THE TRANSITION TO OPEN INNOVATION: A CASE STUDY IN THE BANKING INDUSTRY

by

Daniel Peter Fasnacht

THESIS SUBMITTED TO
THE UNIVERSITY OF NOTTINGHAM
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

November 2005

ABSTRACT

The business model of many banks - selling financial products, services and advising customers - has not changed significantly during the last twenty-five years. Nevertheless, the process by which ideas are identified, required knowledge is incorporated and utilised, innovations developed and distributed, has changed radically. The reasons for this transformation are the volatile, uncertain geopolitical climate driven by increasing competition, economic pressure, regulatory changes, technological innovations, and the changing nature of demand. Although banking has traditionally been a conservative industry, resistant to change, these strategic challenges are forcing firms to make extensive adaptations to the changing environment, with innovation as a source of competitive advantage. The blend of openness, flexibility, discipline, and focus on the core business captures the innovation *zeitgeist*.

The overall phenomenon that will drive change, beneath the surface of banking in years to come, is anticipated to be the shift from a closed to an open innovation paradigm. In recent years, most banks have embraced "open architecture" as a model that offers clients a full range of products, regardless of suppliers. Some banks have gone even further and restructured their client advisory processes as a complementary service to their product portfolio, with the aim of increasing customer value. Managing multiple product offerings, serving, and advising clients across the globe triggered investments in organisational and technological infrastructures. The capability for open, flexible, and aligned interactions is required for all business practices, but is particularly important for integrating acquired institutions. This capacity is crucial for the bank's growth strategy of onshore banking operations for wealthy private clients.

The bank, whose experience forms the basis of this doctorate, has been a leading example in the financial service industry of a firm that has embraced the need for open innovation. It realised that the strategic value of the future will be the combination of technology, knowledge, and innovation, as given emphasis to some extent in the knowledge-based view of the firm. This study examines how open

innovation was adopted and developed in the context of the banking industry. In particular, it analyses how the studied bank responded to the trends and negotiated the transition to open innovation. This transition was based upon organisational and technological innovation and required a set of new management practices focused upon developing dynamic capabilities.

The findings, represented in a proposed integrative framework, provide multiple contributions to knowledge. The core of the theoretical contribution builds on the concept of leveraging capabilities as a set of resources and capabilities aligned through social capital and based on an open innovation culture. This overall picture and novel account, shows that firms can manage strategic change and simultaneously increase efficiency and flexibility by aligning various initiatives and strategies. Another key contribution of this management research is its applied nature, obtained by seeking information that explains the process, rather than just the outcomes of social actions. Through this process, it became apparent that the successful transition relies heavily on the firm's leadership and their ability to provide the organisation with conditions that facilitate innovation and learning. These key issues addressed the integrative aspects of the study, in which theory- and practice-led research combined contributed to the production of knowledge for both academics and managers.

ACKNOWLEDGEMENTS

I wish to acknowledge the contribution and professional support of my supervisors, Professor Ken Starkey, Dr. Sue Tempest, and Dr. Jimmy Huang. Their academic insights were very valuable during the entire PhD process. They finally guided my research and helped to make it a success. I am also grateful to the constructive comments of Professor Mark Jenkins and Professor Peter Swan (OBE), who sat in the transfer panel. I would also like to thank Dr. Heidi Winklhofer, who acted as the Director of the Doctoral Programmes and her successor Dr. Kim Hoque, who provided their support throughout my research. The support and assistance of Linda Pycroft is also acknowledged with special thanks.

Special thanks go to all my interviewees, in particular the UBS executives for their trust and openness in sharing their experiences with me.

I am grateful to all the friends I made in Nottingham over the very intense time of my study, especially those at the Nottingham University Business School for being such enriching companions both within and outside of academia. I further thank Dr. Kurt Weiss and Dr. Christian Jenny for the references during the PhD application process. Hence, they influenced the decision to begin what turned out to be one of my most challenging ventures.

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LIST OF ABBREVIATIONS

ATM	**A**utomated **T**eller Machine
BAK	**BA**sler **K**onjunkturforschung (BAK Economics)
BIS (Tier)	**B**ank for **I**nternational **S**ettlement
CAT	**C**redit **A**sset **T**ransfer
CEO	**C**hief **E**xecutive **O**fficer
CIO	**C**hief **I**nformation **O**fficer
CLS	**C**ontinuous **L**inked **S**ettlement (foreign exchange settlement)
COM	**C**ommunication from the Commission to the European Parliament and the Council Documentation
DTI	**D**epartment for **T**rade and **I**ndustry
EC	**E**uropean **C**ouncil
EU	**E**uropean **U**nion
FDF	**F**ederal **D**epartment of **F**inance (Switzerland)
FEFSI	**F**édération **E**uropéenne des **F**onds et **S**ociétés d'**I**nvestissement
FSAE	**F**our-**S**tep Client **A**dvisory **E**xperience
GDP	**G**ross **D**omestic **P**roduct
HSBC	**H**ong Kong **S**hanghai **B**ank **C**orporation
IBM	**I**nternational **B**usiness **M**achines
ICT	**I**nformation and **C**ommunication **T**echnology
IFSL	**I**nternational **F**inancial **S**ervices **L**ondon
IMD	**I**nternational **I**nstitute for **M**anagement **D**evelopment
ISO	**I**nternational **S**tandard **O**rganisation
IT	**I**nformation **T**echnology
KPMG	Piet **K**lynveld, William Barclay **P**eat, James **M**arwick and Reinhard **G**oerdeler
MIS	**M**anagement **I**nformation **S**ystem
MMI	**M**oney **M**anagement Institute
OECD	**O**rganisation for **E**conomic **C**ooperation and **D**evelopment
ONS	**O**nline **N**ational **S**tatistics (UK)
PATRIOT (Act)	**P**roviding **A**ppropriate **T**ools **R**equired to **I**ntercept and **O**bstruct **T**errorism
R&D	**R**esearch & **D**evelopment

RBS	**R**oyal **B**ank of **S**cotland
RoA	**R**eturn **o**n **A**ssets
SAP	**S**ysteme, **A**nwendungen und **P**rodukte in der Datenverarbeitung
SBA	**S**wiss **B**anking **A**ssociation
SBV	**S**chweizerischer **B**ank **V**erein (Swiss Bank Corporation)
SECO	**S**wiss **E**conomic **C**ooperation **O**rganisation (State Secretariat for Economic Affairs)
SFSO	**S**wiss **F**ederal **S**tatistical **O**ffice
SMA	**S**eparately **M**anaged **A**ccounts
SNB	**S**wiss **N**ational **B**ank
SSP	**S**trategic **S**olution **P**rogramme
SWX	**SW**iss (Stock) E**X**hange
TOGAF	**T**he **O**pen **G**roup **A**rchitecture **F**ramework
UBS	**U**nion **B**ank of **S**witzerland

CHAPTER ONE

1 INTRODUCTION

1.1 Aims, motivation, and significance of the research

The paradigm in which banks of the twenty-first century operate is characterised by openness, ambiguity, and flexibility. Within this open innovation paradigm, customer focus and collaborative organisational forms across firm boundaries dominate businesses. The adaptation to the new business rules calls for organisational transformation. The aim of this research is to explore the trends in the banking industry and to gain a comprehensive understanding of how firms respond to strategic challenges. The examination of the rationale for open innovation in the context of services and in particular, the way banks manage the transition to open innovation, builds the core of the investigation.

Although the financial service industry has been in transformation for the past twenty-five years, it is only recently that innovation within this industry has been studied in its own right. The main reason for this is that technological innovations over the last decade, accelerated the pressure for strategic change in many banks. Advances in information and communication technology allowed them to provide their customers with better and faster information and services across the globe. At the same time, most banks opened up their operating models to innovation and focused on innovation processes that add more value to customers. As they came under increasing pressure for profitability, they also had to improve their operating efficiency. These developments increased the significance of the various interrelations between technology, knowledge, and innovation in economic activity. Described as the cornerstone for competitive advantage (Peteraf, 1993) this view has received growing attention in recent years. It has further led to information-based, knowledge-intensive, and service-driven businesses (Bartlett and Ghoshal, 2002) and radically changed the traditional ways in which banks did their business.

The theoretical justification for researching the specified phenomenon in the context of services is due to the fundamental consequences of the transition on entire industries and markets. At present, this is substantially reflected in the banking industry. Relatively few studies seek to unveil and theorise the fundamental renewal

of many banks, as previous studies tended to focus upon manufacturing and not services. The bank has been chosen, as it is one of the first firms in the financial service industry that has approached a number of strategic challenges *in extenso.* The intrinsic motivation for this research came from the researcher's professional career in a number of management and consulting positions over a period of ten years at SAP and Accenture - both of which are knowledge-intensive and technology-dominated firms. The experiences gained as a knowledge worker, by leading complex projects in the financial service industry, developed an understanding of strategic challenges in the banking industry. This knowledge inspired the researcher to seek further theoretical development in the context of innovation and services.

Research in this field, where a number of academic disciplines come together, would develop a comprehensive understanding about the phenomenon and its wider contextual environment. Therefore, a trans-disciplinary qualitative research (Gibbons *et al.*, 1994; Tranfield and Starkey, 1998) that interrelated strategic management, innovation, knowledge, and organisational change and renewal and that focused on *knowing what* as well as *knowing how* was conducted.

1.2 Synopsis of the extant literature

Innovation is one of the main engines for long-run economic growth. The understanding of the strategic value of the combination of technology, knowledge, and innovation is grounded in the resource-based (Barney, 1991; Wernerfelt, 1984) and later the knowledge-based view of the firm (Grant, 1996; Spender, 1994; 1996; Nonaka, 1994). In particular, the service sector has benefited from such developments. It became the largest sector and the most important contributor to economic growth and employment in industrialised economies (OECD, 2003; DTI, 2003; ONS, 2003). Regardless of the importance of the service sector, the discussion on innovation is still dominated by studies in the manufacturing sector (Gallouj and Weinstein, 1997). Because of the distinct characteristics of services (De Brentani, 1991; Hill, 1977; Flipo, 1988), the adaptation of theories derived from studies in manufacturing to services is difficult. Numerous authors agree that the characteristics and intricacies of services are the determining factors why innovations in the service

sector follow dissimilar patterns to innovation in the manufacturing sector (e.g. Tether *et al.,* 2001; Barras, 1986; Debackere *et al*., 1998; Boden and Miles, 2000). An analysis of national reports about innovation in services in the European Union concluded that the awareness for innovation in general and its management in particular, should be increased in many service fields (Sundbo and Gallouj, 1998).

The examination of the extant literature suggests that in order to leverage innovation, several interrelated factors are important. These include developing and integrating technological knowledge, market, organisational change, and learning capability (Eisenhardt and Martin, 2000). Success lies in a strategic approach to the management of innovation as a set of interdisciplinary processes, rather than as a single-functioned activity (Tidd *et al*., 2001). In particular, in a dynamic and complex environment, successful innovation management implies a structured and emergent development process (Mintzberg *et al.,* 1995; Lynch, 2003). Scholars, such as Pitt and Clarke (1999) commonly put innovation as a core process in the centre of strategic management with the aim of improving the quantitative output of ideas into new products and services. Where firms rely heavily on external resources to synchronise the speed of innovation, its delivery calls for more than just the acquisition and dissemination of knowledge (Huber, 1991). Rather, the delivery of innovation requires a fundamental transformation in its approach through which innovation is initiated, managed, commercialised, and delivered (Starkey *et al.,* 2003).

Chesbrough's (2003a) "open innovation approach" or Rigby and Zook's (2002) "open market innovation" emphasised the importance of collaboration during the entire innovation process and the benefits in channelling the required external resources. The open innovation paradigm (Chesbrough, 2003a) is characterised by flexibility, customer focus, and collaboration. Although this model suggests opening up organisational boundaries, striving for a "boundaryless organisation" as proposed by Slater (1999) or Ashkenas *et al.* (1998) should be considered carefully. Newell *et al.* (2001a) pointed out that every firm need boundaries to a certain extent. Therefore, an adequate "open enterprise" (McElroy, 2003) that includes the linkage of openness in knowledge management and innovation is suggested (e.g. Newell *et al.,* 2002).

The emerging experience in practice portrays a unique challenge for firms to master the transition to open innovation.

The transition might require a renewal of the entire organisation (Barr *et al.*, 1992; Dougherty, 1992). Therefore, the ability has to be developed upon organisational and technological innovation. To achieve this, a firm's strategy must be linked to its contextual environment in a way that facilitates flexibility, creativity, and participation and at the same time maintains stability. Ambiguous approaches to strategy based upon technological and organisational infrastructures (Prahalad and Krishnan, 2002) with the aim to increase efficiency as well as flexibility (e.g. Adler *et al.*, 1999) are therefore fundamental. Thus, it allows the capture of innovation to enable the delivery of enhanced services to the maximum number of its customers. The current literature suggests the use of enterprise architecture as a meta-model that describes the firm's strategic intent, technological direction, and structure (e.g. Schekkerman, 2003; Wolfenden and Welch, 2000). In particular, Schekkerman (2003) conceptualised enterprise architecture on three aligned layers, namely business, application, and technology architecture. Based on this model, infrastructures can be implemented by individual tools to create such architecture. Hamel and Prahalad's (1990) strategic "business architecture" build the basis of Schekkerman's (2003) business layer, which if nurtured accordingly, reflects the essence of assimilating and utilising organisational knowledge (Nonaka, 1994) to generate business opportunities and ideas (Garud and Nayyer, 1994). Other research approached enterprise architecture more from a technology perspective which neglects the integration with business architecture (e.g. Zachmann, 1987; 1992; Byrd and Turner, 2000; Duncan, 1995). While latter is too technology-oriented, the critique of Hamel and Prahalad's (1990) model is that it is merely a broad opportunity approach plan rather than a "multidimensional blueprint" (Wolfenden and Welch, 2000) for all the strategic initiatives of a firm. Although coherent enterprise architecture might be a first step toward an overall knowledge map of the firm, more research is needed that describes how such a framework could be adapted for the management of the transition in the context of banking.

To tie the discussed notions for the management of the transition together, a set of new management practices is required. Previous accounts discussed the concept of dynamic capabilities (Teece *et al.*, 1997; Teece and Pisano, 1994) but failed to address that new specific dynamic capabilities needed to be developed. Where Eisenhardt and Martin (2000) proposed how capabilities are influenced by market dynamism and their evolution over time, Nahapiet and Ghoshal (1998) conceptualised social capital as a means for conjoining resources and capabilities. Other studies suggested focus on human capital (Coleman, 1988; Becker, 1964) and structural capital (Stewart, 1997). Developing "transformative capacity" as described by Garud and Nayyer (1994) and incorporating it in the organisation's infrastructures is what Senge (1990) understood as generative learning in building a learning organisation. Therefore, new organisational knowledge should not merely be created in a systematic manner (Argyris and Schön, 1978; Dixon, 1994; Nonaka, 1994) it should also be incorporated continuously into the enterprise architecture. It is not a resource that can simply be created and transferred (Barney, 1991), nor is it embedded in organisational processes (Winter, 1987). Effective knowledge management in such conditions is reflected in the concept of "centers of excellence" (e.g. Moore and Birkinshaw, 1998). In particular, learning from experience and transferring this experience across the organisation, referred to as the concept of "best practices", is suggested as complementary action to knowledge management (e.g. Newell *et al.*, 2003; Camp, 1989). Thus, the successful management of the transition is clearly based upon the development of a set of new interlinked resources and capabilities for balancing organisational and technological innovation.

Overall, the analysis of the examined literature revealed a number of major gaps. Despite the fact that the service sector dominates industrialised economies, it is only recently that it has been studied in its entirety. In particular, there is a lack of studies, which discuss the transition to open innovation in the banking industry. In addition, the balance of organisational and technological innovation is not well covered in the existing literature. Other gaps were found in the field of knowledge creation and learning. Studies that discuss the set of new capabilities required for the transition in the context of the banking industry are relatively sparse. The lack of a coherent holistic view on the phenomenon in general and a number of other specific

theoretical gaps, called for further research in *service science* that contributes to a better understanding of how firms in the banking industry respond to trends and manage the transition to open innovation. The aim of this research is to develop a cogent understanding of the phenomenon and to provide an integrative framework by tying various disciplines together.

1.3 Research methodology and design

This thesis is grounded in the analysis of the literature on innovation and attempts to accomplish the research objectives by examining practices in the organisational context of a global bank. The researcher followed an interpretive philosophical paradigm and employed a qualitative case study research strategy (Yin, 1994). The experience of one of the largest banks in the world, headquartered in Switzerland, forms the basis of the case study. Empirical evidence came from forty-four semi-structured and in-depth interviews with senior executives of the bank and its business partners, together with onsite observations, documentation, and informal dialogues. Interviewees were selected from various managerial levels in Switzerland, Germany, and the United Kingdom. Information about the firm's environment, as well as business partners with which it interacts, have been included.

For data reduction, data display, and conclusion drawing, the data analysis flow model by Miles and Huberman (1994) was used as guidance. Throughout the process of analysing data, coding principles suggested by Strauss and Corbin (1998) were adapted for building a logical chain of evidence. The process of the critical analysis of the case iteratively drew on the extant literature to compare similarities and differences between the emerging theories and theories already in existence. This approach resulted in an integrative framework that is conceptual, comprehensive, and grounded upon the development of other theoretical contributions (Eisenhardt, 1989). The proposed framework explains the phenomenon under investigation and provides the study with a number of contributions.

1.4 Key research contributions

The importance of conducting this research has been discussed in the first section of this chapter and can be further emphasised by highlighting the multiple contributions, which this research attempts to make. The aim is to contribute to knowledge in the following broad fields:

First, in its contextual focus of banking as a subset of the broader class of firms in the service sector, the study extends the existing literature. As previously emphasised, theories mainly derived from research in the manufacturing sector. The few studies that discussed issues related to the current trends and challenges in the financial service industry in recent years are fragmented. Therefore, the past research efforts are not in proportion to the growing significance of services in developed economies.

Second, the study attempts to fill gaps in the current literature on the phenomenon of open innovation and in particular on the management of the transition to this new paradigm. It discusses the current transformation of the entire financial service industry from a theoretical point of view and focuses on the organisational level. At the beginning of the twenty-first century, these issues are just beginning to pay attention to the discussed trends and are mostly covered in practitioner literature rather than academic literature.

Third, the proposed framework attempts to explain how the studied firm approached the strategic challenges and managed the transition. The intention of the framework is to link the findings of the case study with the extant knowledge in the area of strategic management, innovation, knowledge and organisational change and transformation. The integrative framework suggests a set of new management practices based upon developing dynamic capabilities.

Fourth, the combination of a number of research methods and techniques made a significant contribution to methodological issues. The focus on the outcome of the investigation, as well as the process that has led to the outcome, attempted to close the epistemological gap in the literature about *how* the phenomenon was investigated. In particular, the application of a dedicated model, *i.e.* the "paradigm

model" (Strauss and Corbin, 1998), during the entire research process provided the study with a logical structure that integrated the contextual and causal environment.

Fifth, the focus on outcomes as well as processes, produced *what* and *how* knowledge. In particular, "how knowledge" led to a number of managerial implications and made the research practice-oriented and appropriate for managers. From an academic perspective, an attempt has been made to give attention to the neglected domain of *service science*. The overall aims of the study are to integrate theory and practice and to fill some important gaps in management research as the lack of social science research to applicability.

1.5 Thesis structure and outline

The thesis is structured into six chapters, whereby this chapter, *Chapter One,* lays the foundation for the thesis. It includes the aims, motivation, and significance of the research, a brief synopsis of the background, the chosen research methodology and design, multiple contributions, and finally an outline of the thesis. Following this introduction, *Chapter Two* examines the current literature. The intention is to review the various interpretations and definitions of innovation and its importance for companies and economies. In particular, innovation literature in the service sector, which discusses product, service, and process innovation was searched and reviewed. Literature about new forms of managing the innovation process and the implications of open innovation are examined subsequently. During the reviewing process, various drivers for strategic change that forced firms in the banking industry to adapt to the new paradigm are identified. A number of issues regarding organisational and technological innovation and new resources and capabilities required for open innovation are addressed. This chapter concludes with the identification of a number of gaps in the existing literature. It primarily explains the theoretical context for the current thesis and its conceptual contribution to the knowledge of the field.

In *Chapter Three,* the methodology and research design used to carry out this study is discussed. Issues regarding the philosophical stance in management research and its justification are discussed as a means to understand the basic principles of social science research. The research approach, strategy, data collection methods, and

techniques for data analysis are elaborated in detail in order to answer the proposed research questions. This chapter also introduces various data sources, its access, and the interview partners.

Chapter Four reports the collected data, categorised and presented in a case study. It includes background information about the financial service industry and trends and challenges. The bank's vision, strategy, and structure are subsequently introduced. The implications of the trends and how the studied bank managed them is elaborated accordingly. The core of this chapter builds three major action strategies, which are discussed in detail. The results of the case set up the basis for further investigations and theory development.

Chapter Five brings the results of the case study into focus. It synthesises and reviews the strategies taken and points out the key achievements. This chapter intends to explain how the research findings, based on the analysis of the empirical data collected, as well as the comparison of the extant literature, were brought together and merged into a theory. This process disclosed various key issues that are essential for open innovation. The concept of leveraging capabilities integrates a set of resources and capabilities through social capital and is based on an open innovation culture. The study proposes an integrative framework to master the transition and leverage a firm's capability for innovation.

Chapter Six presents and recapitulates the key findings emerging from each earlier chapter of the thesis. A penultimate section elaborates the limitations and contradictions of this research and gives suggestions for future research. Lastly, a number of contributions of the research are embraced.

CHAPTER TWO

2 INNOVATION AND TRANSITION: CURRENT DEBATES AND PERSPECTIVES

2.1 Objective and scope of the literature review

The aim of the literature review is to explain the conceptual context for the thesis. It is a critical and systematic review, in order to expose current debates and perspectives of what is known about innovation and relevant topics. The main objectives are to identify theoretical gaps and to formulate researchable questions that address the need for further theoretical development. The review process was divided into two searches - primary and focal.

The *primary* search starts with definitions of innovation and the examination of why innovation is seen as vital for individuals, companies, and whole economies. It includes studies that discuss the characteristics and intricacies of innovation in the service sector and in particular, the interdependence of product, service, and process innovation in the financial service industry. The *focal* search builds the core of the study. It discusses the shift from closed to open innovation and examines the transition process. This body of literature contributes to a better understanding of how the transition to open innovation can be managed. It includes theories that explain the balance of organisational and technological innovation as well as suggestions for new resources and capabilities required for the transition.

Figure 1 illustrates the process of narrowing down the broad literature of innovation. It is important to understand the conceptual ambiguity of various disciplines and their overlapping nature. The arrows, therefore, indicate various disciplines that feed the literature on innovation such as strategic management, marketing, and organisational change and knowledge.

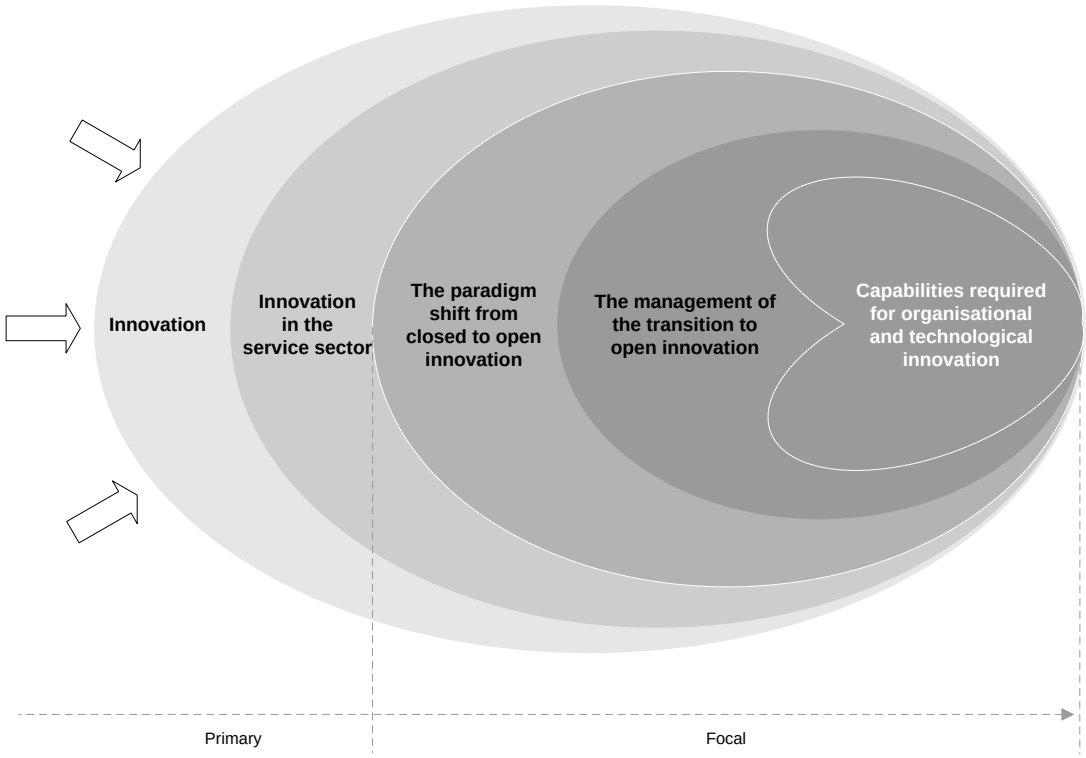

Figure 1: Map of the covered literature

2.2 Sources of the obtained material

The research is grounded in the analysis of the literature on innovation with a general focus on functional capabilities as well as on management with a stronger orientation towards organisational and strategic capabilities. This includes material published in general management, innovation, knowledge, and organisational research journals. The sources of the reviewed literature are categorised into three different types. There are studies that attempt to comprehensively understand the phenomenon under research. This *exploratory* literature includes conceptual articles and longitudinal findings that explain cases and advance or develop new theories. The more *explanatory* literature attempts to categorise and describe relationships and correlations among variables. It focuses on empirical research, which tests, extends, or builds theories. The main purpose of such publications is to provide the reader with generalisation and theories. The aim of the review of the *practical and business* literature is to combine theoretical thoughts with business practice. The focus is

primarily applied and has managers rather than management researchers as an audience.

2.3 Chapter outline

Based on the underlying literature search process, this chapter is divided into four broad sections, namely the power of innovation, innovation in different industries, the paradigm shift from closed to open innovation, the transition process, and the management of the transition to open innovation.

