to consider that they may have to engage in NSD initiatives in different ways, taking different actions at different stages of the NSD process dimensions and expect different barriers and enablers to emerge, depending on the type of NSD, MEX or MEN.

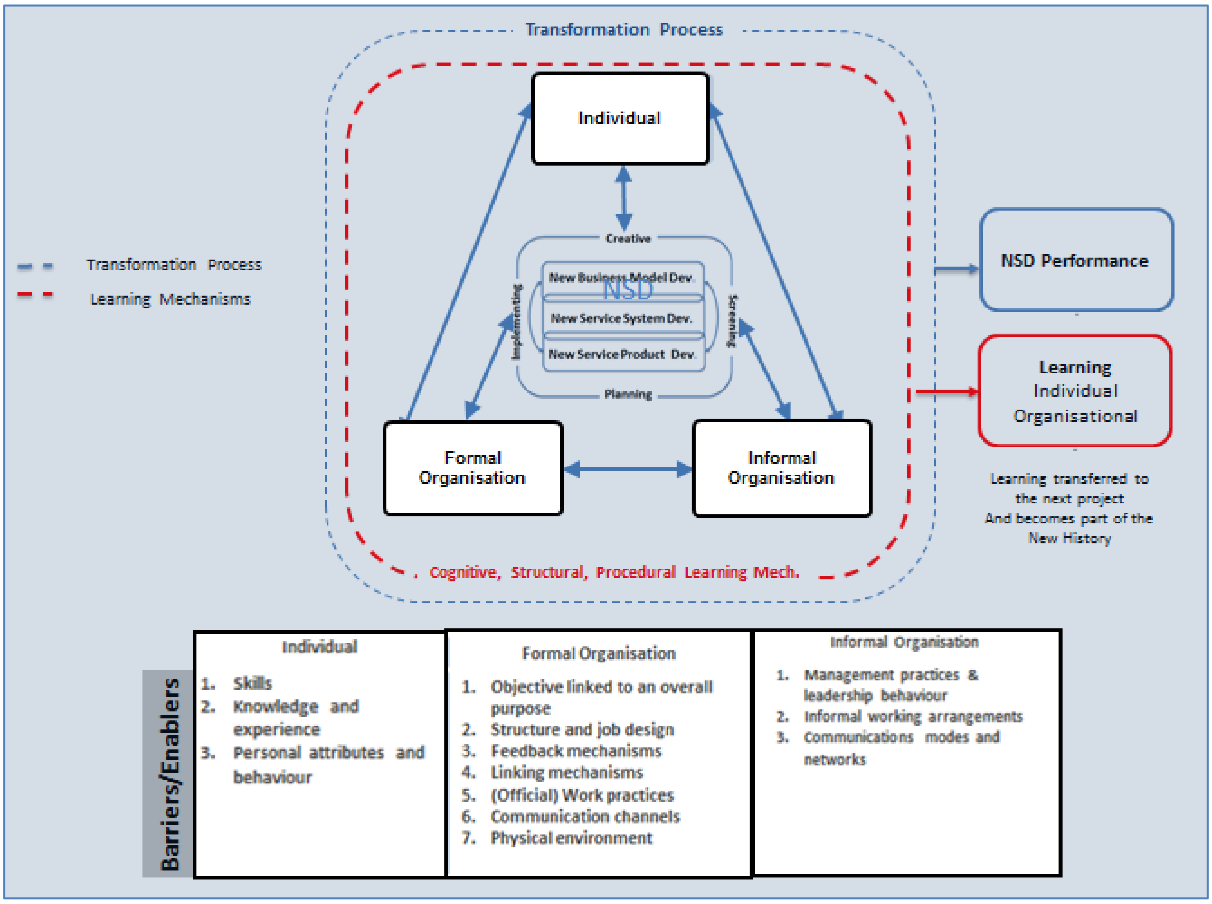

Figure 31: Managing NSD and the Three Operations Resources

7.4 The Framework for NSD: Overcoming Barriers and Developing Enablers

In this section I continue to develop the NSD framework. I critically evaluate the observations made in Chapter 6 with regard to developing NSD barrier overcoming capabilities and enabler developing capabilities, to address the second main research question: "*How might the barriers be overcome and the enablers be developed?"*

Based on the literature review in Chapter 3, my research framework in Chapter 4 and meaning and implications drawn from the individual intervention analysis (Chapter 6) I am proposing that NSD capabilities are developed by linking, learning (from and with, applying learning mechanisms) and transferring these capabilities to subsequent initiatives. Accordingly, this section is structured as follows:

First I am analysing how capabilities are developed by linking operations resources. Then I am reflecting on individual and organisational learning. Thereafter I am analysing the application of learning mechanisms. Then I am reviewing the transfer of learning to subsequent NSD initiatives. Finally I am demonstrating how what we learned was institutionalised in university capabilities, structures and processes.

The relevant sub-questions are addressed as follows:

> Section 7.4.1 Q3a: How do actors link the existing individual, formal and informal operations resources to enable NSD, when engaging in the NSD task?
> Section 7.4.2 Q3b: How do NSD actors extract learning through learning mechanisms?
> 7.4.3 Q3c: How do actors transfer the extracted learning to subsequent NSD initiatives?

The outcome of each of the analyses will be reflected in the model for managing NSD.

7.4.1 Linking Operations Resources (Q3a)

As illustrated in Chapter 6 we linked individual operations resources such as knowledge from multiple departments (Filming, Experiential, and Emergency) and combined different skillsets (Heritage, Service Level). Within formal operations resources we linked existing physical facilities and used them in different ways (Filming, Heritage, Emergency and Service Level). We linked the objective of MEX interventions to the overall mission of the university so their identity appeared more like a MEN intervention (Experiential). We used informal operations resources in particular informal networks to gain access to relevant knowledge and communicate when formal channels did not exist or were not accessible. Informal operations resources also allowed for flexible structures. We were able to test and experiment with innovative ideas within an existing informal network, before fully implementing the idea (Experiential).

Our ability to link operations resources observed in this study entails similarities with the concept of “dynamic capabilities”. Dynamic capabilities are defined as the ‘ability to integrate, build and reconfigure internal and external resources, to address rapidly changing environments’ (Teece et al., 1997; Eisenhardt & Martin, 2000).

This ability is demonstrated in the seven interventions. However, it seemed that we were able to reconfigure resources “more naturally” in MEN interventions. In MEN interventions we were able to tap into the informal networks and communication channels that had been established over many years and enabled the policy implementation of MEN interventions. People in informal networks knew each other, their skills and knowledge and we were able to reconfigure and combine them as required. Management practices and leadership behaviour were neither an enabling nor a hindering factor, as we executed MEN interventions almost independent of senior management involvement.

For MEX interventions, however, the linking and reconfiguration of resources was more challenging. We had to experiment, break rules and apply exploratory actions, above all, we needed the permission and freedom to act from senior managers, to be allowed to apply resources in alternative ways, e.g. to apply untested or external skills and resources. In addition senior managers had to visibly legitimise the interventions.

Overall, for MEX initiatives we had to obtain new skills and knowledge and use more sophisticated personal attributes. These included persuading senior managers of new resource and skill enhancing needs and negotiating with members of the community for support. A new formal structure had to be established – however temporary - such as linking existing skills in cross-functional teams. Chapter 6 and Appendix F provide details and analyses of the linkages.

Figure 32 depicts the linking of operations resources, indicated by the arrows in-between the operations resources.

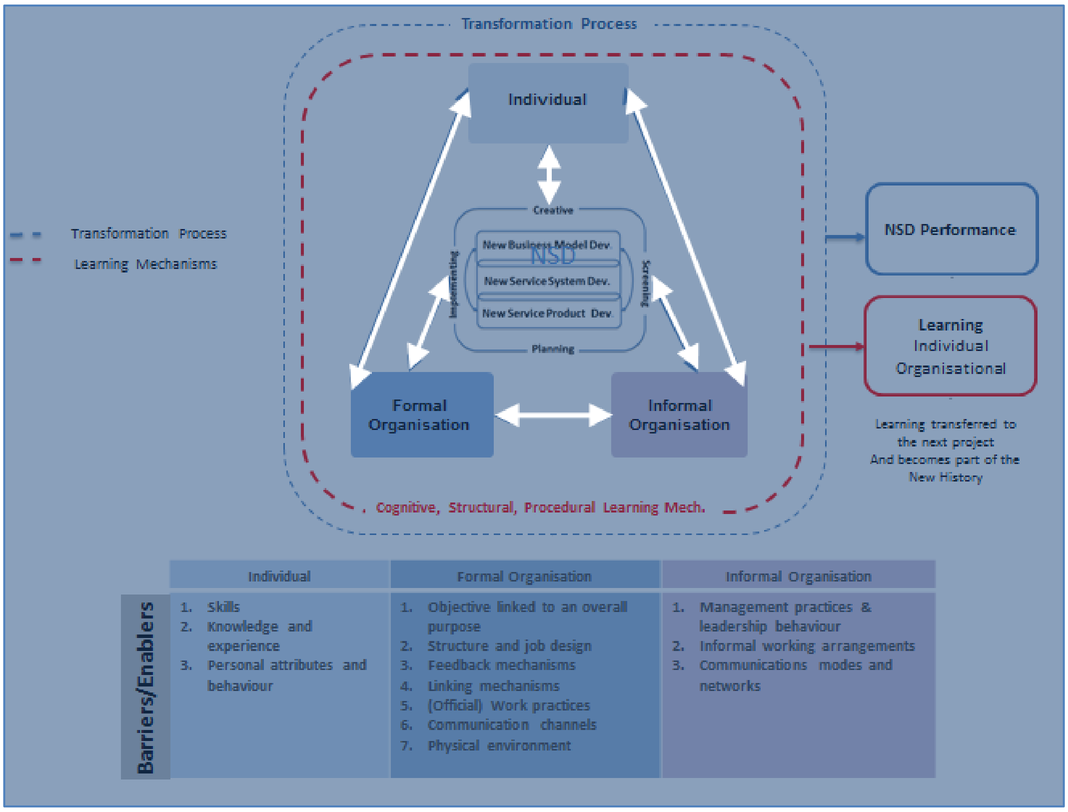

Figure 32: Managing NSD and Linking Operations Resources

7.4.2 Individual and Organisational Learning and Learning Mechanisms (Q3b)

In the following sections I critically analyse how through first, second and third person practice and reflection individual learning became organisational learning. I also illustrate how first, second and third person practice and reflection contributed to knowledge to the wider scholarly community.

7.4.2.1 Individual Learning

As described in Chapter 3 learning is the process whereby knowledge is created through the transformation of experience (Kolb, 1984). The accumulation of experience is presented as a prerequisite to learning (Crossan, 1999; Lipshitz et al., 2007). Based on the accumulation of experience for example, individual learning can be defined as the way in which people make meaning and acquire knowledge and skills, develop their individual capabilities.

Table 39 provides examples of my individual learning throughout the steps of the core AR project, pre-step, constructing, planning action, taking action and evaluating action, "learning for me", or first person practice and reflection, upstream and downstream, from interventions outlined in Chapter 6.

I learned through experiencing about my role in NSD, my related skills and knowledge that might be useful for NSD in this university (upstream), what the university has in place to support NSD. I thought about what else needs to be in place. I also learned about the informal organisation, for example the organisational ethos. I learned about how useful my current skills and attributes are, what new skills and attributes I need to acquire, my understanding about my role as opposed to what others expect of me (downstream).

Table 39: Examples of Individual Learning, "Learning for Me"

Pre- step	Constructing	Planning Action	Taking Action	Evaluating Action
My view of the role I'm playing, what is expected of me in the context I am operating in (upstream) Example: I play a central part in the university as the appointed project manager of the OD	What is really expected of me and what I think I can deliver. What does NSD in this university mean and entail? (downstream)	Learned about my own skills in comparison to others (downstream)	I learned how useful my own skills are when implementing new services and, what do I need to improve on (upstream and downstream)	How well can I manage the challenges of the interventions in comparison to my interventions in other organisations (upstream) What does NSD in the university entail? How I was performing Who are my allies? Is my NSD role different from that I expected? What works – what does not work? (Downstream)

7.4.2.2 Organisational Learning

As defined in Chapter 3 organisational learning is **a systemic phenomenon going beyond the learning of the individual. Individual learning is transferred into organisational learning when groups of people evaluate and reflect on past action; discover error and opportunity through joint meaning construction. It involves the invention of new behaviours, and their implementation.**

This definition means that organisational learning happens when two or more individuals in an organisation come together and interpret their views and ideas and experiences (content, process and premise reflection) though joint meaning construction. They then may integrate their new knowledge into the organisation and what they have learned may be institutionalised.

Organisational learning is captured by: “Learning for Us” (second person practice and reflection). In our conversations, debates, meetings and joint actions we combined, interpreted and adjusted our ideas and we discussed which of the ideas would work and which would not, our thoughts were confirmed or unconfirmed. We all learned for example about service provision in each other’s departments, how the formal organisation supports NSD and what generally is seen as important by the university community. We learned about the application of appropriate communication modes, reporting formats and business model requirements. As such we all improved our NSD skills through engaging in NSD. We also were able to feed back to senior university officers what additional resources we need. We learned where the organisational ethos was helpful and where not. Table 40 provides some overall examples of learning on organisational level, learning for us throughout the core AR steps.

Table 40: Examples of Organisational Learning, “Learning for Us”

Pre- step	Constructing	Planning Action	Taking Action	Evaluating Action
We learned about the and importance of our NSD initiatives in the university	We learned about the value of cross-functional teams We can work together despite our different views, our agendas our demands in our existing operational roles, our needs for power. Application of appropriate communication mode Business model requirements	Experts are available internally but how to find them other than knowing a lot of people - Transactive Knowledge Service areas to involve – “Who knows what” Detected universally accepted reporting format and applied to initiative	We learned what additional resources are required We learned that our plans not always stand the test of reality We learned which additional skills we have to get externally	We learned that the existing decision making structure is inadequate for commercial initiatives

“Learning for Them” (Third person practice and reflection) took also place as we transferred what we learned to the wider university community **and** to the scholarly community.

When I engaged in the **thesis AR project** I learned how the first and second person view relates to existing knowledge, through the literature review and engaging with other NSD scholars. So my individual learning progressed and deepened through first, second and third person reflection.

I provide examples of “Learning for Them” in Table 41.

Table 41: Examples of “Learning for Them”

To the wider university community (Transfer and Institutionalising	To scholarly community (Thesis Project)
MEX Interventions: Transferred learning into overall commercial strategy and structure through reporting (content) It also meant that the university as a whole – the university community - had the opportunity to learn from this process, e.g. that an alternative and faster decision making process is required and the current committee decision process is not adequate (process) **MEN Interventions:** Formulated Filming Policy, Emergency response Policy, SLA for external academies **(content and process)**	See Chapter 9 – contribution to Theory and Practice E.g. Contingent view of NSD Model for managing NSD Resource based view application to NSD

7.4.2.3 Developing NSD Capabilities by Applying Learning Mechanisms at Individual and Organisational Levels

Chapter 3 outlined existing knowledge on learning mechanisms. Learning mechanisms are formal and informal organisational configurations (structures and processes) whose purpose is to develop, improve and assimilate learning (Shani and Docherty, 2009).

The analysis of individual interventions (Chapter 6) demonstrates that while engaging in NSD actions, we applied cognitive, structural and sometimes procedural learning mechanisms. These are summarised in Table 42. These learning mechanisms were usually developed and self-organised by us, the actors involved in the NSD interventions. Cognitive mechanisms e.g. a strategy or a mission statement were formulated at the beginning of an intervention. Structural learning mechanisms were applied, in particular as cross-functional and implementation teams and as routine meeting documentation. Procedural learning was only evident in the Emergency interventions (Tabletop exercises), and this procedural learning mechanism was also created by the NSD actors involved in the intervention.

Table 42: Evidence of Learning Mechanisms Application and Learning Level

	Cognitive	Structural	Procedural	Level
Café	• Overall initial Commercialisation target • Creating shared understanding agreed service & commercial objectives	• CPG meetings • Café implementation team meetings • Routine meeting documentation	None	• Individual • Organisational (new cross functional team)
Filming	• Vision of attracting overseas students and visitors • Creating shared understanding agreed service & commercial objectives	• Regular cross-functional team meetings, • Post project review • Routine meeting documentation	None	• Individual • Organisational (Filming subgroup meetings, Filming Policy)
Experiential	• Overall initial Commercialisation target • Creating shared understanding agreed service & commercial objectives • Particular Experiential Services Objectives	• Workshop meetings in 6-week interval, always at different locations, facilitated by different service managers • Routine meeting documentation	None	• Individual • Organisational (new combined service provision)
Heritage	• Vision from Branding consultant on commercial potential, from other university brand suppliers, visits, internet searches, accountant ‘reality check’ • Procurement policy requirements	• Regular Heritage Team Meetings, inviting University Solicitor, Procurement Officers as required	None	• Individual • Organisational (Heritage workgroup meetings)
Emergency	• Initial Emergency policy, university values • Learning from consultant, internet, books, bringing past experience to the table	• Regular exercises, post exercise reviews Routine meeting documentation	Regular Tabletop Exercises	• Individual • Organisational (Workgroup meeting, Emergency Response Policy)
Service Level	• Learning from existing internal departmental SLAs and external SLAs	• One-to-one and group meetings with project managers and service managers	None	• Individual • Organisational (meetings with DOL, Developed SLA)
Risk	• Initial risk policy and university values • Learning from other universities, internet, benchmarks	• Regular meetings with risk owners, review at executive meetings	None	• Individual • Organisational (Meetings with risk owners, new risk register)

Table 42 illustrates that in all seven interventions there is evidence that learning on individual and organisational took place (Crossan et al., 1999; Coghlan & Brannick, 2014). We noticed for example patterns of services provided by observation of differences and similarities between existing internal and external emergency services, intuiting which new services might be useful in our context. When bringing these observations to the work team, the observations were interpreted, confirmed or disconfirmed, applicability discussed (Crossan et al., 1999). We jointly found solutions and agreed actions for further exploration.

7.4.3 Organisational Learning Transferred to Subsequent NSD Initiatives (Q3c)

As demonstrated in the individual interventions (Chapter 6) and in Table 43, there is evidence that learning was transferred to subsequent NSD interventions, but formal learning mechanisms such as procedure manuals, handbooks and reports were not developed and applied. Learning was transferred by actors to other actors, face-to-face, passing on their experience and tacit knowledge through actors' participation, storytelling and demonstrating. Some examples are provided in Appendix G.

For example I transferred my individual knowledge, a newly developed business model template, to a subsequent NSD intervention I was asked to lead. And as such my individual knowledge was transferred to an operational level. Having gained knowledge about the available facilities in the university, I transferred this learning to a subsequent intervention. I was able to recommend applying operational assets and resources in alternative ways, having detected them during preceding NSD engagements. As such my individual learning expanded to organisational learning. Similarly, having experienced the value of cross-functional teams and group discussions, we formed similar teams from the start of an initiative to gain maximum benefits. Overall, improved and context specific NSD practice of communicating and consultation was applied in later interventions. We transferred knowledge of unwritten rules and informal gatekeepers, detected through engagement with earlier tasks, to subsequent NSD interventions by interacting with other staff involved. When actors moved to the next initiative they could "tell the story" of how successful the approach was and make a case to the other actors that this is the approach to be taken. They also had gained transactive knowledge – knowing who knows what - (Lipshitz, et al., 2007) and had a good idea about the experience available, and what actors that were likely to contribute to NSD interventions. Table 43 demonstrates in detail from 'where to where' (when) learning was transferred, what learning was transferred, and by what means.

Table 43: Transfer of Learning: When, What and How?

Transfer of Learning (when)	What learning was transferred to later interventions?	How was learning transferred?
Cafe → Experiential	More consultation and cross functional involvement needed to progress NSD & overcome barriers	Through KDG, HD in face-to-face meetings, behaviour, applying different communication modes and more appropriate level of management attention
Cafe → Experiential	• Experts are available internally but how to find them other than knowing a lot of people - Transactional Knowledge • Application of appropriate communication mode	Through KDG and commercialisation assistant, documentation
Cafe → Filming	• Service areas to involve – "Who knows what" • Application of appropriate communication mode	Through KDG,HD, face –to-face meetings
Café → Heritage	Business model requirements learned, but then a consultant was asked to develop the BM – but is was flawed	Through KDG face-to-face
Café → all other Initiatives	Detected universally accepted reporting format and applied to initiative reporting	Through KDG face-to-face and in documentation presented in meetings and forwarded by email meetings
Filming → Heritage	• Need to involve internal experts, • Experts required, but even the *external* experts do not know enough about the workings of the informal organisation • Major initiatives require more management attention than smaller initiatives • Blame culture rather than learning culture evident	KDG, HD (in papers and reports)
Filming → Experiential	• Details of locations, contacts, remits • People with interest in commercial activities • Physical areas of the university that could provide an experiential service product	Through KDG
Filming → All other initiatives	Value of "Lessons Learned" meetings and distribution of learning points to all people concerned	Through KDG
Experiential → Emergency	• PM for each initiative and sharing labour is necessary • All members of a group need to contribute (not just one person doing all the work and all the others are decision makers) • Areas and "who knows what" identified • Cross functional meeting work as learning meetings	Through KDG
Heritage → Risk and Overall	• Acceptance that a "Plan B" is needed • No appropriate expertise, consultants can produce flawed BMs - no resources to check them • Senior management support needed for high profile initiatives to sponsor them and remove barriers	KDG, HD, Accounting Manager

Transfer of Learning (when)	What learning was transferred to later interventions?	How was learning transferred?
	• Learning potential	
Emergency → Risk & Service Level	A Policy document is similar to a business plan but does not need to contain any financial information	KDG
Risk → Emergency	• Senior Management attentions is essential when senior managers are gatekeepers, until then only getting by with self-management – high risk • Highlighted lack of structure resources and need to change policy	KDG
All MEN initiatives	Costs for new services usually absorbed in existing structure so the additional costs are not known (Cost/benefit analysis)	KDG
All MEX initiatives	Institutionalising learning (Crossan, 1999) – commercial directorate and commercial strategy	Through, OD, KDG, papers and **documentation** on previous initiatives, face to face meetings

HD = Hospitality Director OD = Operations Director, → Learning transferred

Figure 33 summarises the transfer of learning in a matrix format. It indicates for example that learning was transferred from the Café intervention to Filming, Experience and Heritage. It also shows that learning was transferred from MEX NSD (Filming) to MEN NSD (Emergency). This summary matrix illustrates that the movement and mobility of NSD actors is an effective way to transfer learning, in particular in NSD which is characterised by informality and emergence. Also, structural learning mechanisms take time and resources to implement, and organisations operating with limited resources may benefit from the application of NSD actor mobility.