Section 2.4 explores the definitions of innovation and highlights the importance of innovation in general. Subsequently, the four main routes to innovation as suggested by the European Council (COM, 2003) and the implications for companies are discussed. Different types of innovation such as product, service, and process innovation and concepts such as strategic innovation and marketing innovation are similarly discussed. *Section 2.5* compares and contrasts a number of studies about innovation in different sectors. Because of the increasing dominance of services in industrialised economies (OECD, 2003), innovation in the financial service industry, and in particular its implications for banks, is discussed in detail. *Section 2.6* discusses the two main streams of managing innovation, *i.e.* the closed and open innovation approaches. As open innovation was identified as the dominant model in the twenty-first century (Chesbrough, 2003a; Rigby and Zook, 2002), it is discussed in detail.

The management of the transition to open innovation causes a number of strategic challenges. These are not well covered in the current literature, particularly not in the context of the financial service industry. Therefore, *section 2.7* is devoted to theories that discuss the transition process. It starts with a review of radical and incremental forms of innovation and change and continues with a review of literature about organisational design, change, and renewal (Barr *et al.*, 1992; Dougherty, 1992; Tushman and O'Reilly, 2002). As the knowledge-based view (Grant, 1996; Spender, 1994; 1996) reflects the current business environment best, it has been included and linked with the emergent approach to innovation (Mintzberg *et al.*, 1995).

Section 2.8 is dedicated to the core of the literature review, *i.e.* the management of the transition to open innovation. It includes the concept of enterprise architecture (e.g. Schekkerman, 2003) as a meta-model on which organisational and technological infrastructures can be build (Prahalad and Krishnan, 2002; Henderson and Venkatraman, 1999). Further, it examines a set of new capabilities (Eisenhardt and Martin, 2000) that are required for such infrastructures and facilitate the transition. Open innovation has a number of implications, such as learning from collaboration (Argyris and Schön, 1978; Powell *et al.*, 1996; Garud and Nayyer, 1994). In addition, the creation of organisational knowledge (Nonaka, 1994) implies the development of relationship capital (Nahapiet and Ghoshal, 1998; Stewart, 1997).

Progressing with the critical analysis of the literature, the chapter concludes in *section 2.9* with a synthesis of the key issues followed by the identification of a number of theoretical gaps in the field. The key issues and gaps focus upon the areas in which this thesis hopes to contribute to current knowledge. This leads to the formulation of the research questions for this thesis.

2.4 The power of innovation

2.4.1 Introduction

In order to comprehend the management of the transition to a new innovation paradigm, it is important to firstly understand innovation as such. Therefore, the chapter starts with a review of the broader field of the innovation literature. This includes perspectives that define innovation, discuss the various routes to innovation and conceptualise different types of innovation.

2.4.2 What is innovation?

The term innovation is understood diversely and therefore a variety of interpretations are found in the literature. Without going into deep discussion about the Latin word *innovare*, which means, "to make something new", it can be said that innovation is a term broadly used for any kind of novelty and it is sometimes used for concepts, strategies and paradigms. Innovation is the cornerstone of the Lisbon strategy, which was drawn up by the European Council in March 2000 to render the European Union the "most competitive and dynamic, knowledge-based economy in the world" by 2010. The Council defined innovation as:

> "The renewal and enlargement of the range of products and services and the associated markets; the establishment of new methods of production, supply, and distribution; the introduction of changes in management, work organisation, and the working conditions and skills of the workforce" (COM, 2003: 5).

Innovation is also one of the main engines of long-run economic growth and structural change, and it has always driven economic progress. This is the key message of the innovation report by the British Department of Trade and Industry:

> "Innovation involves the creation of new designs, concepts, and ways of doing things, their commercial exploitation, and subsequent diffusion through the rest of the economy and society" (DTI, 2003:19).

The understanding of innovation depends on the perspective from which it is viewed. For consumers innovation means higher quality and better value goods, more efficient services, and a higher standard of living. Enterprises on the other hand, expect more efficient production processes, improved business models or new products and services, which lead towards sustained, improved growth and higher profits for owners and investors. Employees may see benefits such as new and more interesting work, improved skills, and higher wages coming out of innovations. From an organisational perspective, firms without innovation would not survive because new products and services, and new or improved ways of doing business are vitally important for business continuity and growth or as Moore (2004: 87) put it "…failure to innovate equals failure to differentiate equals failure to garner the profits and revenues needed to attract capital investment".

Overall, innovation is about creating value and increasing productivity in any industry or economy. Industrial research and development (R&D) is therefore a fundamental component of innovation-led-growth. It is vital because new products and services or improved processes drive competitive advantage in companies. Hence, innovation can deliver increased revenues, enhanced value added, and stronger sustainable competitive advantage (Lynch, 2003). Since the creativity and inventiveness of companies are a country's greatest assets, for the economy as a whole, "…innovation is the key to higher productivity and greater prosperity for all" (DTI, 2003: 9).

It is essential to understand that innovation has its origin in almost all imaginable areas. Chiefly, these are management and leadership styles (e.g. Hart, 1992), processes (e.g. Hipp *et al.,* 2000; Hammer and Champy, 1993) and product and service development (e.g. Brown and Eisenhardt, 1995; Edgett, 1996; Vermeulen, 2004). Other studies have underscored the meanings and beliefs, which members of organisations assign to organisational behaviour and corporate culture and show how innovation influences their motivation and the way they behave (e.g. Buchanan and Huczynski, 2004). Therefore, a better understanding for reaching and servicing customers, production techniques and methods, product quality, approaches to

information and knowledge management, forms of partnerships, management and stakeholder participation needs to be developed (e.g. Lynch, 2003).

Based on the definitions of innovation, the next section describes the main routes to innovation that are reflected in the study.

2.4.3 The different routes to innovation

2.4.3.1 The four major routes to innovation

As the economic benefits of the successful exploitation of novelty are captured by enterprises rather than by universities and research laboratories, companies are constantly forced to innovate by pressure and trends, notably competition and growth. The current literature identifies different strands of thoughts on innovation. The European Council for example, establishes that novelty is vital to companies and occurs from the four main routes, namely invention, value innovation, adaptation and imitation, and new business models (COM, 2003).

2.4.3.2 Invention

The exploitation of invention arising out of the research laboratory is an important and much studied route to innovation. Research is a major contributor to innovation, generating a flow of technical ideas and continually renewing the pool of technical skills. Invention as a source of innovation is commonly associated with *technology push*. This means identifying an interesting technology, making a product out of it and finally, searching for a marketplace (Lynch, 2003). To specify, inventions produce the technological push for the development of new products, processes, and services (Lynch, 2003; Morris and Willey, 1996). However, innovation is not dependent on invention in any direct manner. Companies have not necessarily to invent in order to innovate. Innovation has played a more important role in economics and business than the concept of invention as Schumpeter (1939) claimed. Accordingly, the social process, which produces innovations, differs economically as well as socially from the social process that accounts for inventions. Schumpeter identified innovation as the essential function of the entrepreneur, along with credit and profit maximisation and repeatedly emphasised that:

> "Innovation is possible without anything we should identify as invention and invention does not necessarily induce innovation, but produces of itself…no economically relevant effect at all." (Schumpeter, 1939: 84)

Although innovation is often confused with invention, the latter is nothing more than the first step in a process of bringing new ideas to widespread and effective use. Innovation is about adding value to inventions.

2.4.3.3 Value innovation

Value innovation as proclaimed by Kim and Mauborgne (1999, 2004) places an equal emphasis on value and innovation. The aim of this concept is to reconfigure existing products and services to present a radical change that will be perceived by customers as offering more or better value. The logic behind this is simply to do things completely differently or to change things radically. This point is mirrored in the concept of *strategic innovation* (Markides and Charitou, 2003) or *strategy innovation* (Tucker, 2001), which explains new and fundamentally different ways of competing in an existing business, *i.e.* one that conflicts with the traditional way. In view of this, strategic innovation occurs when a company identifies gaps in the industry and attempts to fill them. These gaps can be newly emerging customer segments and needs that are not served well by competitors, or new ways of producing, delivering, or distributing existing as well as new products and services to existing, or new customer segments. Govindarajan and Trimble (2004) noted that a strategic innovation breaks with past practice in at least three areas: value chain, design, and conceptualisation of customer value and identification of potential customers.

Value innovation and strategic innovation are closely related concepts. Kim and Mauborgne (1999) declared that value innovation is not about striving to outperform the competition, nor is value innovation about segmenting the market and accommodating customers' individual needs and differences. This is in slight contrast to strategic innovation, which is concerned with who the customers are, what products and services are offered to the customer, and how existing core competencies can be used to innovate (Markides, 1997). Furthermore, value

innovators ignore current industry conditions, the competitive environment, and conventional strategic logic and look for blockbuster ideas and quantum leaps in buyer value to create new markets. They suggest placing the buyer (client), rather than the competition, in the centre of strategic thinking. Strategic innovation on the other hand focuses on the way in which a company proactively and systematically thinks about its strategic positioning (Markides (1997).

However, both concepts are in stark contrast to competition driven strategies as championed by Porter (1980). Defending competitive space within the Porter model has been constantly eroded in today's dynamic and global economy, as entry and mobility barriers are relentlessly assailed. The proclaimed advantage of creating new market space as a result of redefined customer's hidden demand or to create totally new demand is in contrast to *market pull* strategies. For the latter, a marketplace is first identified and then a product or service developed which meets that need (Lynch, 2003; Whittington, 1993). In the case of value innovation, companies are driven by the market, they accept the market structure as given and do not aim to change market behaviour. Concentration lies on analysing and understanding customer needs. Once this is known, products and services will be produced that satisfy the expressed desires of the customer. This consumer perspective pointed to the power of the market, where the market is the hub for the demand that inspires innovation (Backer, 1992; Whittington, 1993). Leavy and Carey (2002) shared this view and ascertained, for example, that in commercial banking, innovations in ATM and Internet-based offerings helped to create new value by breaking traditional compromises with respect of availability and reaching and servicing customers. Thus, technological innovation and value innovation combined contribute to value creation.

2.4.3.4 Adaptation and imitation

Schumpeter (1939) refers to imitation as the third force of innovation after invention and innovation that involve commercialisation of the invention. Although he warned that "swarms of imitators" can erode profits for pioneers, and that imitation is a non-strategic approach that leads to the diffusion of innovation, it is accepted today as a strategic route to innovation. Imitation is known as the approach where an initial

innovation is taken from the same industry, developed, and improved further to the firm's advantage. Adaptation is close to imitation and is often used within the same breath. Adaptation is the approach where a company takes an idea from other business sectors or industries and adapts it for use in its own production processes or market. Another form of adaptation is adapting customer behaviour. Kirton (1980) conceptualised this thought as "adaptation-innovation theory", in which he stated that individuals tend to be either adaptors or innovators. The implications of Kirton's findings are represented in Holland (1987) who adopted it for organisations. Holland found in a study that banks in the 1980s and earlier, generally developed their services by reacting to customer needs and adapting those needs to fit the bank's existing framework. The adaptation approach is often pursued unconsciously whenever "benchmarking" (e.g. Zairi and Ahmend, 1999) is performed. Benchmarking has become increasingly important as organisations strive for better performance. In practice, this means observing, adapting, and copying "best practice" (e.g. Camp, 1999) from others within the same industry as well as other industries and even other sectors. Thus, generated knowledge about current practice is often seen as precursor to changing and improving that practice (e.g. Newell *et al.*, 2003). The fact that companies must benchmark to improve their activities and their competitiveness, explains the increasing emphasis on organisational effectiveness (Ghoshal and Bartlett, 1994).

The rationale behind adaptation and imitation is the fact that new product and service development *ab initio* is costly, risky, and time and resource consuming. Copying the latest technology, products, services, processes, or state-of-the-art practice and management strategy may be a useful approach for overcoming the uncertainty for doing things that have never been done before. Especially if other companies have been successful with it there is no point in reinventing the wheel. Every success leaves clues and organisations are sometimes better off by just looking at what others have done, what worked and why it worked and then copying the concept, and adapting it to make it their own. Former leading industrial enterprises therefore, often find strong competition from innovative newcomers such as Intel, Microsoft, Sun, Oracle, Cisco, Genentech, or Amgen who conduct little research on their own (e.g. Chesbrough, 2003a). Mansfield *et al.* (1981) observed in the manufacturing sector

that in particular in R&D, intensive goods imitation is faster and less costly than in-house R&D. They found in a series of studies that even with patent protection, imitation occurs regularly and not long after innovation. Where research in the area of adaptation is scarce, there is empirical evidence, particularly about the Japanese industry in the 1970s and 1980s, that imitation can outperform "real" inventors or innovators (Bolton, 1993).

Porter (1998) suggested in his later work that innovative companies needed to do things differently, rather than just do things better (adaptor and imitator). Adaptation and imitation alone are therefore not enough. Thus, all companies have the ability to break out of what may have become an inhibiting traditional *modus operandi* – and such ability could, in competitive and high velocity markets, be more advantageous than in others. A later argument highlights the importance that firms should consider new business opportunities simultaneously.

2.4.3.5 New business models

Business model and strategy are confusing terms that are often used interchangeably. Some strategists such as Magretta (2002) explain that business models differ slightly from strategies. According to Magretta, a business model is an abstraction of a business, which identifies who the customers are, what the customer value is, and how the business makes money. Principally, it is a model of the organisation that illustrates how inputs are transformed to value-adding outputs (Porter, 1998). The role of the business model in innovation in a technology and knowledge dominated world, is to provide a cognitive framework - a mental model - for how technology turns product or service into economic value (Chesbrough, 2003c). Correspondingly, outputs are products and services that are performed by the processes and operations of the business. The business model must create value in its ecosystem and must capture a portion of that value for the innovator, so that additional advancements will be forthcoming (Chesbrough, 2003c). The pace of change has become so rapid that companies have to monitor the changing business environment and continuously adjust their business models. Therefore, the development of business models is more dynamic and flexible in contrast to the strategy development process (Magretta, 2002). The crux is to balance these streams otherwise it may cause a dysfunctional

mismatch between today's business environment and the business models (Mintzberg, 1990).

Business models are used in strategic planning and have an impact on every organisation - regardless of whether it is a new venture or an established large multinational company. Magretta (2002) argued that when a new business model changes the economics of an industry and is difficult to *adapt* or *imitate* by others, it could by itself create a strong competitive advantage. The effects of business model innovation are hard to predict. Moreover, they emerge over time and might transform the full breadth of the economy. For example, in recent times the shift from marketplaces consisting of sellers, buyers and physical places where the two come together, to marketspaces, where transactions take place free from the bonds of time and space has fundamentally altered the way companies interact with their customers (Rayport and Sviokla, 1995). As the radical shift from physical places to virtual (information) spaces requires a shift in thinking on how to add value, companies have to adjust their strategies and business models accordingly and find out when "virtual is virtuous" as Chesbrough and Teece (1996) illustrated. New business models are often driven by customer needs, technological innovations, or other changes in the business environment and affect a number of different types of innovations.

2.4.4 Different types of innovation

Having discussed the literature about the routes to innovation there are after all different types and concepts of innovation. The understanding of various types of innovation is important, as there is a correlation between the type of innovation and organisational performance (Damanpour *et al.*, 1989). Schumpeter (1934) was one of the first to mention five types of innovation. Namely, product innovation, production process innovation, innovation in organisation, new market behaviour and new raw material. More recent authors represent a common comprehension of innovation. Therefore, product innovation is destined to resolve, circumvent, or eliminate a technical difficulty in manufacture or to improve services (e.g. Bienaymé, 1986). Schumpeter's (1934) process innovation can be assigned to innovations for the purposes of saving inputs, such as energy conservation or automation (e.g.

Bienaymé, 1986). Innovation in organisation as the third major category stated by Schumpeter (1934) aims to improve the conditions of work, in particular innovations in methods and management (e.g. Bienaymé, 1986; Gadrey and Gallouj, 1994).

While product innovation is about what a company offers, process innovation is about the way of effectively and efficiently producing and bringing these offerings to markets. The general aim of process innovation is to reduce costs, improve efficiency, raise productivity, and increase profitability. These process innovations may affect and change industry and society radically as evidenced in history (see Taylorism, Henry Ford). A recent application of Taylor's concept of separating the design of work from its execution is the business process reengineering approach by Hammer and Champy (1993). They focused at an organisational rather than an individual level, and argued that any organisation regardless of size, type, and objective operates fundamentally by transforming a collection of raw material for manufacturing industries and raw data for service industries into required outputs such as products or services respectively. The pure focus was on fundamental rethinking and radical design of business processes with the objective of improving the quality, service, cost, and speed of core processes regardless of cultural or social values. Their paradigm transformed whole industries and has been considered retrospectively, as a too mechanistic and radical approach by a large number of opponents. The main critique was that they ignored the importance of people, describing them as objects who handle processes (Whiting, 1994). This view may have devastating macroeconomic consequences (Pressman, 1994).

The two main types of innovation underlie different concepts. While innovation in the area of processes and business models, is often seen from a strategic point of view and assigned to the concept of strategic innovation (Markides and Charitou, 2003), new product development is often marketing related. Marketing innovation has a strong tradition based on the seminal work of Levitt (1962; 1969). While Levitt saw this term related to the improvement of customer-touching processes or consumer transactions to stimulate demand, others see it just as innovative design and presentation technique for new forms of positioning advertising, and differentiation (e.g. Moore, 2004). Marketing innovation is often claimed to be the

part of innovation strategy that reflects the recognition of new ways of organising work in all areas of a company.

The review of the primary field of the innovation literature showed that there is dispersion and variation in the interpretation of routes to innovation and types of innovation. As innovation can not be simply understood from the literature alone, it is suggested to include studies that discuss innovation in a more practical and industry related context.

2.5 Innovation in different industries

2.5.1 Introduction

Miles (1994: 247) anticipated that innovation capability and its management is sector or industry specific, if not firm specific. This part of the *primary* review of the literature found that most attempts to explain innovation are based on research in the manufacturing sector. There is lack of literature that theorises innovation for the service sector. The intention of this section is therefore to emphasise the importance of the service sector and to discuss how different industries within this sector approach innovation.

2.5.2 The manufacturing versus the service sector

Industries can be divided broadly into two “grand” sectors, namely manufacturing and service (Howells, 2000a). To analyse and compare the characteristics of sectors, Howells’ (2000a: 218) innovation framework has been adopted. This framework is displayed in Table 1 with the attempt to show differences that remain significant when conceptualising services.

System trait	Manufacturing	Services
Intellectual property rights	• Strong, patents	• Weak, copyright
Technology orientation	• Technology-push • Science and technology led	• Technology-pull (market-pull) • Consumer/client led
Innovation approach	• Mainly in-house resources (except high-technology industry in certain clusters)	• External and internal sources combined
Innovation cycle	• Short	• Long (except for computer services)
Innovation form	• Attempt to be radical	• Mainly incremental
R&D approach	• Systematic • Scientific	• Ad hoc
Commercialization strategy	• Prototyping and testing	• Direct to markets
R&D organization	• Project oriented • Budget-driven	• Chaotic • Costs often not assignable
Knowledge condition	• Make use of existing scientific knowledge	• Create new service specific knowledge
Time to market	• Short to very long (depends on industry and product)	• Relatively short since there is little need for research or acquiring scientific knowledge
Innovativness characteristics	• Big • Technological	• Small • Social
Product characteristics	• Tangible • Easy to store • High transport and distribution costs	• Intangible • Easy to multiply and transport
Spatial scale of system or reach	• From national to global	• From regional to national to global • Many services are national because of law an regulatory constraints
Labour productivity	• Depends on industry (from very high in high-technology, computer and software to low in heavy metall industries)	• In most industries very high (highest in financial services)

Table 1: Innovation system traits of manufacturing and service

2.5.3 The service-economy

There is no doubt that services have become the largest sector in most industrialised economies, and that they offer an important contribution to economic growth and employment. According to several studies, knowledge-based business services play important roles in facilitating innovation across the economy (OECD, 2003; Boden and Miles, 2000; Alic, 1997). By 2001, the tertiary sector accounted for 70% of OECD gross domestic product (GDP), where the secondary sector accounted for

about 18%. For the British economy, this means that in the five years between 1998 to 2003, the contribution of manufacturing to the value generated in the economy fell from 20% to less than 15%. In its place, business and financial services rose in all years from 1992 to 2003, and provided the largest contribution to gross value added. In 2003, this industry group accounted for £310.9 billion out of £981.7 billion (ONS, 2003). The European Community innovation survey (Tether *et al.*, 2001), a longitudinal study of twelve European Union countries selected the following service industry key markets for innovation; wholesale, transport, telecommunication, financial, computer and technical services. They found that across all the service industries examined, the main objective of innovation seemed to be improving service provision. Process side considerations were important, but secondary.

The rationale for the steadily growing service sector is linked to the increased use of information and communication technology (ICT), globalisation effects, and the increasing spending in R&D (OECD, 2003). However, most firms in the service sector are still not engaged in R&D. This corroborates the dominance of the manufacturing innovation paradigm (Howells, 2000a) where nearly 70% conducted R&D (Tether *et al.*, 2001). That the discussion of innovation and its management are still dominated by manufacturing studies is in contradiction to the fact that the service sector is the main contributor to the economy (Gallouj and Weinstein, 1997). Sundbo and Gallouj (1998) synthesised and analysed national reports about innovation in services from seven European countries. They concluded that innovation in services has been characterised by two main facts. Services have not been studied much, hence understanding is poor, and secondly, service firms have been traditionally less innovative compared to manufacturing firms. One reason for that is the relatively specific nature of innovation in services, which means that they are often incremental solutions of specific problems (Sundbo and Gallouj, 1998). The study further showed that innovation processes are in some respects similar to those in manufacturing, while in other respects different from it. The reports also tell that, although innovation in services has been underestimated for a long time, some firms are improving their innovation activities. Nevertheless, they need to develop organisation and management of the innovation process.

Boden and Miles (2000) agreed that almost all understanding of innovation derives from studies of manufacturing and that innovation awareness could still be increased in many service fields. There is diversity in the innovation traits of different industries within services that have to be analysed carefully (Miles, 1994). This means that some technology and knowledge-based industries within the service sector are similar to high-technology manufacturing industries in relation to their high R&D effort or technological intensity (Miles, 1994; Hipp *et al.*, 2000). Companies, such as Siemens, IBM, or Volvo have had a long tradition in manufacturing and hence an advantage for adapting their approved R&D procedures to services development (e.g. Fasnacht, 2005b). Some of these companies changed their business models so radically that they are generating today more revenue with services than with their original products. On the other hand, some industries within the service sector rely on adaptation and imitation of technology developed elsewhere in the economy. Therefore, they have almost no R&D spending (Brouwer and Kleinecht, 1995).

Overall, the studies examined showed that recently, increasing attention has been paid to the general importance of services (e.g. Sundbo and Gallouj, 1998; Boden and Miles, 2001; Howells, 2000a; Miles *et al.*, 1995). In addition, since the beginning of the 1990s, the literature has grown substantially regarding the development of services (e.g. De Brentani, 1991; 1993; De Brentani and Cooper, 1992; De Brentani and Ragot, 1996; Edgett, 1996; Edvardsson and Olsson, 1996; Vermeulen, 2004) or its management (e.g. Sundbo, 1997; Miles, 1994; Debackere *et al.*, 1998).

2.5.4 The distinctive characteristics of services

Assuming that a product is anything that can be offered to a market for attention, purchase, utilisation, or consumption that satisfies a desire or need, it can include physical goods as well as intangible services. In general, the specificities of innovation in services are in the innovation types. There is slight difference compared with the general classification made in the manufacturing industry by Schumpeter (1934) or for example Bienaymé (1986). Gadrey and Gallouj (1994) found that specifically in banks and insurance firms, innovation has four generic

forms: i) product and service innovation, ii) architectural innovation, iii) innovation based on modification to a product or service, and iv) process and organisational innovations, innovations in methods and management. The definition of innovation in services is difficult because product, service and process innovation are sometimes overlapping (Gallouj and Weinstein, 1997; Gallouj, 2002). In addition, there is no strictly linear, sequential process, but rather there exists interaction and feedback at several stages of the innovation process (Kline, 1985; Utterback, 1979).

This leads to confusion in the literature between products and services; especially for the term services, itself, there is no common shared sense in academia or practice. The International Organisation for Standardisation defines *service* simply as a subset of product (ISO, 1991). A process, whereby the customer output is generated in this dedicated process, generates a service. The definitions in theory and practice vary and are often used interchangeably. A more comprehensive and accepted definition of what a service is, might be useful at this point.

> "Services are not separate entities over which ownership rights can be established. They cannot be traded separately from their production. Services are heterogeneous outputs produced to order and typically consist of changes in the condition of the consuming units realised by the activities of the producers at the demand of the customers. By the time their production is completed they must have been provided to the consumers." (United Nations, 2002: 7)

To gain a better understanding, the distinctive characteristics of services such as their intangibility, inseparability, perishability, heterogeneity, and ownership have to be elaborated further. Inputs and outputs of services can hardly be separated in contrast to products in the manufacturing sector. Explained as *inseparability*, services are produced and consumed simultaneously and cannot be separated from their providers, regardless of whether the providers are human beings, institutions, or machines (De Brentani, 1991; Hill, 1977). While products are, for most industries, physical goods, services can be any activity or value that one party can offer to another that is essentially *intangible* and cannot be stored, referred to as the *perishability* of services. It varies according to the provider of the service, and does not result in the *ownership* of anything (De Brentani, 1991; Hill, 1977). According to

a few articles, mostly appearing in professional journals, service institutions consider products as intangible offerings to their customers and services as a service process for their customers (e.g. Flipo, 1988). This is because of the fact that everything they produce is intangible, regardless of whether it is characterised as a product or service.

One remarkable feature of intangible products and services has to be mentioned. While physical products are prototyped and tested before being taken to the market, this is barely possible for intangible products and services (Debackere *et al*., 1998). This is one of the weakest facets and dilutes the quality of the execution of launch as De Brentani and Cooper (1992) observed. The standardisation of services has been another crucial issue for years. For services, it is more difficult to ensure the same level of quality as with goods, which leads finally to a greater heterogeneity in terms of conformity as Edvardsson and Olsson (1996) wrote on service development from a quality perspective.

Another characteristic of services is that newly developed services can easily be imitated and replicated. Recent research by Cohen *et al.* (2002) has elaborated on industry differences in the use of patents and lead-time in protecting the returns on R&D investments. While intellectual property rights and patents are an indicator for invention rather than innovation, the successful exploitation of knowledge and other intangible assets is increasingly recognised as indispensable for innovation in industries such as IT hardware, automotive, pharmaceuticals and biotechnology, electronic and electrical industries. These industries are, at the same time, the top investors in R&D. This is in contrast to the service sector as it has different propensities to inventions and patents (Miles and Boden, 2000). As new services have no technical component and rarely involve the explicit expression of a new idea (which would be a requirement for copyright), patent protection does not apply. Intellectual property rights therefore, only offer loose protection from illegitimate copying (Miles and Boden, 2000).

Besides the conceptualisation of innovation in different sectors, the knowledge and information-intensity of services have specific features, *i.e.* they underlie innovation cycles that differ from manufacturing.

2.5.5 The innovation cycle for services

Studies of the financial service industry in the 1980s, stressed the importance of process and organisational innovation. This is reflected in the proposed model of "reverse product cycle" formulated by Barras (1986). Barras claimed that his theory of innovation in services is the reverse of product life cycles as observed in the manufacturing sector by Abernathy and Utterback (1978). Barras' underlying assumption was that innovation in services relies inevitably on technological innovations, and that there is an innovation sequence involving the adaptation and exploitation of technology. Each of the three phases in his model is therefore initiated by the introduction of a particular enabling technology respectively: mainframe systems, mini-/microcomputers, and communication technology and networks. Once new technology has been adopted and installed, the reverse product cycle takes place. Table 2 illustrates the main characteristics of Barras' (1986) theory drawn from Gallouj's (1998) assessment.

	Main forms of innovation	Competitive effort	Enabling technologies	Impact of technical advances on production factors
Phase I	Incremental process innovation	Improvement of service efficiency (cost decrease)	Mainframe	Labour saving technical advances which increase the amount of capital used
Phase II	Radical process innovation	Improvement of service quality	Mini and microcomputer	Technical advances which are neutral in terms of labour and which encourage an increase in the quantity and particularly the quality and variety of capital
Phase III	Product innovation	New product and services	Communication technology and networks	Technical advances which save capital whilst improving ist quality

Table 2: Characteristics of reverse innovation in services

The cycle starts with the initial adoption of enabling technologies to obtain incremental process innovations with the aim of increasing the efficiency of delivery of existing products and services as explained within *phase I*, whereby service

quality is not affected. Inevitably, the first step of what Nelson and Winter (1977) described as the "natural trajectory" of innovation will be the progression along a learning curve through successive application of the new technology. Thus, improvements might inspire other innovations in similar fields. This first stage of the reverse product cycle changes the institutional structure of the service activity, involves a major learning process for the workforce, and hence affects labour significantly. *Phase II* coincides with the introduction of the next generation of computer power. During the previous phase, knowledge has been accumulated and embodied in the experience of the workforce. This continuous learning process results in changed and improved operating procedures and provides a springboard for launching a number of more radical process innovations. These radical innovations mark the second stage of the reverse product cycle, with the purpose of enhancing the quality of the service provided rather than efficiency. However, these "quality innovations" can only be achieved if firms take into account changes that will partly have been induced by earlier innovations within the industry, and partly by external factors (Barras, 1990). The final phase of Barras' model argues that particular industries, such as financial and business services, have been investing substantial resources into research and development. It is in the course of the development activity that the adopting industry is driven to the third stage of the reverse product cycle with the aim of opening up new markets, and introducing new types of products and services to clients. The production and distribution of new products and services is an effect of what Barras (1986) called IT infrastructure. Based on previous innovations in phase I and phase II, this is the phase where the organisation has the ability to take advantage of trends in the industry. It is further considered as a transformation phase accompanied by changes in strategy, organisational structure, and culture.

However, the cycles as proposed have to be reconsidered for today's validity. In the early 1980s, firms aspired to rationalise and placed the emphasis on process and organisational innovation. The changing market environment of the late 1980s and early 1990s, led to greater attention on product innovation. Hence, a shift of innovation from process to product was taking place (Tremblay, 1989). As product innovation had moved into the centre, the reverse innovation cycle in services re-

reversed into a regular cycle like that of manufacturing. Where product differentiation used to be the appropriate strategy in the 1980s and early 1990s (Porter, 1998), at the beginning of the twenty-first century, the trend is going back to process and organisational innovation (Hipp *et al.*, 2000; Hage, 1999). This is due to increased market competition and the fact that many products in the financial service industry have become commoditised. Consequently, innovative firms put the process as complementary to products in the centre of strategic thinking as a means to increase customer value. This approach is echoed in the concept of complementarities (Mildgrom and Roberts, 1995; Brandenburger and Nalebuff, 1996) and further discussed in *section 2.7.5*.

The patterns described in Barras' model are similar to the thoughts of Quinn and Baily (1994) and earlier work by Quinn (1988), in which they see a similar evolution in the service sector. To be precise, from back office process innovation through innovation in delivery to product innovation. They agreed that advantages in scale and productivity could be realised if new information and communication technologies were introduced to services. Therefore, the reverse product cycle model applies predominantly to industries that rely heavily on back-office processing such as banks. Research conducted in the banking industry in the United Kingdom, found that there is no clear-cut pattern of adoption of product and process innovation, respectively almost a third of the responding bank managers stated that there is no clear adoption pattern, while another third see product innovation proceeding process innovation (Bátiz-Lazo and Wondelsebet, 2004). Only a minority of 18% saw product innovation following process innovation according to the reverse product cycle, while another group of 24% considered that both could be adopted simultaneously.

As we have seen, innovation in services follows different patterns than innovation in the manufacturing sector. The narrower literature review examines this phenomenon further and looks at the development process of services in the financial service industry.

2.5.6 Innovation in the financial service industry

From an economic perspective, it has been argued that innovation, which results from the application of knowledge, has become a major contributor to competitiveness (Miles *et al.*, 1995; Bartlett and Ghoshal, 2002). Longitudinal research by the OECD (2003) found that the continuous increasing labour productivity over the last two decades has attributed to knowledge-intensive activities and notably to the use of technology. According to the OECD (2003) the most productive sectors are high technology, computer, software, and financial services. The performance of knowledge-intensive industries or what Barras (1990) called the "vanguard sectors" have been especially affected by the adoption of ICT. Banks and insurance companies depend heavily on information processing, and banks in particular consider information about money equally important as money itself (Barras, 1990). Therefore, transforming information into knowledge-based advantages is vital (Morosini, 2000). Banks are very much impacted by the developments in ICT (Channon, 1998; Bátiz-Lazo and Woods, 2003; Berger, 2003). Hence, they are among the heaviest investors in ICT as a representative study by the European Commission confirmed (Tether *et al*., 2001).

The necessity for transaction processing, market-intelligence, analysis, or risk and opportunity assessment in conjunction with other banking activities relies on technology, tools, and systems that map to business models. In that case, the business model becomes a cognitive device to convert technical aspects of products and services into business and customer value (Chesbrough, 2003c). There is also a connection between the use of ICT and competitive advantage in the banking sector, particularly for IT-based innovations such as inter-brand on-line, ATM, credit card, remote banking, and electronic funds transfer at point of sales services (Uchupalanan, 2000; Huang *et al.*, 2003). *Appendix A* lists 51 innovations in banking between 1960- and 2003 compiled by Bátiz-Lazo and Woldesenbet (2004) from various sources that would not have been possible without a strong technological support.

Besides the strong effects of ICT on banking and its knowledge-intensive businesses, Kotler (1996), among other leading authorities on marketing, sees the reason for the

increased attention paid to service innovation as due to the progressive adoption of marketing in banks. Services are a strategically important business activity and a key differentiator (Johne and Harborne, 2003; O'Brian, 2004) and therefore have become the source of sustainable and competitive advantage in a global financial market. Financial services institutes have the pressure to innovate and tend to be more innovative than other service industries (Tether *et al*., 2001). On the other hand, from a sample of 1,819 financial service firms, more than half considered improving service quality as the main objective of their innovation activities (Tether *et al*., 2001). Therefore, continuous improvements to existing products and services will not necessarily imply something new. This issue was researched at insurance firms in the United Kingdom where Johne (1993) found that most innovation work resulted in updating existing products. This was confirmed by a study in the insurance industry in the United States, where 85% of all innovation initiatives were small changes or line extensions (Stern and Whittemore, 1998). In the United States, product managers of banks spend 70% of their time managing existing products, 5% on product improvement, only 5% on new product and service development, and 20% on other marketing activities (Strieter *et al*., 1997).

2.5.7 The product and service development process

Several studies showed how different countries have adopted innovations in banking services (Cruickshank, 2000) or explained the initial stages of new service development in the banking industry (e.g. Papastathopoulou *et al*., 2001). Nevertheless, many of the reviewed studies described macro-economic data and competitive advantage of countries. One exception Vermeulen (2004) focused on new product and service development and examined how financial service firms such as banks and insurance companies manage their product innovation processes. He found in his qualitative study, that both product and service development use similar underlying processes. Accordingly, the development of new services encompasses the following phases: idea generation, concept, development (building), and implementation. The phases are conducted sequentially and partly in parallel. Another interesting finding of the study, is that banks did not make systematic efforts to collect new ideas. While Vermeulen's (2004) observation confirms the chaotic

approach to innovation as mentioned earlier (Quinn, 1985; Mintzberg *et al.*, 1995) some studies claimed that firms with a more formalised development process have better chances of success (De Brentani, 2001). Vermeulen's (2004) observation of the idea generation process concluded that ideas for new services emerged almost everywhere in the organisation. He further found that during the entire development process of new services, banks as well as insurance companies rarely involve customers, front office personnel, and intermediaries. He identified four barriers that led to this phenomenon, namely functionally departmentalised structures, limited use of new service development tools, conservative organisational structures, and constraining information technology.

In contrast to the *ad hoc* development process in the service sector, there are well-tested, scientific methods for developing and refining manufacturing goods. Although services imply special characteristics, innovation concepts from manufacturing can be applied to services only to a certain extent (Sundbo and Gallouj, 1998). A good example is the concept of *in vitro* product and service testing, and *in vivo* experimentation of new business models as suggested by Hamel and Getz (2004). Furthermore, Thomke (2003) observed that experimentation in manufacturing has been at the heart of all innovation for years and suggested the adoption of this concept in services. He argued that systematic learning is required to strengthen the consistency and productivity of service innovations. Therefore, learning through experiments can lower the risk of launching new intangible products and services. This approach to innovation is less hazardous, and significantly improved the innovation process for new service development at the Bank of America (Thomke, 2003). A similar idea of service laboratories where new service ideas could be tested on customer groups was one suggestion made by Sundbo and Gallouj (1998) to political authorities of the European Commission, in order to improve the service innovation process. These thoughts smooth arguments out concerning the difficulties of prototyping for intangible products as discussed earlier (Debackere *et al.*, 1998; De Brentani and Cooper, 1992).

2.5.8 What determine success in service innovation?

Performance as a measurement factor for success in service innovation can be assessed at three levels, namely product level (profitability, market share, and revenue), project level (time, cost, and function), and company level in terms of excess returns generated through sustained innovation capabilities (Brown and Eisenhardt, 1995; Verona, 1999; Wheelwright and Clark, 1992). Studies that compared successes with failures of new product development between the manufacturing sector and the service sector, found that there are similarities between both sectors (Cooper and De Brentani, 1991; Atuahene-Gima, 1996). Industry studies in the financial service industry (Cooper *et al*., 1994; Edgett, 1996) confirm De Brentani's (1991) and De Brentani and Ragot's (1996) proposition in which they observed that factors, which distinguish services from physical goods, do influence how organisations achieve new service success. The quality of the delivered service, on the other hand, might have important implications for performance related outcomes such as customer satisfaction and customer retention (Zeithaml *et al.*, 1996). This is because the customer is part of the service delivery process (De Brentani, 1991; Hill, 1977) and therefore, customer participation is crucial (Grönroos, 1984). The extent of the customer's involvement is vital for the added value and quality of the service that can be provided in, for example, a banking relationship (Ennew and Binks, 1996). Hence, the closer the relationship between the customer and the bank, the higher the satisfaction and retention of the customer and the overall quality of the service as observed in another study by Ennew and Binks (1999). Other research concludes that there is no unique formula for success in product innovation in services, but that there are some shared characteristics of companies, which are good innovators (O'Brian, 2004).

There is a rich body of literature on determining and measuring product and service innovation success (e.g. Cooper *et al*., 1994; Griffin and Page, 1993; 1996; Voss *et al*., 1992; De Brentani, 1991). One common factor of success in product and service development, regardless of the industry, is the time it takes to bring a product or service to market. Voss *et al*. (1992) emphasised the importance of speed in the innovation process, alongside with factors such as cost and efficiency. On average, it

takes six to twelve months in the United States and United Kingdom for banks and insurance firms to implement a new product from idea to selling (Milton, 1996; Abercromby and Hall, 1994; Reidenbach and Moak, 1986). While most hold the position that speed has a positive impact on revenues, some argue that benefits of rapid product development in financial services are largely intangible (Drew, 1995) or that there is no significant link between time to market and revenue at all (Tufano, 1992). The studies above generally assume that all product and service development efforts may benefit from process innovations. Although process innovations might result in better performance and cost reductions, Drew (1994) asserted that the main driver behind such re-engineering efforts at financial service institutions is not cost reduction *per se*, but improving customer services.

Early market entries with new products have become crucial in most industries. According to studies in the banking industry, there are three main reasons to be first with products on the market: i) charge premium prices for a lead period, ii) gain information ahead of other banks about future customer needs, and iii) reputation for being able to offer state-of-the-art products (Johne and Pavlis, 1996). Drew (1995) researched the reasons for faster new product development in banking and confirmed the outcome of former studies by corroborating that customer relation and loyalty, changing customer needs, maintaining revenue streams, and competitive pressure forces banks to improve their product development time. Barriers to rapid product innovation are, according to Drew's (1995) survey, unfocused strategy, insufficient senior management support, poor economic conditions, organisational inflexibility, and employee turnover. In particular, inflexible internal systems and IT constraints call for a proactive approach to technology. The two most widely cited reasons for difficulties and innovation failures were organisational rigidities and a lack of qualified staff as well as other factors, which hamper innovation such as regulations and excessive economic risks (Tether *et al*., 2001).

One conclusion is that it is best to develop tailored individual services, where innovation is consistent with client needs and values (De Brentani, 1991; 1993). This interpretation might be unrealistic due to the cost of service production, and hence the price for the provided service would be too high. Therefore, firms have to find

the balance between customisation and standardisation. To achieve this one critical success factor for innovation in services may be the firm's ability to create a systematised innovation process and reproduce innovation (Sundbo, 1997; Gadrey *et al.*, 1993; Gallouj, 2002).

The previous literature review pointed out that innovation in services is different to that in the manufacturing sector. In addition, the service sector has recently been going through issues that were negotiated in manufacturing twenty years ago. In particular, open approaches to innovation. To address these issues, the next section discusses the shift to open innovation in the context of the financial service industry.

2.6 The paradigm shift from closed to open innovation

2.6.1 Introduction

This section, concerning the *focal* search of the literature is devoted to the characteristics of the open innovation paradigm. The term "paradigm" is used here in a similar sense to Kuhn (1970) who referred to it as the *social context* such as accepted rules, standards, and practices that are deeply rooted and shared by individuals. Open innovation is characterised by a new management style that facilitates collaborative operating models for innovation. One strategy is therefore, the externalisation of innovation processes and the incorporation of knowledge for each of the phases of the innovation process. The aim of this section is to show how open approaches replaced closed and traditional approaches to innovation.

2.6.2 New forms of managing innovation

Tidd *et al.* (2001) stressed that innovation should be managed as a set of interdisciplinary processes, rather than as a single-function activity. The management of innovation is a crucial process for any firm. There are a number of academic and industrial points of view (Tomala and Senechal, 2004). The innovation process is not restricted to the solution of a problem, but includes a number of corresponding activities undertaken in order to bring the innovation to market. Successful innovation management involves taking a strategic approach to innovation, as well as developing and using effective implementation mechanisms and structures (Burns

and Stalker, 1995). Supportive organisational context and effective external linkages are other components of the innovation process, which must be carefully managed (Tidd *et al.,* 2001). As Pitt and Clarke (1999: 301) put it, "the management of innovation is the purposeful orchestration and directed application of organisational skills and knowledge".

As innovation is about ideas, managing innovation is the activity, which structures the complete process from generation of an idea through the selling of the product to markets. Vermeulen (2004) among other researchers sees innovation in the financial service industry as more than just coming up with good ideas - it is the process of growing good ideas into practical uses that counts. This is a demanding and crucial activity in the process of developing ideas into actual products and services, or any other type of innovation respectively. The innovation process is an interactive, often chaotic, intuitive, cumulative, and complex process. Backer (1992) added that innovation might occur through a diffusion process. The key in successful innovation is to take the right decision, or metaphorically, to let a thousand flowers bloom, then pick and nourish the most promising and let the rest wither (Quinn, 1980). The challenge is to structure and channel innovation activities in such a way that creativity remains; what Quinn (1985) called paradoxically "controlled chaos". It is the controlled (chaotic) approach, in which an organisation provides a creative platform to generate innovation. Mintzberg *et al.* (1995) supported this thought and added that innovation can only prosper in a flexible organisational structure with little forms of standardisation bureaucracy.

As the innovation process is broadly divided into phases such as idea generation, research, development, and commercialisation, each phase requires distinct management. At the same time, the entire innovation process has to be viewed as a cohesive whole (Tidd *et al.,* 2001; Fisher, 2001). In particular, Fischer (2001) suggested a closer integration of an organisation's research and development activities and the downstream (market pull) and upstream (technology push) process. He describes the innovation process of the future, as an interactive model with feedback loops and interactions between different activities. This thought has been developed further in recent years. Thus, it interacts between science, applied science,

technology, and inter-organisational innovation-related activities (Tidd *et al.*, 2001; Fisher, 2001). This also means that the management of innovation has become a non-linear process, comparable to a complex system but that it can be managed with the right strategy.

Structuring the innovation process for services, and putting its management on a strategic level are essential activities. The next section examines the literature about the two main approaches to innovation, *i.e.* closed and open innovation. It starts with a brief discussion of the closed innovation approach. Subsequently, the literature about externalisation of innovation activities and open innovation is reviewed.

2.6.3 Closed innovation: The traditional paradigm

Chesbrough (2003a; 2003b) named the approach in which organisations generate, develop, and commercialise their own ideas as the closed innovation model. All innovation activities are performed within the company border and exclusively with internal resources. Close innovation is a paradigm, which is based on control and, as Chesbrough (2003a) further argued; it fit well with the knowledge landscape of the second half of the twentieth century. His research found that particularly in the 1970s and 1980s, companies in the IT industry with its proprietary architectures and vertical integration, represented a closed innovation philosophy. Research within this closed paradigm meant, without exception, internal research, as well as internal development. As a consequence companies such as Xerox and IBM, invested heavily in internal research. Although they separated their research facilities, for instance PARC or a number of IBM Research Divisions from the rest of the organisation, they focused on human resources to develop and maintain internal innovation systems, rather than making use of their core competencies (Chesbrough, 2003a).

Companies with this inward philosophy and persistent organisational structure missed a number of opportunities. External ideas, research and development, and paths over the company boundary to alternative and new markets are not destined in the closed innovation paradigm. As a result, many ideas were not realised and over time, this led to a decrease in innovation power and finally impaired the firm's competitiveness. Beside the fact that ideas were cancelled due the "not invented

here" syndrome, there might also be other factors that guide resource allocation decisions, such as financial considerations among others. Most organisations across all industries were, until the early 1980s, good examples for a closed autarky system of innovation, where knowledge was simply added by sitting in closed entities within the organisation. This was the appropriate strategy and was seen as "…the golden age for internal research and development" (Chesbrough, 2003a: 29).

With the transformation of the society into what Bartlett and Ghoshal (2002) termed information-based, knowledge-intensive, and service-driven economy, business rules have shifted radically and with them in many industries, the logic of closed innovation has become obsolete. Chesbrough (2003a: 51) insisted that "companies must [re]structure themselves to leverage this distributed landscape of knowledge, instead of ignoring it in the pursuit of their own internal research agendas". Furthermore, he found, based on research in the manufacturing sector, that several factors are responsible for the erosion of the closed innovation paradigm. For example, the increasing availability and mobility of skilled workers diffused the knowledge that companies possessed from the fortified towers of internal R&D to suppliers, customer, partners, universities, start-ups, and other third parties. Also, the separation of research and development in the product development process, dramatically changed the internally focused approach to innovation. Other "erosion factors" according to Chesbrough (2003a) are the venture capital market, which remains a reality even supposing the exaggerated days of the "technology-bubble". Lastly, the increased production experience, quality, knowledge, and reliability of external suppliers has led to the demise of the closed innovation paradigm and motivated numerous companies to take the step and open up their innovation philosophies. To unlock their full innovation potential, existing businesses as well as new ideas will need to be combined with external resources and ideas. This means that various forms of externalisation and outsourcing of innovative activities should be considered (Howells, 2000b).

2.6.4 The externalisation of innovation processes

Externalisation at its broadest level refers to "the shift of a particular set of goods or services from being generated within a firm to outside it" (Howells and Green, 1986:

120). Externalisation is therefore associated with collaboration beyond company boundaries for all phases of the innovation process. The rationale that encourages the use of external partners might be diverse. Nevertheless, there is always an underlying theory that justifies the decision for collaboration, *i.e.* market power or growth strategies (Porter, 1980; 1985; Carr, 1999). The resource-based view of the firm proposes that the rationale for collaboration is the value creation potential of firm resources, which are pooled together (Wernerfelt, 1984). Other studies justified collaboration with the need to innovate or the lack of internal resources (e.g. Oliver and Blakeborough, 1998; Axelrod, 1984). These companies simply contract their research or development work to third parties (Ringe, 1992; Haour, 1992). Eisenhardt and Schoonhoven (1996: 34) quoted that externalisation activities, if seen from a resource-based perspective are "…cooperative relationships driven by logic of strategic resource needs and social resource opportunities". Rumelt (1984: 557) added that "a firm's competitive position is defined by a bundle of unique resources and relationships". Others justified the need for collaboration with the transaction costs view of the firm (Williamson, 1985). The latter refers to the financial effort for activities that are performed for an exchange like selling, buying, or any other activity. Gulati (1995: 87) suggested collaboration "…when the transaction costs associated with an exchange are intermediate and not high enough to justify vertical integration". The transaction cost economics of interfirm collaboration was, for a long time, the performance measurement concept *par excellence* (Hennart, 1988; Williamson, 1985). The main critique of this almost forty years old economics-based view for interorganisational collaboration, although it is one of the most dominant approaches, is mainly that it is too rigid and too focused on financials and therefore ignores value-creation, which arises from combined partner resources (Conner and Prahalad, 1996). Therefore, firms have to learn to create value through collaborative activities (Anand and Khanna, 2000).

At the heart of the resource-based view and transaction-cost considerations, there is the scholar of core competencies that might influence the decision to outsource non-core activities to external partners. Prahalad and Hamel (1990) argued that core competencies that focus on core activities might yield to competitive advantage. A core competence can in general include tangible as well as intangible resources. It is

the distinctive capability of an organisation to exceed products and markets. Core competencies are embedded in an organisation's *modus operandi* and show what a company does better, faster or differently from any competitor. Drucker (1994: 100) defined core competencies as "…areas where an organisation must excel in order to maintain leadership". It is the company's capability to think, act, and operate differently (Goddard, 1997). If a company systematically assesses what sort of competencies are worth developing and sustaining, and how it derives value from having them, then it has identified its core competencies. Beckett-Camarata *et al*. (1998) believed that:

> "In a global economy, all system members are interdependent and are customers. Companies are restructuring (*i.e*. downsizing) to fund only those core competencies that are key to their profitability and long-term survival. Managing relationships with their customers - especially with employees, channel partners, and strategic alliance partners - is critical to the firm's long-term success." (p. 71)

Prahalad and Hamel (1990) asserted that core competencies cannot be purchased on the open market, but they can be learned from a partner. The phases of innovation such as coming up with new ideas, research, and development and finally creating a market out of it, require all of its distinct set of capabilities. According to Prahalad and Hamel (1990) there is no need for the firm to cover diametrically opposed activities such as generating ideas or commercialisation by themselves. They can do it with specialised partners. Their theory has been confirmed by several studies. Lynskey (1999) for example, found that the transfer of resources and competencies between partners improves product development cycles. In other words, if organisations outsource key phases of the innovation process, it might speed up the process, lower cost, amplify impact, and above all offer continuous innovation and flexibility (Quinn, 2000). According to the study in the manufacturing sector by Quinn (2000) strategically outsourcing innovation might save innovation cost and risk by 60-90%. Freeman and Soete (1997) explained outsourcing with the degree of uncertainty and complexity in R&D activities. They categorised innovation from true uncertainty, such as fundamental research and invention followed by radical product and process innovation as well as major product innovation, down to very little

uncertainty such as incremental innovation, product differentiation and late adaptation of established process innovation and franchised operations in own establishment.

Because of restricted internal resources, focus on transaction costs and core competencies, as well as product complexity, shorter product life cycles, and risk issues encourage many companies to collaborate. Thus a lot of innovation today is collaborative, which confirms the growing number of strategic alliances in, for instance, the biotechnology industry which increased by 80% from 1997 to 2002 (Rigby and Zook, 2002). This is in contrast to organisational structures and development philosophies thirty years ago, as described previously as the closed approach. Consequently, the core competencies of future-oriented companies have shifted and not just changed their processes and routines, but the very way they organise themselves, *i.e.* their organisational design. For example, empirical evidence from a number of cases suggested disaggregated organisational design in which firms separate business units based on the capabilities required (e.g. Roberts, 2004; McKern, 2003). A study by Markides (2003) in the United Kingdom confirmed that this strategy could be successful. He found that 62% of the sample companies entered new markets by establishing a separate business unit, and 68% of these built up a new company.

To sum up, researchers championing externalisation and outsourcing have answered the question “why innovate with third parties?”. Thus, importing new ideas is seen as a good method of multiplying the building blocks of innovation (Rigby and Zook, 2002). Considering partners leads to a resourcing strategy that leverages the involvement of new and existing knowledge. Knowledge as a resource, that offers a solution to a problem or a contribution in any other form, is therefore available both within and outside the organisation (Tidd *et al.*, 2001). Another benefit of collaboration according to Rigby and Zook (2002) is that exporting and importing ideas helps companies to concentrate on their core competencies and businesses and gives them a better instrument to measure an innovation’s real value. The point of any form of externalisation is therefore, that a sustainable core business must have

economic advantages such as lower cost or higher quality over other companies in the open market.

2.6.5 Implications of collaboration

As discussed in the previous section, collaboration is accepted as a form of resource exchange, in which leveraging, renewing, and refreshing existing knowledge resources are essential for the firm's competitiveness. Collaborating as one solution provides flexible access to external knowledge and facilitates innovation. Eisenhardt and Martin (2000) noted that collaboration is an important knowledge creating routine, which brings new resources and experience into the firm from external sources:

> "Such [external] experiences enhance innovation by breaking down the thought worlds that arise because people with different expertise not only know different things, but know those things differently." (p. 1109)

No matter what the external and internal drivers are, the motivation to "partner" is unlikely to be the same for both or several business partners and therefore might be motivated unilaterally. These modes influence the way the collaboration is organised (Larsen, 2000). The most common form of inter-organisational collaboration is an alliance, defined as a unique organisational structure to enable co-operation between companies (Gomes-Casseres, 2000). Alliances are unstable organisational constructions, which are constantly in flux, but on the other hand can also be rigid structures (Das and Teng, 2000). Das and Teng noted that alliances, which are more flexible, are the non-equity alliances or are alliances with no equity change or equity creation between the partners. Drucker (1995) added that one of the greatest changes in how companies will do business in the future, is the increase in relationships based on partnership rather than ownership. The flexibility in a partnership is needed to control risk, commit limited resources, adapt to changing conditions, and exit easily (Volberda, 1996). On the other hand, rigid equity alliances, which include joint ventures, are required to align partners' interests, exercise strong control, discourage opportunistic behaviour, and provide a mechanism for distributing residuals.