To \ From	CA	FI	EX	HE	EM	SL	RI
CA							
FI	x						
EX	x	x					
HE	x	x					
EM		x	x				x
SL					x		
RI				x	x		

Key: CA: Café, FI: Filming, EX: Experiential, HE: Heritage, EM: Emergency, SL: Service Level, RI: Risk
X = Learning carried forward

Figure 33: Transfer of Learning to Subsequent Interventions

7.4.4 Organisational Learning as the Institutionalisation of University Capabilities, Processes and Structures

As indicated in section 7.4.2.2 and Table 41 (learning for them), after the research timeframe for MEX interventions, the institutionalising process took place. NSD actions were routinized. This institutionalisation is a means for organisations to leverage the learning of the individual members (Crossan et al., 1999). Structures, systems, and procedures provide a context for interactions. Another Commercialisation group was formed including many high ranking internal officers and external advisors. This Group produced another paper, including our proposals and further details on financials and input from external advisors. Following the presentation of that Paper to the university Board the go-ahead was given to put structures (a Commercial Directorate) and processes in place to embed commercialisation into the university.

With the setup of the new commercial directorate capabilities in relation to *formal operations* resources were strengthened. New commercial staff was hired also. “Counterproductive” *informal* working arrangements, communication modes and networks are now less effective in obstructing commercial initiatives, as the successful implementation of MEX interventions is now part of the researched university’s history. Also, new formal operations resources i.e. the commercial directorate allow for providing more management attention to MEX interventions.

Organisational learning was also institutionalised in MEN interventions, for example through the development of a Filming policy, an enhanced Emergency Response Policy and a new SLA for external academies (Service Level intervention).

Figure 34 depicts the learning on individual and organisational level as an outcome of engagement in the NSD task, the application of learning mechanisms as well as the transfer of learning to subsequent projects.

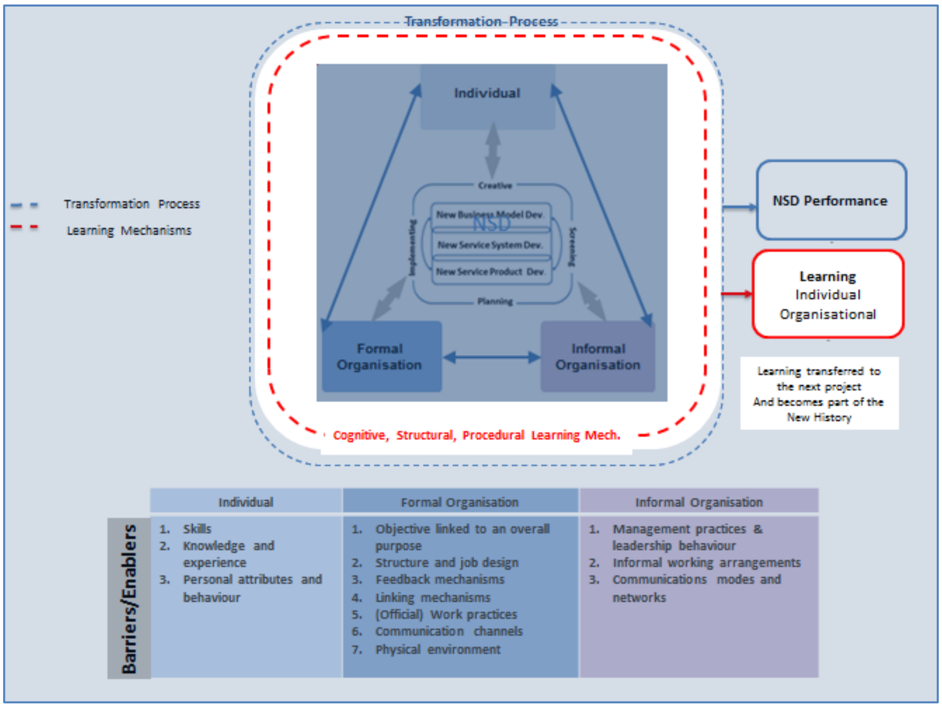

Figure 34: Managing NSD and Learning

7.5 Summary and Conclusion

In Figure 35 I depict the final version of the framework for managing NSD, as derived from my critical analysis of observations made in the preceding sections. The previous versions included:

Figure 27: NSD Dimensions, Sequence and Actions
Figure 28: Managing NSD and the Individual Operations Resource
Figure 29: Managing NSD and the Formal Operations Resources
Figure 30: Managing NSD and the Informal Organisation
Figure 31: Managing NSD and the Three Operations Resources
Figure 32: Managing NSD and Linking Operations Resources
Figure 34: Managing NSD and Learning

In each of the following paragraphs I summarise the analysis to demonstrate how the framework evolved.

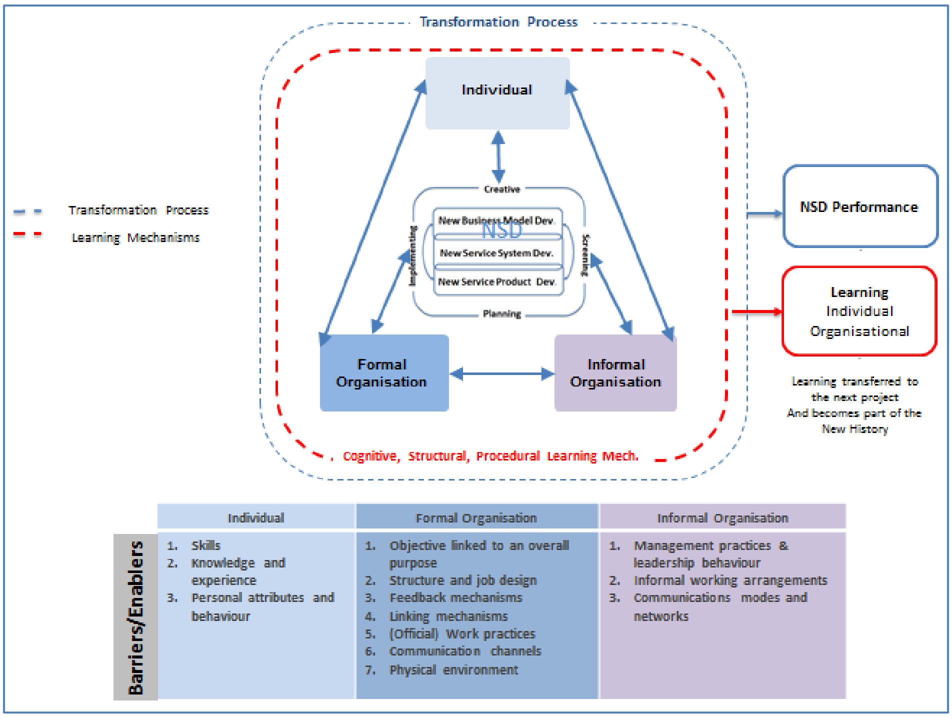

Figure 35: Framework for Managing NSD

In Section 7.3.2 I demonstrated that NSD entails 3 NSD dimensions, New Business Model, New Service System and New Service Product development, with either a major or a minor emphasis. The development of these NSD dimensions is iterative and overlapping as shown in the centre of the framework. We, the NSD actors, carry out a multitude of different types of action (creative, selecting, planning implementing), at different NSD process dimensions.

However when carrying out MEX NSD actions, we encountered higher levels of variability, unanalysability, heterogeneity and unknown interdependence.

In Section 7.3.3 I demonstrated that we encountered barriers and enablers in relation to three operations resources. In MEN interventions fewer barriers emerged than in MEX interventions, illustrating the contingent nature of NSD and that the service type matters. The components of each of the operations resources in evidence are shown in the framework and described in the preceding sections.

In Section 7.4 I showed that for overcoming barriers and developing enablers, we, the NSD actors linked operations resources, we learned on individual and organisational level, applied learning mechanisms and transferred our new knowledge to subsequent interventions. Our new knowledge was also institutionalised in the researched organisation and transferred by me to the wider scholarly community.
The framework for managing NSD which evolved over the course of this study is at the heart of the contingent perspective of NSD, as shown in Figure 36. Figure 36 depicts that whilst the NSD type (MEX or MEN) mediates the outcome/performance of NSD, the construction and interpretation of the task system plays a moderating role.

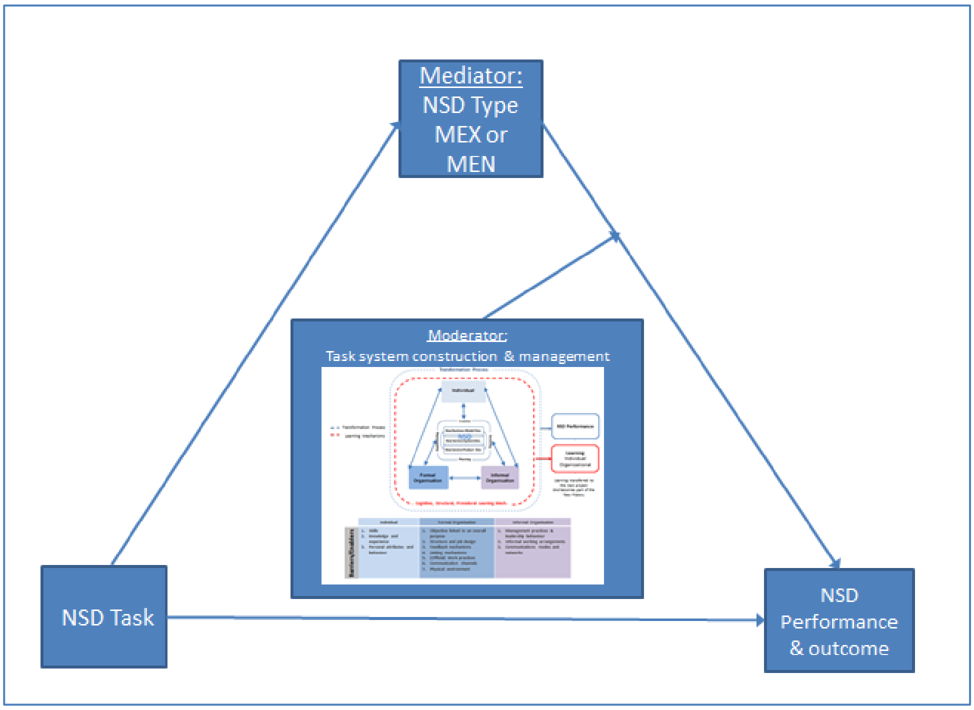

Figure 36: NSD and the Moderating Effect of Task System Construction/Management

7.6 Conclusion

Following on from the individual intervention description and analysis, I drew together my observations and critically reflect on the research content. Firstly I critically analysed the differences between MEX and MEN interventions in terms of their complexity, applying a contingency perspective to NSD. Secondly I demonstrated the development of the framework for managing NSD, comparing and contrasting MEX and MEN interventions. In each subsection I showed with an edited version of this framework how it evolved with each step of the analytical work, applying the sub research questions and as such mirroring the analytical process applied for individual interventions in Chapter 6.

Chapter 8 - Research Process Experiences and Critical Reflection

8.1 Introduction

In this section I critically reflect on the *process* experience of this research work. Firstly I address challenges as experienced in the context of first person, then second person and then third person AR research. Thereafter I critically reflect on the challenges and responses in the context of an administrative bureaucratic and an academic collegial structure in the same organisation.

8.2 First Person AR Research (Practice and Reflection)

In Chapter 5 I outlined what first person AR research means (what the consequences are) for me, in particular in relation to the following points:

- Preunderstanding, personal and professional development
- Role duality and role conflict
- Actions in relation to others e.g. power, politics and organisational ethos

I reflect on these topics in the following three subsections.

8.2.1 Pre-understanding, Personal and Professional Development

A disadvantage of pre-understanding is that researchers may not see critical items as they are too close to the subject area of study (Holian & Coghlan, 2012). It helped me that I had been working in a private multinational organisation, for 11 years, where the organisational structure, the "way of doing things"; strategies and operational priorities were very different from the ones of the researched organisation. This prior experience enabled me to contrast many aspects of the current research field, as I had experienced different ways of managing service operations and developing new services. Yet, as outlined in Appendix H, I had to reconsider the applicability of my personal and professional skills. For example, my view (pre-understanding) of how NSD initiatives in the university should be managed changed as a result of my interventions and their outcomes. For example, I realised that I was naïve to think that being an experienced project manager and having the support from senior officers in the researched university is enough to guarantee a smooth implementation of new services (personal development). My skills and knowledge about NSD in the private sector had only limited application (professional development). My overall project management and financial skills helped me to gain credibility, but then I had to depend on the support of my colleagues to implement what was planned (personal/ professional development). I had to acquire and apply political skills as I explain further in a later section.

8.2.2 Challenges of Role Duality

Role duality is characterised by competing commitments. Insider action researchers may find themselves caught between organisational loyalty, past and present role relationships and problem identification (Holian & Coghlan, 2012). This meant for me that on one side I had to be mindful of my operational relations with my manager, my peers and co-workers involved in the core action research project and their priorities. On the other side I had to ensure that, through the thesis project, I contributed to knowledge, applying rigour, e.g. asking probing questions. These questions included for example the basis on which certain decisions were made. The questions may have threatened operational managers, as some decisions on courses of actions were made on personal preferences (e.g. the Filming intervention).

Furthermore, applying the rigour of doctoral research takes time, which may have been seen by operations managers in conflict in operational project management where outcomes are assessed in terms of meeting timelines, costs and (operational) quality objectives, rather than the contribution to knowledge.

Separating these two roles in space and time helped me to deal with this conflict. I worked in my operational role in the institution during the usual operational hours. I carried out my scholarly reflections at home, on the journey from my workplace to my home, after or before working hours, at weekends and during holiday periods. As I could retrieve all operational data remotely, access issues did not impede this arrangement.

Conflict arose when I was required to partake in academic – research enabling - work during the organisational role time and space, for two reasons, mentally and logistically. I found it initially challenging to switch from an action oriented mind-set to a reflective mind-set, while I was still on my organisational space–time, i.e. switch from the core action research project to the thesis action research project. Logistically, I had negotiated activities with my manager time to attend thesis action research, as I would always make up the time that I needed to attend research meetings and seminars. When the organisational environment became more volatile, those agreements were challenged and I had to renegotiate arrangements.

The context of my thesis work was that of carrying out the research work and holding my operational role at the same time. The purpose was to combine the two skillsets, to become a reflective practitioner (Schon, 1991), to be both a highly skilled practitioner and scholar. My endeavours were initially obstructed for the following reasons:

- My own perception of the organisational ethos: I felt that I was disadvantaged in the scholarly domain. Due to conflicting academic and administrative timetables, it was not always possible to partake fully in some academic seminars and workshops, as full-time students would be able to.
- Remarks made by senior administrative managers about my dual role gave me some insights about how multiple roles might be viewed in the university:

  "*We have the rule here, one person, one job"*, (when I asked a senior human resources manager if there are roles in the institution where I could combine managerial and academic work)

  "Your manager may ask where you add value" (When pointing out that I may actually add value to my operational role having researched new service development in the university sector for a number of years)

- Further, many "of the cuff" remarks made by administrative staff about academic staff and vice versa, gave me the impression that I was dealing with "two tribes" who did not appreciate each other's contribution to the university. Initially I did not comment on these remarks, but as I became more comfortable in my dual role, I defended the staff that was commented upon by explaining the context of their actions.

As the research project progressed I learned to switch between roles more quickly and used the practitioner and researcher skillset in a more complementary way, without the time and space separation which was noticed and valued by operations managers in different areas of the university.

After the seven interventions were completed, my formal work role also changed, as the operational side of the university underwent a large scale organisational change programme. In my organisational role I was frequently asked to take on advisory and project management roles in different departments, as my knowledge of service operations, versatility and ability to adjust quickly to new teams and situations was appreciated. Similar to what Roth et al. (2007) describe, a new role emerged, that of an internal NSD consultant. Rather than being an "OR" person researcher *or* practitioner I became an "AND" person researcher *and* practitioner.

Carrying out the organisational and researcher roles required different skillsets. Wearing my managerial hat, I had to carry out planning, organising and development actions, using skills I had acquired in my 20 year long career in service operations management. Wearing my researcher's hat required reflection and theorising, a skillset that I acquired during the course of conducting the thesis research project. However, I found the newly acquired "reflective" skillset complementary to my "managerial" skillset, in particular during the later years of my thesis research, when the core action research project was completed and I had moved to different areas in the university. These scholarly skills improved the speed with which I could gather, analyse and make sense of vast amounts of data, produce reports and make proposals to senior operations managers within the university. Feedback from senior managers suggested that they valued my creativity and input into operational change interventions, as I was able to detect opportunities where "experts" did not see any. For example, when involved in implementing a human resources service level agreement, the suppliers of a human resources system did not see a possibility to assess responsiveness. Taking a fresh approach I was able to implement responsiveness assessments to the surprise of the system's suppliers.

As Coghlan and Brannick (2014) point out, the researcher – manager works to enact change in their own organisation. At the same time their action research approach enables rich insider accounts of their work and valuable understanding of what it is really like in organisations. When interventions are completed, actors would usually move on to the next task, often without evaluating what worked well and what did not, without conscious learning of the individual and the organisation. Applying the rigour of IAR in this research work, learning was captured on individual and on organisational level. In a busy environment commitment for planned action may sometimes be forgotten, as priorities change. However, as illustrated, in the IAR domain, all planned actions are rigorously following up and the action taken, or not taken, highlighted and then evaluated. IAR rigour demands comprehensive data collection and generation, democratically solicit views from stakeholders, including opponents. This approach enhances the quality of decision making and avoids action being planned based on "hunches".

8.2.3. Organisational Ethos, Power and Politics Affecting the Study, Impacting on Progress and Outcomes

In this section I illustrate how power and politics and the organisational ethos that affected the study impacted on the way it progressed and its outcomes. Thereafter I evaluate critically the political enabling tactics I applied to overcome political barriers and draw conclusions. As presented in Chapter 5, power, politics and the organisational ethos play an important part in developing new services.

In the next two sections I critically analyse how the application of power and politics influenced MEX and MEN NSD interventions. I explore the sources of power applied at the individual (IN), the formal organisation (FO) and the informal organisation (IO) levels (Tushman and Nadler,1986).

8.2.3.1 Power, Politics and Organisational Ethos affecting Mission Extension Interventions (MEX)

Appendix J illustrates that MEX related activities were seen as outside the core mission of the university and challenged by many individuals in the university who applied their sources of power and as such acted politically to stop the interventions from progress. This phenomenon occurred for example in the Café intervention. Many individuals objected indirectly or directly to what they perceived as the “commercial” and highly visible Café. It would interfere with organisational ethos of the university (IO) and it would impact on the iconic beauty of the surrounding buildings (FO). Indirectly, they asked representatives of estate committees to object to the Café plans (FO). Directly, some individuals used their own status in the university (IN) to put weight to their objections.

Even though the OD had deemed the Café as a viable option to generate commercial income her power (and by extension mine and that of the Commercialisation Group) derived from her formal positon as OD was not accepted. Our endeavours to generate commercial income were seen as in conflict with the organisational ethos (IO). My position as commercialisation project manager was compromised in all MEX interventions. In response, I had to apply a number of tactics to drive the interventions forward. These power and political tactics are outlined in section 8.2.3.3.

8.2.3.2 Power, Politics and Organisational Ethos affecting Mission Enhancing Interventions (MEN)

MEN interventions did not receive as many objections as MEX projects as Appendix J illustrates. Two of the MEN interventions (Emergency and Service Level) were implemented with no or little delay. However the Risk intervention was different. While all administrative functions reporting to the OD implemented risk management, the formal power of the OD (and by extension mine) was not accepted by Faculty Deans and Heads of Schools. The bureaucratic structure of administrative departments did not extend to academia. The collegial structure requires consensus in decision making which I was not able to obtain during the thesis timeline.

8.2.3.3 Applying Political Enabling Tactics in Order to Overcome Political Barriers

As Appendix J indicates my position as NSD manager was compromised in six out of the seven interventions due to power distribution and politics. These interventions were the Café, Filming, Experiential, Heritage, Emergency and Risk interventions.

In order to achieve a successful core project outcome I had to apply a number of political tactics to overcome the barriers resulting from political actions. These were:

- Reframing MEX initiatives as MEN Initiatives
- Taking on different roles
- Being persistent and resilient
- Applying formal power under consideration of its challenges

These enabling tactics are further illustrated and analysed in the next sections.

Reframing MEX Initiatives as MEN Initiatives (IO)

As I had learned that interventions would gain more support when the purpose was for the university's common good (For example the Emergency intervention, protecting the lives of students, staff and visitors), I would emphasise the common good in all interventions. The purpose of commercial interventions would usually be to generate income, which was considered as being contrary to the institution's ethos. The "common good" purpose was to enhance university autonomy, as these funds had "no strings attached" and academic activities could be carried out without approval of the Government or private funding sponsors. Funds could be spent to implement enhanced student welfare services, such as Student Health and Counselling Services.

Taking on Different (Political) Roles (IN)

Roles are building blocks of a social system in terms of position and requirements (Katz & Kahn, 1966). Further, roles are socially constructed (Coghlan & Brannick 2014). Applying different roles to implement change is referred to as being a Political Entrepreneur by authors such as Buchanan and Badham (2008) and Coghlan and Brannick (2014). In order to facilitate the development of new service and ensure the implementation of the new projects I took on different roles (Coghlan & Brannick, 2014) to facilitate the service development.

As **Project Manager,** I used my reputation as an intelligent, competent and hardworking manager who had the interest of the university in mind to gain support. With persistence and determination I kept all interventions on the agenda and addressed objections, negotiated support, made deals, and withdrew from projects as necessary to achieve an outcome that we (the project team) viewed as favourable for the university.

As **Facilitator,** I facilitated meetings, information exchanges and discussions, coordinated efforts as Group Secretary (Emergency, Risk).

As **Adviser**, I advised in financial and budget matters (Café, Filming, Experiential), a skill that was highly valued, as most members of the teams had limited financial skills.

My role as **Conveyer** included conveying information to and from the HD, the OD and the Planning Group (All interventions).

As **Legitimiser** and OD Representative I defended the Project Groups and their actions (All interventions).

As **Pacifier** I addressed concerns and protests (Filming).

As **Gatekeeper** I provided information available from external companies, universities and companies (Filming, Experiential, Emergency).

The roles I applied to successfully implement new services had the character of collaboration and support, rather than a hierarchical or formal character.

Being Persistent and Resilient (IN)

As illustrated in Appendix J, persistence in combination with resilience enabled me to progress NSD. Holding the position of project manager or group secretary I kept NSD initiatives on the agenda, even though the directors in charge of specific NSD initiatives did not “push” their designated NSD projects forward. This phenomenon is illustrated for example in the Café initiative:

The Café initiative took 24 meetings over 17 months to be implemented. Resilience also helped me to deal with setbacks. Many actors opposed the Café initiative and I had to address all objections in a creative and intelligent way.

Application of Formal Power under Consideration of its Challenges (FO)

My position as NSD project manager and manager of the OD Office gave me access to privileged information. As the OD wanted the projects to succeed, all her subordinates had to support the initiatives also. This helped me to gain *espoused* support, which - as Appendix J shows - was not always identical with *real* support. Therefore the application of formal power, whilst helping to gain initial support such as assigning staff for project teams and access to information, may not be sufficient to carry NSD interventions through to implementation, without the application of power derived from personal attributes an the informal organisation, working within the behavioural boundaries as determined by the organisational ethos.

8.2.3.4 Summary and Conclusion

For the researched organisation an organisational ethos embracing collaboration and consensus positively affected actors' propensity to, for example, share knowledge, make decisions based on consensus and plan and act collaboratively.

As the evidence in Appendix J and the intervention narratives indicates, the organisational ethos valuing and embracing academic activities such as teaching and research, but not MEX activities, may draw – in a time and resource constrained environment – attention and resources inadvertently towards what is valued – academic activities. As such actors tasked with MEX activities have to act out collaborative and supportive roles in order to gain support. NSD actors need to remain persistent and resilient. Formal authority is only useful in gaining access to (official) information and espoused support, rather than real support.

Overall, NSD adversaries applied their formal and individual power sources as well as the organisational ethos of the university to stop and derail the MEX NSD and some of the MEN NSD initiatives. On the other side, I too applied formal and individual power sources and the university ethos as an informal source of power as enablers to counteract these barriers. I had to work harder for MEX interventions.

The study indicates also that, whilst operating in the same ecosystem of formal and informal resources and individuals, in NSD given resources can be applied both as barriers to NSD and as enablers to NSD, depending on who is applying them and in what way. Considering the power sources in a traditional research university, implementing new services is particularly challenging without the link to the organisational ethos. It requires the flexible application of different roles, the skilled application of personal attributes, the association with holders of formal power and the re-interpretation of the overall purpose of an intervention.

8.3 Second Person AR Research (Practice and Reflection)

In Chapter 5 I outlined what second person AR research means, (what the consequences are) for me, in particular in relation to the following points:

- Ensure we work in collaboration, address a real life problem, find a workable solution, with joint meaning construction (content, process, premise reflection)
- My own observations will be tested and enhanced by including views and observation of my co-workers/ co-researcher and other participants.

For each intervention I formed and facilitated workgroups. We had regular meetings so we could address emerging issues, discussed potential solutions, ways to progress and agreed to action. In subsequent meetings we evaluated the outcome of these actions. Second person research brings out through content, process and premise reflection (combining my first person reflection with reflection of others) the contribution to the wider audience. In the four MEX interventions for example we had to admit that our workgroup approach to generating income for the university is not enough for larger and more complex initiatives, so we needed to implement a structure that supported our endeavours. In the Emergency (MEN) and Service Level (MEN) interventions we learned that a dedicated structure is not required. As such, in second person research we discovered in our practice and reflection barriers and enablers to NSD and what we had to do to overcome barriers and to develop enablers – we addressed the research questions.

Second person practice and reflection is addressed for each intervention in Chapters 6. Appendix H provides further evidence of my second person experience pushing my first person learning. In the Filming interventions for example I had sent a list of logistical tasks for filming group members to carry out. However, at the next meeting nothing was done. When I asked "why" there were a number of reasons, for example lack of knowledge who owns what building From then on I decided to have daily, short operational "stand up meetings", where logistical issues were discussed and solutions found in collaboration.

8.4. Third Person AR Research

In Chapter 5 I outlined what third person AR research means, (what the consequences are) for me, in particular in relation to changes in the system – the researched university.

8.4.1 Contribution to the wider University Community

With regard to third person AR research, contributing to the wider researched university community meant the development of a commercialisation strategy (based on practice and reflection in the Café, Filming, Experiential and Heritage initiatives). After the completion of the research project, a commercialisation directorate was formed. Third person AR also meant that an Emergency and Risk Management Policy were further developed and a Service Level Agreement for the Academy implemented. Further, some emergency group members and I held presentations for departments and groups about the emergency procedures, influencing the way in which the university might work in these areas of activity. Further details are outlined in Chapter 9.

8.4.2 Contribution to the wider Scholarly Audience

Transfer from first and second person practice and reflection to the wider scholarly audience happened also. Appendix H shows *the example* of contributing to knowledge "what *barriers* to NSD are evident in a publicly funded university" as a part of the overall research questions.

As I am responsible for the thesis AR project, I linked what we experienced and learned to existing knowledge and disseminated my work to the wider scholarly community through conferences, my dissertation and future papers as outlined in Appendix H and the contribution to knowledge as outlined in Chapter 9. As such actionable and relevant knowledge emerged through the interplay of first and second and third person mode.

8.5 Conclusion - First, Second and Third Person AR

The analysis of this research outcome illustrates that first person upstream and downstream inquiry is merged with second person inquiry. Merging the two views leads to solving a real life problem and knowledge gains in third person AR mode, based in practice and based on practitioners' reflection.

If I would have just interpreted my own views, for example analysed a case study and condensed my views into a thesis, backed up by data, only *my* interpretation of what happened in action would have been represented. In this study I demonstrated how my own first person research was enhanced by second person research which gave my research more integrity.
My interpretation of actions and experience was shaped over seven interventions and interaction with others. I got a deeper understanding about my NSD managing strength and areas for improvement. It also changed my practitioner "modus operandi" were action and implementation is central to what I do. I now see that the action/reflection combination enhances the quality of my action and implementation, and by that there are benefits for the NSD groups I facilitate and participate in.

8.6 Challenges/Barriers and Solutions/Enablers of Two Structures within the same Organisation

As presented in Chapter 2 the researched university entailed the features of a *professional organisation*, with emphasis on the *operating core* and its pull towards professionalisation, enhanced by the overall teaching and research *ethos/ideology*. The *support staff* part led by the OD had the features of a *machine bureaucracy* with its tight vertical lines and top down decision making. As this structure had been in place for many decades, the disadvantages of a *machine bureaucracy* were apparent and in many cases the sub goals of individual support staff services were in conflict with each other.

The following two sub sections provide example of challenges and solutions for MEX and MEN interventions.

8.6.1 MEX Interventions

When the Senior Forum *(strategic apex)* consisting of both senior academics and administrators decided to pursue commercialisation, the OD and leader of the *support staff* (*machine bureaucracy*) was tasked with leading the initiative. The OD appointed me to be the project manager of commercialisation (CPM) on her behalf. I then set up a cross functional Commercialisation Project Group. Academics were outside the remit of the OD and as such not included in the Group. The OD felt the mandate from the *strategic apex* was sufficient to support the commercialisation project.

The Café initiative is a typical example to represent the challenges of the "two structure ecosystem". The Hospitality Director (HD) situated in the administrative structure *(machine bureaucracy*) was formally in charge of all catering outlets. However, after the senior forum (*strategic apex*) had decided that income should be generated through commercial activities nobody was sure who had the decision making authority to sign off the Cafe NSD initiative. There were two Facilities committees in place; however they only met three times a year congruent with the academic year structure, too infrequent to make required operational decisions. In addition many other challenges emerged. Individuals from both the administrative and the academic structure objected to the planned café. A reason for the objections often quoted by adversaries to commercial interventions was the conflict between the academic mission *(ethos/ideology*) and commercialisation (e.g. resource allocation, the noise disturbing lectures). Within the administrative structure problems occurred as there were no liaison mechanisms in place, enabling the necessary collaboration between functions, also a point Mintzberg (1979) highlights. After a lengthy period of uncertainty of 17 months the OD made the decision to go ahead, but nobody in the university was certain if she had the authority to do so. Yet, the HD was satisfied with the mandate form his superior, the OD, and together with the commercialisation work group implemented the Café, without having the authority from the university–wide Facilities Committees. The long period of uncertainty and non-action could indicate that the non-commercial organisational ethos/ideology made us (the NSD actors) reluctant to proceed without a clear mandate from our superiors. We needed a clear mandate from the OD to let us override the existing organisational ethos/ideology.

Another example to demonstrate the complexity of the "two structure ecosystem" is the Filming initiative. The Vice President, a member of the academic structure, (*operating core*) made the decision that a specific movie production would go ahead. This was sufficient for the commercialisation work group, consisting of members of the support structure, accustomed to vertical top-down decision making. However, even after the decision was made I still had to negotiate support with all stakeholders in the support staff part, as their goals were in conflict with the Filming initiative. I had to address objections coming from academia also. Through verbal and written communication we linked the Filming initiative to the academic core mission of the university (to showcase the university as attractive to international students) which enabled us to gain an extra "pull" from the ideology/ethos part. The initiative was completed on time. Further evidence is provided in Appendix K.

8.6.2 MEN Interventions

As Appendix K illustrates, the Emergency Policy for example was put in place by the university Board in the *Strategic Apex* part. I was tasked by the OD with operationalising the university emergency response plan. When I asked all university staff for support by way of a mass email, individuals from both structures (*operating core and support staff*) volunteered to give support, as it meant to save lives during a university wide emergency. The project fitted into the organisational ethos *(ideology)* to look after students, staff and visitors and as such was not challenged.

The risk register was an audit committee requirement *(Strategic Apex)* and was seen by some influential members of the academic university community (*operating core*) as a "paper exercise". This view made it challenging for me to get time commitment from stakeholders to develop risk responses. Whilst the OD mandated the implementation, her mandate was only accepted in departments under her own remit, the *support staff*, accepting top down decision making. As such my endeavours to develop risk registers for academic departments were futile, as I did not get any meaningful support from them.

Within the research timeline the new risk management policy was approved by the University Board, but university-wide implementation is still outstanding. Yet, whilst not explicitly planned, a risk assessment is now added for all major university initiatives (administration reform, capital project planning process, commercialisation, academy service level agreement, emergency planning) which indicates a general acceptance by the entire university community that risk management is an important aspect of university operations, but developing a risk register is not seen as important. A *workable solution* was achieved even though academic departments *(operating core*) did not issue their own risk registers. Perhaps the conflict resulting from the *incongruence* between the two structures illustrates that tension and negotiation can result into at a workable solution, rather than a mandated option that remains unworkable and unrealistic. The organisational ethos (*ideology)* could perhaps be described as indifferent to risk management, but administering a risk register is seen as administrative – bureaucratic task, rather than an academic one. The roles and norms within which to operate guided by the organisational ethos is applied differently within the two structures.

Appendix K illustrates the challenges and solutions of all seven NSD initiatives which are concerned with the tension between the administrative structure *(Machine Bureaucracy)* and the academic structure *(Professional Organisation).* It also shows by whom the decision was made to implement a specific NSD initiative and who was tasked with the implementation. According to Pfeffer (1992) the ability to implement decisions is a critical capability in an organisation. The implementation of decision indicates if and in what way the two organisational structures within the university were a barrier/challenge to NSD and how the organisational structure may have presented a solution/ enabler.

8.6.3 Summary and Conclusion – Two Structures

In the researched university I had to work within a context that included two structures, without effective and pre-existing integrating mechanisms. The analysis of the NSD task indicates that an administrative structure and an academic structure within the same organisation presented both challenges and solutions. The organisational ethos (*ideology)* supported MEN initiatives. A link between the ideology and the NSD initiative was an enabler/solution.

Implementation challenges were overcome by “breaking rules” in uncertainty, re-interpretation in uncertainty, secrecy and abandonment, or using the tension between the two structures to allow for autonomous implementation. In the absence of linking mechanisms, frequent negotiation, persuasion and deal-making with individuals and groups enabled the NSD implementation, behaviours in the repertoire of a political entrepreneur (Buchanan and Badham, 2008).

It appears that for the most of the NSD interventions *uncertainty* was an enabler and offered solutions to overcome the challenges of the two structures, as there were no rules or policies in place that either allowed or prohibited a particular cause of action. Or as Mintzberg (1979, p 362) said:
"Power is, after all, gained at the locus of uncertainty". So *utilising uncertainty to one's advantage* may be an additional tool in the repertoire of a political entrepreneur.

8.7 Conclusion

In this section I critically reflected on the *process* experience of this research work. Firstly I addressed these challenges as experienced in the context of first person, then second person and then third person AR research. Thereafter I critically reflected on the challenges and solutions of the presence of an administrative bureaucratic and an academic collegial structure in the same organisation.

Chapter 9 – Conclusion and Opportunities for Further Work

9.1 Introduction

In this chapter I draw the thesis to a conclusion. Firstly I evaluate the accomplishment of purpose of the thesis AR and the core AR and projects. Then I reflect on the thesis project quality. Finally I outline the limitations of this study and, in conclusion, I propose further research directions.

9.2 Accomplishment of Purpose and Aims – Thesis AR Project

In this research work I addressed the questions: *What barriers and enablers to new service development are evident in the publicly-funded university; and how might the barriers be overcome and the enablers be developed,* was addressed. In addressing the questions, I made a number of contributions both to theory and practice. I explain these contributions further in the following sections.

9.2.1 Contribution to Theory

In the following sections I present the contribution to theory, guided by Boer et al. (2015), as noted in Chapter 1. The authors state that there is no right way of making a contribution to the applied science field of Operations Management (OM). However, theory is the fundamental engine that drives knowledge creation, but theory does not have to be the starting point, it can be a problem deriving from practice. The distinct contributions to theory under consideration of the research boundaries as presented Chapter 1 are critically evaluated in the following sections.

9.2.1.1 The Contingency Perspective of NSD

With this study I contribute to a contingent view on NSD. The underlying proposition is that the performance/outcome of NSD is contingent on the type of service to be developed. This relationship is moderated by the way the task system is constructed (based on the interpretation/construction by NSD actors of the environment and technical systems) and managed. The proposition is that service type matters, and MEX and MEN are fundamental service type distinctions. In this PhD study I illustrated to what degree NSD process dimensions, actions, the sequence of NSD dimension development and barriers and enablers are influenced by the type of NSD and moderated by the way the task system is constructed and managed (Figure 36).

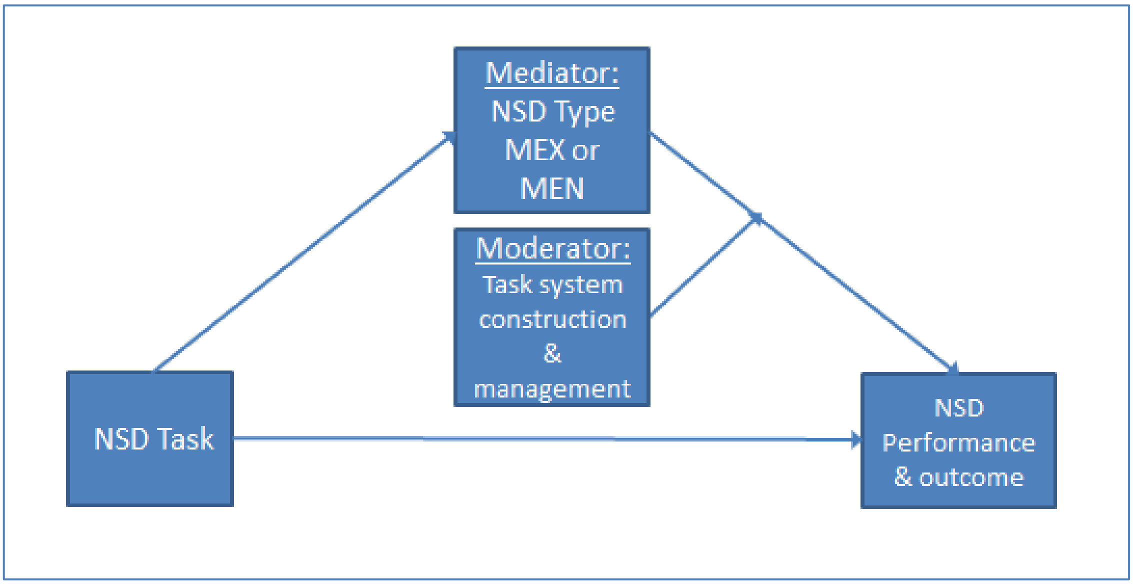

Figure 37: NSD Moderators and Mediators

9.2.1.2 Development of a Framework for Managing NSD

Many NSD authors have highlighted the need to understand better what really happens in NSD (for example Johnston, 2005; Menor & Roth, 2007; Santos and Spring, 2013). Also, NSD demands the consideration of the multidimensional features of NSD (for example Voss & Zomerdijk, 2007). In the cause of the research work I developed a framework for managing NSD in a university setting (Figure 37).

The Framework for managing NSD takes into account the dimensions of NSD, their emphases, the sequence in which dimensions are implemented and the actions performed by NSD actors to develop new services. The model also considers operations resources, their fit with the NSD task. It includes a learning perspective also. I explained and demonstrated the details of the framework and its evolution in Chapter 7.