All discussed theories such as market power and growth strategies, transaction cost and knowledge-based view of the firm, core competencies, uncertainty and complexity theories, outside-in innovation, and virtual organisations touch on collaboration. Very few writers, however, have addressed the issue of how external resources can be systematically integrated to enhance innovation in a knowledge-based economy without over-reaching themselves with their desire to outsource. Combining some of the available theories to a consistent model would be necessary. One exception, which does so, is Chesbrough's (2003a; 2003b) work whereby he suggested the importance of partners during the entire innovation process and their contribution in channelling external resources required. His open innovation paradigm might be a new way to address the management of innovation and the process of innovation. In particular, a "processual" view on innovation is suggested, as innovation no longer corresponds to a linear sequence of knowledge creation within company boundaries and its diffusion, implementation and utilisation outside its boundaries (e.g. Rogers, 1995; Newell *et al.*, 2002). The message given for a successful transformation into what Chesbrough (2003b: 35) called "era of open innovation" is to seek knowledge iteratively from various sources, such as suppliers, customers, universities, research laboratories, consortia, consultants, start-ups, new business units and competitors.

2.6.6 Open innovation: The new paradigm

Based on Kuhn's (1970) understanding of paradigm, the expression "open" has been associated with a number of concepts in different fields. Black (2002) explained "open economy" as an economy which has transactions with the rest of the world. These may include trade in goods and services, movements of capital, transfers of information and technical expertise, and migration of labour. Most economies are at least partially open for some of these forms of contact; but very few if any, are completely open for all of them. Soros (2000) adapted the term for the explanation of "open society" as a form of global capitalism. The computer industry on the other hand, understands under "open architecture" a concept of hardware and software design that is publicly released (Murphy, 2003). This "open" specification allows companies to manufacture analogical products that are compatible and typically

compliant with one another. Murphy (2003) argued that in the financial service industry "open architecture" would refer to the technology that allows multiple service providers to communicate and share data electronically. Respectively, a close architecture stands for a design in which the manufacturer will not enable other manufacturers to know about its specification. Therefore, it is not compatible and compliant with other hardware and software.

Chesbrough (2003a; 2003b) proclaimed open innovation as an approach to combine internal ideas with innovations and paths to markets from other companies, by systematically opening organisational boundaries. Open innovation combines internal and external ideas into architectures and systems whose requirements are defined by a business model. The business model in this case utilises paths to create value, while defining internal mechanisms to claim some portion of that value. Therefore, the aim of the model is to develop as many potential ideas as possible, and release them as new products or services to current or new markets with the support of external resources wherever necessary. "To bring the benefits of free trade to the flow of new ideas" (Rigby and Zook, 2002: 82) is a similar understanding of open innovation, although the authors termed it "open-market innovation". Chesbrough's structured conceptualisation of a collaborative innovation process enhanced the more "chaotic" thoughts to innovation by Backer (1992) or Quinn (1980). In addition, he took into account that the open innovation process is not a linear process where knowledge relevant to innovation comes from within the organisation only. What is more innovation of any type involve the incorporation of both specialists expertise and tacit knowledge about existing practices from a wide range of sources (e.g. Newell *et al.,* 2002). Chesbrough's research is also in line with that innovation should be viewed as a core process and put in the centre of strategic management (e.g. Pitt and Clarke, 1999).

Early adaptors of open innovation concepts can be found in the IT industry (Murphy, 2003), in particular at companies with non-integration or horizontal integration structures. Many other industries such as automotive, health care, communications, computer, software, biotechnology, pharmaceuticals, consumer-packaged goods, military weapons insurance and banking are according to Chesbrough (2003a) in

transition between the two paradigms. In addition, multinational companies today hardly have the capabilities to research, develop, produce, and sell their products with their own resources. If they used internal resources exclusively, they would cut themselves off from a continuing stream of innovation and the opportunity to react fast enough whenever a new value-added service appeared.

Table 3 illustrates contrasting principles of closed and open innovation based on studies in the high technology industries by Chesbrough (2003a).

Closed innovation principles	Open innovation principles
The smart people in our field work for us.	Not all the smart people work for us. We need to work with smart people inside *and* outside our company.
To profit from R&D, we must discover it, develop it, and ship it ourselves.	External R&D can create significant value;internal R&D is needed to claim some portion ot that value.
If we discover it ourselves, we willl get it to market first.	We don't have to originat the research to profit from it.
The company that gets an innovation to market first will win.	Building a better business model is better that getting to market first.
If we create the most and the best ideas in the industry, we will win.	If we make the vest use o finternal and external ideas, we will win.
We should control our interlectual property, so that our competitors don't profit from our ideas.	We should profit from others' use of our intellectual property, and we should buy others' intellectual property whenever it advances our own business model.

Table 3: Contrasting principles of closed and open innovation

Open innovation has two dimensions; firstly internal ideas, research and developments (products) can be taken to markets through manifested internal distribution channels and secondly through external, outside the current businesses of the organisation, to generate additional value. Figure 2 shows the open innovation model developed by Chesbrough (2003a) in which he suggests the integration of external resources for each phase to increase companies' innovation power. The main proposition is that ideas can originate from inside the organisation, but some of those ideas may seep out of the company, either in the research stage or later in the development stage. On the other hand, ideas can also start outside the organisational

boundaries and then later move inside for research, development, or commercialisation.

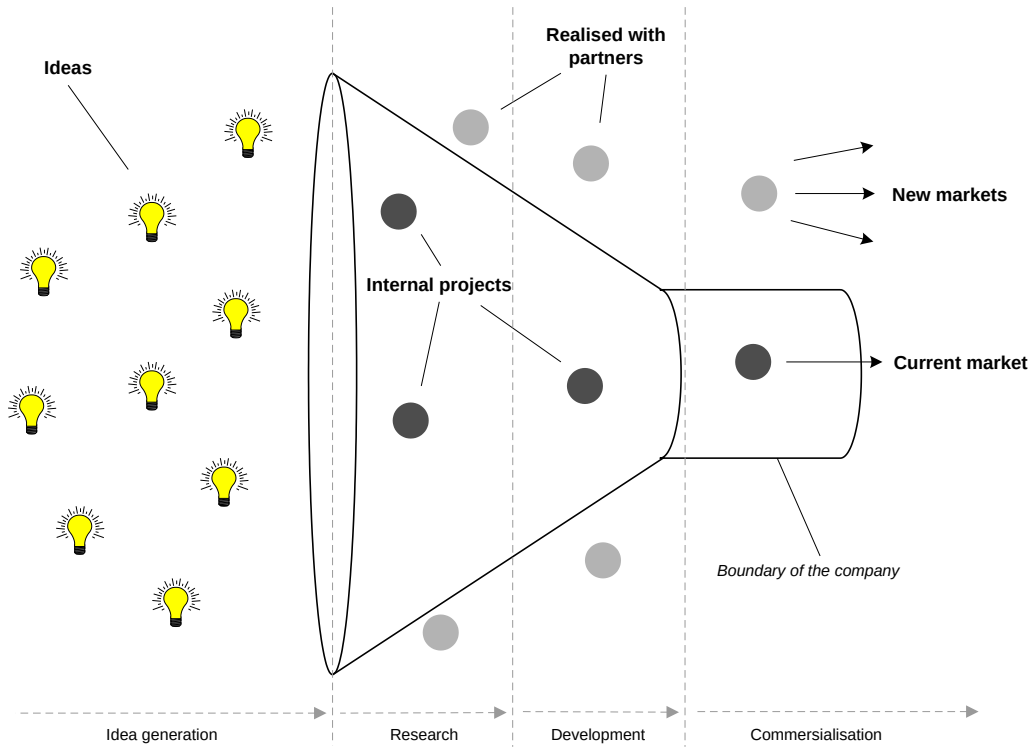

Figure 2: Open innovation model

The organisational boundaries in the open model are more porous and flexible, but not completely open as Jack Welch of General Electric (GE) propounded in the 1990s with the "boundaryless organisation" (see Slater, 1999). He believed that GE would be much more effective if the cultural, geographical, and organisational barriers that separated the employees become more permeable. Therefore, emphasis was put on the boundaries' ability to enable business. What such a recreation of boundaries would result in is *speed* instead of size, *flexibility* instead of role definition, *integration* instead of specialisation, and *innovation* instead of control (Das and Agarwal, 2004). Newell *et al.* (2001a) warn that open boundaries facilitate resource sharing, but are also human edifices that can be beneficial. They argue that the "boundaryless organisation" (e.g. Slater, 1999; Ashkenas *et al.*, 1998) is a myth because different bases for boundary creation and re-creation will emerge as an organisation faces different contingencies in the future. There is a need for a

continual process of experimentation, learning, and adaptation (Newell *et al.*, 2001a). McElroy (2003) added to the findings of Newell *et al*. (2001a) that organisational performance can be measured in terms of a firm's sustainable capacity to adapt, and that this capacity rest heavily on the organisation's ability to innovate. Therefore, an organisation's knowledge processing environment must be "open" (McElroy, 2003; Newell *et al.*, 2002). This openness principle in knowledge management is particularly reflected in the concept of "open enterprise" (McElroy, 2003). Thus, he relates openness to transparency in the process of creating and adapting knowledge with the aim of fostering innovation.

Brown (2003) argued that in high velocity markets especially, not everything that starts ends up fitting the organisations businesses later on. Many of the ideas which companies work on therefore involve a paradigm shift (Kuhn, 1970) in order to deliver value. Creating a value proposition or "architecture of the revenues" for research outputs is as crucial as inventing the technology itself (Brown, 2003: 63). As products are distributed to new or existing markets, it calls for a dual distribution strategy in which companies deploy external as well as internal pathways to the market. There are companies that are keen to distribute both their own ideas as well as others. Therefore, they identify profitable market ideas and try to bring those outside ideas in-house for commercialising. They attempt to take the best idea from whatever source and deliver those offerings to their clients at competitive prices (Chesbrough, 2003a). In some cases as Markides (2003) observed for the United Kingdom they set up separate legal units for distribution.

As resources are drawn beyond the company borders, their integration and management require new competencies as well as an open innovation attitude. A network of business partners is an essential intangible part of a company's assets. Possessing such intangible resources and capabilities, as well as their effective management, can yield sustainable competitive advantage as Hall (1993) observed. Furthermore, partnerships are considered as a source for knowledge, which is required to develop and leverage the capability for innovation in a firm. Such a model creates knowledge and learning, and has therefore, become strategically imperative for many firms. Innovative firms characterised as knowledge creating

(e.g. Nonaka and Takeuchi, 1995) can adopt such a model for increasing their competitiveness in the new paradigm.

The transition to open innovation entails an organisational change process (e.g. Dawson, 1994). Therefore, an understanding that views the transition as a complex process needs to be developed.

2.7 The transition to open innovation

2.7.1 Introduction

Having discussed the advantages of open innovation, this part of the narrower *focal* literature search examines the main forms of change and innovation and the drivers for strategic change. In addition, to overcome organisational inertia and to adapt to the rapidly changing environment, an emergent approach to innovation seems to be the dominant scholar in the service sector. The crucial characteristics of services are the integration of the customer during the entire innovation process as well as the development of additional services and processes to the offered product. This implies a strong link between knowledge and innovation.

The aim of this section is to review the current literature about the shift in the field of innovation from closed to open innovation; particularly, it addresses the characteristics and intricacies of open innovation. This is important because the knowledge of the process builds the basis for further examinations, *i.e.* how the transition can be managed.

2.7.2 Radical versus incremental innovation

Increasing productivity produces discontinuities, creates new industries, destroys old ones, and accelerates global economic growth in the process (Schumpeter, 1939; 1942). The punctuated equilibrium model of change used in organisational theory (Miller and Friesen, 1984; Romanelli and Tushman, 1994) assumes that long periods of small incremental innovation are interrupted by short periods of discontinuous, radical innovation. These changes can be minor incremental improvements in a particular industry or sector, but can also be so extensive that they transform existing

markets and industries, and change society. The theoretical literature divides this form of innovation into two broad categories, namely radical and incremental (Tushman and Anderson, 1986). Both categories can come from different routes to innovation and have different competitive consequences because they require different organisational capabilities (Henderson and Clark, 1990).

Radical innovation is concerned mostly with the exploration of new technology and often opens up new markets and potential applications. The emphasis is on the development of new businesses, products, services, and processes which entirely transform the economies of a business (Leifer *et al.,* 2000). In contrast, incremental innovation can be managed with prescriptive strategies in which detailed business plans are developed in advance for a longer period. Incremental innovation is concerned with relatively minor changes and the exploitation of existing technology, with an emphasis on cost or feature improvements in existing products, services, or processes. This is best reflected in "kaizen", the art of continual improvement, which helped Japanese industries to achieve global success in the 1970s and 1980s. From a management point of view, incremental innovation can and should be planned systematically in every organisation, where radical innovation cannot be easily planned. Therefore, a vital activity for the management team is to provide a platform where radical ideas can flourish (Fasnacht, 2004c).

There is evidence in the literature that, after the last radical period in the 1990s, incremental and continuous improvement have received considerable attention in recent years. Boer and Gertsen (2003) for example, call sustained incremental improvements "continuous innovation". Accordingly, this is a steady state activity. The underlying bodies of theory are a combination of organisational theories, in which specifically continuous innovation is the continuing interaction between operations, incremental improvement, and learning. Boer and Gertsen (2003) suggest the concept of continuous innovation as a means to cope with discontinuities. Such a concept helps in managing *contradictio in terminis* by combining operational efficiency and strategic flexibility (Adler *et al.,* 1999) or exploitation and exploration (March, 1991). Boer and Gertsen (2003) further suggest continuous innovation as a middle course for balancing radical and incremental changes. In addition to

continuous innovation, the new ability for organisations to cope with discontinuity is reflected in Brown and Eisenhardt's (1997) punctuated equilibrium view of change, where they brought complexity theory and time-paced evolution together. They argued that:

> "Agile companies and continuously changing organisations are likely to be complex systems with semi-structures that poise the organisation on the edge of order and chaos and links in time that force simultaneous attention and linkage among past, present, and future. These organisations seem to grow over time through a series of sequenced steps, and they are associated with success in highly competitive, high-velocity environments." (p. 32)

Christensen and Raynor (2003) found that companies which dominate one generation of, for instance, radical technology innovation, often fail to maintain leadership in the next wave, namely incremental innovation. They identified two distinct categories that lead towards what they called the "innovators dilemma" - sustaining and disruptive – based on the circumstances of innovation. While sustaining innovation means incremental year-by-year improvements and competing in the low end of an established market, innovations that create their own market are considered as disruptive innovations. The latter disrupt the current market by targeting new or less demanding consumers with products that are not as good as currently available products. Typically, they are simpler, more convenient, or cheaper (Christensen and Raynor, 2003). These kinds of innovation mostly involve new technologies and require considerable change in customer behaviour and markets. As soon as these new entrants get a foothold in the market, the improvement cycle begins with the goal to displace incumbents.

The changing environment means that firms must continuously renew themselves, by transforming businesses and by creating value through new combinations of resources. Being able to link environmental change to strategy and to modify this linkage over time is theorised in the literature of organisational design and renewal (e.g. Barr *et al.*, 1992; Dougherty, 1992) and organisational change (e.g. Lynch, 2003; Tushman and O'Reilly, 2002). A distinction needs to be made between organisational change, which takes place within every organisation and is inevitable;

and strategic change, which is the proactive management of change in organisations to achieve identified strategic objectives (Lynch, 2003). Whereby organisational change is constantly occurring, transformation, as the process of change, occurs only when there is a realignment of logics across organisational subgroups (Bacharach *et al*., 1996).

Strategic change (e.g. Pettigrew *et al.,* 2003) transforms the organisation over a period. This "processual" organisational change (Dawson, 1994) is in a broader sense what Schumpeter (1942) termed "creative destruction", where one force of innovation is the continuous internal renewal of the economic structure that unyieldingly destroys the old structures for new production methods. In other words, transformative change can be seen as a means of creating fundamentally new and superior value in favour of making existing things and ways of doing things irrelevant. This process includes the implementation of new strategies that affect *people, processes,* and the *tasks,* which they perform and hence it is a multilateral discipline without a clearly defined set of boundaries (Burnes, 1996). However, the drivers that are responsible for strategic change and the firm's strategic renewal (Barr *et al.,* 1992) have to be understood first. Chaharbaghi and Lynch (1999) considered the ability to cope with strategic change as a unique resource, which determines a firm's competitive renewal and hence competitiveness.

2.7.3 Drivers of strategic change

Purposeful, systematic innovation begins with the analysis of the sources of strategic change, which are at the same time new opportunities (Drucker, 1998). There are a number of external environmental factors, trends, and developments that lead to change in internal organisation structures, processes and behaviours (Buchanan and Huczynski, 2004). As the dynamic business environment generates new ground rules it also creates new opportunities for innovation. Enablers for change can come from external environmental pressures as illustrated in Figure 3 by Buchanan and Huczynski (2004:47) but also within the organisation.

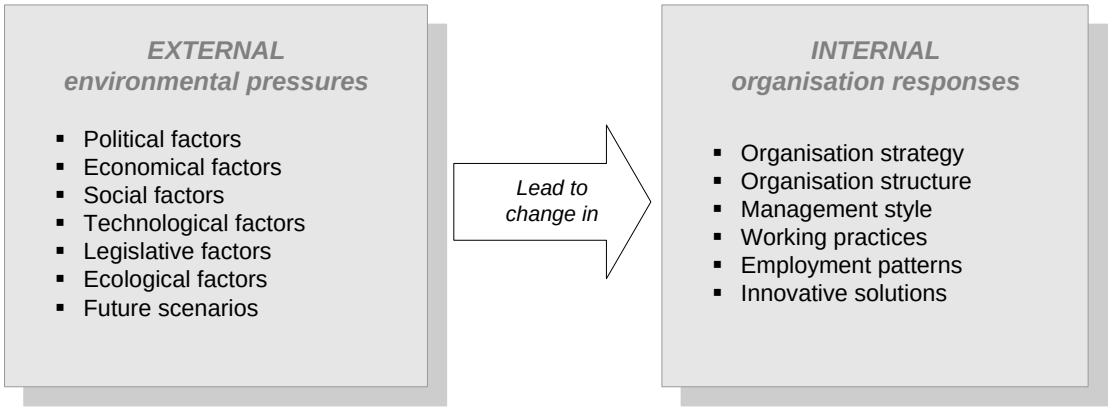

Figure 3: The external environment-internal organisational link

Besides the mentioned external drivers, Drucker (1998) for example, discussed four areas of opportunities for strategic change within the organisation. These are, i) unexpected occurrences, ii) incongruities, iii) process needs, and iv) industry and market changes. Other studies identified similar causes for strategic change where they categorised them broadly into environment, business relationships, technology, and people (e.g. Tichy, 1983; Kanter *et al*., 1992). Along with the changes coming from the external environment, there are developments within the organisation, such as changing industrial practise and strategy. Outsourcing, strategic alliances, mergers, acquisitions, and the deconstruction of the value chain are some of the common circumstances that have forced companies to rethink and restructure their business model.

A global study conducted by Accenture (2003) found that innovative organisations are much quicker to adapt to external changes, and hence much better placed to take advantage of opportunities when the drivers for strategic change are properly identified. Those companies find it far easier to balance between short-term oriented operationally effective exploitation, and longer-term strategically flexible exploration (March, 1991; 1995). The effective combination of both, exploitation as well as exploration, however difficult, should be the company's goal. Therefore, it is vital to provide the organisation with conditions that facilitate the balance between the two stances.

> "[A] system [organisation] that specialises in exploitation will discover itself becoming better and better at an increasingly obsolescent technology. A system that specialises in exploration will never realise the advantages of its discoveries. Exploration and exploitation are linked in an enduring symbiosis…Each interferes with the other." (March, 1995: 432-433)

In order to be able to respond rapidly to external changes, organisations should seek for structures that facilitate flexibility, creativity, and participation. Buchanan and Huczynski (2004) emphasised in particular, that the strategic imperative of radical change needs to be treated with caution as it may lose the benefits of more stable structures. On the other hand, bureaucratic structures may hamper innovation and organisational transformation. Such dilemma will be omnipresent in a dynamic and complex environment driven, most notably, by technology and knowledge. These challenges could be addressed with an emergent approach to innovation.

2.7.4 The emergent approach to innovation

In a dynamic and complex environment, strategic change as well as the actions for implementation and its consequences, require multilateral, flexible, and emergent strategies (Lynch, 2003) that encourage all employees to contribute with their decisions, ideas, and day-to-day experiences to the company's vision, values, innovation, and learning (Nelson and Winter, 1982). Two basic concepts of managing strategic change can be distinguished, the *prescriptive approach* and the *emergent approach* respectively (Lynch, 2003). The traditional prescriptive approach is a top down and long-term strategy development process championed by a number of strategists (e.g. Sloan 1963; Ansoff, 1965; Chandler, 1962; Porter, 1980, 1985; Whittington, 1993). It is a logical, rational, and conscious planning process, that focuses on developing a company's strength and takes the view that vision, mission, goals, strategies, tactics, and actions are linked together sequentially and are largely predictable. The focus of the prescriptive approach is mainly on profit maximisation, market growth, and competition based theories of strategy. It used to be effective in known and stable environments that were dominant in the 1970s and 1980s.

The main critique of this approach is that collective intensions must be realised with little unanticipated influence from the business environment (Mintzberg and Lampel, 1999) which in our global and complex world, is unrealistic. Gleick (1988) and Stacey (1993) regarded predictions of the business and its environment as impossible and postulated, in their uncertainty-based theory of strategy that strategies must be allowed to react to the changing environment and emerge from the "chaos" of events. This might be seen as a rather pessimistic view on strategic change. Emergent scholars, on the other hand, led by Mintzberg *et al*. (1995) see strategy development as an opportunity-driven process for new and unstable business environments. It is "an emerging and changing strategy that survives by adapting as the environment itself changes" (Mintzberg, 1990:72). The emergent approach puts increasing emphasis on innovation, knowledge, and learning. This is in line with Kogut and Zander (1996) who saw firms evolve through the recombination of knowledge, partly by the generative logic of their capabilities but also by the opportunities and influences of the external environment driven by technological innovation.

2.7.5 Characteristics and intricacies of open innovation

In the thesis, one focus is on the process of strategic change as a transition from closed to open innovation. Therefore, the most dominant traits of open innovation were identified in the current literature. This includes focussing on customer integration and generating additional value by developing innovative services and processes that complement the offered product. In addition, firms need to adapt their technological infrastructure to meet the business requirements of open innovation. These characteristics have to be understood in detail before we can contemplate what particular capabilities needs to be developed for the transition to open innovation as well as for being successful in such a new paradigm.

Banking used to be a highly conservative and regional business, especially in sophisticated economies such as England and Switzerland. Banking business has changed more rapidly than most other industries in the service sector. The transition induced by the increasing awareness of knowledge, and the opportunities arising out of technology led to a number of industry trends. These include a more customer and market centric perspective, in which products and services are not just pushed to

markets. The customer is seen as one source for innovation, which is analysed in Thomke and Hippel's (2002) "customer-as-innovator" approach. Integration of customers or any other stakeholder in the research and development process is also known as outside-in innovation (Gassmann *et al.*, 2004).

In the manufacturing sector, bringing customers into the laboratories as co-producers is a very progressive concept, where not only the customer's explicit knowledge, but also their tacit knowledge can be manifested as they start to use a prototype (Brown, 2003). Suppliers can thus benefit and learn of the needs, novel ideas, and visions of their customers. In these cases, innovation occurs beyond the supplier's company boundaries and has to be adapted from their customers and other business partners. Another effect is the power that customers might exert on the resource allocation process over project prioritisation, and on how money can be spent (Christensen and Raynor, 2003). The use of customers as a source of knowledge requires a change in the mindset of the workforce, particularly in services where the customer is an essential part of the service process. Open and flexible innovation models in which customers are integrated as partners in the supplier's development process are suggested.

Value can be created by either developing a product or by developing a service or process pertaining to the product. Providing services to customers in the banking industry has become increasingly knowledge-intensive, global, competitive, complex, regulated, and instantaneously virtual in many markets at once in recent years (Howells, 2000a). As trends have changed it might be argued that paradoxically, in services more than elsewhere, the product is a process (Gallouj, 1998) and that products and services can hardly be distinguished as discussed earlier in this chapter. Thus are product and process innovations often two facets of the same phenomenon (Gallouj, 1998) and process and organisational innovations are often *indissociable* from each other (Hipp *et al.*, 2000). This is reflected in the concept of complementarities by Mildgrom and Roberts (1995) and Brandenburger and Nalebuff (1996). This business model suggests adding value to a product with a service that makes the first one more attractive. Accordingly, if two activities or products reinforce each other in this way, they are complementary (Brandenburger

and Nalebuff, 1996; Milgrom and Roberts, 1995). A good example is the success of Apple's iPod. The sales for this device for playing digital music boost not before Apple introduced a complementary service, iTunes, for downloading music (e.g. Fasnacht, 2005b). As services or client processes are complements of products, loosing clients can be explained with unsatisfactory services. In addition, shorter life cycles of products make products eventually obsolete, which is another reason why companies cannot rely on excellent products exclusively. Increasingly mature customers call for a solution or package rather than just a product (see e.g. Fasnacht, 2005b for the Apple case). Stuart (1998) expects that services and processes will be playing a vital role as complement to product offerings. To meet this intricacy of the new open innovation paradigm, innovations have to be regarded as integrated, *i.e.* including organisational, technological, process, service, and product innovation.

The discussed dynamism and complexity in the business environment, including changing market and client behaviours or regulatory and fiscal issues, should be considered as crucial determinants of the organisational transformation. In addition, although technology has transformed whole industries and societies, there is also a threat if companies fail to update their infrastructures or neglect to develop new IT capabilities (Boyton *et al.,* 1993; Davidson, 1993; Tippins and Sohi, 2003). Therefore, it is crucial to constantly anticipate trends, provide appropriate modern and flexible infrastructures, and develop employee's skills. The latest technology allows companies to combine these resources globally, seven days a week and twenty-four hours a day. The integration of increasingly sophisticated ICT has radically changed business rules and models and influenced competition in many ways by, for instance, new networked organisational structures and forms of collaboration (Shapiro and Varian, 1998). According to Lynch (2003) ICT may change the competition in the balance of power in industries; influence the creation of competitive advantage in some companies, and extend the ability of companies to reach new customers. Other research explains the advantages of electronic and virtual value chains (Benjamin and Wigand, 1995), the general new role of ICT (Farbey *et al.,* 1994; Clemons and Row, 1991; Dewett and Jones, 2001) or in particular its role for human, business and technology resources (Powell and Dent-Micallef, 1997).