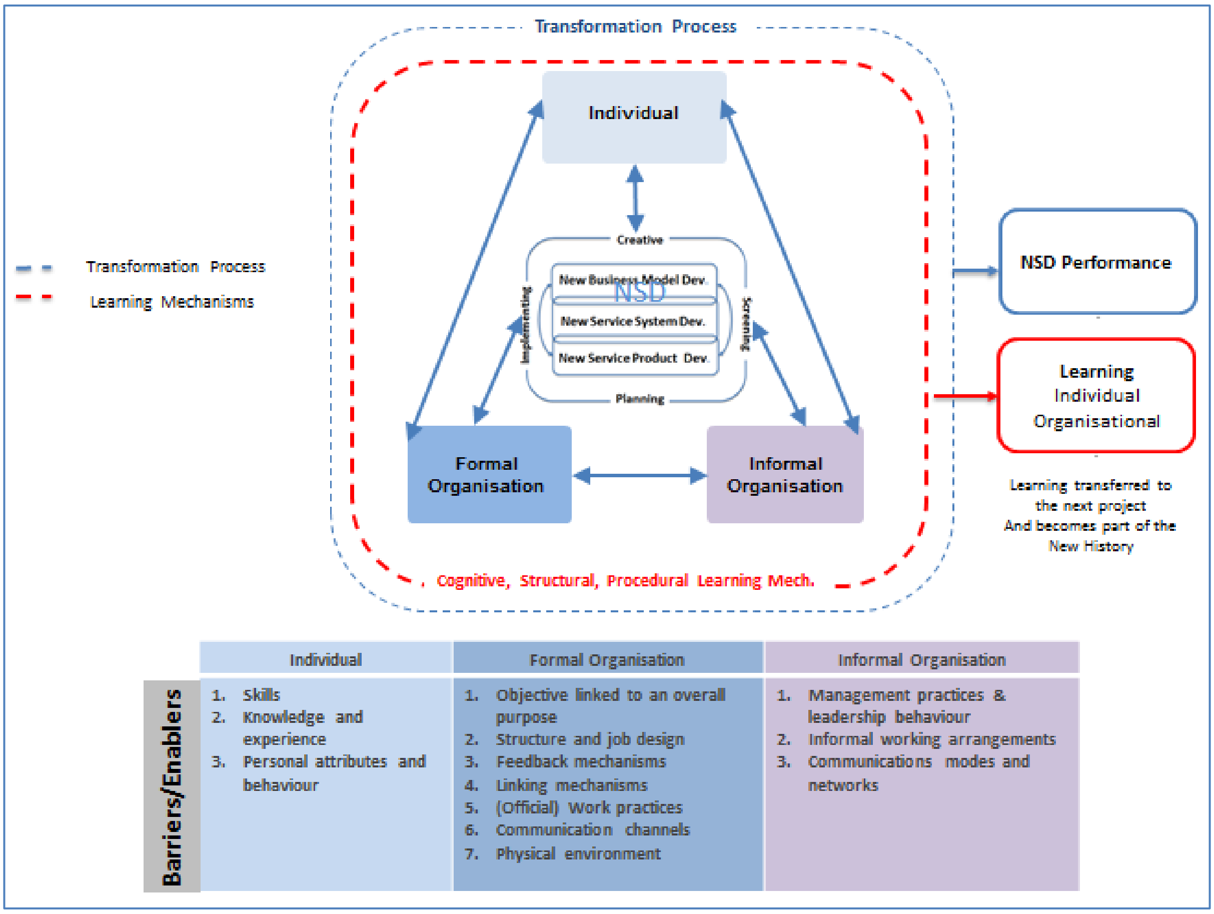

Figure 38: Framework for Managing NSD

This framework is at the heart of the contingent perspective of NSD, as shown in Figure 38. Figure 38 depicts that whilst the type of NSD (MEX or MEN) mediates the outcome of NSD, the construction and interpretation of the task system plays a moderating role.

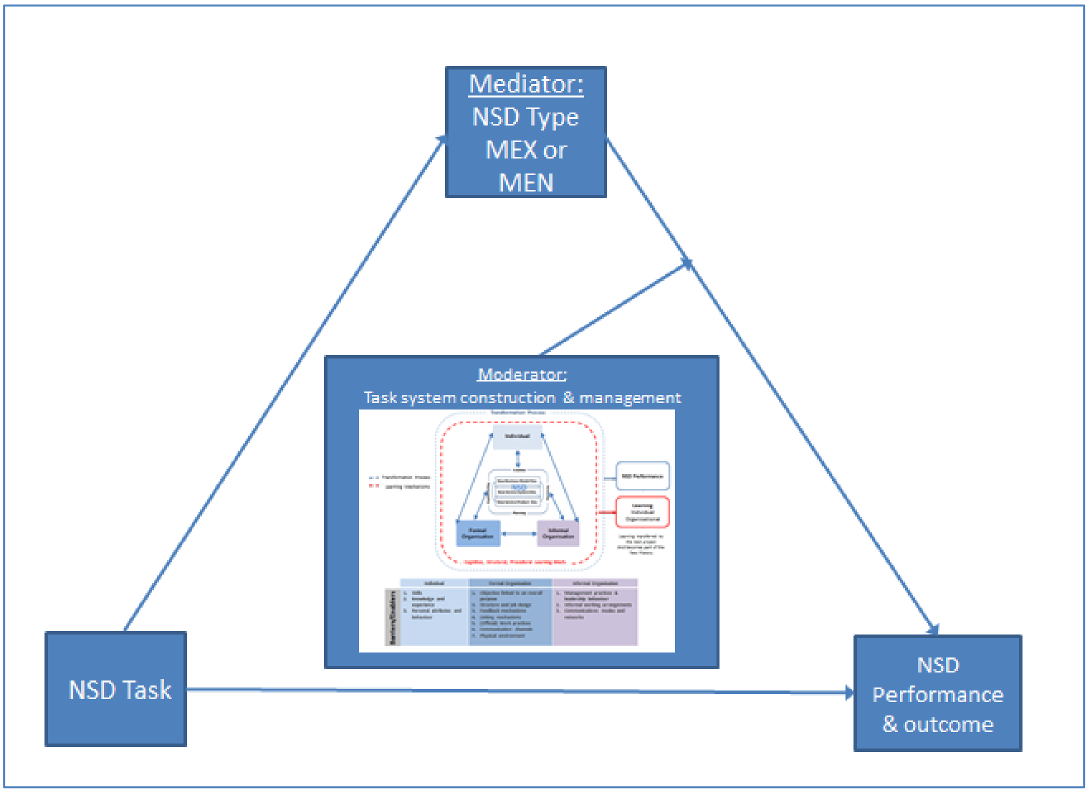

Figure 39: NSD and the Moderating Effect of Task System Construction/Management

9.2.1.3 Expand Knowledge of the Resources and Capabilities Perspective of NSD

Similar to Santos and Spring's (2013) assertion that to understand NSD, the distinctive relationship between operations resources and NSD needs to be investigated, I expand in this research work theory of the resources and capabilities perspective of NSD, as I investigated the relationship between NSD and operations resources and capabilities. In contrast to the Santos and Spring study (2013), I focussed on what actors in the NSD system ***do***, ***how they act*** to build capabilities in order to accomplish NSD. For overcoming barriers and developing enablers, we, the NSD actors, applied a multitude of strategies which were critically evaluated in Chapter 7.

9.2.1.4 Learning and NSD Capability Enhancement

As presented in Chapter 7, this PhD study contributes to the field of organisational capability theory (Börjesson & Elmquist, 2011). It illustrates that we as NSD actors, in the process of developing new services, developed NSD capabilities, by linking existing resources, applying learning mechanisms (cognitive, structural and in one instance procedural) and by learning on individual and organisational level. We transferred the extracted learning to subsequent NSD interventions. In the process of linking, learning and transferring what was learned to later interventions, we further developed NSD capabilities, indicating double-loop learning.

9.2.1.5 Resource Based View Application in the Publicly Funded University Sector

As presented in Chapter 2, there does not seem to be any literature on specific factors affecting innovation and NSD in the university sector. As presented in Chapter 3, in order to investigate the relationship between NSD and operations resources, the Resource Based View (RBV) (Barney, 1991) was applied to managing NSD in a publicly funded university. As presented in Chapter 4, the research model applied is consistent with Barney's (1991) RBV as it highlights the importance of resources and capabilities in the transformation process, i.e. the task system of NSD. Overall, I demonstrated in this research work that the RBV is applicable in the context of the publicly funded university also.

9.2.1.6 Insider Action Research Application

In Chapter 8 I critically evaluate the research process and application of IAR methodology. By applying IAR I demonstrated the relevance of action research for research in operations management (Coughlan & Coghlan, 2002). In particular, my application of the Zuber-Skerritt and Perry (2002) relationship model of core and thesis projects to IAR offers useful insights, especially in relation to first, second and third person AR research, the effect of power, politics and the organisational ethos on the study and role duality. In addition, I critically reviewed the three types of participant observation evident in this AR project.

9.2.1.7 Challenges and Solutions of Two Structures within the same Organisation

OM, SOM and organisation management literature suggests that the organisational structure matters and can be a barrier/challenge or an enabler/solution for NSD and service innovation (for example Mintzberg, 1979: Tushman and Nadler, 1986; Menor and Roth, 2008). In this study I illustrated that in the context of a traditional university with two structures present both challenges and solutions in relation to NSD emerge. In Chapter 8 I critically analyse them, offering not only insights for practitioners working in a similar structure, but also inform NSD theory by offering insights about NSD in a dual-structure context.

9.2.2 Implications for Practice

For the implications for practice I was guided by the "Guidelines for Implications for Practice" (Journal of Applied Behavioral Science, 2014) which argue that the implications should include a description of the issues addressed, the specific audience benefitting from the contribution, some recommendation for practice and descriptions of expected outcomes when carrying out the recommendations. Further, illustrations of what carrying out the implications might look like should be included. In accordance with these guidelines, I critically evaluate the implications in the next subsections.

9.3.2.1 Audience Benefitting from the Study

The study is of benefit to service operations practitioners, in the publicly funded university and in other similar resource constrained environments who are tasked with NSD. Whilst there are studies on change projects in the university sector (e.g. Allen, 2003; Nelles & Vorley, 2008; Kezar, 2009), as far as I am aware this is the first study addressing NSD in the university sector and what barriers and enablers may occur. My study contributes to the understanding of NSD not only in research terms but also in practical terms as I explain in the next section.

9.3.2.2 Recommendation for Practice

In this study I recommend the application of the framework for managing NSD as it will help to understand the informal and complex nature of NSD and how barriers and enablers to NSD might emerge. Further, the study provides insights as how barriers could be overcome and enablers developed, for example what tactics practitioners could apply when operating in a dual organisational structure such as in a traditional university. The study proposes the application of Insider Action Research (IAR) as a tool for harnessing organisational learning, capability enhancements.

9.3.2.3 Expected Outcomes when Carrying out the Recommendations

The application of the NSD framework helps service development managers to anticipate what barriers and enablers they may encounter in different types of NSD, MEX or MEN, and draw on examples how barrier overcoming and enablers developing capabilities may be created in a resource constrained environment. As such it helps practitioners to develop informed implementation plans including realistic resource requirements. They can apply aspects of the framework for managing NSD to better understand actions, NSD dimensions and the informal and complex practice of NSD and its effect on preconceived timelines and detailed action plans. Using IAR as a tool to manage the NSD process will help to harness organisational learning and capability enhancement.

As Coghlan (2001) points out, all managers need to be able to engage in experiential learning or action research and many action research elements contain work-based intervention elements. However, as the application of IAR in an OM environment is still very sporadic, there are only a few precedents to show of what carrying out this recommendation would look like. This study demonstrates however, that whilst challenging for the researcher-practitioner, IAR can be beneficial also for individual and organisational learning.

9.3 Accomplishment of Purpose and Aims - Core AR Project

As presented in Chapter 1, as the researcher I take responsibility not only for contribution to theory and practice, but for change also. Within the core AR project I commit to making tangible service enhancements in collaboration with NSD teams, for the researched institution, help to build enhanced NSD capabilities, contribute to strategic planning, facilitate the planning and development of new service processes and provide tools for overcoming barriers and developing enablers to NSD. I presented the change achievements for each intervention in Chapter 6 and summarised them in the next section of this Chapter.

9.3.1 Tangible Service Enhancements - Operational Outcomes

We, the NSD actors, achieved and implemented the operational aims as described and analysed in Chapter 6. The Café intervention was implemented with a delay of one year; Filming was completed on time, within existing resources. We developed a Filming policy. In the Experiential intervention service operations managers worked in collaboration for the first time, implemented new services within existing resources. A university experience strategic plan was developed one year later and a commercial directorate was put in place. During the core project timeline, we registered a Heritage brand. One year later the brand was developed and branded merchandise is now available in shops, in domestically and abroad. For Emergency Planning an emergency planning policy has been approved by the University Board. The Service Level intervention was approved and implemented with two months delay. The new Risk Register was approved, but university-wide implementation is still outstanding.

9.3.2 Contribution to Capability Development and Strategic Planning

As demonstrated, the research work helped to build new NSD capabilities. The outcome of the commercial/MEX interventions fed into the university's strategic planning and the development of a commercial unit. With the setup of the new commercial function capabilities in relation to *formal operations* resources were strengthened. Similarly, *individual resources capabilities* became more "NSD capable", as actors involved learned new commercial skills through engagement with a task. New commercial staff was hired also. "Counterproductive" *informal* working arrangements, communication modes and networks are now less effective in obstructing MEX interventions, as the successful implementation of MEX interventions is now part of the researched university's history. Also, new formal operations resources i.e. the commercial directorate allow for providing more management attention to MEX interventions.

In all of the MEN interventions the formal organisation was changed, as actors were reassigned to different interventions. As a consequence, none of the MEN interventions were developed further in the research timeline. This illustrates further the complexity of NSD: once the system changes the outcome changes also. However, actors who moved were able to transfer learning gained during engagement with the task to other areas. In a resource constrained environment the enhanced services were considered as resilient enough to serve the needs of the university at the time of writing the thesis. Further examples are provided in Appendix L.

9.4 Thesis Project Quality Assessment: Relevance, Rigour and Reflection

In this section I present the quality assessment for the overall thesis AR research work, in accordance with the quality criteria presented in Chapter 5, relevance, rigour and reflection

9.4.1 Relevance

Addressing the research questions: "*What barriers and enablers to new service development are evident in the publicly-funded university and how might the barriers be overcome and the enablers be developed",* is relevant to the NSD research community as well as to NSD practitioners, as I will demonstrate in this section.

9.4.1.1 Relevance to Theory

In 2015 NSD scholars still identify NSD an important but under-researched area in the domain of service operations as outlined in Chapter 2. Ostrom et al. (2015) for example propose that there is much to learn about the complexity of innovation in ecosystems as opposed to traditional research-and-development settings. NSD in a university setting represents one of these learning opportunities as further explained in the next sections.

Contingency Perspective of NSD

This study contributes to a contingent view on NSD called for by Sousa and Voss, (2008) and Ostrom et al. (2015) who suggest that the field of service innovation needs to develop more ‘‘contingency theories".

NSD Framework

Biemans et al. (2015) critiqued that in extant literature NSD frameworks are based on NPD research. Resulting from combining extant NSD and innovation literature and the critical evaluation of the research work, I developed a framework for managing NSD, as shown earlier in this Chapter.

Capability Development Research

The study is relevant to innovation capability development theory as referred to in Chapter 4, (Börjesson et al., 2014) by providing insights derived from an empirical study of how organisational capabilities for NSD are developed in a university setting.

Transformative Services Agenda

The research takes place in the university sector which provides transformative services. Ostrom et al. (2015) identified as a priority for service research to investigate how service innovation could be stimulated in particular in the field of transformative services.

Action Research Application

The application of AR has been called for in studies by for example by Ostrom et al. (2015) and Biemans et al. (2015), to better understand the intricacies of service development. This thesis research applied AR, in particular IAR and illustrates that the application of AR can discover what "really happens" in NSD.

9.4.1.2 Relevance to Practice

In this section the relevance to practice is outlined, to the researched university as well as to other practitioners engaging in NSD.

Relevance to the Researched University

As Chapter 6 outlines, actors involved in the development of the new services (a real life problem) and service stakeholders participated in workgroups. In every intervention meaning was constructed jointly. Six out of the seven interventions produced workable solution during the research period and the seventh intervention is implemented at the time of writing the thesis. The research work also showed that through task engagement, individual and organisational learning in relation to NSD took place.

Relevance to NSD Practitioners

The model for managing NSD provides insights not only for the NSD research community but also for NSD practitioners as it demonstrates what really happens in NSD, is based on NSD research (rather than NPD research) and derived from a longitudinal IAR study conducted by a researcher-practitioner who directly experienced the challenges of NSD. The study also provides an example of how NSD capabilities can be developed in a resource constrained environment.

9.4.2 Rigour

Rigour in AR refers to how data are generated, gathered, explored and evaluated, how events are questioned and interpreted through multiple action research cycles. In Chapter 5, in particular in Figure 5, I illustrate how *Institutional ethics principles apply* i.e. the overall University Ethics Policy (2009). I also illustrate the rigorous application of *general research principles* of respect, beneficence and justice.

In Chapter 6 I provide details on the overall research methodology and how the research strategy was implemented.

The research work followed the steps of AR cycles described by Coghlan and Brannick (2014) as constructing, planning action, taking action and evaluating action. It enquired in *real time* into a new service development programme, recording and evaluating actions as they happened. As the researcher-practitioner I linked interventions practically and analytically and as such linked the core with the thesis action research project. I linked first person research with second person research and through that process third person research evolved.

The research strategy consisted of carrying out MEX and MEN interventions, comparing and contrasting MEX and MEN NSD and critically evaluating the observations made. Seven constructivist interventions over the period of two years and eight months were conducted. My co-workers/co-researchers and I generated and collected data from meetings of project groups and subgroups, conducted semi-structured interviews with university staff and managers from other organisations, collected emails. I summarised my own observations and maintained reflection logs, gathered media publications, collected minutes of relevant meetings and other official university memoranda. The analytical process followed a set routine which was applied to all interventions and was linked to the research questions. During the research work the research framework evolved to take account of different aspects and complexities relating to the research questions.

Each intervention analysis consisted of several analytical steps. I brought together patterns of behaviour, incidents and key events. I identified key themes by moving iteratively between data and literatures, linking the core project with the thesis project. As the researcher-practitioner I was an active participant in both projects.

9.4.3 Reflection

Reflection is the process of stepping back from experience to process what the experience means, with a view to planning further action. Of relevance is Coghlan and Brannick's (2014) use of Mezirow's (1991) three forms of reflection - content, process and premise - in an action research context. These forms of reflection are explained in Chapter 5. As the thesis AR project shows in particular in Chapters 1 and 7 the c*ontent* is the context of this study, a mature, large university and the seven interventions I selected to investigate NSD. I reflected, learned about my own practice, paying attentions to observable data, questioning data sources and challenged assumptions.

Reflecting on the *process* of the study showed that the research process produced both knowledge for theory and practice, the researched university and general NSD practice

(Chapters 8 and 9), conveyed through writing this thesis document, presenting the research work verbally at conferences to the academic community, as well as in future contributions in academic journals.

Reflection on the *premise* reveals the assumptions in relation to the thesis AR project: The thesis AR project was driven by perceived knowledge gaps, to find out what really happened in NSD, how NSD capabilities are really developed and how IAR can be a valuable tool to develop NSD capabilities. The outcome of reflections and critical evaluations are captured in this thesis.

9.5 Limitations of this Study

As I outlined in Chapter 1 there were a number of limitations attached to this thesis research. Firstly only one well established traditional research university in the public sector was researched. Newer, more modern universities may have a different approach to implementing MEX and MEN interventions. It remains to be tested how the model for managing NSD would be applicable in the context of a more modern university also, and if the same operations resources and their categories are applicable.

Secondly, my research work does not explain how external factors such as the university's history, environment and customer co-production affect NSD within the researched university directly, only by proxy, through the NSD actors and other components of the system. As such, external factors are constructed by the actors in the transformation system.

9.6 Further Research Directions

Resulting from the data analysis and research findings, a number of themes emerged that require further investigation so that the implications for NSD management can be fully understood. These research directions are presented in the following sections.

9.6.1 External Factors Affecting NSD in the Publicly Funded University

In Chapter 1 I presented how the regulatory environment affects the university's ability to generate independent funding. Further research could investigate how the regulatory framework of publicly funded universities restricts or enables NSD and how it could be adjusted to facilitate the generation of university self-generated funding through NSD. As I remarked in Chapter 2, there does not seem to be any literature on specific factors affecting innovation and NSD in the publicly funded university sector. However, according to the Estermann and Pruvot report "Financially Sustainable Universities II" (2011), a university's ability to generate additional income relates to the degree of institutional autonomy granted by the regulatory framework in which it operates (Chapter 1). In extension, developing new services to generate additional income also relates to the degree of institutional autonomy granted. Table 44 reflects examples of non-academic university generated funding source options. It includes funding sources quoted in existing literature and in its last column the funding sources presented in this thesis research.

Table 44: Non-Academic Funding Sources in Universities

Clark 2001	EUA 2011	Grant Thornton 2014	Dreyer-Gibney 2018
• Endowment and investment • Earned income from campus services ranging from hospitals to bookshops • Alumni fundraising • Royalty income	• Contracts with the private sector (mostly research contracts, but also for education-related activities), philanthropic funding, • Provision of services (consultancy, hiring out of facilities, residences, catering, libraries, museums) • Financial activities	• Alumni fundraising • Asset optimisation (effective deployment of the physical infrastructure e.g. space usage) • Alternative funding sources e.g. private equity investment, annuity funds)	• Commercialising services delivered to visitors, staff and students (Catering) • Branding of university related products • New retail units and visitor services • Enhancing existing services • New services (Filming, shows)

9.6.2 Application of the Framework for Managing NSD

As Ostrom et al. (2015) advocate, stimulating service innovation and development is a priority in service research, in particular in transformative services. The researched institution is a publicly funded, traditional research university offering transformative services, i.e. education. Further research could focus on investigating how the framework for managing NSD, developed in this study, can be applied to other services within the researched university, other types of universities, other educational institutions and other transformative services in general.

9.6.3 NSD Barrier-Overcoming and Enabler-Developing Capabilities

As my thesis research demonstrated, enablers in mission extension (MEX) interventions can be barriers in mission enhancing (MEN) interventions, and vice versa. Management practices and leadership behaviour for example are important for MEX interventions but not as important for MEN interventions. Similarly, actors' personal attributes and behaviour determine the outcome in MEX interventions more than in MEN interventions. Further research could investigate these phenomena in the context of other organisations, in view of establishing what capabilities the individual, formal and informal operations resources need have in order to fit to a specific type of NSD, in a different organisation.

9.6.4 The Dimensions of NSD

The NSD dimensions I selected for categorisation purposes (Chapter 4) were new business model, new service system and new service product development. Understanding the inter-relationships of these three dimensions, also identified by Ostrom et al. (2015), is a strategic research priority for the field of service innovation and service development. In the context of a publicly funded university, the NSD dimensions were developed in an overlapping and iterative way. Further research could investigate if similar inter-relationships can be found in other organisations, or if they differ.

9.6.5 Capability Evaluation

In this study I critically analysed how NSD actors developed NSD capabilities. Further research could investigate how different levels of NSD capabilities could be assessed in view of developing an NSD capability maturity model.

9.6.6 The Value of Insider Action Research to the Organisation

As I highlighted in this research (Chapter 8) the application of IAR, whilst being an effective learning mechanism, can be challenging in particular in relation to role duality and managing organisational politics. The application of IAR requires the assignment of resources. In a resource constrained environment NSD managers need to make choices where to invest resources for value creation. The ability to measure the value of IAR to the organisation both as a learning mechanism and capability development enabler could be another area for further research.

9.6.7 The Application of Language – Core and Thesis Project

As I indicated in Chapter 8 differences were detected in the use of language between the academic and the administrative side of the university. Further research could investigate different language application in the core and action research projects and as such extending the Zuber-Skerritt and Perry (2002) relationship model for core and thesis AR projects.

9.6.8 Scale Development for Major/Minor Newness in NSD Dimensions

This initial simple count of NSD dimension elements applying a nominal scale can be considered as an explorative analysis or first step for developing a reliable scale for newness. In further research the reliability of a newness assessment scale could be improved by applying an ordinal, interval or ratio type scale (Forza, 2009). A reliable "newness" scale for service development could help NSD managers to anticipate potential issues with initiatives they are tasked with and prepare resources and support accordingly.

9.6.9 NSD as a Complex Adaptive System

Authors such as Maglio (2007), McCarthy et al.(2006) and Hartley (2013) advocate that NSD and NPD may be viewed as a complex adaptive system (CAS). This study has shown that NSD in the university contains many features of a CAS, such as emergence and unpredictability. Therefore the application of complex adaptive systems theory to NSD in the university may offer opportunities for further research.

9.7 Summary

Today universities operate in an exceptionally difficult funding environment and in a context, characterised by financial constraints, state imposed restrictions on critical strategic and operating issues and at the same time rising student numbers and a more diverse student community.

A way to address these challenges is to engage in NSD. However, NSD requires NSD capabilities. In particular in a mature and well established organisation, existing NSD capabilities may not be sufficient to carry out some of the changes that are necessary to address these challenges.

Building NSD capabilities is difficult but, as this study shows, possible. In a resource constrained environment of a mature university actors were able to develop new services. My PhD study demonstrates how actors executed the NSD tasks and consolidates the critical observations into a framework that may be applicable to other universities and perhaps organisation outside the university sector (e.g. other transformational services).

My research work highlights how universities can develop and implement new services– despite experiencing financial and organisational constraints. Overcoming barriers and developing enablers in NSD is difficult but possible when adaptive actors apply adaptive operations resources, linking the overall NSD objective to the overall purpose of the university.

NSD happens in an open, informal and complex system in which the three dimensions of NSD are carried out in an overlapping and iterative way, rather than in a structured process. NSD actors have to experiment, learn and adapt alongside all the other parts of the system with which actors are co-evolving. This study contributes to the understanding of how NSD is carried out in a university setting, what capabilities are required and how they can be developed.

A traditional university is more than a collection of disciplines and administrative functions with students and external customers; it is a learning system also. This research work highlights NSD as an area of activity, relevant to the growth and development of the university. The model used at the outset, the models applied during stage of the research work and the final revised version emerging from the analysis, capture this insight. It was developed based on a critical analysis of barriers and enablers in seven NSD interventions over almost three years. It offers a framework and guidelines for scholars who wish to further investigate what really happens in NSD and for practitioners who plan to engage in the challenging and exciting venture of new service development.

9.8 Conclusion

In this chapter I drew the thesis to a conclusion. Firstly I evaluated the accomplishment of purpose of the thesis AR and core AR projects. Then I reflected on the thesis project quality. Finally I outlined the limitations of this study and, in conclusion, I proposed further research directions.

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Appendices

Appendix A: Abbreviations, Glossary and Definitions of Key Terms

AR	Action Research
BM	Business Model
CPG	Commercialisation Project Group
CPM	Commercialisation Project Manager
ERP	Emergency Response Plan
NSD	New Service Development
ERA	Emergency Response Agency
FO	Formal Organisation
HD	Hospitality Director
HE	Higher Education
IAR	Insider Action Research
IN	Individual
IO	Informal Organisation
KDG	Katrin Dreyer-Gibney
MEN	Mission Extension
MEX	Mission Enhancing
NBMD	New Business Model Development
NSSD	New Service System Development
NSPD	New Service Product Development
OD	Operations Director
OM	Operations Management
PM	Project Manager
PRT	Psychological Response Team
SS	Service System
SP	Service Product
VP	Vice President

Definition of Key Terms

University

The word university is derived from the Latin universitas magistrorum et scholarium, roughly meaning "community, group or collective of teachers and scholars." (Wikipedia, 2014). A university is an institution of higher education and research, which grants academic degrees in a variety of subjects. A university is a corporation that provides both undergraduate education and postgraduate education.

New Service Development

New Service Development not only refers to the nature of new services, but the overall process of developing new service offerings (Johnson et al., 2000), from idea generation to launch or implementation. Typical stages of the development process are concept creation, analysis, detailed design, and launch (Froehle et al., 2000). Similar to new product development management, NSD involves multifunctional and cross-disciplinary interactions.

New service development can result into the creation of a completely new service product or the incremental improvement or change in quality of an existing one (Windrum & Koch, 2008).

Barriers and Enablers to NSD

Barriers are those factors within the NSD environment that hinder the organisation of successfully initiating and executing NSD activities. Enablers are those factors in an NSD environment that facilitate in successfully initiating and executing NSD activities. The absence of barriers may be an enabling factor and vice versa. Both barriers and enablers may be internal or external to the organisation. In this study I am only considering internal factors.

Appendix B: Data Sources

All Commercial Interventions (MEX)		
Data Type	**Sources**	**#**
Interviews	Semi structured interviews with internal and external operations and services managers	8
Documentation	Strategy documents, action plans, internal reports, consultant reports	5
Archival Records	Minutes, meeting notes	54
	Emails	740
	Media records	31
Direct Interventions/ Reflection Logs	Chairing the Commercialisation Project Group and the Commercialisation Workshop, one to one meetings and interactions with individuals concerned with the initiative	102
Direct Observations/ Reflection Logs	Interactions, formal and informal meetings	102
Participant Observation	Feedback from other individuals	3
Physical Artefacts	Live systems, processes	2
Emergency Planning (MEN)		
Data Type	**Sources**	**#**
Interviews		0
Documentation	Emergency Plan (full, short and web version) (3) Emergency Planning information from the internet (3) Old Emergency Plan 2009 (1)	7
Archival Records	Emails	343
	Meeting Notes 6 Drill meetings 12/13 6 meetings in 2011 8 Meetings in 2012	20
	Lessons learned documentation	4
Direct Interventions/ Reflection Logs	ERP meetings – all members 14 ERP drill meetings 6 Other meetings 4 Tabletop Exercise 2	26
Direct Observations /Reflection Logs	Interactions, formal and informal meetings	26
Participant Observation	University Ball exercise observations 08 July 2013	1
Physical Artefacts	University Emergency Plan Website	1

Service Level (MEN)		
Data Type	**Sources**	**#**
Interviews	Semi structured interviews with internal and external operations and services managers	0
Documentation	Other internal and external SLAs, action plans, Academy SLA versions Visitor ID application form Suggested list of services from Academy Administrator Requirements and proposed solution to provide Academy staff with access to university services (Cherry, John) Education Landscape Memo from the President 5 Sept 2012 listing favourably the Academy as an example for existing collaboration SLA between university of Minnesota and IT department SLA between Birckbeck College and IT SLA between the university and IT services SLA between the university and Library Services SLA between the university and Housekeeping Versions of new Academy SLA (20) Versions of the new Academy SLA Risk register (3)	33
Archival Records	Emails	174
	Service Level Meeting Notes	8
	Board Minutes May 2010 – Legal agreement between Board and the Academy Board Minutes 02 Jun 2010 – proposing the establishment of the Academy Funding Statement of the Academy Jan 2012 Consolidated Accounts Mar 2012 Associated Companies Account Documentation Mar 2012 Associated Companies Doc June 2012 Academy Risk Register	7
	Media, News Items	2
Direct Interventions/ Reflection Logs	Meetings with Director of the Academy, with service department representatives and other individuals concerned with the initiative Phone calls, informal conversations	8 30
Direct Observations /Reflection Logs	Interactions, formal and informal meetings	10
Participant Observation	Feedback from other individuals	0
Physical Artefacts	Live systems, processes • Academy website • Facebook site • LinkedIn site • YouTube video	4

Risk (MEN)		
Data Type	**Sources**	**#**
Interviews		0
Documentation	Audit Report Area Risk Register University Risk Register and summarised versions Auditor Committee Paper on Risk April 2013 Risk Register Examples from Web Other Risk Documentation from web Presentations from Risk Conference 2009 Presentation from Risk Consultant)	48
Archival Records	Emails	140
	Meeting Notes Senior Management Team (1) Faculty (1)	2
	Risk Policy 2008 (1) Risk Policy updates 2009 (1)	2
Direct Interventions/ Reflection Log	Risk management process improvement meetings	20
Participant Observation	None	0
Physical Artefacts	University Risk Website	1

Adapted: Yin, 1989

Appendix C: Assessment of NSD Dimensions and Their Emphasis

	afé	Filming	Experiential	Heritage	Emergency	Service Level	Risk
Business Model	1 Customer Segments: Staff, students, visitors O 2 Value Proposition: Consume food and beverages outdoors N 3 Channels: Face to face, self- service O 4 Customer Relationships Displaying consumable products for the customer to choose Self-service O 5 Revenue Streams: Additional seating and increased visibility result into more revenue N 6 Key Resources: Catering staff, location O 7 Key Activities: Putting food and beverages on display O 8 Key Partners: College Security and cleaning staff O 9 Cost Structure Business plan established after several unsuccessful attempts O O = 7 N = 2	1 Customer Segments: Film Production Companies N 2 Value proposition: Historic and unique campus that will facilitate filming under certain restrictions N 3 Channels : Stronger presence on the web N 4 Customer Relationships Potential customers receive tour of the campus, advice on restrictions and boundaries. Assisted technical reci, College representative available through filming activity N 5 Revenue Streams: Companies pay fee for campus usage, long-term marketing value – attracting international students N 6 Key Resources: (Internal) Security H&S, Legal, Accomm and Catering, Library, Estates staff College representative, the campus site itself O 7 Key Activities: Scheduling, Com'cation, securing filming site, establish legal framework, customer liaison, ensuring boundaries aren't crossed N 8 Key Partners: Film Board , Tourism Board, media N 9 Cost Structure Costs e.g. loss of business through closure of the library are passed on to the customer. All other costs to be absorbed O O = 2, N = 7	1 Customer Segments Staff, students, visitors O 2 Value Proposition: Combined offerings of service N 3 Channels: Face to face, service personnel on site, leaflets, internet N 4 Customer Relationships Personal guided tours, Information provision and self- service N/O 5 Revenue Streams: Attract additional customers, increasing spent through combining products, creating additional "spending opportunities" for visitors on site N 6 Key Resources: Service managers doing extra work O 7 Key Activities: Serving food and beverages, guided tours, selling merchandise O/N 8 Key Partners: Service managers N 9 Cost Structure Existing structure and additional work to be absorbed O O = 4 N – 5	1 Customer Segments Licensees are customers of the brand and tourists and visitors to Ireland are customers of the products N 2 Value Proposition: High quality products endorsed by an upmarket brand N 3 Channels: Sales through licensees in high streets and airports N 4 Customer Relationships Through licensees N 5 Revenue Streams: From royalties N 6 Key Resources: Heritage item O 7 Key Activities: Creating a brand N 8 Key Partners: Clothing, souvenir licensees N 9 Cost Structure No costs to the College except for legal advice and branding expertise fees N O = 1 N = 9	1 Customer Segments Staff, Students, visitors O 2 Value Proposition: Enhancing emergency awareness and resilience, minimising risk N 3 Channels: Face to face, phone, internet N 4 Customer Relationships Co-creation, then information provision on line, face to face N 5 Revenue Streams: None – protecting existing revenue streams O 6 Key Resources: PM and key emergency management staff in each area O 7 Key Activities: Planning, preparing, training N 8 Key Partners: College Security, external emergency services N 9 Cost Structure Unknown - additional work to be absorbed in existing structure O O= 4 N = 5	1 Customer Segments Academy Staff N 2 Value Proposition: Combined offering of service, certainty, consistency problem solving N 3 Channels: Face to face, phone, email N 4 Customer Relationships Co-creation initially until SLA developed, then individual contact person in each area N 5 Revenue Streams Fees paid for Information and College welfare services N 6 Key Resources: Project managers Initially then contact persons in each area O 7 Key Activities: Creating SLA, then ensuring that services are provided in accordance with the SLAs N 8 Key Partners: All university service areas N 9 Cost Structure Unknown – additional work to be absorbed in existing structure O O= 2 N = 7	1 Customer Segments College Staff O 2 Value Proposition: Improving the efficiency and effectiveness of risk management, offering Heads of Departments a guidance on risk management N 3 Channels: Negotiations face-to face, further communication by email O 4 Customer Relationships Co-creation and provision of coordination, administration support and advice O 5 Revenue Streams: None – protecting existing revenue streams O 6 Key Resources Human resources PM N 7 Key Activities Improving the Colleges Risk management process, providing guidance N 8 Key Partners None O 9 Cost Structure Unknown - additional work to be absorbed, costs not considered O O =6 N = 3

Service System	People: Service staff assignment O Physical Facilities: Outdoor seating N Information systems None O Equipment, Devises Technology: New tables and benches N Non-information support systems None O Location, layout décor/ambience Outdoor seating N Customer management None O Policies: None O O = 5 N =3	People: Staff to liaise with film director and crew, Health, safety and security staff, selected service staff of each area involved in the filming O Physical facilities Historic College sites, shelter and catering facilities provided by customer O Equipment, devices, technology Provided by customer O Info – system Web – location catalogue, terms and conditions N Non-info systems None O Location, layout décor/ambience None O Customer management College liaising person N Policies – developed over time taking into account experience gained N O = 5 N= 3	People No new people but existing people working cross-functionally N Physical Facilities No new physical activities O Information systems Created new event database N Non-information support systems Exchange of “best practice” N Equipment, Devises Technology None O Location, layout décor/ambience, None O Customer management New information flyers N Policies. None O O = 4 N = 4	People Project group consisting of college officers (Librarian, Library shop manager, CPM, external consultant) N Physical Facilities Planned – library shop and other outlets, airports N Information systems None, financial system missing O Non-information support systems None O Equipment, Devises Technology Prototypes developed N Location, layout décor/ambience Planned N Customer management None O Policies. Some update papers developed, no overarching policy N O = 3 N= 5	People Project team in place, MEMT N Physical Facilities Control rooms kitted out N Information systems None O Non-information support systems None O Equipment, Devises Technology Info on internet and in hart-copy, technical equipment, call centre N Location, layout décor/ambience Necessary equipment in locations N Customer management “crowd control” plan in place N Policies Yes N O = 2 N = 6	People SPM, Academy Director as joined project managers N Physical Facilities As required within the service units O Information systems None O Non-information support systems SLA Template N Equipment, Devises Technology None O Location, layout décor/ambience None O Customer management None O Policies. SLA N O = 5 N= 3	People PM, OD, College Auditor N Physical Facilities None O Information systems None , shared site, planned O Non-information support systems None O Equipment, Devises Technology None O Location, layout décor/ambience None O Customer management None O Policies. Risk Policy N O = 6 N = 2
Service Product	A new Café offering outdoor seating N	Offering Film and photography locations services to film and photography production companies N	Offering combined services to visitors in order to enhance their visiting experience N	Creating a new heritage brand to be used by selected souvenir and clothing producing licensees in exchange of a royalty fee N (Not implemented during research timeline)	Enhancing the universities ability to handle emergency situations O Incremental Improvement	Creating and implementing a service level agreement between the University and the academy including existing services O Incremental Improvement	Improving the College’s Risk management process O (Incremental improvement)

Appendix D: NSD Dimensions and Actions Within

	Café	Filming	Experiential	Heritage	Emergency	Service Level	Risk
Business Model	<u>1 Creative</u> Chance meeting DAC and Buildings Officer <u>2 Selecting</u> In formal CG meeting applying selection criteria <u>3 Planning</u> DAC developed business plan with 2 scenarios, additional income, costs and margin CG discussed café and made improvement suggestions <u>4 Implementing</u> No formal, only informal BM implementation, overlapping with SS or SP implementation	<u>1 Creative</u> Discussions at CG meeting – how much extra revenue would filming bring No real discussion on profit/ costs etc., marketing values yes , BM really just evolved organically and is not yet written down No structured business model discussions, but some of the 9 dimensions were mentioned <u>X Selecting</u> None as no BM options were generated <u>X Planning</u> None, only when overlap with SS and SP implementation <u>2 Implementing</u> Implementation by publishing a filming policy on the web	<u>1 Creative</u> Designed business model template Tested “Busses on campus” Tested other activities such as deckchairs, holograms, picnics, restaurant promotions, Scheduled 6-weekly project team meetings Experimentation Rule Breaking <u>X Selecting</u> Experiential mandated by the COO but services managers selected sub projects <u>3 Planning</u> At services managers meeting 4 <u>Implementing</u> Delayed, to fit into overall Commercialisation Strategy Some New Experiential Services were tested and fed back into the BM	<u>1 Creative</u> BM options created by consultant <u>2 Selecting</u> <u>Selecting the BM the</u> external consultant had presented <u>3 Planning</u> In meetings, timelines and owners <u>X implementing</u> None	<u>1 Creative</u> Getting input from external consultant, creating an emergency policy <u>X Selecting</u> Already a given as per existing Emergency Policy <u>2 Planning</u> Considering various scenarios and discussing possible solutions <u>3 Implementing</u> Implementing the emergency policy by getting it signed off by Board	<u>1 Creative</u> Meeting with service providers discussing/consulting various options, checking internet sites and existing SLAs <u>2 Selecting</u> Selecting suitable service and SLA option, all stakeholders can agree with <u>3 Planning</u> Assigning owners and contact persons, Policy <u>3 Implementing</u> Academy ctte and OD sign of on the SLA	<u>1 Creative</u> Incrementally improving & embedding risk policy, consultation with selected members of College, Presenting to College ideas for improvement <u>X Selecting</u> None, policy had to be implemented <u>2 Planning</u> In consultation with risk-owners, group discussions and one to one meetings <u>3 Implementing</u> Presenting planned revised risk policy to University for and agreed on the policy

	Café	Filming	Experiential	Heritage	Emergency	Service Level	Risk
Service System	**SS and SP Overlapped** 1 Creative Considering and alternative solutions on design, furniture, wind shielding, staffing levels 2 Selecting Selecting design choices 3 Planning DAC developed business plan with 2 scenarios, additional income, costs and margin CG discussed café and made improvement suggestions 4 Implementing Setting up physical facilities, recruiting staff, consultation Further (self-organised) creative and planning activities throughout	**SS and SP Overlapped and started while BM was developed** 1 Creative Creative ideas for supporting activities 2 Selecting Selecting workable solution in team, meeting, self -organised 1 2 1 meetings 3 Planning In meetings, self-organised, 121 4 Implementing Setting up physical facilities, recruiting staff Further (self-organised) creative and planning activities took place through the SS development	**SS and SP Overlapped and started while BM was developed. Feeding into Commercial strategy** 1 Creative Tested "Busses on campus" Tested other activities such as deckchairs, holograms, picnics, restaurant promotions 2 Selecting In discussion and consultation 3 Planning Yes – in meetings 4 Implementing Yes Further (self-organised) creative and planning activities throughout	**SS and SP not implemented** 1 Creative Regular meetings of heritage group, making proposals to senior committees X Selecting X Planning X Implementing	**SS and SP Overlapped, caused by policy** 1 Creative Getting input from external consultant and discussing options 2 Selecting Selecting staff and facilities 3 Planning Together with implementing, planning for possible emergency scenarios 3 Implementing Together with planning for possible emergency scenarios Implementation by testing the SS and SP with tabletop exercises testing "resilience"	**SS and SP Overlapped and formed a new policy** 1 Creative Same as BM 2Selecting Detailed implementation options 2Planning Same as BM 3Implementing Same as BM	**SS and SP overlapped, caused by policy** 1 Creative Incrementally improving & embedding risk policy, consultation with selected members of College, Presenting to College ideas for improvement X Selecting None – Policy implementation 2 Planning Policy so very few aspects of a service system, change of behaviour required 2 Implementing As in planning