To sum up, many firms in the financial services industry are currently undergoing transformation, in which they strive to develop new approaches to generate value and increase their competitiveness. Based on open innovation as the core-operating model of the future, the next section examines the capabilities required for organisational and technological innovation. In particular, how current studies addressed the management of the transition.

2.8 The management of the transition

2.8.1 Introduction

The intention of this section is to develop a better understanding of the management of the transition. The review has embraced theories about knowledge and technology, flexible and efficient infrastructures, resources, capabilities and learning. Based on the knowledge-based view of the firm (Grant, 1996; Spender, 1994; 1996; Nonaka, 1994), the section starts with studies that highlight the importance of knowledge and technology for open innovation. The transition to open innovation is based upon the development of organisational and technological innovation. As these innovations are incorporated in a firm's infrastructures, its alignment and balance is vital. The concept of enterprise architecture as a holistic model on which these infrastructures can be built is embraced. This section focuses on the examination of literature that discusses a set of new resources and capabilities required for the management of such infrastructures. It concludes with theories that link knowledge and innovation, in particular how organisational learning can be established through collaboration.

2.8.2 The knowledge-based view of the firm

The strategic value of the combination of innovation, technology, and knowledge is given particular emphasis in the resource-based view (Barney, 1991; Wernerfelt 1984). The integration of these areas can also be described as the cornerstone for competitive advantage (Peteraf, 1993). The notions of assets and capabilities can be combined to a single category of "resource" to describe organisational capabilities at the firm level (Amit and Schoemaker, 1993). Zander and Kogut (1995) showed that the capabilities of a firm lie in the organising principles by which knowledge is

structured, coordinated, and communicated. Focusing on the process by which a firm achieves qualitative changes in its existing stock of tacit resources (Polanyi, 1966) is today accepted as the knowledge-based view of the firm, and is a pre-eminent school of strategic management (Grant, 1996; Spender, 1994; 1996; Nonaka, 1994). "Knowledge has emerged as the most strategically significant resource of the firm" (Grant, 1996: 375) and apparently a business should be managed as a "knowledge system" (Tempest, 2000: 2).

A classic demonstration of the combination of knowledge and innovation can be seen in the service sector. This sector is dominated by knowledge-intensive business services (Miles *et al.*, 1995; Miles and Boden, 2000). It characterises firms that provide innovations that are based heavily on advanced technological and professional knowledge for which external sources of knowledge are required. Hertog (2000) assigned the ability to function as facilitator, carrier, or source of innovation to co-producers of innovation. This is because of the almost symbiotic relationship with customers in services as reviewed previously, and the fact that process-oriented and intangible forms of knowledge flows are crucial in such relationships. Recently, as the field of service innovation studies has expanded, two results of significance have emerged according to Hertog (2000). First, it has been recognised that although services deliver a substantial contribution to innovation processes, they are not merely passive recipients of their collaboration partner's innovations. Second, the emphasis on technological innovation has been somewhat moderated by the recognition of the importance of non-technological elements in addition to approaches to service innovation. In particular, firms in the financial service industry provide products and services that intensively incorporate knowledge during the entire innovation process. In that context, they are often considered to be one of the hallmarks of the knowledge-based economy.

The outcome of the arguments is that the symbiosis between knowledge and innovation in the context of the knowledge-based view is a vital intangible asset of the *service* firm for open innovation. Therefore, a knowledge-based view of the firm in terms of resources and capabilities is suggested for studying innovation in services. The current literature also pointed to the importance of the transfer of

capabilities that support the production and distribution of service innovation within the organisation as well as across firm boundaries. To do so, knowledge has to be codified. As firms, compete through the adaptation and imitation of their competitor's products and services, the dilemma arises that capabilities which can be easily communicated hence transferred within the organisation are more likely to be imitated by competitors (Zander and Kogut, 1995). It is assumed that besides the link of knowledge and innovation, a third dimension, technology respectively, has to be included to make the most of the new paradigm.

2.8.3 Knowledge and technology as key factors for the transition

With the pace of change over the last decade, information as a firm resource became strategically imperative. Knowledge economies are directly based on the production, distribution, and use of information (OECD, 2003) and *sine qua non* is information basis for innovation. The technological advances during the last decade have leveraged knowledge creation, knowledge storage, knowledge retrieval, and knowledge transfer (Quinn and Baily, 1994; Miles *et al.*, 1995; Boden and Miles, 2000). The combination of technology and knowledge became particularly important in industries that were in transformation. Hence, every large-scale transformation involves new information and communication technology (Markus and Benjamin, 1997). Latter authors view IT-enabled transformation as a business process that crosses several functional lines – one of which is supposed to be knowledge. Other researchers argue that technology is the *ne plus ultra* of innovation and driver of strategic change (e.g. Barras, 1986; Quinn, 1988; Quinn and Baily, 1994). Boyton *et al.* (1993) examined some of the structural transformations in the market and confirmed the potential role of IT capabilities for the transition process.

The mere ability to manage information, although important, is not enough. Technological innovations for processing information are closely related to the advantages a firm can gain from effective and efficient knowledge management. Knowledge is considered as "…information combined with experience, context, interpretation, and reflection" (Davenport *et al*., 1998:43). As it possesses a tacit component that is difficult to quantify (Polanyi, 1966) its management is crucial. Particularly crucial is the transformation from information into knowledge-based

advantages (Morosini, 2000). Stewart (1997) for example, conceptualised intellectual capital as the knowledge, competence, and capability of an organisation that is used for the production process, where the production process is understood for any business activity within an organisation.

Technology not only supports product, service, and process innovation, it also facilitates the acquisition and management of new knowledge. Therefore, one crucial issue might be the need to apply appropriate technologies to acquire knowledge from collaboration partners as a basis for knowledge integration. The combination of knowledge and technology is a key success factor for innovative organisations that are coping with strategic change. Henderson and Venkatraman (1999) warned that seeking to identify and adopt the best available technology for transforming the organisation, without considering alignment perspectives, such as competitive potential and service level, might end in failure. They stressed the impact of technology on business and transformative change with consequent implications for firms.

A broad look at the financial service industry confirms that many firms are currently engaged into organisational transformation with the aim of taking advantages of the opportunities of knowledge and technology. This signifies the importance of the various interrelations between technology, knowledge, and innovation. In contrast, the literature that discusses the integration of technology into the knowledge-based view of the firm seems to be underdeveloped. A flexible infrastructure, consisting of organisational and technological elements, which includes strategy, IT, processes, structure, and knowledge, is suggested.

2.8.4 Organisational and technological infrastructures

The capacity for transforming organisations is embedded in a firm's technological and organisational infrastructure (Prahalad and Krishnan, 2002; Henderson and Venkatraman, 1999; Luftman *et al.*, 1993; 1999). Prahalad and Krishnan (2002) addressed the disconnection of strategy and technology by illustrating how a rigid IT infrastructure can severely handicap innovation strategies. To close this gap, Henderson and Venkatraman (1999) developed a conceptual model of strategic

alignment, which includes business and IT strategy and organisational and IT infrastructure and processes. The aim of their strategic alignment model is to leverage information technology for transforming organisations. On the other hand, the social or organisational infrastructures required in order to manage the transition, involve a number of organisational innovations (Hipp *et al*., 2000). Chandler (1962) noted that firms frequently alter strategies and structures in response to environmental changes. He favoured rethinking on organisation structure. The more recent literature has identified organisational innovation as a new or improved intra-company communications network, or as procedural changes (e.g. Hipp *et al*., 2000). Organisational innovation is polymorphic and integrated in the organisational structure, because it provides the firm with structures, procedures, and a climate that facilitates the organisational transition process (Bridges, 1986) as well as product, service and process innovations (Lawson and Samson, 2001).

Research across the European Union, showed that banking and insurance institutions seem more likely to introduce extensive changes into their infrastructures than any other service industries (Tether *et al*., 2001; Hipp *et al*., 2000). In the banking industry where firms rely heavily on external resources to synchronise the speed of innovation and its delivery, more than just the acquisition and dissemination of knowledge would be required (Huber, 1991). Rather, it requires a fundamental organisational transformation in the approaches through which innovation is initiated, managed, commercialised, disseminated, and delivered (Starkey *et al.*, 2003). This calls for an enterprise-wide "model", which includes a set of principles that guide the transition process and the delivery of innovation. Prahalad and Krishnan (2002) and Henderson and Venkatraman (1999) argued that this social or organisational infrastructure should make information technology an integral part of the emerging strategic direction of the firm. It is about a continuous and dynamic synchronisation of the capabilities inherent in the *information infrastructure*, and the demands of strategy that facilitate efficiency and innovation (Prahalad and Krishnan, 2002). Based on the theory of the latter author, information infrastructure is a concept of accommodating strategic change quickly and at low cost while retaining flexibility. This flexible information infrastructure reflects the essence of developing

generative learning in building transformation capability (Espejo, 1996) and a learning organisation (Senge, 1990).

The literature suggests an open and flexible infrastructure including technological and organisational elements that supports the capacity for change, innovation, and standardisation in the business processes (Prahalad and Krishnan, 2002; Henderson and Venkatraman, 1999). Although interesting this concept lacks a theoretical meta-model that defines the strategic business intent and technological direction of its infrastructures. This model should provide the template for strategic developments with the attempt to enable a firm's vision. Schekkerman's (2003) *enterprise architecture framework* might be a sophisticated solution that approaches architecture on different layers where infrastructures can be implemented on.

2.8.5 Enterprise architecture integrates organisational and technological infrastructures

The ability to develop and maintain a platform, which includes all interrelated models, processes, and activities, is considered as crucial for organisational transformation (e.g. Ciborra, 1996; Luftman *et al.,* 1993). Wolfenden and Welch's (2000) and Schekkerman (2003) conceptualised business architecture, application architecture and technology architecture in an overall model, referred to it as *enterprise architecture*. These architectures define strategy, structure, processes, application, and IT, based on which infrastructure can be implemented by individual tools to create such architecture. Accordingly, enterprise architecture explains the organisation's necessity to deliver a strategy holistically and implement it across all organisational layers, whereby business strategy is linked with IT strategy. It is a constructed framework, built to capture a vision of the entire organisation in all its dimensions and complexity. Building on Schekkerman's (2003) work it has to be understood that this framework relies on different other concepts that have emerged over the last twenty years. Theories regarding business, information and technology architectures have been discussed isolated in the literature. They have evolved from either a business or IT perspective.

Hamel and Prahalad (1990) conceptualised *business architecture* as a framework or map for leveraging corporate resources and organisational structures. The aim of their framework was to capture the direction, intentions, and objectives of the organisation and its changes. Their seminal work can retrospectively be seen as an accepted basis of the business architecture evolution. It provides a framework within which a strategic transition can be planned and managed and it draws upon an extensive multiplicity of information to present a view of an organisation's strategy. This concept is very similar to what Schekkerman (2003) described in his business architecture layer. Wolfenden and Welch (2000) added that business architecture is a "multidimensional blueprint" for all the strategic initiatives of a firm. Notwithstanding the critique of Hamel and Prahalad's (1990) work is that it is viewed in terms of core competencies and competitive advantage. This might neglect the integration of business process models, information systems and technology. Other research approached the architecture discussion more from a technological point of view. Zachman (1987; 1992) was one of the first who conceptualised *information systems architectures* where other research conceptualised similar thoughts under the term of "IT infrastructures" (e.g. Byrd and Turner, 2000; Duncan, 1995). The base idea of these concepts is to describe the systems or applications required for supporting business processes.

As firms cannot compete on the basis of "low cost" or "best quality" or "customer service", research suggests that sustainable competitive advantage derives from the synergy of the firm's various resources and capabilities (e.g. King, 1995; 1988; Rockart and Hoffman, 1993). Enterprise architecture might be a concept to define these resources and capabilities on a meta-level. Embedded in their infrastructures integral enterprise architecture aligns business and IT related concepts as suggested by Schekkerman (2003). A key strategic issue is whether such infrastructures can be balanced in terms of efficiency and flexibility (Adler, *et al.*, 1999). Thompson (1967:15) described the trade-off between efficiency and flexibility as a central "paradox of administration". Recent literature (see *Organization Science*, 1996) argues that in a hypercompetitive and dynamic environment firms should compete on several dimensions simultaneously. The scholar of enterprise architecture and the

pertaining concept of infrastructures seem to be a possible answer that helps to integrate business and IT issues and balance efficiency, flexibility, and innovation.

The examination of the academic and practitioner's literature found that there is confusion in the terms and definitions of architecture and infrastructure. Nevertheless, the discussed theories might be key features, which drive the development and implementation of a firm's strategy. As such architecture and infrastructures require new management practices, the literature review further examines what new resources and capabilities are required in the transition to open innovation, as a main intention of this thesis is to provide such a framework.

2.8.6 The required new resources and capabilities

The shift to open innovation forces firms into transformation and organisational renewal (Barr *et al.,* 1992; Dougherty, 1992). The transition is based upon the development of a set of new resources and capabilities. In particular, it calls for the alignment of business strategy and IT strategy (e.g. Henderson and Venkatraman, 1999) and its translation into frameworks and strategies for a set of new capabilities. Regardless of whether this issue is discussed in general (e.g. Luftman *et al.*, 1993; 1999) or specifically for the banking industry (e.g. Broadbent and Weill, 1993) firms will need to adapt their transformation and learning resources and capabilities (Espejo, 1996) as well as their IT competencies (Tippins and Sohi, 2003). In addition, new capabilities are constantly required for integrating internal and external knowledge into new product and service development processes (Doz and Hamel, 1997; Teece, 1986). In particular, the collaborative nature of open innovation calls for a set of new specific processes and capabilities to incorporate knowledge from business partners and customers. The arguments discussed above are reflected in the theory of dynamic capabilities (Teece *et al.,* 1997; Teece and Pisano, 1994) and are seen as essential for innovative companies in a knowledge-based economy.

Dynamic capabilities include a subset of competencies or capabilities that allows the organisation to create innovation while responding to changing market circumstances (Teece and Pisano, 1994). Eisenhardt and Martin (2000) echoed this theory and added issues regarding the dynamism and complexity of the current business

environment. They re-conceptualised dynamic capabilities, which, in various industries are also called "best practice" as:

> "The firm's processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match and even create market change. Dynamic capabilities thus are the organisational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die." (Eisenhardt and Martin, 2000:1107)

New dynamic capabilities that focus on relationship management are particularly required, because of the fact that many companies consider collaborating with their suppliers, the suppliers of their suppliers, customers, the customers of their customers, other financial service providers, principally with all their stakeholders in the supply chain – and even with their competitors. In particular, collaboration with competitors is remarkably. According to reports, 50% of new alliances are between competitors (Harbison and Pekar, 1998). Hamel *et al*. (1989: 2) stated about collaboration with competitors that "collaboration is competition in a different form". Ray Noorda, founder of the networking software company Novell, coined the term "co-opetition" and Nalebuff and Brandenburger (1996) used the expression for firms that simultaneously have a cooperative and competitive relationship. Zineldin (1998) argued that a firm can become more effective and competitive by simultaneously balancing strategies of cooperation and competition. Mintzberg *et al*. (1996) argue that it is easier to collaborate with enemies than with friends. Deming (2000) goes further and suggests that the best partner in a strategic alliance is a strong competitor.

However, all these concepts are based upon the development of the ability to manage the relationships among individuals, groups, and members to an industrial network (Zander and Kogut, 1995). Stewart (1997) pointed to this ability as a firm's asset and termed it "relationship capital". Conceptualised by Nahapiet and Ghoshal (1998) as social capital it is considered a vital contribution factor to effective strategic management (Starkey and Tempest, 2004). There are several distinct dimensions of social capital (Granovetter, 1992). Where the relational dimension refers to direct relationships of the entrepreneur within the organisation to others and the assets

rooted in these relationships, such as trust and trustworthiness (Tsai and Ghoshal, 1998) the structural dimension of social capital is about social interactions, in fact, the sum of relationships within a social structure. The cognitive dimension by Nahapiet and Ghoshal (1998) provides a set of norms of acceptable behaviour such as shared values or paradigms that allow a common understanding of appropriate ways of acting.

Besides the social capital for nurturing relationships, firms need, in addition, to focus on a set of resources and other conditions that influence capabilities. Teece *et al*. (1997) proposed in the perspective of strategic management that the organisation needs to possess this set of resources in order to be able to cope with an environment in which change is rapid. Eisenhardt and Martin (2000) suggested the development of new dynamic capabilities based on the assumption that firms require other capabilities for managing the strategic renewal. This includes the capability for balancing exploration and exploitation (March, 1991) or efficiency and flexibility (Adler *et al*., 1999; Prahalad and Krishnan, 2002). Adler *et al*. (1999) argued that this trade-off is not a paradox, but it can be managed. Their approach is conceptualised as "metaroutines", "job enrichment", "switching", and "partitioning" as a means to change established routines and introduce new routines into the activities of individuals. Patriotta (2003) observed the fact that adults learn most effectively through experience, and learning-by-doing routines. The above concepts, may lead to a convergence of competitive positioning, as they might execute the same activities more efficiently. Research by Moore and Birkinshaw (1998) put forward the idea that companies should create "centers of excellence", where knowledge can be efficiently managed and reused. In addition, this knowledge should be transferred through the concept of "best practices" (e.g. Newell *et al.,* 2003). Utilising competencies effectively, as discussed in the studies above, and particularly institutionalising them through iterative processes as suggested by Patriotta (2003) might be one answer to the dilemma of latent ambiguity.

Proactive actions, such as anticipating changes and even altering the environment, is often seen as a way where firms can actually benefit from changes - regardless of whether they come from the external environment or from within the organisation.

Studies show that some firms developed the ability to manage strategic change while focusing on their daily business activities at the same time (e.g. *Organization Science*, 1996; Adler *et al*., 1999). For generating a holistic view on the organisation's innovation capability (Lawson and Samson, 2001; Eriksson and Karlsson, 1999) that includes transformative change issues as well as product and service innovations, the dynamic capability scholar should be developed further. This could be achieved by empirical research that explains why firms get to be good, why, and how they sustain, improve, and leverage their capability for innovation, what new resources and capabilities are required for open innovation, and how they should be combined. Crossan and Berdrow (2003) developed these thoughts further, whereby they pointed out that organisational renewal hinges on organisational learning.

2.8.7 Organisational learning through collaboration

Learning is essential for the development of individuals. We are learning throughout our whole life – with every situation and every experience, our knowledge increases and our range of potential behaviour changes (Huber, 1991). Learning in an organisation, is learning at a collective level where the knowledge generated by individuals, known as human capital (Coleman, 1988; Becker, 1964) is incorporated into the organisation, which is then known as structural capital (Stewart, 1997). Nonaka and Takeuchi (1995) emphasised that individuals perform knowledge rather than the organisation itself. Knowledge therefore, has to be shared with others and amplified from employee to group to organisational level. Organisational learning is a process of several learning processes from which organisations can develop new knowledge, namely congenital learning, experiential learning, vicarious learning, searching, and grafting (Huber, 1991; Dixon, 1994). Hence, organisations learn through the experiences and actions of individuals, while they interact recurrently in the context of established routines and procedures (Spender, 1996). In any case, organisational learning is more than the sum of the parts of individual learning (Dodgson, 1993; Fiol and Lyles, 1985).

One important aspect of organisational leaning is how individual knowledge can be translated into a collective form (Jones and Hendry, 1994). This is embedded in the

concept of collaborative learning, which provides access to a partner's knowledge and therefore involves learning from a partner, or learning with a partner (Child and Faulkner, 1998). Nonaka (1994) paved the way for a dynamic theory of organisational knowledge creation in general, and mentioned that inter-organisational knowledge creation might occur if customers, suppliers, distributors, and even competitors form alliances and share their experiences and knowledge. A company that does not share its knowledge can be seen as one with a closed approach. Besides the accumulation of new knowledge, organisational learning is also about having the capacity for using and building such knowledge through interactions between the partners (Powell *et al.,* 1996). Learning to learn from its partners is one of the most vital intangible assets of a company (Contractor and Lorange, 2002). Besides reasons for collaborating, such as seeking resources, numerous researchers agreed that the creation of a social infrastructure which facilitates learning, where firms gain access to the knowledge of their partners is pivotal (e.g. Grant, 1996; Hamel, 1991; Khanna *et al*., 1998; Powell *et al*., 1996; Mowery *et al.,* 1996).

While intellectual capital is essential for the generation of new ideas and the raw material for any type of innovation, organisational learning might be seen as the principal process by which innovation occurs. Organisational knowledge is not a *resource* that can simply be transferred (Barney, 1991), nor is it embedded in organisational processes (Winter, 1987). Newell *et al.* (2003) suggested that the processes of knowledge creation and transfer are mutually dependent. Therefore, emphasis should be placed on disseminating information related to the *process* of generating knowledge, rather than on knowledge of the "best practice" *per se* (Newell *et al.,* 2003). We have further seen that the transition to open innovation is based not only upon organisational and technological innovation, but also upon the development of a set of new resources and capabilities. What is missing is the dynamic element that refers to the capacity to renew knowledge, to achieve congruence with the changing environment (Teece *et al*., 1997). In addition, a "non-technologically" view that includes cultural and social issues is suggested for sustained and effective organisational change (Newell *et al.,* 2001a).

2.9 Conclusion

2.9.1 Synthesis of the key issues

The emphasis of this last section is on selecting researchable questions of broad conceptual significance. Before that, the key issues of the current debates and perspectives of innovation and transition are synthesised.

The *primary* search discussed the various interpretations of innovation and multilateral strategies that make use of several routes to innovation such as invention, value innovation, adaptation and imitation and new business models. The major types, such as product and process innovation, were also discussed. Furthermore, the examination investigated that innovations in the service sector follow dissimilar patterns to innovations in the manufacturing sector. Barras (1986) for example claimed that innovation in service industries is reverse to innovation in the manufacturing sector. The literature suggested that firms should consider the characteristics and intricacies of services (De Brentani, 1991; Hill, 1977) and link their innovation initiatives to their enterprise strategy rather than performing them as a set of single-functioned activities (Tidd *et al.*, 2001). The recent literature clearly suggested putting innovation in the centre of strategic thinking (e.g. Pitt and Clarke, 1999).

The *focal* search was devoted to examining the existing literature in the field of open innovation, the transition to such a paradigm and its management. Two approaches on how to manage innovation have been identified, namely the closed and open approach (Chesbrough, 2003a; 2003b). When companies used to operate in a relatively self-contained style twenty years ago, a closed innovation approach was legitimate. Today drawing resources from several business partners, wherever necessary, is regarded as a strong argument to strive for shorter time to bring innovations to market. In addition, an open approach increases flexibility, integration, and innovation (Das and Agarwal, 2004) and incorporates external knowledge (Nonaka, 1994; Nonaka and Takeuchi, 1995). Therefore, opening organisational boundaries (e.g. Slater, 1999; Ashkenas *et al.*, 1998) to a certain extent (Newell *et al.*, 2002; McElroy, 2003) might strengthen collaboration activities

and help firms manage the entire innovation process more effectively (Chesbrough, 2003a). Besides increasing collaboration, the literature review revealed another characteristic of the open innovation paradigm, *i.e.* the shift from product focus to customer integration. This was explained with that products became imitable, substitutable, and commoditised, in particular in high-velocity markets, such as banking. Hence, a number of studies suggested that firms should generate future value through customer integration (e.g. Thomke and Hippel, 2002; Vermeulen, 2004) and services that complement their product offerings (Milgrom and Roberts, 1995; Stuart, 1998). This implies the incorporation and dissemination of relevant customer, as well as other information, from a variety of collective organisational learning practises on a total system basis (Garud and Nayyer, 1994; Starkey *et al.*, 2003).

The narrower literature review discussed the transition to open innovation. It has been illustrated that innovation is either radical or incremental by determining the degree of change associated with it. Several writers contributed to the understanding of the causes and dynamics of innovation as a major driver of strategic change (e.g. Drucker, 1998; Tichy, 1983; Kanter *et al*., 1992). According to current theories, a number of factors, trends, and developments lead to changes in organisation structures, processes and behaviours (e.g. Buchanan and Huczynsky, 2004). In particular, the financial service industry has been in radical transformation triggered by these factors. Many banks have suffered from the impact of changes in customer needs and behaviours, regulations, policies, and technological innovation. In particular, the management, utilisation, and combination of knowledge, innovation, and technology was seen as important driver for strategic change in knowledge-intensive business services (Hertog, 2000; Miles *et al.*, 1995; Miles and Boden, 2000).

With increasing dynamism and complexity of the business environment, an emergent approach was identified as appropriate to manage the transition (Mintzberg *et al.*, 1995). Some banks have recently been adapting to the environmental changes. This has put them into a phase of organisational renewal (Barr *et al.*, 1992; Dougherty, 1992). To master this strategic transition process, open, flexible, and efficient

infrastructures (e.g. Prahalad and Krishnan, 2002) based on an overall enterprise architecture framework (e.g. Schekkerman, 2003) is suggested. Therefore, a set of new dynamic capabilities are required (Eisenhardt and Martin, 2000). This explains the increasing number of studies that discussed the importance of creating new organisational knowledge (Dixon, 1994; Nonaka, 1994), its management (Winter, 1987; Doz and Hamel, 1998; Nahapiet and Ghoshal, 1998), and transfer by means of "best practices" (e.g. Newell *et al*., 2003). The integration of this knowledge with innovation, strategic management, and transformational change justifies the knowledge-based view of the firm (Grant, 1996; Spender, 1994; 1996), which seems to be dominant in the financial service industry and essential for open innovation.

2.9.2 Gaps in our knowledge of innovation

2.9.2.1 High degree of fragmentation

Even though a growing interest in research in innovation in services was noticed, a number of overall gaps exist in the literature. The critical examination has revealed that the body of literature on innovation in general, is massive but fragmented. It ranges from broad explorations to in-depth case studies across all industries. The high degree of fragmentation makes it difficult to tie different disciplines, such as innovation and strategic management and change together. It further constricts a process view of the transition. This would be necessary to create a cogent understanding of *how* firms manage the transition to open innovation.