	Café	Filming	Experiential	Heritage	Emergency	Service Level	Risk
Service Product	1 Creative DAC with his team and suppliers generated ideas for the product X Selecting Was already done in SS, selection only between BM one and two 2 Planning Overlapping with SS 3 Implementing Setting up physical facilities, recruiting staff, overlapping with SS Further (self-organised) creative and planning activities throughout	1 Creative Idea emerged when VP visited India and talked to film director X Selecting Already completed during visit to India 2 Planning Same as SS 3 Implementing Same as SS Further (self-organised) creative and planning activities took place through the SP development	1 Creative Ideas emerged in group meetings. Many ideas already existed in the “draws” of service managers 2 Selecting SP that did not need funding were implemented 3 Planning In meetings, in combination with SS 4 Implementing in combinations with SS Further (self-organised) creative and planning activities throughout	Same as SS	Same as SS, as SS is the SP (overlap)	Same as BM and SS, as a policy was implemented only, individual services did not change, the combination was a new SP which was charged to the customer	Same as in SS – policy implementation

Appendix E: Barriers and Enablers to the Execution of the Task

	Enablers - Café	Barriers - Cafe	Enablers - Filming	Barriers - Filming	Enablers - Experiential	Barriers - Experiential	Enablers - Heritage	Barriers - Heritage
Task- Individual(	Creative Visiting other universities Actors met in cross-functional teams and exchanged ideas (OP, IW) Actors developed artist expression to show stakeholders what the new service product would look like (KE, WP) Selecting Applying selection tools (known and applied by one actor in external organisation) (KE) Planning One actor has project planning skills (SK, KE) In all commercial projects the highly motivated project team members agreed to carry extra workloads, without rewards being offered Joined problem solving. SK Implementing Relevant skills and experiences with catering outlets (SK) (KE) Rules had to be broken which meant that actors did not ask permission when before activities were carried out OP Actors ignored old decision making structures as OD had given permission to act OP	Creative Afraid to propose “unorthodox” ideas not similar to existing university projects (Little ability to “think outside the box”) OP There were indications for example in the Cafe, Filming and Heritage projects that even senior managers did not have commercial skills, as the constantly asked the CPM to conduct cost- benefit analyses and told her they were never asked to do this before, ,SK,KE Selecting Little knowledge about selection criteria, even in senior management Afraid to make wrong decision, as failure is not encouraged as a learning tool SL,KE OP No will and no incentive to get involved in extra work so some projects did not happen OP Planning Initially scenarios did not entails enough financials (future income, costs) SK,KE Lack of business planning and project management skills Barriers during planning activities were that actors had little experience and knowledge of business planning and project management skills SK KE No experience with joined services SK,KE Implementing Some actors are reluctant to support project SJ Lack of conflict resolution and influencing skills,OP,SK influencing skills delayed projects on several occasions SK, Lack of accounting training delayed projects as actors were unsure if the projects had commercial benefits SK, KE Lack of conflict resolution skills when faced with objections KE,SK Overall Absence of OD without succession planning halted to project as crucial decisions could not be made SJ, OP,	Creative Thinking about solution creatively SK,OP Building a team combining different skill sets SK Selecting Planning Applying experience from planning other major events (banqueting, sporting events dignitary visits SK,KE Ignoring the old decision making structure OP In all commercial projects the highly motivated project team members agreed to carry extra workloads, without rewards being offered. OP Actors pooled their knowledge to find solutions OP,WP,LM Drawing on tacit Knowledge – unwritten rules SK, KE Implementing Applying transactive knowledge, using informal organisation to get support, applying political skills SK, KE Unexpected support from Indian volunteers OP In the Filming project actors reiterated the purpose, constantly communicating with stakeholders OP,SK Joined problem solving. SK Getting things done – reputation OP No fear to fail – as VP had given permission to act and project team could count on support from relevant areas OP	Creative No recent experience with filming SK, KE There were indications for example in the Cafe, Filming and Heritage projects that even senior managers did not have commercial skills, as the constantly asked the CPM to conduct cost- benefit analyses and told her they were never asked to do this before SK,,KE Services managers were reluctant to get involved as they feared the consequences (Loss of credibility, less time for day – to- day management OP, SK,KE Selecting None Planning Lack of experience with filming Barriers during planning activities were that actors had little experience and knowledge of business planning and project management skills SK,KE Implementing Frequent changes of schedules frustrating people involved OP Senior staff not involved in the projects were reluctant to support project OP Lack of experience in what needs to be done SK,KE	Creative Brainstorming ideas cross functionally KE,SK Experiencing mindsets and assumptions from other service managers KE Building a team combining different skill sets SK Selecting Within budget and own remit all ideas could be selected by applying the “acceptable, feasible and suitable rule” ,SK,KE Planning Collegial and joint planning and decision making supported KE In all commercial projects the highly motivated project team members agreed to carry extra workloads, without rewards being offered.OP Actors pooled knowledge to find solutions IC, IW Joined problem solving. SK Drawing on tacit Knowledge – unwritten rules SK, KE Applying persuasion and political skills to ensure actors participation SK Implementing Highly motivated team OP,ML to carry extra workload, , some rules had to be broken (e.g. busses on campus) OP and experimentation took place (Hologram) OP Actors did not ask permission when before activities were carried out. OP Actors experimented with new ideas OP.KE Getting things done – reputation quoting past examples OP No fear to fail – as VP had given permission to act. So project team could count on support from relevant areas OP Actors ignored old decision making structures as OD had given permission to act OP	Creative No precedent of joined services workshop KE Actors were reluctant to propose “unusual” ideas, to “think outside the box” and engage with projects that were dissimilar to existing university projects. KE,OP Selecting None Planning Could only take place under consideration of existing workload SJ,WP Barriers during planning activities were that actors had little experience and knowledge of business planning and project management skills SK,KE Implementing Could only take place under consideration of existing workload SJ,WP Senior staff not involved in the projects were reluctant to support project, ML	Creative Actors experienced opinions, mind-sets and assumptions from other service managers and debated options in cross-functional meetings, talking about project experienced in other universities and organisations. KE,OP Actors pooled their knowledge to find solutions KE,OP Joined problem solving. SK Applying persuasion and political skills to ensure project protection SK Selecting None Planning None Implementing None	Creative No experience with Branding KE,SK Selecting None Planning No expertise available other than the consultant who did not understand the culture of the uni SK,KE Barriers during planning activities were that actors had little experience and knowledge of business planning and project management skills SK,KE Lack of accounting training delayed projects as actors were unsure if the projects had commercial benefits SK KE Implementing None

Task – Formal Organisation	Creative Actors solicited new ideas by sending out emails to university students and staff CC, Actors developed artist expression to show stakeholders what the new service product would look like (WP) Selecting Applying formal selection process WP The physical environment was an enabler as the historic site was a major attraction for visitors and projects were selected in order to exploit it. PE Planning Having a project plan in place with key dates and deliverables, even though it had to be adjusted (WP DAC presenting two scenarios of café sizes WP CG discussed plan and made improvement suggestions LM,WP,CC Actors applied transaction LMs to determine ownership of facilities ,WP,LM Implementing None	Creative None Selecting Nobody volunteered to help if project outside their own remit ,SJ NSD actors had to take on projects on top of their existing workload which slowed down progress (or burnt out actors) WP,SJ Planning No financial systems to monitor additional Revenue FM,LM Unclear decision making process, FM,WP,SJ Old and new structure in parallel SJ,CC Old decision making structure still in place and inappropriate - only 3 meetings a year not frequent enough to decide on SJ, WP FM No appropriate communication channels CC Committee meetings not frequent enough CC,FM,LM Inadequate financial planning tools FM In the interim, mass emails were sent to the entire university community. This applied to all projects .CC,WP No budget for this project SW No policy concerning commercial projects SJ LM No succession planning so decisions get delayed WP Implementing "Timing" – after delays the implementation had to be postponed to fit in with the University Calendar SW,WP Committee meetings not frequent enough CC,SJ There was lack of succession planning in senior leadership which delayed projects as crucial decisions could not be made.(Café) SJ Overall Too many competing commitments – difficult to fit new project into existing schedule SJ	Creative Actors created their own structures to enable them to carry out NSD projects IW,IC Actors solicited new ideas by sending out emails to university students and staff IW,IC Selecting The physical environment was an enabler as the historic site was a major attraction for visitors and projects were selected in order to exploit it. (PE Planning Having a detailed filming schedule provided by the filming company LM,WP Implementing Existing facilities, PE Overall Strong support from the VP OL Filming project seen as useful to attract Indian students (using Ethos of teaching and research) OL	Creative None Selecting NSD actors had to take on projects on top of their existing workload which slowed down progress (or burnt out actors), so part of the selection criteria was availability of (resilient) actors. SJ, WP Planning Ownership of facilities unclear SJ Fitting in filming schedule with teaching and research schedule SJ Old decision making structure still in place and inappropriate – SJ Only 3 meetings a year not frequent enough to decide on commercial and new activities SJ,FM,CC There were no appropriate communication channels for commercial projects, so NSD actors had to put them in place first. In the interim, mass emails were sent to the entire university community. This applied to all projects. CC,SJ No budget for this project SJ No policy concerning commercial projects SJ Implementing Ownership of facilities unclear SJ "Timing" – after delays the implementation had to be postponed to fit in with the University Calendar SJ,WP	Creative Actors created their own structures to enable them to carry out NSD projects IW,FM,IC,OP Actors solicited new ideas by sending out emails to university students and staff CC Selecting Collegial decision making WP The physical environment was an enabler as the historic site was a major attraction for visitors and projects were selected in order to exploit it. PE Planning During the Experiential project actors kept the project hidden, so they could not be objected to WP OD supported the activities of the team (OL) Implementing Cross functional team WP Only implemented new service under remit of service managers WP	Creative None Selecting NSD actors had to take on projects on top of their existing workload which slowed down progress (or burnt out actors), so part of the selection criteria was availability of (resilient) actors. ,SJ No budget available SJ Planning Ownership of facilities unclear SJ, WP No budget SJ, Old decision making structure still in place and inappropriate - only 3 meetings a year not frequent enough to decide on commercial and new activities SJ,WP,FM There were no appropriate communication channels for commercial projects, so NSD actors had to put them in place first. FM No budget for this project SJ,WP No policy concerning commercial projects SJ Implementing Ownership of facilities unclear Negative condescending comments from other senior staff during other meetings, OP, People being "planted" on the team as spies, ,FM	Creative None – done by externals Selecting None Planning Project Plan in place WP Heritage Brand in Place PE Implementing None	Creative None Selecting NSD actors had to take on projects on top of their existing workload which slowed down progress (or burnt out actors), so part of the selection criteria was availability of (resilient) actors. (SJ) Planning Inadequate MI System (FM, Old decision making structure still in place and inappropriate - only 3 meetings a year not frequent enough to decide on commercial and new activities CC,FM No budget for this project FM No policy concerning commercial projects FM, SJ Implementing None

Task- Informal Organisation	Creative Soliciting ideas by consultation IC Chance meeting between members of different departments DAC and his met with material suppliers to generate ideas for the SP design (IC, IW Visiting other universities Actors met in cross-functional teams and exchanged ideas IW, IC Actors created their own structures to enable them to carry out NSD projects IW, Selecting None Planning Collegial decision making Project team displaying enthusiasm and purpose for the project IW Implementing Re-iterating the purpose, constantly communication, stakeholders part of the design process Actors had the ability to apply persuasion and influencing skills. They told positive stories of precedents and value of project to the university. Actors made senior management aware of the barriers and highlight the need for senior management to get involved Implementing enablers were a clear mandate (permission to act) from senior managers, to break rules and to experiment with new ideas ML This meant that senior managers allowed NSD actors to do what is necessary to develop new services ML	Creative Culture of conforming and negative view to risk taking does not help to be creative ML, IW Selecting Really risky and uncommon projects that have no precedent somewhere else are not selected ML,IW Leaders not encouraging staff to volunteer for projects ML, IW Planning General University community becomes aware of projects and makes case to stop it , IW.ML Decision makers absent for long periods of time ML Many actors also remarked in relation to all commercial projects that a university should not have to raise its own funding as its main purpose is to provide educational services to the state .IW,IC,ML Implementing Commercialisation not seen as suitable activity IW,ML Implementation has to fit into University calendar which is not amenable to commercial activity (tourism) The academic ethos of the university proofed to be a barrier in all commercial projects IW,IC,ML Existing informal working relationships, networks and working arrangements did not support commercial activity Managerial staff was tasked with leading projects, but their decision s were not accepted by the wider university community Long absence of decision makers ML Leaders not giving permission to act, neither encouraging nor protecting risk taking ML Senior staff not involved in the projects were reluctant to support project IW Destructing and time-consuming conflict with university stakeholders IW,IC Unwritten and unknown rules of engagement e.g. particular committees (IW,IC)	Creative Learning from other universities IW,IC Actors met in cross-functional teams and exchanged ideas historic sitesIW,IC Actors experienced opinions, mind-sets and assumptions from other service managers and debated options in cross-functional meetings, talking about project experienced in other universities and organisations. IW,IC, Selecting Actors reframed the projects as necessary for survival and retain autonomy IC, Planning Collegial decision making IW,IC, ML Manager being visible and available during planning ML Project team displaying Actors applied transaction LMs to determine ownership of facilities in all projects IW,IC Teamwork characterised of respect, reciprocity and collegiality IW Implementing Stakeholders part of the design process IW,FM Formal mandate to implement filming ML Ignoring the old decision making structure ML,IW In all commercial projects the highly motivated project team members agreed to carry extra workloads, without rewards being offered. IW Rules had to be broken which meant that actors did not ask permission when	Creative None Selecting None Planning Risk aversion – no experience with filming IW General University community becomes aware of projects and object their implementation, IC,IW Implementing Power dynamics between senior and junior staff made collaboration challenging, as drawing subordinates into a project posed a threat to more senior employees. ML, Senior staff not involved in the projects were reluctant to support project ML	Creative None Selecting NSD actors advocate NSD project on a trial basis only (Experiential) to be stopped if not successful IC,,ML Planning “Nurturing” environment ML Within budget and own remit all ideas could be selected by applying the “acceptable, feasible and suitable rule” IW Teamwork characterised of respect, reciprocity and collegiality IW All stakeholder included in planning stage IW Implementing Actors experienced opinions, mind-sets and assumptions from other service managers and debated options in cross-functional meetings, talking about project experienced in other universities and organisations. CC,IC,IW Collegial and joint planning and decision making supported IW Manager allowed for some project to fail ML	Creative None Selecting Really risky and uncommon projects that have no precedent somewhere else are not selected IW,ML Planning None Implementing Senior management were reluctant to empower front line staff because of the disruption of the status hierarchy ML Negative condescending comments from other senior staff during other meetings IW,IC Ideas were only conveyed secretly or in a face- to- face meeting with the NSD project manager IW Senior managers not letting front line staff partake in workshops ML	Creative None Selecting Actors reframed the projects as necessary for survival and retain autonomy ML Planning None Implementing None OL/OL Reputation against additional revenue	Creative None, idea generation externally Selecting None Planning Many actors also remarked in relation to all commercial projects that a university should not have to raise its own funding as its main purpose is to provide educational services to the state. IW,ML Not all stakeholders involved form the start IW Silo mentality – chair of group did not know what other areas do, nor di he want to IC,IW Implementing None OL/OL Reputation against additional revenue

			before activities were carried out. IW Manager being visible and available during implementation ML					

	Emergency -Enablers	Emergency -Barriers	Service Level - Enablers	Service Level -Barriers	Risk - Enablers	Risk -Barriers
TA - IN	Creative Group problem solving individual from different areas in University partaking IW, All actors were able to contribute in their own area of expertise (Security, Health, Counselling) KE,SK, cross functional teams progressed well. Selecting None Planning Actors skillset adequate KE SK The reputation of actors was beneficial OP Implementing Actors skillset adequate KE,SK, Joined problem solving. SK	Creative None Selecting None Planning None Implementing None	Creative Awareness of different SLAs KE, SK, Selecting Applying existing knowledge to what services are appropriate KE,SK Planning Actors skillset adequate and knowledge of actors supported gaining access to senior managers for information The reputation of actors was beneficial OP Implementing Actors skillset adequate Joined problem solving. SK	Creative None Selecting None Planning None Implementing None	Creative None Selecting None Planning/Implementing Problem solving skills Actors' existing skillset adequate or can be acquired during the term of the project, KE,SK	Creative None Selecting None Planning/Implementing Lack of political skills to engender collaboration from academic community KE, SK
TA - FO	Creative Selecting Planning Existing decision making structures were suitable for application, as there were no financial urgencies or seasonality as in commercial projects. SJ,FM New management information systems and financial data were not required and their absence did not form barrier.SJ Implementing Rules did not have to be broken. Existing decision making processes were adequate to implement NSD. SJ OL	Creative Selecting Planning Implementing Little funds available to implement required facilities SJ	Creative Selecting Planning New management information systems and financial data were not required and their absence did not form barrier. FM Existing decision making structures were suitable for application, as there were no financial urgencies or seasonality as in commercial projects FM,CC,WP The Project Group consisted of actors from different areas in the University, enabling to solve may planning problems LM Implementing Some areas had already service level agreements and examples could be transferred WP,SJ, Rules did not have to be broken. Existing decision making processes were adequate to implement NSD. OL	Creative Selecting Planning Implementing	Creative Selecting Planning New management information systems and financial data were not required and their absence did not form barrier. Existing decision making structures were suitable for application, as there were no financial urgencies or seasonality as in commercial projects FM,SJ,WP,CC Implementing Existing Risk Policy Risk Management Structure in place in Theory SJ,WP Rules did not have to be broken. Existing decision making processes were adequate to implement NSD. OL - Partly	Creative Selecting Planning Implementing Risk Management structure not embedded in practice SJ

TA – IO	Creative None Selecting None Planning None Implementing Informal Workpractice facilitative to saving lives and preventing harm IW Also in the Emergency project staff were willing to volunteer for and support charitable projects and initiatives that support the 'common good' IW,IC Existing informal working relationships, networks and working arrangements facilitated the Emergency project. IC Negotiating space for emergency facilities was enabled by the "common good" nature of the project, ML, OP Meeting with all stakeholders individually to get their input helped to progress projects, IP,IC	Creative None Selecting None Planning None Implementing None	Creative None Selecting None Planning None Implementing Meeting with all stakeholders individually to get their input helped to progress projects Informal working relationships facilitated progress ML,OP	Creative None Selecting None Planning Unusual to combine different services in one service level providers IW,IC Implementing None	Creative None Selecting None Planning None Implementing Risk management does not clash with the culture of the university ,IW Meeting with all stakeholders individually to get their input helped to progress projects IW,IC,CC	Creative None Selecting None Planning None Implementing Risk management seen by academic as administrative work to be carried out be administrators IW

Individual operations	Formal operations resources	Informal operations resources
1. Skills (SK) 2. Knowledge and experience (KE) 3. Other personal attributes and behaviour (OP)	1. Objective linked to an overall purpose (OL) 2. Structure and job design (SJ) 3. Feedback mechanisms (FM) 4. Linking mechanisms (LM) – a project plan? 5. Work practices (WP) 6. Communication channels (CC) 7. Physical Environment (PE)	1. Management practices and leadership behaviour (ML) 2. Informal working arrangements (IW) 3. Informal communications modes and networks (IC)

Appendix F: Linking Operations Resources

	Café	Filming	Experiential	Heritage	Emergency	Service Level	Risk
Task-(TA) Individual(IN)	Creative Linked desk research with existing internal knowledge and skills IN – KE,SK Visited other universities, learned about their NSD projects and compared with internal facilities IN - KE,SK Selecting Considered existing skills and skills and knowledge that had to be acquired when selecting projects KE,SK,OP Planning Combined Individual project management skills, commitment to action and linked to existing operational and governance knowledge KE,SK Implementation Applied existing operational skills to the café implementation KE,SK,OL	Creative Linked desk research with existing knowledge KE,SK Visited other universities, learned about their NSD projects and compared with internal facilities KE,SK Selecting None Planning Combined Individual project management skills, commitment to action and linked to existing operational and governance knowledge KE,SK Implementing Applied existing operational skills to the filming implementation KE,SK	Creative Brought existing – never allowed by senior management to implement - ideas to the table KE,SK,OP Developed new ideas as a team, including each other's services KE,SK Selecting Applied known selection criteria to combination of services KE,SK Planning Combined Individual project management skills, local knowledge commitment to action and linked to existing operational and governance knowledge KE,SK,OP Implementing Applied existing operational skills to service implementation KE,SK	Creative Learning about the steps involved in creating a brand from potential suppliers KE,SK Selecting None Planning Transferring knowledge of procurement and decision making structure KE,SK Implementing None	Creative Linked desk research and benchmarking activities with other universities KE,SK Selecting None Planning Linked internal actors planning skills with external agency planning tools KE,SK Implementing Linked internal actors planning skills with external agency planning tools KE,SK	Creative Linked desk research and benchmarking activities with other universities KE,SK Selecting None Planning Linked internal actors planning skills with external agency planning tools KE,SK Implementing Linked internal actors planning skills with external agency planning tools KE,SK	Creative Linking actors knowledge with university's propensity for risk avoidance KE,SK,OP Selecting None Planning Applied acquired project planning skills with risk management planning KE,SK Implementing Applied acquired project implementation skills with risk management implementation KE,SK
Task – Formal Organisation	Creative Linked existing facilities with new service system SJ OL Selecting Considered existing structures, systems and hierarchy when selecting ideas SJ Planning Linked existing reporting systems with new reporting demands WP Expanded existing shift plans and working patterns Implementing Implemented new (self-designed) financial performance system by linking financial and operational competence Apply new knowledge when senior management support is required (noticed unresolved policy issues SJ,WP,FM Gained permission to use existing assets and facilities in alternative ways PE,SJ Reporting Detected universally accepted reporting format and applied it FM,LM,WP	Creative Linked existing facilities to service systems requirements PE,LM OL Selecting None Planning Linked existing facilities to filming needs. Planning with representatives from many areas LM,PE Used university legal department to draw up contract with movie producer, WP,CC Estates department to engage insurance company WP CC Implementing Applied new knowledge when senior management support is required (noticed unresolved policy issues) WP Gained permission to use existing assets and facilities in alternative ways PE	Creative Linked existing to service systems LM,CC OL Selecting Selected projects that matched the physical environment PE Planning Linked existing facilities to experiential service needs. Planning with representatives from many areas PE,WP SJ Used university legal department to draw up contract with movie producer, WP,SJ Estates department engaged insurance company WP Implementing Gained permission to use existing assets and facilities in alternative ways PE,WP Reporting Lessons learned meeting and distribution of learning points to all people concerned CC,LM	Creative None Selecting None Planning None Implementing None Reporting Learning about reporting requirements from Finance manager CC,LM,WP,FM OL OL	Creative Creative approach to combining existing facilities and provide emergency services, University catering department and planning shelter and refreshments to people affect by emergency CC,LM, PE OL Selecting None Planning None Implementing None Reporting Used existing reporting mechanisms to communicate emergency policy CC,FM,WP	Creative Creative approach to designing the new Service Level, Permission to act OL LM,CC Selecting None Planning Linked task requirements with existing services CC,WP,SJ Implementing Linked task requirements with existing services CC,WP,SJ Reporting Used existing reporting mechanisms to communicate Service Level CC,WP,SJ	Creative None Selecting None Planning None Implementing Linked internal decision making processes with risk communication needs CC,WP,SJ OL Linked internal decision making processes with risk communication needs CC,WP,SJ OL Reporting Used existing reporting mechanisms to communicate risk policy CC FM

Task Informal – Organisation	Creative Linked perception of culture with what ideas would work and in what way IW,IC Selecting Linked perception of what ideas would be acceptable in given culture and climate with selection criteria IW,IC Planning Linked political skills with knowledge of internal networks IW,IC Implementing Addressed lack of management attention with either rule-breaking or "none –action", delays, informing managers of actions to be taken, IW,IC, ML asking for objections only Used informal network and contact other actors who may have knowledge useful for implementation IW,IC Addressing unwritten communication and consultation needs with informal and formal communication IW,IC Providing examples to address mental barriers IW,IC ML Addressed risk aversion with providing examples of successful similar projects IW,IC ML	Creative Linked perception of culture with what ideas would work and in what way IW,IC Selecting None Planning Applying informal networks for extracting relevant knowledge IW,IC Implementing Addressed lack of management attention with rule- breaking, self-organisation and exploratory action IW,IC ML Actors involved in implementation use informal network and contact other actors who may have knowledge useful for implementation Addressing unwritten communication and consultation needs with informal and formal communication IW,IC Providing examples to address mental barriers IW,IC ML Addressing risk aversion with providing successful precedents IW,IC	Creative Linked perception of culture with what ideas would work and in what way IW,IC Selecting Linked perception of culture with what ideas would work and in what way IW,IC Planning Applying informal networks for extracting relevant knowledge IW,IC Implementing Addressed lack of management attention with rule- breaking, self-organisation and exploratory action IW,IC ML Actors involved in implementation use informal network and contact other actors who may have knowledge useful for implementation IW,IC	Creative None Selecting None Planning None Implementing None	Creative None Selecting None Planning Used "caring" culture to support the call for using area's facilities IW,IC ML Implementing Used "caring" culture to support the call for using area's facilities IW,IC ML	Creative None Selecting None Planning None Implementing None	Creative Linking actors knowledge with university's propensity for risk avoidance Selecting None Planning Linking actors knowledge with university's propensity for risk avoidance Implementing Linking actors knowledge with university's propensity for risk avoidance

Appendix G: Evidence of Learning Transferred in Actions

	Learning Extracted (Through experimentation, reflection, self-organisation, applying and testing existing knowledge)	Evidence in later projects
Creative	• Experiencing mind sets and assumptions • Visiting and reading about other organisations	• Application of external learning • Improved addressing of mind sets and assumptions
Screening	• Detecting risk appetite	• Application of selection criteria
Planning	• Experiencing value of cross-functional teams • Value of internal and external experts • Identifying product design requirements • Gathering operational information • Health and safety requirements • Infrastructure and their owners • Organisational structure and hierarchy	• Putting in place cross-functional teams sooner • Quicker detection and implementation of necessary service product components • Applying operational information and requirements
Implementing	• Discovering unwritten rules • Informal gatekeepers • Identifying governance sign-off procedure • Consultation expectations • Suitable application of communication modes • When policy issues need to be resolved first • Experiencing when senior management support is required assets in different ways • Re-organising	• Certainty in sign-off policy • Better quality of consultation • Confidence in creating support systems • Quicker detection of internal experts • Confident consultation with informal gatekeepers
Reporting	• Detecting universally accepted reporting format	• Application of reporting format
Overall	• Learning and applying soft skills: • Motivation skills • Teambuilding skills • Addressing barriers • Persuasion and negotiation skills	• Increased effectiveness of motivation and teambuilding, persuasion and negotiation skills

Appendix H: First, Second and Third Person Action Research for each intervention

	Examples for First Person Research	Examples of Second Person Research	Examples of Third Person Research
c a f e	**Upstream** *"I'm a good project manager as positive feedback on NSD project management suggests. So how difficult can it be to set up an outdoor café in a university? I managed bigger and international NSD projects in the private sector where many cultures clashed. I know what I'm doing* *Also, commercialisation is supported by the senior university management team, including administrative and academic staff **(content, process)*** I can see projects through to the end **(process)** **Downstream – Thoughts about relating with others** *Even though the café initiative was signed off by my boss,**(content)** the OD, why is there so much push-back? What do I have to do to get **real** support, not just verbal assurance?**(process)*** *I need to persist, keep the Café on the agenda, communicate to everybody the benefits and find out why there is so much resistance. I'm not letting the Café go. Everybody in the Commercialisation Project Team (CPT) thinks it is a good idea. Maybe I'm too pushy? Maybe I need to consult with more people? **(content, process)*** I am able to motivate people **(process)** I can help people with their financials **(process)** *I'm working with very intelligent people here in the university who understand the rationale of generating independent income, so things will be easy **(premise)***	***Overall*** 24 CPG meetings, HD reported back to the group on progress made. Discussed what actions worked well/ had not been successful in driving forward the implementation of the initiative. **C*ontent:*** We discussed design issues, what to include in the business plan and when to open the Café. It appeared to be the first time a business plan was required, as so far the hospitality department only had to break even. We learned that income generating units are important to the university, but risks have to be mitigated. **P*rocess*** issues we discussed were about achieving clarity on who would decide on the "go ahead" of the Café and what we need to support the decision and who else we needed to communicate with. We are able to design and implement new commercial units "yes we can!" ***Premise:*** Our conversations were about *d*ifficulty with and mistrust of many university staff towards the CPT. We observed disparity between espoused vision for commercialisation and income generation of the senior management and the actual support they provided to make the vision happen. We often commented on communication from the senior management team concerning the need to have additional commercial units such as the Outdoor Café in place and we questioned ourselves on many occasions if we really had their support for the initiatives. The OD and I had many conversations about the possibility of putting in place a commercial structure headed by a Commercial Director and a dedicated support team, as our workload was increasing, and the mandate of the CPG to implement new commercial services did not appear to be strong enough. **How did second person experience push first person learning?** When I met with the HD in order to get a business plan including financial forecasts forecast I realised that the lack of individual financial skills was not the only reason for not producing business plans. The existing financial system used by the university made it very difficult to record commercial income and profits. The system was focussed on what government funding was spent. During the cause of the café interventions I had many meetings with other university staff, in order to solve the problems of who is making the decision for the go-ahead, in the absence of the OD. Initially I met with the HD but he said he will do nothing until the OD gives him permission, and in writing, in case somebody would object and blame him for building a café outdoors without permission. "If somebody cuts of the branch, I make sure she sits on it, too.	**To the wider university community** Transferred new knowledge into overall commercial strategy and structure through reporting **To scholarly community** E.g. Barriers to NSD emerging as the result of the NSD initiative (see Chapter 7) IN: Lack of commercial skills FO: Dual decision making structure, lack of appropriate financial systems IO: Risk aversion, commercialisation does not fit into the organisational ethos

	Examples for First Person Research	Examples of Second Person Research	Examples of Third Person Research
	Why does the Hospitality Director (HD) not move ahead in the absence of the OD (on long term sick leave)? What is he afraid of? The Café is under his remit. Is it because I was made CPM (Commercialisation Project Manager) and not him? ***(Process)*** *Strange, even though I'm the most junior member of the group in terms of hierarchy, I'm the only one with project management and business planning knowledge and skills. I have to show everybody what needs to be done, how to do financials and I don't really have the time. Still, everybody is grateful, so perhaps they will help me in other matters. My knowledge and skill set are definitely needed here, so this should enhance my credibility* ***(Content, process).*** *Why do we have to get the facilities committee involved for a decision? The decision to go ahead has already been made by the OD.* ***(premise)*** *The next facilities committee meeting will be in autumn, by then we will have foregone a lot of income from the tourist summer business* ***(process).*** *After asking the HD to go ahead he refused, as he did not want to get blamed if anything goes wrong. He insisted to wait until the OD returns* ***(content, process)*** *And where is the senior management team support now? We can't even get an appointment with the VP, in the absence of the OD. What is everybody afraid of?* ***(content, process)*** *The initial team spirit of being pioneers and changing the world is waning.* ***(content, process)*** *I have to display more enthusiasm, motivate everybody for the cause. The café has to be a success, or commercialisation will be dead in the waters (****content, process)***	Thereafter I was invited to the Planning group, in the ODs absence. I made a case that we still did not have the official go-ahead for the café. It was then suggested to put in place a task force who would make commercial decisions, consisting of the current members of the CPG. I was a bit frustrated as I knew that no implementation would result from that in the absence of the OD. I realised that the fear of being blamed for doing something without permission is pervasive. I learned from these incidents that nobody wants to take the risk, that the current committee structure is a problem for commercialisation, as well as the lack of financial skills and appropriate financial systems.	

	Examples for First Person Research	Examples of Second Person Research	Examples of Third Person Research
	*Next time we need to ensure **real** support from academia as they are calling all the shots around here* ***(premise, process)***		
Filming	**Upstream** *Ok I am a good project manager and can handle new initiatives which is confirmed by others* ***(content, process)*** *My perception that things would be easy was wrong, even a small commercial project get a lot of push-back, even though they benefit the university. I will have to consider a different approach.* ***(process)*** **Downstream** *For the Café I did not get real support and commitment from academia or senior management in general. This time the VP wants the project to happen so I will ensure that he will publicly commit to it* ***(content, process)*** *Sponsorship from a very senior administrative director does not work here as it does in the private sector hierarchy****(content, process)*** *Still, my experience with project management is applicable. Being organised and providing clear project plans so everybody knows what has to be done by*	**Overall** We discussed and reflected on Filming related issues during 16 CPG meetings as well as during Filming subgroup meetings. ***Content*** was concerned with what building locations would be included, what insurance and legal issues should be covered. For example, after the email from the VP we met to discuss the implications of the movie making. Whilst the DAC and buildings officers saw many obstacles and problems all understood the necessity to proceed with the initiative, even though additional income would not be generated. The email from the VP legitimised the initiative. As protest from many members of staff arose concerning health and safety issues and noise, I had to handle each of those concerns and pacify protesters and explain that this disruption would soon pass and that we could learn from it and make things better for the next movie. Filming is not only generating income, it has also a marketing value ***Process*** reflection was concerned with logistical issues such as the filming schedule and how we could work around the university calendar. We are able to learn from earlier initiatives ***Premise*** discussions were about the rationale of causing major disruption to the university life when we would not generate additional revenue. As a Group we found eventually consensus that Filming "was here to stay". However, there were still strong objections from some Traduny staff. The OD and I invited them to individual meetings, listened to their concern, but also endeavoured to convince them that this commercial initiative was necessary for Traduny's future.	**To the wider university community** Transferred what was learned into overall commercial strategy and structure through reporting and into a filming policy **To scholarly community** E.g. Barriers to NSD emerging as the result of the NSD initiative IN: No experience with film location services FO: No clarity about buildings ownerships IO: Risk aversion

	Examples for First Person Research	Examples of Second Person Research	Examples of Third Person Research
	when was very useful and appreciated, so I'll do it again. ***(content, process)*** *I will have to make sure to push the benefits for academia e.g. to attract international students - don't mention commercialisation!* ***(content, process)*** *The VP is delighted that he does not have to worry about the Filming logistics. I will ask him to send out an email to the university to show is commitment. The communication officer can draft it for him so there will be no work involved for him* ***(content, process)*** *If anybody is objecting again I'll meet them in person to see what's going on. I won't let anybody talk negatively about the project behind my back and undermine me, this project is now also in the public eye, the national media, so it can't go wrong!* ***(content, process)*** I need to be careful on how I am framing the initiative in my communication with stakeholders **(Content)**	**Further reflections about work with others** *Never thought that service managers would reject the Filming project so much! OK we are not making money this time, but the marketing value is nearly 1.5 million Euro!* ***(content)*** *Also, nobody knows who owns what building and decide if the location can be used in the movie? Or is it just an excuse because it is too risky to commit?* ***(content)*** **How did second person experience push first person learning?** Per email I had sent a list of logistical tasks asking members of the filming group to carry out. However, at the next meeting nothing was done. When I asked why, there were a number of reasons, for example lack of knowledge who own what building and if "the academics" –the fellows- would really let us do the movie. "All that noise and commotion". From then on I decided to have regular, short operational "stand up meetings", where logistical issues were discussed and solutions found. When objections arose, I just I reminded all that the movie will attract international students, which is good for the university, and anyway the VP wants it to happen, so I took away the risk of being blamed for doing something that was "not allowed". *It was a good idea having these short operational stand up meetings for crisis management so everybody has to come up with solutions, rather than problems. Nobody dared to be an obstruction to a project that is sponsored by the VP and is featured in all the public media* ***(content, process)***	
Experience	**Upstream** *I'm still not influential enough to get funding for the project and neither is the OD, so we'll have to operate within our own remit. Commercialisation is still seen as an alien concept to the university* ***(Content, process)*** **Downstream** This is the first time these service managers will work together so it is a bit a journey into the unknown for me and for the new team **(process)** I'm able to motivate people to work together, negotiate support from senior managers **(content)** A lot of extra work leading this project, but very rewarding and enjoyable **(content)**	***Overall*** During the Experiential initiative, 13 CPG meeting took place and 5 Experiential subgroup meetings ***Content:*** discussing what activities are feasible to be carried out, if a budget was available and what impact the initiatives would have. *We are pioneers, creating a new combined service to the public* ***Process*** reflection of the initiative concerned for example what steps needed to be taken in order to achieve specific outcomes. *We are able to work together, we can learn from each other Developing new services is not just a lot of work but also fun and a learning opportunity* ***Premise*** discussion took place mainly in the first subgroup meeting when the overall objective was discussed and decided upon. **How did second person experience push first person learning?**	**To the wider university community:** Transferred into overall commercial strategy and structure through reporting **To scholarly community** E.g. Barriers and Enablers to NSD emerging as the result of the NSD initiative

	Examples for First Person Research	Examples of Second Person Research	Examples of Third Person Research
		In August 2011 the first experiential services workshop took place and all invitees attended. These were the catering manager, the accommodation manager, the library shop manager, the library events manager, the sports centre manager, an exhibition space manager and the commercialisation officer. *Things were working very well. I had underestimated the enthusiasm and creativity of the people involved. It was like a lid had been lifted".* Even though it had not been required, most managers brought lists of new ideas; two had mock-ups of possible new posters and brochures for example one was called "Welcome to the Traduny Experience", and listed existing attractions on a map. All managers engaged and debated which ideas could be implemented. *"OK, the new Experience Project team is very enthusiastic about finally being able to bring their ideas to fruition. Ideas that have been in the draw for years, because their directors said that they would not work! However, I need to protect them, because if the wider university I finds out about what we are trying to do, they will try to block us before we even have started!"* *"We as a team work well together, all bring to the table their expertise, exchange knowledge and learning so much about each other's areas. There are so many opportunities to collaborate commercially! All these fantastic and sometime wacky ideas . I let the OD know what we think needs to be done for an overall commercial strategy. We all should continue to work together in a commercial structure, with dedicated funding and support. We are onto something here."* *"It was tough enough to get the HD to agree to let his staff partake. But now he planted somebody else on the team who will tell him everything that's going on! He is still devastated that I got the CPM role and not him!"*	Barriers IN: Planting informants on project team who do not add any value FO: No funding for larger projects IO: Not exploring ideas from middle managers Blocking middle managers from partaking in NSD Enablers: FO: Cross- Functional Teams IN: Negotiation skills
Heritage	**Upstream** *I have to be careful as not being seen as the driver of trying to commercialise an religious artefact,* *I have no experience with branding (content)* **Downstream** *This group definitely need my expertise. I hope though, the group understands that I do not want to be seen as the driver!* ***(Content, process)*** *The external consultant seemed to be so knowledgeable but the risk of failure is too high if his numbers are wrong as the accounting manager suggests* ***(process)***	***Content:*** Initially the content of the initiative was discussed prior to my joining the Heritage subgroup. An external branding consultant had supplied the group with business forecasts, logo designs and potential supplier names. This service product is completely new to us. There are limitations to what we can learn from each other, we need external branding expertise ***Process:*** was less clear as the consultant had no awareness of Traduny's "internal workings". I was able to add expertise in this matter as I had the experience from the OD office on how major decisions were made, formally and informally A stretch in our capabilities, however we are able to tastefully commercialise and inherently religious artefacts. *We can apply our existing resources in different ways, a lecture theatre can also be a site to care for the injured and traumatised staff, students and visitors*	**To the wider university community:** Transferred into overall commercial strategy and structure through reporting **To scholarly community:** E.g. Barriers to NSD emerging as the result of the NSD initiative

	Examples for First Person Research	Examples of Second Person Research	Examples of Third Person Research
	All I can contribute is how to navigate this initiative through the university decision making process ***(content, process)***	***Premise:*** meaning construction had also taking place prior to my arrival at the group. However, only after receiving the official "go-ahead" from the executive officers group in July 2011, we felt comfortable to proceed, as the initiative had already attracted media attention about "selling out" a religious artefact. I had been reluctant to push this matter forward also, as the shop manager had hoped to run the initiative without OD office involvement and also because I am a foreign citizen and being the driver of commercialising a domestic religious artefact could have been negatively exploited by opponents to the initiative. **How did second person experience push first person learning?** *The trust in the external consultant is diminishing, his numbers don't add up as the accounting manager showed us! It will be embarrassing for the OD and me to halt the project, but better do it now before an investment is made. We have already achieved the brand incorporation, but we need real branding expertise.* *"We learned a lot about branding so we now know where our limitations are"* *I was naïve to trust the so-called branding expert!*	IN: no branding expertise Being too trusting with external experts FO: no legal support IO: risk avoidance Enablers IN: Knowledge of university decision making process
E m e r g e n c y	**Upstream** *Self- doubt…can I do this after Heritage went so wrong???* ***(Content)*** **Downstream** Another journey into the unknown… The commercial initiatives were very challenging, but now I have a policy to implement. **(process)** *Really feel appreciated. As the CPM I was always seen as so commercial perhaps some wheeler –dealer, always thinking of money, and in contrast to the organisational ethos I think Now I fit in! I feel I have arrived! Or should a say the initiative fits in! Planning for emergencies and potentially protect and save lives is so rewarding!* A worthwhile initiative to coordinate ***(content)*** *I'm really enjoying being involved, nobody is working against me!* ***(process)***	**Content:** In a number of meetings the ERP Group discussed and made decisions regarding the ERP content, the service system, for example which locations to include and what support teams to involve. *We care for our students, staff and visitors* ***Process*** issues concerning for example how to communicate when the phone lines were down, how to inform next of kin of emergency victims were discussed and decided also. **Premise:** The premise to protect lives and to prevent harm was given from the start, so meaning construction in this regards did not feature in meetings. However, a common question was how much resilience and ability to respond within the given means and capabilities were often a matter for discussion. As I was responsible for the budgeting, I often had to manage the group's expectations on what protective equipment could be purchased and installed. During the cause of the initiative a different premise also emerged – legal liability limitation. *I did not have to fight hard to get members for the project group, they all volunteered and wanted to be here!* *For the commercial team the OD had to request members to partake* *The table top exercise provide great learning to us and the university.*	**To the wider university community** Transferred into university emergency planning policy, Team members and I gave many presentations to schools and facilities **To scholarly community:** E.g. Barriers to NSD emerging as the result of the NSD initiative IN: None FO: Little funding available to implement all required facilities