The analysis of innovation in services is difficult because innovation theory has been developed, based essentially on the analysis of technological innovation in manufacturing activities (Gallouj and Weinstein, 1997; Boden and Miles, 2000). Hence, most theory is based upon empirical work in the high technology, pharmaceutical and computer industries. Interesting findings regarding efficiency and flexibility strategies derived from studies at Toyota (Adler *et al.*, 1999) or organisational knowledge theory at Fiat (Patriotta, 2003). These theories require adjustment for utilisation in services. In general, characteristics and intricacies of services (De Bentani, 1991; Hill, 1977; Flipo, 1988) have been disregarded. In particular, the indistinct nature of services as such, makes it difficult to distinguish the "service product" from the background process or organisational innovation of

provision (Gallouj and Weinstein, 1997). However, the dearth of research in services is in contrast to the dominance of the service sector (OECD, 2003; ONS, 2003; Boden and Miles, 2000). This may lead to a number of threats if not considered carefully (Sundbo and Gallouj, 1998). Although some researchers attempted to conceptualise innovation cycles for services (e.g. Barras, 1986) or service innovation processes (e.g. Kline, 1985; Utterback, 1979) most theories derived from empirical studies under the prevailing circumstances of the 1980s. Since then, they have neither been developed further, nor have they been adjusted to the current market conditions. Because of the increasing dynamism and complexity of the business environment, these issues cannot be bridged without an active understanding of current practices in the context of the banking industry.

2.9.2.2 The disconnection of organisational and technological innovation

It was found that technological innovation and a number of business trends led to growing concern regarding how these affect the organisation, and how they can be balanced on the firm's journey to open innovation. Gallouj (1998) and Gadrey *et al.* (1993) argued that some theories, which explain innovation in services, are based too much on technology. In particular, Barras' (1986) innovation cycles in services neglect the emergence of new functions independent of technological innovation. Today, not only is technology considered in the banking industry as only one of many factors for innovation, what is more, business and technology interact and both affect the firm's capacity for innovation. On the other extreme is the value innovation approach (Kim and Maubourgne, 1999) which focuses on customer value creation. The study by Leavy and Carey (2002) pointed out that the alignment of both technological and organisational innovation, yields success. Therefore, it is suggested that Barras (1986) and Kim and Maubourgne (1999) should not be rejected. Furthermore, these theories should be complemented through research that places emphasis on the balance between value innovation and pertaining technology-oriented aspects of innovation in services.

2.9.2.3 Different rationales for the paradigm shift in services

The rationale for the shift to an open innovation paradigm, such as the increasing availability and mobility of skilled workers, the decreasing venture capital market,

the separation of research and development or the increased production experience of suppliers (Chesbrough, 2003a) needs to be extended to explain innovation in the service sector. A number of social aspects of the information-based, knowledge-intensive, and services-driven economy have to be included. Since the banking industry has been in a state of change and transformation for the last decade, regulatory factors, the proliferation of delivery channels, mature client expectations and behaviour, and increasing global competition from traditional and non-traditional players would rather justify open, flexible, and client-centric operating models. One dominant rationale for the shift is the fact, that, in particular in the banking industry, products have become commodity. Therefore, firms focus increasingly on customer integration. A number of studies confirmed that banks still hesitate to integrate customers into their innovation processes (e.g. Thomke and Hippel, 2002) and thus that they are not well structured (e.g. Vermeulen, 2004). The consequences of open innovation in terms of complementary service innovations (Mildgrom and Roberts, 1995; Brandenburger and Nalebuff, 1996), the conformity with customer expectations, or the ability to take advantage of collaborations and leverage social capital to gain trust (Nahapiet and Ghoshal, 1998) have not been discussed in the context of the banking industry. Derived from the above arguments, it is suggested that the trends in the banking industry must be treated as important active determinants for the transition process.

2.9.2.4 The missing dimension in the open innovation model

One gap in Chesbrough's (2003a; 2003b) model lacks in the alignment of supply and distribution perspectives. Although Chesbrough, discussed how an organisation might gain advantages if it incorporates external resources during the entire innovation process, he did not elaborate how firms might benefit if they opened up their business model in both ways. Selling outputs to other firms by using their own systems would put a firm into the position of a supplier. Rigby and Zook (2002) mirrored this point in the concept of "open market innovation". They observed at IBM that exporting ideas is a good way to raise cash and keep talents. Doing both at once, exporting, and importing ideas, may help to clarify what a firm does best in the sense of Prahalad and Hamel's (1990) understanding of core competencies. For example, research at Boeing concluded that the company's true comparative

advantage was not in manufacturing, but in systems integration (Rigby and Zook, 2002). As Chesbrough (2003a; 2003b) suggested, firms should use internal as well as external distribution channels on existing and new markets for their own products. In addition, they should incorporate third-party products and sell them together with their proprietary products. This dimension is missing in Chesbrough's model. As multi channel strategies and a number of outsourcing initiatives have become increasingly popular in the financial service industry, more research is required that links the approaches by Chesbrough (2003a) and Rigby and Zook (2002). In particular, the current literature should be extended by studies that examine how such a dual strategy can be adapted by banks.

2.9.2.5 The lack of an integrative aspect for the management of the transition

Within the transition to open innovation, a shift from product to process and organisational innovation in recent years has been ascertained. This substantial change alone calls for more integrative research (Hipp *et al.*, 2000; Hage, 1999). Past theories which explain such organisational transformation, can hardly be applied to the business environment of the twenty-first century. It is further anticipated that most banks know the need for transformation, but hesitate to start, while others follow a piecemeal approach where they adapt changes incrementally and renew themselves gradually. Some researcher pointed to the lack of a coherent understanding regarding infrastructures that address efficiency and flexibility (Adler *et al.*, 1999) or the dynamic synchronisation of strategy and IT (Prahalad and Krishnan, 2002; Henderson and Venkatraman, 1999). Although enterprise architecture (e.g. Schekkerman, 2003) might be viewed as a solution to describe the firm's strategic and technologic direction on which infrastructures can be build, the course of the discussion revealed an incomplete picture. In particular, how such concepts can be adopted to master the transition. In addition, there is no cogent understanding of how firms in the banking industry react to trends and challenges. Neither have the consequences of contingent action strategies been investigated. Consequently, there is lack of literature that discusses the shift from closed to open innovation in the context of the banking industry. In particular, how organisational and technological innovations can be balanced and what new resources and capabilities should be developed.

2.9.3 The identification of researchable questions

Figure 4 on the next page summarises the literature review process and emphasises key issues arising out of the primary and focal searches with the aim of identifying a number of significant existing gaps.

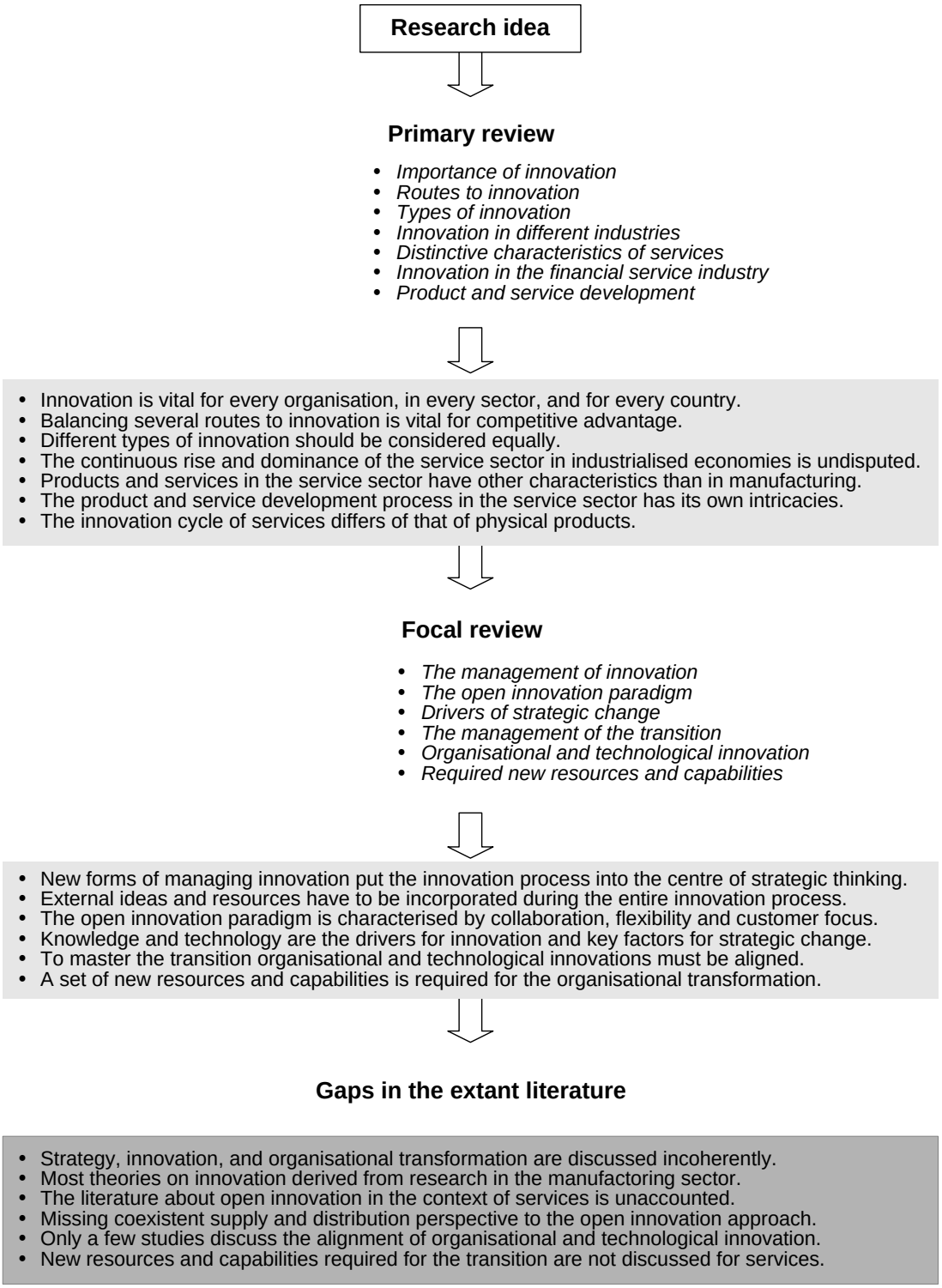

Figure 4: The literature review process

2.9.4 The research questions

Based on the critical analysis of the current literature, it was found that until the 1980s, banking has been a conservative industry, resistant to change. Recently, however, strategic challenges facing the industry have led to a growing concern with innovation as a source of competitive advantage. This thesis set out to examine a bank that has embraced innovation as a major driver of strategic change. The research is grounded in the analysis of the broad literature on innovation. In particular, it addresses the recent shift in the field of innovation from closed to open innovation. The open innovation paradigm is characterised by collaboration, flexibility, and customer focus. The bank, whose experience forms the basis of the case study of the research, has been a leading example in the banking industry, of a firm that has embraced the need for open innovation. As current studies of open innovation have tended to focus upon manufacturing and not services, this thesis examines the rationale for an open innovation approach in the context of the banking industry.

To better understand what the requirements for the successful transition to open innovation are, the researcher deployed qualitative research approaches to address the theoretical gaps identified in the literature. To achieve this goal four main research questions were formulated:

- *What are the key strategic challenges facing firms in the banking industry?*
- *How does open innovation help to address these strategic challenges?*
- *How do banks balance organisational and technological innovation in the transition to open innovation?*
- *What new resources and capabilities are required for open innovation?*
- *How can this set of new resources and capabilities leverage innovation?*

The case study of the bank examines how the open innovation approach was adapted and developed in the service context. In particular, it analyses how the studied bank, negotiated the transition to open innovation. This transition was based upon organisational and technological innovation, and saw the bank adopt a flexible and aligned business and technological architecture and a set of new management

practices, focused upon the development of new dynamic capabilities. This in turn leveraged the bank's capability for innovation.

After having illustrated the key issues and initial research questions, the following chapter outlines various methodological issues related to how the proposed research questions can be answered from the empirical evidence.

CHAPTER THREE

3 METHODOLOGY

3.1 Introduction

The main purpose of this chapter is to display the connections between the research objectives and the research design. The research design is fundamentally based on the researcher's philosophical assumptions, and the careful consideration of approaches and strategies that are necessary to answer the research questions. The first section introduces the research as a learning process. After that, ontological and epistemological assumptions are discussed. Divergent approaches and strategies to management research are debated as well. An explanation of why a case study is used as research strategy for theory development is given. The theoretical case for the chosen research site is justified and the informants introduced. As access to data sources is crucial for all research, a section is devoted to disclose the tactics used. Data collection techniques through interviews and data reduction, analysis, and triangulation issues are discussed concisely at the end of the chapter.

3.2 The process to meet the research objectives

The aim of this study is to explore, explain, and understand the key issues identified in the literature review. To meet the aim of the study, the process of answering the research questions has to be understood as a learning process, in which various research methods and techniques are combined. The objectives are reflected with *erklären* (to explain) and *verstehen* (to understand) as they have a long history in German scholarship of qualitative research (Blaikie, 2000). Giddens (1976) argued that explanations are produced by researchers through an outside view, where understanding is based on an inside view. Through this combined approach, narrowed research fields such as new operating models for product and service innovation and the management of the transition to open innovation were elaborated iteratively. Thus, a comprehensive understanding of the attitudes, behaviour, social relationships, social processes, and social structures of the phenomenon under investigation was gained. Hence, understanding was produced through explanation.

The outcome of the above approach is an in-depth case study that conforms to the objectives of qualitative management research. It narrates different perspectives from informants of the studied firm, which goes beyond the reporting of an act. This includes the participant's experiences, intentions, motives, meanings, contexts, situations, and circumstances of actions. This blend of "best practices" in the context of the banking industry combined with existing theories, emerged to a theory that explains what new capabilities firms need for the management of the transition and how a set of resources should be interlinked and viewed as a system.

Based on these assumptions, the *first phase* of the research process was the theoretical grounding of the research idea in the literature. The outcome was a logical framework where the gaps found in the literature led to the research objectives and main research questions. Based on this, the research design was developed. The *second phase* of the research was explorative in order to develop an initial understanding of the social phenomenon at the research site and its environment, with the aim of getting a better idea of what was going on, and how it might be researched. Therefore, members of different business areas within the studied bank were asked a set of basic questions. In addition, the researcher participated at industry events. The initial analysis of the data disclosed the trends and challenges in the industry. Further investigations directed to corresponding actions of the case organisation. In a *third phase*, specific questions were put to knowledge champions of these strategies, as well as its business partners with the aim of generating explanation and in-depth understanding. Importantly, during the entire research process, the experiences gained were constantly incorporated into the subsequent activity in an iterative manner, which finally led to a kind of learning procedure.

3.3 Philosophy in management research

3.3.1 Justification of management research

It is stated that there are two main paths for organisations that have significant impact on operations, namely consultancy and research. *Management consulting* might be an analytical and rational discipline to provide benefit for organisations and its customers. However, other "softer" factors also have to be taken into

consideration. Empathy and the need to understand cultural issues and the entire business environment holistically have become necessary qualifications for both consultants and researchers. In general, the complexity of a situation increases the higher the hierarchical level of the contact person within the organisation. The explanation for this is that top-level executives are in charge of the strategic direction of the entire organisation. *A fortiori*, their decisions are often politically influenced. Therefore, managerial decisions become unstructured, non-linear, iterative, ambiguous, and incomprehensible for outsiders. To operate and contribute in such complex business environments, the challenge is to see the entire situation with all interrelated elements multilaterally, rather than just analysing a particular element. That is what management consulting stands for - advising executives in such complex situations. Hence, it is an eclectic and pragmatic discipline with the power to influence strategies that might affect the entire organisation.

Besides consultancy, there is another external path open to organisations where they can get new ideas of how to improve their business, namely *management research*. The study of management has been approached from a variety of different disciplines, such as strategy, organisational behaviour, innovation, financial management, control, operations, process management, logistics, marketing, information management, international development, competitive strategy, and the like. Each stance has its own traditions and approaches with the aim of identifying causal explanations and fundamental laws that explain regularities in human social behaviour (Johnson and Duberley, 2000). Management research is a fragmented and heterogeneous field in which knowledge and research methods are often drawn from associated disciplines such as social and natural sciences. Therefore, no distinct ontological or epistemological philosophy is universal applicable (Tsoukas, 1994; Whitley, 1984). Subsequently management research is a non-reductionism discipline that coalesce positivism and interpretive paradigms. It is a trans-discipline, which needs quantitative and qualitative methods and it engages academic theories as well as business practice. Finally, "management research given its concern to understand the organisation and arrangement of resources to deliver optimal task performance and social cohesion…" may be a combination of *engineering* and *craft* (Tranfield and Starkey, 1998: 346).

Whitley (1984) points out that management research should be more than just technical troubleshooting for current problems. Because the topic of this research is of strategic significance for organisations, it is mostly discussed on a normative level. It is difficult to say whether the firm's management attach more importance to qualitative considerations rather than quantitative facts for decision-making. Nevertheless, there are a growing number of management researchers, who suggest the need for more qualitative research in strategic management (Van Maanen, 1979; Summer *et al.*, 1990). Management research is a soft, applied and divergent field of study, which is not only about *knowing what* furthermore it goes beyond this to consider questions associated with *knowing how* (Tranfield and Starkey, 1998). It is in its nature that *how* questions contribute to learning and knowledge, whereas qualitative approaches are considered as appropriate to explore *how* certain elements influence others.

For management research, one right to existence is the contribution it provides to practice although much of the research does not reach the practitioner audience or it is inapplicable (e.g. Beer, 2001). Tranfield and Starkey (1998) identified management research as an applied discipline and raised the question of whether management research is primarily *for* managers or *about* managers and social organisations. The intention of this study is to pursue the above notions and integrate theory and its managerial implications. Hence, this management research is close to management consulting and therefore practice orientated and appropriate *for* managers.

3.3.2 Epistemological and ontological assumptions

Epistemology, the science of knowledge about knowledge, always involves ontological assumptions about the nature of its existence. It is widely acknowledged that doxology, or what is believed to be true, is not how Aristotle declared, detached from epistemology. A research philosophy and common rationale of science is moreover the transformation of believed things into known things - from *doxa* to *episteme.* Bacon in his *Novum Organum* (1620/1960) was one of the first who attacked the Aristotelian submissiveness and proclaimed that practical control over nature can be established through the systematic discovery and description of

physical regularities. Locke (1690/1988) announced that universal laws might be generated inductively and out of observation. Hume (1739-40/1985) advocated Locke's empiricism, but rejected the idea that a fixed number of observations can ever justify universal laws. Although Hume believed that the human mind and knowledge is formed by experience, he contradicted the thought that generalisation from phenomenon experienced in the past, to events that have not yet been experienced and therefore remain unknowable, can be made. Hume argued that there is no causality to believe that any arguments from experience can prove this resemblance and that there is no repetition of the past in the future.

Descartes' *dualism*, in which the mind and object of external reality are independent of one another, presented the rationalist view (see Blackburn, 1996). The *Cartesian dualism* sought a native morality in the mind and a strict divergence of nature into subject and object, knower and known, observer and observed, and mind and matter. The epistemological epitome of rationalism and modern empiricism (Bacon, Locke, and Hume) shaped the foundation for a neutral observation theory, which later influenced the development of *positivism.* Definite knowledge is based on scientific facts, derived from the observation of the empirical world through the accumulation of objective sense data (Compte, 1853). The philosophical doctrine of positivism declared that natural science and social science both are cohesive by value-free observation, description, explanation, and prediction of the external world. Empiricism, rationalism, and positivism all share the same ontological assumptions and build the basis for scientific law, in which social reality can be observed objectively, measured, recorded, and explained.

Criticism of the above discussed philosophical stances is that they commonly focus on the inappropriateness of natural-scientific methods for inquiry into the human or social sciences. The abandon of human subjectivity of positivism approaches in research and business makes the discussion about opposed stances inevitable.

3.3.3 The appropriate research philosophy

The social world became far too complex for general theories and laws based on rational analysis. Kant argued that the external world is a construction of the mind of

individual human beings and that there is no neutral ground for knowledge since all observation is value-and theory-laden (see Guyer, 1992). Habermas (1972) also rejected the objectivist illusion of positivism and accepted the premise that social and cultural reality is already pre-interpreted. Constructed reality can only be understood if individuals communicate their experiences within a shared framework of cultural meanings. Therefore, the outcome of research derives from the researcher's socio-historical location or *habitus* (Bourdieu, 1990). These theories are one underlying principle why management research models have claimed that a holistic comprehension of the social world has to include subjectivity. The researcher believes that there is always a relationship between human behaviour and organisational structures. Alternatively, from another perspective, organisational structure produces human behaviour. To discover and understand *why* people or companies act and react in a certain way is the aim of research in social sciences. Where the principles of positivism and rationalism in natural science can be justifiable, the negative impact in social science as well as in business practice leads to an *anti-positivism* approach for this research. Anti-positivism rejects the meanings and laws of the natural sciences and is predestined to understand rather than measure and describe social phenomenon rationally.

However, a too radical research philosophy would either hamper the creativity and richness of the study or be too subjective and general. Somewhere between the two extreme positions, positivism and postmodernism (e.g. Rosenau, 1992), is critical theory and interpretivism. Critical theory is a philosophy that has its roots in the Frankfurt school (Horkheimer and Adorno, 1972; Marcuse, 1964). This scholar virulently critiques all forms of positivism and claims that:

> "Knowledge must inevitably be connected with the situation and interests of the knower, and that theory and perception must necessarily be mediated through social categories. Therefore is the most that one can do as a critical theorist is, not to detach oneself totally from any social standpoint in order to achieve a naïve objectivity." (Wolff, 1974:820)

Critical theory shares similar ontological assumptions like phenomenology, constructivism, and interpretivism. Berger and Luckmann (1967) argued that the

phenomenological or constructivist stances see social reality as constructed and reconstructed by social actors who pre-interpret and interpret social meanings. Therefore, analysis should be put in the context of the social environment. Understanding of social phenomenon derives from the interpretation of information by the individuals under investigation. Social reality is therefore the symbolic world of meanings and interpretations, precisely:

> "The social world [phenomenon under research] is the world interpreted and experienced by its members, from the *inside*. Hence, the task of interpretive social scientist is to discover and describe this *insider* view, not to impose an *outsider* view on it." (Blaikie, 2000:115)

Interesting for this research is primarily interpretivism as it subsumes all or a part of a number of traditions, such as constructivism, phenomenology, hermeneutics, symbolic interactionism, and existential sociology (Blaikie, 2000). It is further believed that reality can best be understood by sound understanding and interpreting actors' perception of social phenomena. Therefore, this research adopts interpretivism and the social construction viewpoint that meanings emerge through the verbal and social interaction of actors (Berger and Luckmann, 1967).

As the choice of the philosophical stance shapes the underlying logic of the research, the next section compares the main distinctions of research, qualitative and quantitative respectively.

3.3.4 Qualitative versus quantitative research

Having considered the philosophical stance, in which positivism and interpretivism articulate different paradigms in relation to their underlying epistemological and ontological assumptions, the research objectives demanded a qualitative research. The researcher also made note of the following argument by Denzin and Lincoln (1998) in which qualitative research is by nature constructed from a wide range of empirical techniques. The authors explained qualitative research as multimethod in focus that involves a naturalistic interpretative approach to its subject matter. In other words, this stands for the study of things in their natural settings, and attempts to

make sense of, or interpret, phenomena in terms of the meanings people bring to the qualitative researcher.

> "Qualitative research involves the studied use and collection of a variety of empirical materials – case study, personal experience, introspective, life story, interview, observational, historical, interactional and visual texts – that describe routine and problematic moments and meanings in individual's lives." (Denzin and Lincoln, 1998:3)

Accordingly, qualitative researchers deploy a wide range of interconnected methods, and so expect to get a better solution for the subject mater under investigation. As discussed previously, this thesis used interpretivism as the base research philosophy. While interpretivism is closely related to qualitative research, positivism is related to quantitative research. The aim of this research was to explore, investigate, and interpret meanings, experiences, opinions, and feelings of executives in a dynamic business environment as they occurred naturally. Therefore, subjective qualitative data was produced. This data was the raw material for explaining and understanding the studied phenomenon rather than measuring and predicting it.

Table 4 is a summary of distinctions between the quantitative and qualitative nature of research adapted from Halfpenny (1979).

Quantitative	Qualitative
Universalistic	Relativistic
Atomistic	Holistic
Deductive	Inductive
Nomothetic	Ideographic
Prescriptive	Descriptive / normative
Explanatory	Exploratory
Hypothesis-testing	Speculative / illustrative
Abstract	Grounded
Objective	Subjective
Fixed	Flexible/Fluid
Survey	Case-Study
Value-free	Political
Hard	Soft
Number-crunching	Story-telling
Numbers	Words

Table 4: Quantitative versus qualitative research distinctions

As explained above, the different philosophies influenced how reality was viewed and interpreted and paved the way for the entire research as well as the choice of research methodologies. The next section describes the impacts of the philosophical assumptions and explains how various sources of knowledge were integrated into the study.

3.3.5 Implications for management research

Corporate strategic initiatives often express an epistemological position that authorises the knowledge claims that confirm its substantial content. Consequently, every manager should have the capability to reflect critically and consider the importance of subjective epistemology (Mintzberg, 1973; Schön, 1983). Management research has therefore to consider epistemic assumptions and the reflexivity it deploys.

> "It follows that [management research] must entail analyses of human action generated inductively from *a posteriori* understanding of the interpretations deployed *i.e.* cultures by the actors who are being studied." (Johnson and Duberley, 2000:34)

Johnson and Duberley (2000) suggested that *subjective ontology* assumes that what we take to be reality is an output of human cognitive processes. The *objective ontology* on the other hand, assumes that social and natural reality has an independent existence prior to human cognition. While the *subjective epistemology* assumes that instability and unpredictability make analysis difficult, the *objective epistemology* might be seen as a theory-neutral observation of the reality. Thus can an objective ontology and objective epistemology be seen as the positivism philosophy of research, while the other extreme of subjective ontology and subjective epistemology stands for a postmodernism philosophy. This systematic reflection of the research philosophy at a meta-theoretical level describes and explains why and how theoretical variation and development occurs within management research. Reflexivity exposes a critical view of the used methodology. It further compensates the threat of subjective research, which argues that the close relationship between researcher and object might provoke a biased study. Harding

(1987) argued that reflexivity of social science is a relationship between the researcher and the object of research. *Epistemic reflexivity* therefore entails researchers to think about their own thinking, which means that they hold their own:

> "…research structures and logics as themselves researchable and not immutable, and by examining how we are part of our own data, our research becomes a reciprocal process" (Steiner, 1991:7).

Conversely, declared Kuhn (1970) epistemic reflexivity is ineligible and of limited efficacy because embedded paradigmatic assumptions can hardly be transformed into subjective rational knowledge. It is accepted as truth, that a holistic bird's eye view reduces biased interpretation based on social relationships and provides associated distortion of the social phenomenon. In fact, it becomes the link between social research practice and the social structures of the object under investigation. The crux of interpretative research, albeit epistemic reflexivity, can become an autopoietic (see Luhmann, 1986) self-producing process within a recursively closed cognitive system.

To sum up, the faith of many companies' executives in a mechanistic and deterministic reality has dissolved. Gergen (1992) explained, based on Derridas' "de-centering the subject" theory, that the rationality of a manager's action and decision is dependent on the reaction of colleagues. The latter is responsible for the interpretation and delivery of the propositions. Managers themselves are never rational. Instead, their rationality derives from the collective action of their environment. A too narrowed, rational mindset and the exclusion of human subjectivity and cultural issues may impair the quality of the research. Focusing on the nature of reality and evidence – how we know things to be true or false, what conclusions consist in, and what conclusions can be drawn from various kinds of experiences – requires epistemological and ontological questions. This produces legitimate insights of the ways in which managers act within their organisation, perceive, and interpret the world around them and finally leads to a study that generates theoretical as well as managerial contributions.

3.4 Research approach and strategy

3.4.1 The inductive research approach

Having considered the various paradigms of the philosophy of management research, the application of a research strategy to the proposed study was the next step. This section discusses the inductive research approach and answers the crucial question whether data or theory comes first in the research process. Durkheim (1951) introduced his inductive approach to the social sciences, in which he opened up the possibility that a variety of definitions of concepts might be used to understand non-linear events, activities and the overall context of the research phenomenon. The inductive approach asserts that a theory or generalisation emerges from the research questions to data collection and analysis (Durkheim, 1951). That theory follows data, is common in qualitative social research. It gives an understanding of the entire context of what individuals think and experience and it claims that issues such as culture, politics, ideology, value, language, perception, and power are all taken into account before a theory is built. However, this theory is in contrast to the critique of respected scientists and philosophers who rejected any form of induction like Hume (see Cohen, 1989), Hempel's paradox (see Hempel, 1966; Colman, 2001) and Goodman's paradox (see Goodman, 1983).

The inductive research approach was combined with other research logics, used to describe and understand social phenomenon in terms of social actors' motives and accounts. Based on interpretation and understanding, constructing a theory that is derived from subjective meanings of social actors such as motives, objectives, choices and plans that are grounded in their everyday activities is discussed by Schütz (1963). Adopting Schütz's model of the social world, all knowledge of the phenomenon under research is indirect. Social actors cannot be understood theoretically in their uniqueness, but only as impersonal sociological typifications, which are constructed by the researcher (observer) to understand some aspects of the social phenomenon. Besides slight differences between Husserl's phenomenology (see Bell, 1990) and his most prominent follower Schütz, there are varied interpretations. Besides phenomenology, "social phenomena must always be viewed in their historical contexts" (Alvesson and Sköldberg, 2000:110). This thought,

especially using history as a method of diagnosis, became recently popular in the area of management and organisational research pushed by the business world. Smith and Steadman (1981) argued that in planning a firm's future, executives as well as external consultants should always include a careful look at the company's past that is larger that their own experiences. This applies to management researchers likewise.

Overall, developing knowledge from a combination of research approaches is considered as strength. It facilitates an alternating process; it means that theory is generated as an intimate part of the research process; it is not invented at the beginning nor is it just produced at the end. Dominated by the interpretive research philosophy and the inductive approach, a case study strategy was seen as appropriate for the current research. How case studies contribute to gaining a better understanding of complex phenomenon, and how they contribute to *what* and *how* knowledge is discussed in the next section.

3.4.2 Case study as a research strategy

Research strategies have been classified in many different ways. One simple approach that is widely used distinguishes between three main strategies, namely experiments, surveys and case studies. Case studies have the purpose of enquiry to put the phenomena under research in a new light. It is a research strategy that analyses and describes an instance, taken as a whole and in its context. With regard to the perspective of the researcher, Yin (1994) defined a case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, particularly when the boundaries between phenomenon and context are not evident. Case studies can be used if we need to understand why something became a phenomenon that needs further investigation and how, for example, the case organisation realised the transition to open innovation. On the other hand, it is not the appropriate method when the purpose is to predict certain outcomes and to answer "what?" questions and questions that ask for quantity like "how many?" and to "what extent?". Case study research is always complex, dynamic, and contemporary with the challenge of building theories inductively. Nevertheless, case studies are widely accepted for theory building in the early field of research (Eisenhardt, 1989; Yin,

1994). It is a bottom-up approach in which continuous data collection from a case induces to a theory. The process of answering from the beginning of the study to data leads to an intimate interaction with the phenomenon. As a result, it mirrors the produced theory the reality best (e.g. Mintzberg, 1979). This is a major strength of theory building from case studies. In particular, it generates new insights and novel theory, rather than replicating past theories (Eisenhardt, 1989).

The practicability of case study based propositions, where analogies from past cases are drawn for future solutions, sustained critique, also the limitations for generalisability, reliability and validity of the findings were questioned (Yin, 1994). Another dispute is that case studies have the characteristics of a story and that story telling is not generally regarded as scientific or social research. Remenyi *et al.* (2002: 12) rejected this statement and pointed out that, "…the end product of nearly all business research, whether it is theoretical, empirical, positivistic or interpretive is a story". Gould (1997) enforced this by saying that "…we cannot get away from the fact that we organise the world as a set of stories". The notions of the proponents of case study research are accepted. The researcher assumes that especially for describing complex business phenomenon, case studies provide a multidimensional view that is useful for creating a shared understanding of the business situations being studied. In fact, case study research leads to "…a major move towards the understanding of interpretative research" (Remenyi *et al.,* 2002: 12).

There is no specific strategy that guarantees success for overcoming difficulties. None the less, it is important to incorporate multiple perspectives during data collection and data analysis. As this qualitative research intended to be practice orientated, it employed case study with multilateral methods, such as observation, interviews, and analysis of documents and records to gain an integrated view of the social phenomenon. Therefore, a number of methods suggested by Yin (1994) were utilised.

3.5 Data sources and access

3.5.1 Justification of the research site

Several rationales influenced the choice of the research site, namely theoretical, statistical, and personal. Since the study attempts to gain an in-depth understanding on the transition to open innovation, it was important to find an organisation that has been coping with all the challenges of the knowledge-driven and information technology-mediated economy, as well as with industry trends in the financial service industry. It was discovered that particularly banking is in a transformation and consolidation phase that will have radical effects on most institutions. It was also found that the UBS Group was one of the first financial services institutions that approached the strategic challenges in the banking industry. This implied the launch of the bank's largest programme in its entire history. This strategic solution programme covers all industry challenges and has radical consequences on how banking will be done in future. The internal and external sources for change, as discussed in the literature review, all apply to the bank in question and, together with the dimension of the transformation in the industry, justify the theoretical case for UBS.

Other rationales are the remarkable contribution of a single company to a country's gross domestic product (GDP) and society and the high profitability of the bank together with a series of awards that the bank won recently – reflecting widespread recognition for its achievements over the past few years. Some interviewees answered the question "why UBS distinguishes from competitors?" and "what makes UBS special?" by saying that UBS has a friendly company culture in which open communication is practiced internally as well as externally. Some added that stakeholders trust the bank as a serious company, which follows ethical standards and is committed to high standards of responsible corporate behaviour.

As the objective of this research was to understand and learn about an explicit phenomenon, the professional experience of the researcher in different consulting and management positions was an advantage. Hence, the existing network made access to information easier, helped to built rapport and trust, and finally shifted the

nature of the management research into a more practical direction driven by intrinsic motivation. This aspect should not be underestimated, particularly as information about strategies is usually kept undisclosed in the banking industry. Overall, it is believed that all the above factors increased trust in the chosen case organisation and made it an interesting research case.

3.5.2 Multiple data sources

Yin (1994) proposed multiple sources of evidence, such as documents, archival records, interviews, direct observation, participation-observation, and physical artefacts. To answer specific research questions and to meet the research objectives, the interviews produced primary qualitative data. This type of data is characterised by the fact that they result from direct contact between the researcher and the source, and that they have been generated *ab initio* by the application of particular methods by the researcher. Multiple-source secondary data on the other hand, is information that has already been collected by internal or external resources. This type of information enriched the understanding of the case. It included internal and external published documents, such as project documentation, executive summaries, annual reports to shareholders, handbooks, presentations held at board level, industry statistics and reports, information on the intranet and internet, as well as documents from external market research firms and official press releases.

The main sources of information used to describe UBS, were the Annual Reviews of the last two years and the UBS website for investors and analysts. Professional institutions were used as secondary data sources to describe the global context and in particular, the financial services industry in Switzerland. Macroeconomic data and statistics came mainly from the World Competitiveness Yearbook 2003, which is based on research published by the International Institute for Management Development (IMD) and is respected as one of the most comprehensive reports on the competitiveness of nations; ranking and analysing how a nation's environment sustains competitiveness. Data about the financial services industry in Switzerland were taken from official Swiss economic research offices, such as the Swiss Federal Statistical Office (SFSO), the Swiss State Secretariat for Economic Affairs (SECO), and the Swiss Federal Department of Finance (FDF). Banking relevant information

came from the Swiss National Bank (SNB). Other sources were the UBS Swiss Economic Research in conjunction with regional market research institutes and the Basel Economic (BAK). Some figures varied slightly, depending on the source that was used.

While access to information for the Swiss financial service industry was provided in good quality by numerous sources free of charge, in the United Kingdom statistical reports and surveys are sold at high prices and could, therefore, not always be used as secondary data sources. Data to financial services in the United Kingdom came from a website provided by the Secretary of State for Trade and Industry, acting through UK Trade&Investment and from the Online National Statistics (ONS) webpage. Unfortunately, not all data are always up to date so that comparison is limited. Aggregated data about the UK banking sector were drawn from the International Financial Services London (IFSL) database. The Bank of England provided additional statistics. As the goal of the contextual conditions of the financial service industry is not to compare and contrast financial centres or banks, at least it presents the trends of the markets and shows basis data. Another source of information was a kind of observation whereby the researcher attended events such as the annual shareholder conference in April 2004 in Zurich, and the Open Architecture Banking Forum hosted by the Financial Times in November 2004 in London. Not only could a strong impression about the case organisation's vision, strategy, and future business model and industry trends be gained, moreover these events were an excellent platform for networking. Some valuable contacts were derived from these events.

Whatever the types of data are, the form of the produced data for this study is mainly as words. There are some statistical numerical data from secondary data sources, which describe the financial service industry in Switzerland and the research site from a macro point of view. Further, this study did not trace changes over time and therefore has a cross-sectional design. Primary data were collected by qualitative interviews over several months. Follow-up interviews were carried out to confirm certain statements and for triangulation reasons. Case historical information mainly included additional documentation. Administrative data to briefly describe the interviewee, were collected by a one page structured questionnaire before the

interview took place. Information concerning the organisation as such came from official print material such as shareholder handbooks and reports and other comprehensive company brochures. Information from the company's home pages was also considered.

3.5.3 The issues of triangulation

Data from multiple sources not only deepened the content of the study. What is more, it was also a means of triangulating the data in order to ensure its validity and reliability (Denzin and Lincoln, 1998; Yin, 1994). Kidder and Judd (2001) and Yin (1994) conceptualised four types of validity that are all crucial to social science research, namely construct validity, internal validity, external validity, and reliability. However, the description of the phenomena of interest from the interviewees point was the discerning activity. The interviewees were the only ones who could legitimately judge the credibility of the results. To justify and overcome the complaints of validity in qualitative research, *i.e.* that the findings of this study are truth based on critical analysis of the collected data, (known by researchers such as Silverman (1993) or Bryman (1988) as the problem of "anecdotalism") several precautions were maintained during the whole research process. One case study tactic during data collection applied to *construct validity* was that different sources of information were used to cross-validate statements, findings, patterns, and conclusions. A further test is that of *internal validity* as a means to establish causal relationship in which particular conditions are shown to lead to other conditions (Yin, 1994). During the data analysis phase, pattern-matching and explanation building (Miles and Huberman, 1994) were applied to overcome the issues of internal validity. The degree to which the results can be generalised or transferred to other contexts or settings is known as *external validity* (Kidder and Judd, 2001; Yin, 1994). This is, for qualitative research, very low particularly with a single case study strategy. To accomplish this, the context of the phenomenon investigated has been analysed and described meticulously to offer a kind of replication logic. Analogically applies to *reliability*, whereby procedures of the research such as data collection methods should be repeatable and deliver the same results (Yin, 1994).

Qualitative researchers deny the idea that the same social setting can be researched twice with the same result. Likewise, it is assumed that this cross sectional study would produce slightly different outcomes in a couple of years when performed by another researcher. That is because of continuous changes in the dynamic business environment, which effect the organisation. The subjectivity that dominates social research as discussed previously is another issue that influenced the outcome of the study. Nevertheless, in order to increase reliability, a case study protocol was used. In addition, definitions and terms used by the studied bank were crosschecked with other firms in the same industry to make sure that there was a common understanding. The researcher also compared certain strategies and concepts with that of other market participants. These checks corroborated the information given by the research site. It is said that triangulation enables a more comprehensive understanding of the studied phenomenon. Some authors even stress that findings created from different sources of data, referred to as contradictory data, may provide a rich source of creativity, and serve as a vital mechanism for expanding the researcher's thinking (Miles and Huberman, 1994; Strauss and Corbin, 1998).

3.5.4 Getting access

Convincing senior executives to talk about their strategies and programmes was primarily the crucial activity. The access tactic and first contact with the research site was carefully elaborated. This is in contrast to quantitative studies where random sampling procedures are used instead. To gain the trust and rapport of potential interview partners, in most cases the executive assistant was contacted first to explain the study and intension. Second, the head of the business area was sent an invitation for an interview by post or email, together with a one-page research outline that covered issues such as the purpose of the study and a brief explanation of theory and models. This included methodological issues on how information would be used, how responses would be handled, and in particular, how confidentiality would be treated. The research outline also pointed out the benefits for those who are directly involved in the study. Another page described the researcher's *curriculum vitae*. Lastly, a confidentiality statement from the Nottingham University Business School, signed by the supervisor and the Director of the Doctoral Programmes was included

to prove the credibility of the researcher (this letter can be seen in *Appendix F*). Using this tactic, the heads of three different business areas were gained as sponsors for the study. Not only did they agree to be interviewed, they also opened the door for further interviews within their respective departments.

Once the "gatekeeper" was convinced, he was used to bring the researcher into contact with other informants within the organisation. This happened mostly during or after the interviews, whereby some senior executives suggested other members of staff, and some even arranged contacts with external partners who could be interviewed for the purpose of the study. With this "snowball sampling", knowledge was gained from an adequate number of interview partners and a maximum variation was achieved, as the informants came from different organisational levels as well as from different organisational units and partner companies.

3.5.5 Interview partners

As mentioned within the selected research site, first, executives with overall responsibility were targeted for interviews followed by interviews with other staff members. After a basis of understanding was developed, interviews were extended to other business areas and organisations in order to comprehensively explain and understand certain phenomenon. Interviews with focus on understanding were held until, what Glaser and Strauss (1967) called, the "saturation point" was reached. This meant that interviews were stopped as soon as each additional interviewee added little to what was already known. To avoid the so-called "elite bias", which means to take the perspectives of high-status respondents only, information of members involved in daily project activities were also taken.

The tables below list the official job titles of the interviewees. Most of those could be used in combination with the function for quotes in the case study. While Table 5 lists the UBS interview partners and its business areas, Table 6 lists the contacts from the UBS innovation partners and companies that were used for cross checks. In total, 31 UBS employees were interviewed together with 13 employees from external companies.

	Business Areas				
	Wealth Mgmt. (Int.&CH)	**Business Banking**	**Product & Services**	**Market Strategy & Devl.**	**IT**
General Director Group Managing Board	2				
Managing Director	3		3	1	1
Executive Director	1		2	1	2
Director	1	2	3	1	2
Associate Director			1		1
Client Advisor	2				
Employee level (1…4)		1	1		1
Total	*9*	*3*	*10*	*3*	*7*

Table 5: UBS interview partners

	UBS Innovation Partner			External cross checks	
	Accenture	**SAP**	**IBM**	**KPMG**	**Allianz**
Executive level Partner/Director	2	2	2	1	1
Project level	2	1		1	
Total	*4*	*3*	*2*	*2*	*1*

Table 6: External interview partners

3.5.6 Data collection through interviews

The data collection method for this qualitative research involved direct interaction with the workforce of the research site. The form of study was in a natural social setting in which interviews were conducted, rather than the employees being observed while they were working. The decision to use interviews was based on an assessment of the complexity of the situation in a bank, and the probability of being able to collect sensitive data with other techniques. The use of interviews is in line with Easterby-Smith *et al.* (1991) opinion that if the subject matter is highly confidential or commercially sensitive, interviews are an appropriate method for data collection. Additionally, interviews are useful in explorative studies where understanding of expressions, condition, beliefs, feelings, perceptions, experiences, opinions, and intensions of those being interviewed are essential (Patton, 2002).

Interviews then, are predestined to find out what is in and on someone else's mind. Overall, qualitative researchers advocate interviews as a rich knowledge creation method (e.g. Fontana and Frey, 1994; Holstein and Gubrium, 1997).

The underlying approach to the interviews conduced for this research is by Rubin and Rubin (1995) who emphasised that successful qualitative interviewing requires an understanding of culture, because culture affects what is said and how the interview is heard und understood. Both interviewer and interviewee are participants in an interviewing relationship, in which emotions and cultural understanding become a significant impact on the interview. Because one of the main purposes of qualitative interviews is to learn about complex phenomena, qualitative interviewers should try to capture the richness and complexity of their subject matter and explain it in a comprehensive way, rather than simplifying it. During the whole process, much attention was paid so that the voice and thoughts of the conversation partner always prevailed. The interviews were structured as described in the metaphor by Rubin and Rubin (1995) as the "tree-and-branch" model. In this picture, the interview is likened to a tree, whereby the trunk acts as the core topic of the research and the branches stand for the main questions. The main question established the general sequence of what was asked. Seeing that this was a topical research, prior to the interviews a set of specific questions based on background research, including reading academic studies as well as studying company documents, programme descriptions and events of the research site was prepared. In order to cover the entire subject matter, chiefly *what*, *why*, *when*, and *how* questions were asked exploring each branch with an analogical degree of depth, detail, and nuance. This process led to the objective of understanding and learning how the whole is formed from separate parts, which in Rubin and Rubin's (1995) illustration are the individual branches that in fact framed the entire tree.

The form of the interview altered as the research progressed. The interview process was more structured for the first interviews. Semi-structured interviews seemed to be the appropriate technique for the exploration phase. Another not less important fact was that semi-structured questions ensured that comparable basic questions of inquiry were pursued with each person interviewed. The threat that with semi-

structured interviews, important information, and questions might have been missed was overcome with sometimes in-depth follow-up questions. The interview outline comprised only open-ended main questions without any pre-coded answers. The responses to these main questions provided the opportunity for both the interviewer and the interviewee to discuss some topics individually and in more detail. The collection of similar information from each interviewee, had a positive effect on credibility and reliability. As a result, data sets looked consistent and facilitated the data analysis process.

Some interviewees insisted on seeing the questions in advance for self-preparation and possible rejection because of confidentiality reasons. Therefore, a guide with main questions was provided in advance if requested. After general issues had been explored and the direction of the area under discussion became clearer, succeeding interviews focused on understanding specific issues and were therefore less structured. Even though they were discursive and interactional, they still had some direction and purpose. With this strategy, experiences and feelings could be elicited. This was reflected in a continuous change and adaptation of the questions to the appropriate circumstances of the interviewees. Holstein and Gubrium (1997:121) called it "active interviewing" which "…transforms the subject from the respondent or wellspring of emotions into a productive source of knowledge". Interviews that collect confidential data, which is almost all data of a bank, must provide a clear framework for the respondent's information. Only if the informant feels secure and comfortable with the questions asked, he or she is willing to tell about a situation openly. A certain degree of empathy is required. As Patton (2002:366) claimed, "rapport is built on the ability to convey empathy and understanding without judgement". Hence, the equilibrium between rapport and neutrality was a key success factor.

All semi-structured interviews and most of the in-depth interviews were recorded and *verbatim* transcribed. Informal contacts were not recorded. All interviews were face-to-face and taken personally by the researcher. Interviews with proponents of the bank were almost all held in Switzerland, besides a few in the United Kingdom. Interviews with SAP, Accenture, IBM, KPMG, and Allianz were held in Switzerland

and Germany. Notes were taken during the interviews as a complement to tape-recording. In addition, a journal was kept throughout the data collection phase. Impressions about the situation, ambiance, and non-verbal communication and feelings of the interviewee could be perceived with this technique. Informal insight comments and plenty of other helpful suggestions came out of this information source.

Table 7 on the next page lists the official functions of the respondents, the type of interview, the number of contacts, and the duration of the meetings. Approximately 60 hours were spent on interviews in total. *Appendix B* lists the main questions asked.

Function	Form of interview	Contacts	Length
UBS contacts			
Head of Business Area Processes	semi-structured	1	90
Head of Business Process Management	semi-structured	1	60
Product Manager Mortgages	semi-structured	1	30
Head of Client Advisor Workbench	semi-structured	1	90
Head of Client Infrastructure Services	semi-structured	1	60
Business Project Leader	semi-structured	1	75
Head of Project Support & Services	semi-structured	1	90
Head of Marketing Services	semi-structured	1	60
Head of Management Support	semi-structured	1	60
Program Manager Client Advisor Workbench	in-depth	2	150
Head of Market Research & Analysis	in-depth	1	60
Editor-in-Chief	in-depth	1	90
Client Advisor Wealth Management	in-depth	2	180
Program Manager SSP	in-depth	1	90
Program Office Manager SSP	in-depth	2	180
Head of Standards and Procedures	in-depth	2	60
Head of Business and Application Architecture	in-depth	1	60
Head of Enterprise Architecture	in-depth	1	45
Head of Technical Architecture	in-depth	2	150
Head of IT International	in-depth	1	60
Head of Banking Products	in-depth	1	75
Head of Banking Trading Infrastructure	in-depth	1	45
Sales Manager	in-depth	1	60
Head of Wealth Management Switzerland	in-depth	1	90
Head of Investment Solutions	in-depth	1	60
Head of Wealth Management UK	informal	1	30
Investor Relations	informal	2	30
Group Internal Audit	informal	2	180
Client Advisor	informal	1	30
Project Member SSP	informal	1	45
Head of Investor Relations	informal	1	30
Head of Quality Assurance	informal	1	30
External contacts			
Senior Manager - Project leader UBS	semi-structured	1	30
Relationship Partner UBS	in-depth	2	90
Consultant	in-depth	1	120
Global Alliance Director UBS	in-depth	1	60
Project Manager UBS SSP	in-depth	2	240
Account Manager	in-depth	2	120
Project Portfolio Manager/Strategic Projects	in-depth	1	60
Partner Business Consulting Switzerland	in-depth	1	100
Head of Human Resources and Accounting Systems	in-depth	1	120
Services Manager	in-depth	1	90
Head of Business Consulting Services	informal	1	30
Head of Corporate Restructuring	informal	1	30
Total		*54*	*58.92*

Table 7: Interview summary

3.6 Data reduction, analysis and interpretation

As Patton (2002) mentioned, qualitative analysis is the transformation of data into findings and ultimately knowledge. In qualitative data analysis, understanding emerges from the examples and experiences collected from the interviewees. In other words, knowledge and contingent theories have been built and verified systematically in an iterative manner for this research. There were several types of data to analyse, primarily from the interviews, and secondly from participation at events and documentation and other notes that emerged during the entire data collection process. All the evidence was printed out and kept in four thick folders. With the 250 pages transcripts including interview notes, the documentation contributed to approximately another 700 pages of data. This includes tables and figures that were selectively used. Although this indicates the large amount of data that this qualitative research produced, data had to be reduced systematically in order to avoid "drowning in data" (Morse, 1995) while still being thirsty for information and knowledge. For the reduction and analysis, the "data analysing flow model" by Miles and Huberman (1994:10) with its interrelated stages, namely data reduction, data display, conclusion drawing and verification was employed.

Data reduction proceeded as a continuous process and has been seen as a part of the analysis process, since the researcher had to decide what data to code and what to abandon, and which developing story to narrate (Miles and Huberman, 1994). *Data display* was utilised to compress and organise data that allowed conclusions to emerge. Manual coding was used as a method to group data gathered from multiple sources, into categories that collated similar ideas, concepts, and thoughts. The discovery of patterns and categories out of the data is in contrast to deductive analysis, whereby data are analysed based on an existent framework. Strauss and Corbin (1998:223) called this process "open coding" and stressed the significance of being open to the data while analysing it. It was therefore an ongoing process of data collection, data analysis and reporting, and inductive theory construction as suggested by Glaser and Strauss (1967). This process, in which "…generating a theory involves a process of research" (Glaser and Strauss, 1967: 5) was found to be useful for content analysis and supported the idea of generating categories emerged

from the data collected. While first level coding is just summarising data, second level, known as axial coding, is the grouping of the summarised segments into a smaller number of sets, themes, and constructs to understand the patterns (Miles and Huberman, 1994). This was the second step of the analysis process followed by the last step, which was making connections between categories with the attempt to discover regularities, variations, and singularities in the data and thus to begin to report the case thoroughly and to construct theories. This process involved activities such as describing, classifying, and connecting and was formulated by Dey (1993) as a spiral process.

The *conclusion drawing and verification* process developed an in-depth understanding of what things mean and finally enhanced the interpretation of the conclusions. Analysing data, reporting data, and constructing theory iteratively and simultaneously called for open and flexible methods. For building theory from case study research, methods and techniques suggested by Eisenhardt (1989) were utilised. The extant literature was compared and contrasted iteratively to find out what was already known, what emerged from the empirical data, and what could be combined to build new theory. The comparison with conflicting and similar literature increased internal validity, raised the theoretical level, and sharpened construct definitions (Eisenhardt, 1989). According to her, the likelihood of valid theory is high because the theory-building process is intimately tied with evidence and it is very likely that the resulting theory will be consistent with empirical observation. Validating new patterns, relationships, and findings has also been practised by revisiting the original data repeatedly.

To sum up, both Foucauldian *discourse* as well as Bourdieuian *habitus* draws on the notion of the legitimacy of certain logic or rules governing regimes of truth or dispositions. Such philosophies see much of human action as predetermined by the discourses and dispositions that organise and legitimise social interactions and perspectives, but introduces threats in the interpretation and coding of data. During this research, coding was experienced as a dynamic process that was much more complex than just giving categories to data. It was more about "...conceptualising the data, raising questions, providing provisional answers about the relationships among

and within the data, and discovering the data" (Coffey and Atkinson, 1996:31). It was therefore accepted to see data collection, reduction, analysis, and interpretation as a learning process in which the researcher acted as the measuring - data absorbing - instrument (Blaikie, 2000).