	Examples for First Person Research	Examples of Second Person Research	Examples of Third Person Research
	This initiative is so easy to implement, (Volunteers!) in comparison to commercial initiatives! **(process)**	**How did second person experience push first person learning?** *When I sent out an email to ask for support I did not expect to receive so many positive answers! The only obstacle is the lack of funding, but people are will to give their time wherever possible* *This initiative is so much easier than all the commercial initiatives. No pressure to implement quickly, just make sure improvements are made and resilience increased.*	IO: None Enablers: IN: Necessary skills and knowledge within the group FO: Policy to implement in place
ServiceLevel	**Upstream** *I have a lot of experience in implementing service levels so this project should be easy for me. Also, the initiative is not obviously commercial, it directly is of benefit to the academy and the DOL **(Content, process)*** *I am able to transfer my experience of shared services from the private sector to the public sector **(content, process)*** **Downstream** *I now know that there still can be a lot of surprises in this university, nothing is straightforward – progress cautiously! **(process)*** *I am able to build effective and enjoyable working relationships with people external to my formal area of influence(Process)*	***Content*** The DOL and I met on several occasions to discuss what services the SLA should contain . *We achieved the first over combined service level agreement in this university* ***Process***: how the process of service execution should be designed . ***Premise*** We agreed that the SLA could serve as a pilot for other SLAs between university services and agencies . **How did second person experience push first person learning?** *The DOL and I are working very well together, I look after the corporate end of things and he looks after the academy we both appreciate each other's work. I relate well to my administrative colleagues, even though some complained first about having to provide services to the academy now when initially they did want to organise all the work independently. However, in a way it is a complement for them, that there is nobody externally who can provide a better fit service*	**To the wider university community** Transferred into overall Service Level Policy for the Academy. Many other schools were recipients of the service level template **To scholarly community** E.g. Barriers to NSD emerging as the result of the NSD initiative IN: none FO: none IO: unusual to combine many services in one service level agreement Enabler: IN Experience with Service Levels, Transactive Knowledge

	Examples for First Person Research	Examples of Second Person Research	Examples of Third Person Research
			FO: Existing Decision making hierarchy adequate
Risk	**Upstream** *I have a lot of experience with risk management, but the initiative implementation means more work for everybody. **(Content, process)*** **Downstream** *People are so overworked! To get on their agenda I need a compelling narrative. How can a make risk management look interesting and important? **(process)*** *I now know that there still can be a lot of surprises in this university, nothing is straightforward – progress cautiously as in previous initiative (**progress)*** Whilst Risk management is an government audit requirement, it is important to me that all university staff understand its importance **(content)** I have influence in the formal OD area but my influence in the academic area is minimal **Process**	***Content***: As I was the only person coordinating the risk policy implementation I met with "risk owners" to gain input on what the high level risks are (content) and how they could be mitigated. we believe that we have to manage our risks ***Process*** The university auditor was able to give me advice on the views of the audit committee in this regard . There are stages in generating institutional awareness of risk and response to risk reduction/mitigation ***Premise*** Meaning construction about the premise emerged usually when risk owners questioned the usefulness of compiling a risk register when many risks are unpredictable. The risk register was an audit committee requirement and was seen by some as a "paper exercise", which made it challenging for me to get time commitment from stakeholders to develop risk responses **How did second person experience push first person learning?** *I understand what people say that this initiative can be seen as a paper exercise and not adding any real value to the mission of the university, still it is an audit requirements and the government wants it implemented for insurance reasons. Everybody is so stretched for time, if I do all the preparation work it should be easier. But I don't have time either. There has to be a better way.* *The workable solution seem to be that a risk assessment is added to each major initiative*	**To the wider university community** Transferred into overall commercial strategy and structure through reporting **To scholarly community** E.g. Barriers to NSD emerging as the result of the NSD initiative IN: Lack of skills to engender support from the academic community FO: Risk management not embedded in practice IO: Risk management seen as an administrative task and paper exercise

Appendix J: Sources of Power, Politics and Effect on Core AR Project

	Formal Organisational Arrangements (Sources of Formal Power)	Informal Organisation (including Organisational Ethos)	Individual (Power as a personal property)	My position compromised	Impact on the way the study (the core AR project progressed and outcome
Café	HD formally in charge of all catering outlets. However, nobody was sure who had the decision making power to sign off the project. (FO). There were two committees in place, however they only met three times a year, too infrequent to make required operational decisions (FO)	The planned café is “Interfering with iconic beauty of surrounding buildings” (IO) Commercial projects are seen as outside the core mission of the university (IO)	Many individuals applied their influence and protested against the café (IN)	Could not get a definitive decision to start the Café implementation, but kept the Café persistently on the agenda, addressing objections that were brought to the commercialisation group	**Impact** Slow progress. It took 24 meetings over 17 months and a delay of one year caused by the initiative being the first commercial project and being very visible **Outcome** The Café intervention was implemented with a delay of one year.
Filming	The Vice president (VP) mandated the project as valuable for attracting overseas students, applying his reputation and status of a high – ranking academic (FO) Other objections were raised by the Risk Assessment Manager , stating the danger during filming (FO) and the Accommodation Manager, as the filming date was not suitable, clashing with events of the university calendar (FO)	The VP linked the initiative to overall purpose of the university so it was somewhat acceptable (IO)	Individual used their status in the university to complain against the noise and the disturbance of the filming (IN)	Not able to charge locations fees, view of VP not challenged by me nor the OD as we agreed with his point on marketing value.	**Impact** No commercial income as VP had already negotiated that location fees would not be charged, but the university should be mentioned in the story line, ensuring a significant marketing value. **Outcome** Filming was completed on time, within existing resources. A Filming policy was developed. Traduny was mentioned in the story line of the movie

	Formal Organisational Arrangements (Sources of Formal Power)	Informal Organisation (including Organisational Ethos)	Individual (Power as a personal property)	My position compromised	Impact on the way the study (the core AR project progressed and outcome
Experiential	HD blocking participation of his subordinate managers (FO) Planting people on teams to block decisions (FO) Power dynamics between senior and junior staff made collaboration challenging, as drawing subordinates into an initiative posed a threat to more senior employees (FO)	Project hidden, so not challenged by forces opposed to commercialisation (IO)	Individuals giving or withdrawing support in accordance with their own personal agendas (IN)	Initial delays as the HD's direct reports were not allowed to partake OD questioned why I did not progress quicker	**Impact** Person reporting back to the HD on team. Information about the HD brought to me **Outcome** In the Experiential intervention service operations managers worked in collaboration for the first time, implemented new services within existing resources. A university experience strategic plan was developed one year later and a commercial directorate was put in place
Heritage	No formal structure to 5.xsupport project Procurement policy (FO) No support from the Finance department, due to limited resources (FO)	Potential reputational damage to the University (IO)	The Finance Manager applied his financial expertise to demonstrate that the Heritage project may not deliver the expected returns (IN)	I had to abandon project as there were too many obstacles derived from FO, IO and IN	**Impact** The project had to be abandoned **Outcome** During the core project timeline, a Heritage brand was registered. However the project had to be shelved, as income was uncertain and reputational damage a possibility One year later the brand was developed and branded merchandise is now available in shops, in Ireland and abroad.
Emergency	Power derived from the FO did not negatively impact the initiative	Project seen as within the university mission and as such legitimate (IO) Volunteers to help on emergency phone lines No negative impact from power derived the informal organisation	No negative impact on the project. However, the OD asked me not chair the project as she felt I would divert too much time from supporting the OD office	Despite the members of the EM team selecting me as their Chair I had to withdraw and take on the role as secretary	**Impact** Progress was not impacted **Outcome** Increasing resilience For Emergency Planning an Emergency planning policy has been approved by the University Board.

	Formal Organisational Arrangements (Sources of Formal Power)	Informal Organisation (including Organisational Ethos)	Individual (Power as a personal property)	My position compromised	Impact on the way the study (the core AR project progressed and outcome
Service Level	So far there had not been a combined SLA for all administrative services in place for all (FO), but this did not negatively affect the project once I handled objections	Linking to the purpose to provide service to academia, and by the idea that this is the first combined SL (IO)	Some objections form service managers as an overall SLA had never before been implemented (IN) but they were overcome by emphasising the service to the academic mission of teaching and research	Power derived from the FO, IO and IN did not compromise my position	**Impact** Some delays as decision makers were absent, however, FO, IO and IN did not considerably impact the project **Outcome** The Service Level intervention was approved and implemented with two months delay.
Risk	Collegial structure, OD area has no formal power over academic side of the university (FO)	The management of risk was seen as an administrative task, taking away time to carry out the main mission of the university of teaching and research (IO)	Despite meetings with Faculty Deans and Heads of School – involvement was usually delegated to administrative officers	I was not able to implement Risk management to the academic community during the study's timeline	**Impact** Risk not rolled out to Faculties and Schools **Outcome** The new Risk Register was approved, but university-wide implementation is still outstanding

Appendix K: Challenges and Solutions of Two Structures within one University

	Challenges	Solutions	Decision made by whom	Implementation by whom	Overall theme
Café	HD formally in charge of all catering outlets. However, nobody was sure who had the decision making power to sign off the initiatives. There were two committees in place, but they only met three times a year congruent with the academic year structure, too infrequent to make required operational decisions No clarity over decision making structure	Uncertainty - OD made decision to go ahead, but nobody knew if she had the authority to do so	Decision was made at senior forum consisting of both senior members from both admin and academia to generate income through commercial activities. The decision to implement the café specifically was made by the OD	Implementation without certainty who had the authority to make this decision by the commercialisation work group.	**Uncertainty and "Rule—breaking"** Outside the organisational ethos both academic and administrative structure, but using the **uncertainty** of decision making authority and **"rule-breaking"** implementation was achieved.
Filming	Objections were raised by the Risk Assessment Manager, stating the danger during filming and the Accommodation Manager, as the filming date was not suitable, clashing with events of the university calendar. Academics living on campus complained about the possible noise and disruption. Objections raised from both academics and administrative areas	The Vice president (VP) mandated the project as valuable for attracting overseas students, applying his reputation and status of a high – ranking academic. As such the VP linked the initiative to overall purpose of the university so it was somewhat acceptable	Decision was made at senior forum consisting of both senior members from both admin and academia to generate income through commercial activities VP then decided Filming should go ahead to attract more non-academic students, without generating immediate income through location fees	No structure available so the commercialisation work group and the filming sub group implemented the initiative, negotiating with each individual concerned and in groups was needed to be done, Many meetings with individuals were necessary to ensure support throughout the initiative. Mandate from senior academic helped	**Uncertainty and Reinterpretation** Outside organisational ethos both academia and admin, but **reinterpretation** to achieve fit with ethos– decision made through academia, implementation by administration
Experiential	HD blocking participation of his subordinate managers (FO) Planting people on teams to block decisions (FO) Power dynamics between senior and junior staff made collaboration challenging, as drawing subordinates into an initiative posed a threat to more senior employees (FO)	Member of the academic were not aware of the NSD initiative during the research timeline Administrative structure aware but objections were overcome as the OD supported the initiative	Decision was made at senior forum consisting of both senior members from both admin and academia to generate income through commercial activities OD then tasked KDG with leading the experiential group	Implementation by experiential workgroup, hidden from other members not involved in initiative	**Secrecy** No fit with organisational ethos for both academia and admin, but secrecy enabled the implementation

	Challenges	Solutions	Decision made by whom	Implementation by whom	Overall theme
Heritage	Procurement policy to be adhered to No support from the Finance department, due to limited resources Potential reputational damage to the University It wasn't the structure that challenged the initiative, more the (perceived) mismatch with the organisational ethos and uncertainty concerning financial benefits The main challenge was the absence of any supportive structure for an initiative of this magnitude	I had to abandon project as there were too many obstacles during the research timeline. After research timeline the commercial directorate was established hiring more commercial and branding expertise	Decision was made at senior forum consisting of both senior members from both admin and academia to generate income through commercial activities	No support structure and specific branding knowledge available, initiative had to be abandoned	**Abandonment** Initiative did not fit into organisational ethos Decision made by workgroup ("this is not going to work at this time")
Emergency	No challenges as both structures supported the project	Initiative was implemented as planned	Policy decision by University Board	Implementation by emergency work group and many volunteers from both admin and academic	**Initiative fits within organisational ethos** (Saving Lives), Decision made by work group and not challenged by anybody
Service Level	Academic structure welcomed the combined service level, members of the administrative structure had never before developed a combined service level	Addressed administrative objections by mentioned the benefits to academia, and as such to the overall mission of the university	OD in conjunction with academia	By Service level work groups referring to OD who had mandated the initiative – benefitting academia	**Initiative fits within organisational ethos for academia**, initially not for admin (Service Provision for Academia) Decision made by workgroup, supported by academia and admin did not stand in the way afterwards
Risk	OD area has no formal power over academic side of the university. The management of risk was seen as an administrative task, taking away time to carry out the main mission of the university of teaching and research	Self-management of academia – adding a risk register to individual large scale projects	Policy implementation decided by university Board	OD office manager referring to OD mandate, but did not work for academic structure Self-management of academia – adding a risk register to individual large scale projects	**Initiative fits within organisational ethos, but autonomy required for academia** Tension between the two structures

Appendix L: Summary of Meaning and Implication of Each of the Interventions

	Core AR Project: **Meaning and implications for the University**	**Thesis AR Project: Implications for Theory**	**Thesis AR Project: Implications for Practice**
Café	Implemented outdoor café with 1 year delay <u>Content</u> University has a new income generating outlet Signalling function "Open for business". University is willing to take its destiny in its own hands by using its resources for commercial purposes to address the funding crisis <u>Process</u> Food and beverage can be consumed outdoors	<u>New Service Development (NSD)</u> **(e.g. Voss and Zomerdijk, 2007)** NSD has 3 dimensions, BM, SS, SP, BM and SS are minor, but SP major Sequence: BM is revised after SS and SP development <u>Resource Based View (RBV)</u> **(e.g. Santos and Spring, 2013)** Barriers and enablers can be found in the IN, FO and IO operations resources Example: FO Barrier was the inadequate accounting system <u>Capability Development Research (CDR)</u> **(e.g. Börjesson & Elmquist, 2011)** Capabilities are developed through linking learning and transferring Examples are: Link: implemented a new (self-designed) financial performance system by linking financial and operational competence Learn: Learned by applying cognitive (mission statement) and structural learning mechanisms (cross functional meetings) Transfer:	Implementing a new outdoor café within a traditional university can require service managers to consult with many stakeholders and perhaps for them to implement new financial systems – however, additional income can be achieved

	Core AR Project: Meaning and implications for the University	Thesis AR Project: Implications for Theory	Thesis AR Project: Implications for Practice
		Transferred learning to all other initiative through my involvement, the HD and the OD IAR (Insider Action Research **(e.g. Coughlan & Coghlan, 2002)** See overall analysis in C8 CTP (Contingency Theory Perspective) **(e.g. Ostrom et al. 2015)** See MEX MEN analysis	
Filming	Implemented on time within existing resources and developed filming policy Content A multicultural and diverse university, welcoming and integrating commercial and academic initiatives. A new commercial opportunity, both in income generating terms as well as attracting international students Process Some disruption to the day to day running of the university, but also that it can be fun and it also passes Both content and process meant a demonstration of our openness to international cultures, openness to activities outside our core mission of teaching and research.	NSD 3 dimensions BM, SS and SP sequence initial BM had to be revised, after SS and SP development. Major new BM, minor new SS, major new SP RBV Barriers and enablers can be found in the IN, FO and IO operations resources Example: FO Barrier: Fitting in filming schedule with teaching and research schedule CDR Capabilities are developed through linking learning and transferring Examples are: Link Linked existing facilities to filming needs. Planning with representatives from many areas Used university legal department to draw up contract with movie producer	Filming can be commercially rewarding if managed carefully and the university's reputation is protected A potentially controversial project (outside the current university mission) needs senior academic sponsorship

	Core AR Project: Meaning and implications for the University	Thesis AR Project: Implications for Theory	Thesis AR Project: Implications for Practice
		Estates department to engage insurance company Learn Structural Learning Mechanism: Regular cross-functional team meetings Post project review Transfer Transfer of learning to Experiential Details of locations, contacts, remits Physical areas of the university that could provide an experiential service product <u>IAR</u> See overall analysis in C8 <u>CTP</u> See MEX MEN analysis in Section 5A	
Experiential	Service operations managers worked in collaboration for the first time, implemented cross-functional new services within existing resources <u>Content</u> The university now possesses its first combined visitor service <u>Process</u> The process needs to be better resource to secure higher financial returns	<u>NSD</u> Major new BM, minor new SS and major new SP Sequence: BM is revised after SS and SP development <u>RBV</u> Barriers and enablers can be found in all operations resources FO Enabler: The physical environment was an enabler as the historic site was a major attraction for visitors and projects were selected in order to exploit it.	In order to combine existing university services to create a new visitor experience, NSD managers should form cross-functional groups with service managers to develop new experimental services. Their ideas and ways of working may potentially lead to establishing a new organisational structure.

	Core AR Project: Meaning and implications for the University	Thesis AR Project: Implications for Theory	Thesis AR Project: Implications for Practice
		<u>CDR</u> Link Linked existing facilities to experiential service needs Learn Workshop meetings in 6-week interval, always at different locations, facilitated by different service managers Transfer Through moving to subsequent project the necessity of having a PM for each initiative was highlighted <u>IAR</u> See overall analysis in C8 <u>CTP</u> See MEX MEN analysis in Section 5A	
Heri tage	Not Implemented, but Heritage brand was registered <u>Content</u> University Potentially a high income generator but needs to be managed carefully <u>Process</u> Branding expertise has to be acquired externally	NSD Majoring in all 3 NSD dimensions, but was not implemented Sequence: A BM was developed, but for SS and SP only creative, selecting and planning actions took place as the initiative was abandoned during the research timeline <u>RBV</u>	An NSD initiative majoring in all there NSD dimensions may to too complex for NSD managers without specific expertise and dedicated resources of all NSD dimension are major

	Core AR Project: Meaning and implications for the University	Thesis AR Project: Implications for Theory	Thesis AR Project: Implications for Practice
		Barriers and enablers could be found in all operations resources Example IN Barrier: No experience with Branding <u>CDR</u> Link Linking what legal aspects have to be satisfied from university solicitor to the Heritage requirements Learn Structural LMs: Regular Heritage Team Meetings, inviting University Solicitor, procurement officers as required Transfer Acceptance that there is a "Plan B" needed No appropriate expertise, consultants can produce flawed BMs - no resources to check them <u>IAR</u> See overall analysis in C8	
Emergency	Emergency planning policy was approved by the University Board <u>Content</u> As a university we care for our students, staff and visitors, ensuring we can respond to a university wide emergency in a coordinated way <u>Process</u>	NSD (Major BM and SS, but minor SP) BM revised after SS and SP development (BM = Policy), no financials in BM <u>RBV</u> Actors were able to contribute in their own area of expertise – enabling skills - (Security, Health, Counselling) cross functional teams progressed well. <u>CDR</u>	The operationalisation of university services to support emergency response planning is possible and findings may by transferrable to other universities

	Core AR Project: Meaning and implications for the University	Thesis AR Project: Implications for Theory	Thesis AR Project: Implications for Practice
	We have operationalised the emergency response policy	Link Linked physical resources to the requirements of the emergency plan Learn Regular exercises, post exercise reviews Transfer Transfer to Service Level A policy document is similar to a business plan but does not need to contain any financial information <u>IAR</u> See overall analysis in C8 <u>CT</u> See MEX MEN analysis in Section 5A	
Serv ice level	Implemented with two month delay and policy approved <u>Content</u> We welcome the service provision to adjunct institutions <u>Process</u> We now know how to develop a combined service level agreement and can do it again	<u>NSD</u> The BM is the Policy Sequence: BM is revised after SS and SP development <u>RBV</u> In general in MEN interventions less barriers emerged FO Enabler Existing decision making structures were suitable for application, as there were no financial urgencies or seasonality as in commercial projects <u>CDR</u>	The combined service provision of services can offer benefits to external academies

	Core AR Project: Meaning and implications for the University	Thesis AR Project: Implications for Theory	Thesis AR Project: Implications for Practice
		Link There were already individual service levels in place that actors combined. Learn Structural LM: One-to-one and group meetings with project managers and service managers Transfer none IAR See overall analysis in C8 CTP See MEX MEN analysis in Section 5A	
Risk	The new Risk Register was approved, but university-wide implementation is still outstanding. Content As a university we believe that we have to manage our risks Process The process is tedious and time consuming, specific risk management resources may be required	NSD A university policy is similar to a policy SP minor Sequence: BM is revised after SS and SP development RBV Enabler IO: Risk management does not clash with the culture of the university ,IW Meeting with all stakeholders individually to get their input helped to progress projects CDR	The identification of different risks and their impact can be useful in implementing services. So, reducing risk can provide stakeholders with the higher security.

	Core AR Project: Meaning and implications for the University	Thesis AR Project: Implications for Theory	Thesis AR Project: Implications for Practice
		Link Linked internal decision making processes with risk communication needs Learn Formal LM: Regular meetings with risk owners, review at executive meetings Transfer Highlighted lack of structure resources and need to change policy <u>IAR</u> See overall analysis in C8 <u>CTP</u> See MEX MEN analysis in Section 5A	