3.7 Thesis writing

The main parts of the thesis built the literature review, case study and the discussion chapter. Where the reviewed literature was narrowed down systematically and acted as a theoretical basis for the study, the case study design is based on the descriptions suggested by Yin (1994). For the case study, as well as for the discussion chapter, the data analysing flow model for reducing, analysing, and displaying qualitative data by Miles and Huberman (1994) was employed. In particular, for the case study, the concepts embedded in the "paradigm model" by Strauss and Corbin (1998) were adapted for building a logical chain of evidence. This model also provided the structure for the case study storyline (see *Chapter Five*, Discussion, Figure 14).

The case study presents a narrative of the phenomenon being studied. Quotes by some representatives were made anonymous on their request. Official titles were replaced by terms such as "top senior executive" or "senior executive" respectively. The discussion chapter follows the case study chapter. Through the process of analysing and interpreting data, coding principles suggested by Strauss and Corbin (1998) were applied. For theory development from the case study, the discussion chapter brought the results of the case together with the extant literature with the aim of building a theory that is conceptual, comprehensive, grounded, and based upon the development of the theoretical contributions in the area (Eisenhardt, 1989).

Writing up the research provided an opportunity to reflect what was observed and understood. It not only completed the data analysis process, but also assisted the ability to generate the harmonic sound of data coming together in narrative form to make sense of the phenomenon being studied (Wolcott, 2001).

3.8 Reflections

The role of the researcher was in contrast to traditional survey researchers. It was largely that of an analytic research manager rather than a pure academic research assistant. The researcher's professional career corroborated this role. The advantages were pre-existing knowledge and experience about the business and people involved and thereof derived synergy effects. The process of conducting the case study was experienced similar to a consulting project. The researcher led the "project" professionally and took advantages of unexpected psychological factors due to interactions with representatives of the studied firm and its environment. Therefore, delicate issues about changing conditions released through acquisitions and pertaining structural changes were noted. Based on a trustworthy relationship with the interviewees, established through close personal contacts, both parties learned by reflecting on the knowledge they possess.

To gain a holistic picture of the phenomenon under investigation, the researcher let his interviewees talk informally about the firm's history. This included the organisation but also parts of the external environment such as the banking industry in general and strategies of the bank's competitors in particular. Past programmes, organisational structures, processes, decisions, culture, and control systems were taken into account as well as voices that anticipated the bank's future. Figure 5 illustrates the context of the research project.

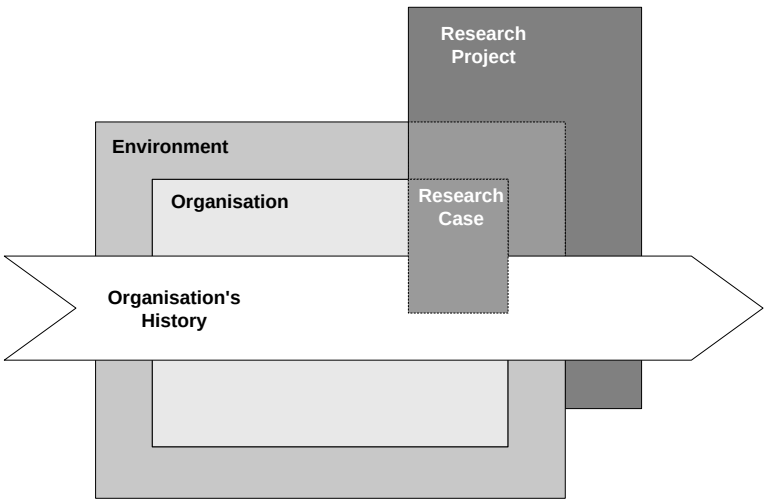

Figure 5: The researcher's perspective

During the entire research process, multiple sources of evidence to the phenomenon under investigation were analysed and interpreted from various perspectives based on the philosophical stance of the researcher. A number of methods were selected, combined, and applied to the research. Therefore, the researcher interpreted external reality and shaped the outcome of the study to a certain extent.

3.9 Concluding remarks

This management research is justified with the philosophical stance to qualitative research (Denzin and Lincoln, 1998; Blaikie, 2000; Johnson and Duberly, 2000). In particular, the concept of social construction (Berger and Luckmann, 1967; Glaser and Strauss, 1967) helped to understand the phenomenon under investigation by interpreting social actors' experiences, meanings, and identities. These assumptions underpinned the design of the research as well as the methods employed for data collection and formed the theoretical foundation of the study.

The data were collected through interviews, observation, and documentation and analysed systematically based on a number of methods (Patton, 2002; Rubin and Rubin, 1995; Holstein and Gubrium, 1997; Fontana and Frey, 1994; Robson, 2002; Easterby-Smith *et al.*, 1991). This approach supports the use of case study strategy (Yin, 1994; Eisenhardt, 1989). In particular, this research is based on methods and techniques for data reduction and data analysis suggested by Strauss and Corbin (1998), Glaser and Strauss (1967), Miles and Huberman (1994), and theory development (Eisenhardt, 1989).

Table 8 summarises the decisions taken and gives a brief justification why they were considered as suitable.

	Design decision	Justification
Nature of research	Qualitative	The initial research idea was to gain a profound understanding of a phenomenon and hence called for qualitative data. There was no pre-defined case where qualitative research was considered as appropriate to allow the researcher to be more innovative with the research design.
Enquiry process	Exploratory Explanatory Understanding	The exploration helped to develop initial understanding and identified the phenomenon that would correspond to the research objectives. The subsequent explanation of dedicated cases produced in-depth understanding of the phenomenon.
Philosophy	Interpretivism Constructivism	Like any human action, research is grounded on philosophical perspectives, implicitly and explicitly. The epistemological assumtions about how the phenomenon could be known and understood led to interpretivism. To persue the research objectives the researcher had to understand the context and setting of the informants involved in the study.
Approach	Inductive Phenomenology	The logic for an inductive approach was to establish theory from the comprehensive data gathered and accumulated from the case.
Strategy	Case study	A case study seemed to be appropriate to explore, explain and understand the phenomenon within its real-life context. The multiple sources of evidence and variety of methods used facilitated the overall research philosophy and produced a in-depth and holistic understanding of the phenomenon under investigation.
Time horizon	Cross sectional	The objective was not to trace changes over time. Nevertheless, was the history of strategies and initiatives considered to gain a comprehensive understanding.
Sector Industry	Financial services Banking	Statistics corroborate the importance of the services sector. Banking business is knowledge-based and technology-intensive. A number of strategic challenges have radical effects on the banking industry. Banks are forced to adapt to the changing environment, innovate more systematically, focus on complementary value-added processes and open-up their innovation strategies. In addition, intrinsic motivation of the researcher based on his profesional career.
Data collection method	Interviews Documents Participation	The difficulty of getting confidential data from banks called for building up rapport first. The researcher visited the bank regularly and collected the information required through face-to-face interviews.
Data analysis/ interpretation method	Open coding Axial coding Selective coding Paradigm model Theory development from case study	The dynamic environment called for an iterative analysis process, in which the collected data was constantly analysed and linked to the extant literature. The paradigm model, as a holistic method that considers the context of the phenomenon, was adapted to structure the storyline. Through this process, the data collected was reported as a logical chain of evidence in the case study. The findings from the case were interpreted and emerged to the proposed theory.

Table 8: Justification of taken decisions by the researcher

To sum up, the research is grounded on the philosophical assumptions and a number of methods and techniques, indicated in bold letters in Figure 6 (adapted from Saunders *et al.*, 2004).

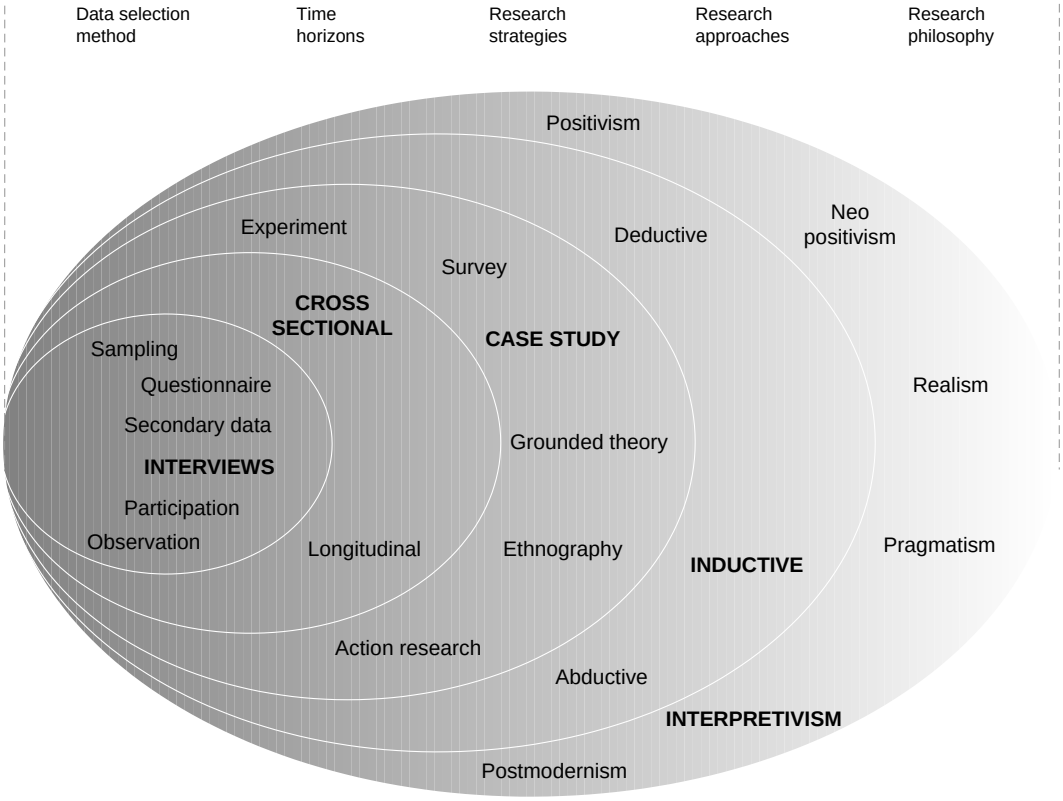

Figure 6: The research process

The following chapter reports the data collected from the research site and its business partners in form of a qualitative case study.

CHAPTER FOUR

4 CASE STUDY

4.1 Introduction

This chapter reports on the information gathered about the phenomenon, *i.e.* the transition to open innovation and its contextual environment. The aim is to provide a structured basis from which the findings of the case can be used for theory development. This was achieved through the process of *data reduction* and *data display* (Miles and Huberman, 1994) and additional coding techniques suggested by Strauss and Corbin (1998). In particular, the "paradigm model" was adapted for structuring the storyline of the case study.

Before interpreting the findings and building theory, we must first understand the past and the contextual environment of the industry – not only what happened, but also why it happened. Therefore, the financial service industry in Switzerland and its core competencies are introduced and compared with other financial centres. The second section describes the making, organisational structure, vision and strategy of UBS. Trends of the financial service industry and its implications for banks are discussed likewise. Focus was laid on the experience of three major action strategies taken by the bank in question in order to respond to and manage the phenomenon. The main strategies are; open architecture, the client-advisory process, and the strategic solution programme. Latter includes a number of activities such as enterprise architecture and flexible infrastructures as a means to provide the organisation with the appropriate conditions for innovation, learning, and the transition.

4.2 The financial service industry

Switzerland has a highly developed and effective system for financial services that makes it possible to secure financing on favourable terms and ensures access to the most modern financial instruments as well as comprehensive advice. In 2003, the entire financial service industry employed approximately 220,000 people, of which 112,915 were in banking and the rest in insurance, accounting, auditing, and other businesses. Thus, the proportion of the financial service industry amounted to

approximately 6.5% of the total workforce according to the Swiss National Bank statistics (SNB, 2003). Although the financial service industry in Switzerland is spread over diverse banks and insurance companies, an article published by Croft (2004a) shows the dominance of certain companies. In terms of market capitalisation, as of June 2004 UBS was listed, with CHF 108.9 billion, as the top Swiss bank. Second ranked was Crédit Swiss with approximately half (CHF 53.1 billion) and third Liechtensteinische Landesbank (LLB) with merely CHF 1.9 billion followed by all the other Swiss banks. For the insurance industry, the Zurich Financial Services, with CHF 28.6 billion, has the highest market capitalisation, followed by Swiss Re with CHF 25.6 billion and third Bâloise with CHF 2.9 billion.

The financial service industry added value of CHF 55.2 billion or 13.5% to the Swiss Gross Domestic Products (GDP) at the end of 2003. This is more than double if compared to the statistics of 1990. Bearing in mind employment, and tax revenues, it is the biggest contributor to the Swiss economy. According to the Swiss Federal Statistic Office (SFSO, 2002) the contribution to the overall net output was around twice the size of banks in Germany, France, and the USA. The UBS contribution as one of the biggest companies in Switzerland, with revenues of CHF 17.1 billion is remarkable. Besides the high output in relation to other sectors, labour productivity (real net output divided by the number of employees) in the financial service industry was CHF 275,500 per employee in 2003 (Frey, 2004:25) which is much above average and another notable indicator. These figures show that the financial service industry is still one of the strongest and most productive industries in Switzerland. A large number of Swiss banks further guarantee reliable and rapid handling of business in Switzerland and abroad.

The next section introduces Swiss banking, whereby it has to be said that although insurances are part of the financial service industry they are not analysed in detail for this study.

4.2.1 The structure of the Swiss banking industry

According to the Swiss National Bank (SNB, 2003) 342 banks (respectively 813 including all Raiffeisen banks) were registered in Switzerland by the end of 2003.

This total included 24 Cantonal banks, 83 regional and savings banks, the Raiffeisen bank which is actually a group of 471 banks, 3 big banks (UBS Group, Crédit Suisse Group and Zurich Cantonal Bank), 190 other banks (trading banks, stock exchange banks, foreign-controlled banks, and others), 15 private banks and 26 branches of foreign banks. Explanations about the different bank types are summarised in *Appendix C*. Measured by the gross operating profit UBS and Crédit Suisse accounted for more than 60% of the total Swiss banking market by 2003. At the consolidated level however, both of them derived a good two-thirds of their operating income from business outside Switzerland.

The major business areas in Swiss banking are lending business, investment funds, mortgage business, investment banking, fiduciary business, safe custody of securities and valuables, derivate financial instruments, payment, and clearing services, and last but not least investment advice and asset management. Although, Swiss banks have come under increasing external pressure to relax rules on banking secrecy the banking industry plays a predominant and significant economic role, benefiting from tax advantages and special laws on bank secrecy and reluctant co-operation in the prosecution of fiscal crimes. As the banking secrecy is considered as one major competitive advantage for the Swiss financial centre its historical background is explained in *Appendix D*.

4.2.2 Core competencies in Swiss banking

Wealth management plays the most crucial role in this respect, as it generates more than half of the Swiss banks' total output. According to a survey carried out by Capgemini and Merrill Lynch (2004) assets invested by wealthy private individuals worldwide as at the end of 2002 were estimated at US$ 27,200 billion. According to the survey, around 175,000 wealthy individuals, with a net disposable income in excess of one million US$, lived in Switzerland. Nearly one-third of global private assets, in fact US$ 7,900 billion, can be attributed to the wealthiest segment with a net disposable income of at least US$ 30 million. There are an estimated 58,000 such individuals worldwide. An estimated 80% of the assets of wealthy private individuals are managed by asset managers domiciled in the beneficiary's domestic market (onshore); the remaining 20% of those assets are managed and invested by trustees

resident in foreign jurisdictions (offshore). Swiss banks have increased its position during the last years as one of the world's global leaders in terms of management of private as well as institutional assets. An estimated 30% of internationally invested private assets worldwide are managed in Switzerland. In 2003 the total assets of banks in Switzerland reached CHF 2,237 billion and the value of securities portfolios, held in custody accounts by domestic bank offices, amounted to CHF 3,293 billion (foreign customers accounted for CHF 1,659 billion or 56%). This figure does not include life insurance, customer assets in bank balance sheets and fiduciary deposits (SNB, 2003).

In recent years, a moderate trend towards concentration has been observed in all banking businesses. The number of banks in Switzerland fell from 495 in 1990 to 342 at the end of 2003 (Raiffaisen banks not included). A study carried out by Monnerat and Bernet (2004) warn that the Swiss banking industry is likely to shrink by on average by another 11% over the next few years. The fall in the number of banks is due to market consolidations that take the form of mergers and commercial partnerships. These operations have led to increasing market segmentation between high net-worth, mass-affluent and retail clients. None the less, private banking remains a widely fragmented and complex business area at both the domestic and the global level. UBS as the global market leader controls a market share of roughly 3% of the world's private wealth. In contrast, the world's top ten together manages approximately 8%. The Swiss banks' success in wealth and asset management is attributed to their longstanding tradition in the business, traditionally stable legal and political conditions, a stable currency, the high efficiency and reliability of the banks and, last but not least, a good long-term performance of investments. Performance is a crucial factor especially for institutional investors, although private customers are taking an increasing interest in performance, too. The big banks, in particular UBS and Crédit Suisse, have expressed their intention to strengthen their onshore private banking activities, which is to service customers in their domiciles. Asset management has a strong positive impact on the securities and underwriting business in Switzerland. Thanks to the volume of assets they manage, the banks in particular have substantial placement power, which translates into an important competitive

advantage in the underwriting business. Approximately half of all new Eurobond issues are placed in customer portfolios managed by Swiss banks.

In addition, the efficiency in financial and capital market logistics is unique in Switzerland. The Swiss financial infrastructure perfectly combines technological advances with traditional values. From the trading order on the stock exchange to the completion of securities business, all procedures can be carried out immediately (real time) and automatically thanks to an excellent system, that fully integrates the three stages of a security transaction, namely trading, clearing and settlement, and payment. This system carries out the transaction only when all stages are covered. This eliminates principal risks, traditionally one of the most significant risks in securities trading. The international standard for carrying out this type of business is currently two to three days. With Virt-x the SWX group (Swiss Stock Exchange) has a blue-chip trading platform in London for processing such kind of transactions.

4.2.3 Competition and the European Union

Financial markets and institutions are very competitive. The United Kingdom is the worlds leading international financial centre and hence one of Switzerland's biggest competitors. Despite similarities, such as the percentage of GDP contributed by services in both countries is around 68%, the GDP per capita in Switzerland is US$ 36,937 and in the United Kingdom, US$ 25,894. The overall productivity and work productivity in Switzerland with roughly 14% is slightly higher than in the United Kingdom (IMD, 2003). According to UK Trade&Investment (2004) the financial service industry employs over one million people. In 2000, financial services net overseas earnings (including insurance) amounted to around £ 31.2 billion (5.1% of GDP). The *City of London* is one of the world's leading financial centres and the largest centre for many international financial markets. The "City" is characterised by deep, liquid markets, a concentration of industry-wide skilled workforce, and high quality and innovative products.

After deregulation 1986, the United Kingdom became one of the most diverse and dynamic banking sectors in the world. Even though most industry observers predicted the end of traditional banking and established institutes after this "big

bang", the City of London today has the highest concentration of foreign banks in the world - 501 in 2003 and, including the incorporated banks in the United Kingdom, a total number of authorised banks of 686 (IFSL, 2003). As of September 2003, London accounted for 19% of global cross-border bank lending, more than any other centre. Total assets of the United Kingdom banking system at the end of 2003 were £ 4,165 billion, of which 52% belonged to foreign banks. The assets of UK owned banks are dominated by a dozen or so retail banks, with national branch networks, mostly serving domestic, personal, and corporate customers. Additionally the United Kingdom has the world's leading insurance and reinsurance market, covering common motor insurance to space satellites. The London market is a unique international wholesale insurance market place, and is the global market leader in aviation and marine insurance, with market shares of 39% and 19% respectively. The UK insurance business generated a premium income of £ 237 billion in 2002. This was the third largest in the world, exceeded only by the US and Japan.

Advantages of the United Kingdom financial centre are highly sophisticated and innovative management styles, techniques and strategies, a skilled labour force and high quality professional and support services, a liquid market with the opportunity to trade in large blocks of shares and an open and liberalised operating environment combined with protection against abuses. These characteristics provide selling points for the banking industry. While the United Kingdom is ahead in trading volume and in business areas such as investment banking, Switzerland is the established leader in private banking and asset management. The importance of the financial service industry to the United Kingdom economy continues to play an important direct role. As in Switzerland, the financial service industry in the United Kingdom (together with the oil & gas industry) contributes most to the country's GDP. Other sector similarities can be seen in terms of productivity per employee which, for the financial services industry, is the second highest in the United Kingdom with about £ 80,000 - approximately 20% below that of Switzerland's (DTI, 2004). Another competitive advantage is anticipated to be that the United Kingdom is a member of the European Union, but does not share the European Monetary Union. In addition is London traditionally the centre for international investment banking businesses. There are plenty of opportunities for the United Kingdom as a financial centre, such

as increasing the flow of pension assets from the European Union, asset management and mergers, acquisitions and restructuring expertise. Additionally, major EU banks have ongoing strategies to focus on global investment banking and, so far, locate their business in London. A comprehensive examination about innovation, competition, and efficiency in the UK banking industry was led by Cruickshank and is regarded as the most accepted report about UK banking since the Macmillan Report of 1931 by John Maynard Keynes (see Cruickshank, 2000).

Although Switzerland is not a member of the European Union, it is very well integrated. It has to be said that the European Union is Switzerland's most important partner, politically, economically as well as culturally. More than three fifths of all exports are sent to European Union countries and almost four fifths are imports from European Union members. A close network of treaties from the free trade agreement in 1973 to the bilateral agreements in the area of free movements of persons, agriculture, research, overland and air transport, technical barriers to trade and public procurement, which have been in force since 1 June 2002, ensures that Switzerland is able to play its part in Europe as a financial centre. The fact that almost all major international companies are present in Switzerland for tax reasons, some even have headquarters in Zurich or Geneva corroborates international integration. According to a globalisation index by AT Kearney (2003), which includes rankings of 62 countries for thirteen variables, Switzerland ranked as the second most global nation behind Ireland (the United Kingdom ranked ninth). Indicators included i) political engagement such as the number of memberships in international organisation, ii) information technology such as internet users and investments, iii) personal contact in terms of international travel, tourism and cross boarder transfers iv) economic integration such as trade and foreign direct investments. On the other hand, large Swiss financial services institutions have long had a conspicuous presence in other metropolis, especially in London, where UBS, Crédit Suisse, Zurich Financial Services, Swiss Re, just to name a few are well reputed names and major investors and employers.

The competitive advantages of Switzerland are the political, economical, and monetary stability, profound banking expertise, traditionally high standards of

service and guaranteed protection of client privacy. In addition, Switzerland has been perceived as a tax and interest haven for decades. These factors, combined with the trustworthy banking tradition and international integration ability, makes Switzerland to one of the biggest financial centres. Zurich for example is considered as one of the most important hubs, after London, New York and Tokyo, for asset management, securities, foreign currency, gold, and precious metals trading. Additionally, the stock market in Switzerland is ranked within the middle top ten worldwide and in Europe, behind London and Frankfurt, as one of the most important markets.

A politically open and well-integrated economy and a stable global financial system are prerequisites to remain competitive. There are six business areas defined by the Swiss Banking Association (SBA, 2003) where they see the greatest opportunities for the Swiss financial centre for the future. These are private and corporate client business, private banking and institutional asset management, investment banking, e-banking, funded retirement provision and investment fund business. The financial centre, so vitally important for the Swiss economy, can only take full advantage if the structural framework remains favourable in years to come, and if banks have the ability to cope with cost reduction in operations and growth at once.

4.3 UBS at a glance

4.3.1 The history

All of the firms that make up today's UBS Group look back on a long and illustrious history. The two Swiss predecessor banks, Union Bank of Switzerland (UBS) and Swiss Bank Corporation (SBC) came into being in the nineteenth century, as did PaineWebber, while SG Warburg was founded in 1934. However, it is in the past decade that the current identity of UBS began to take concrete shape. In the early 1990s, the two Swiss banks that are part of the current UBS Group, Swiss Bank Corporation and Union Bank of Switzerland, were commercial banks operating mainly out of Switzerland. The two banks shared a similar vision - to become a world leader in wealth management and a global bulge-bracket investment bank with a strong position in global asset management, while remaining an important commercial and retail bank in Switzerland.

Union Bank of Switzerland, the largest and best-capitalised Swiss bank, opted to pursue a strategy of organic growth, or expansion by internal means without any growth from take-overs, mergers, and acquisitions. In contrast, SBC, then the third-largest Swiss bank, decided to take another route by starting a joint venture with O'Connor&Associates, a leading US derivatives firm that was fully acquired by SBC in 1992. O'Connor was noted for its young, dynamic, and innovative culture, its meritocracy, and team-orientation. It brought SBC state-of-the-art risk management and derivatives technology. In 1994, SBC acquired Brinson Partners – one of the leading US-based institutional asset management firms. Both the O'Connor and Brinson deals represented fundamental steps in the development of the firm's products and processes. The next major steps followed in 1995, when SBC merged with SG Warburg, the British merchant bank and the old established investment bank Dillon Read, New York in 1997. The deals helped to fill SBC's strategic gaps in corporate finance, brokerage, research and investment banking business in the US respectively. Most importantly, it brought with it an institutional client franchise, which is still at the core of today's equities business.

The merger of Swiss Bank Corporation and Union Bank of Switzerland in 1998 brought together these two leading Swiss financial institutions, creating the world leader in private banking and improving the new firm's chances of becoming a complete investment bank, not to mention providing it with greater capital strength. The Boards decided that the new leading global financial services group would operate under the name of UBS Group. The rationale for this merger was that ongoing globalisation and deregulation of the international financial markets, tougher global competition, and the resulting worldwide wave of consolidation in the financial service industry have made size an increasingly critical factor for any financial service provider with ambitions to be amongst the most successful players worldwide.

Nevertheless, there was still a major item left on the firm's broader strategic agenda. It needed to garner a significant presence in the key US market in order to be fully credible as a truly global player in investment banking and wealth management. That was achieved when PaineWebber became a part of the UBS Group in 2000. The

advent of PaineWebber dramatically changed the demographic and cultural balance of UBS. Before the deal, UBS was still essentially Swiss, with two-third of its almost 50,000 staff based in its home country. The number of non-Swiss employees rose to more than 40,000 of its total 67,000 employees at the end of 2004. Recent acquisitions since 2003, such as Lloyds France, Merrill Lynch Germany, Laing&Cruickshank and Scott Goodman Harris both in the United Kingdom, American Express Bank Luxembourg, Sauerborn Trust Germany, Dresdner Bank Latin America, Julius Baer North America and Etra SIM Italy, corroborate the strategy to expand its wealth management business. The acquisitions not only strengthened the bank's onshore business, it also increased the number of UBS clients significantly and added invested assets of approximately CHF 40 billion.

Figure 7 illustrates the history of UBS as described with the key mergers, and acquisitions and its dates.

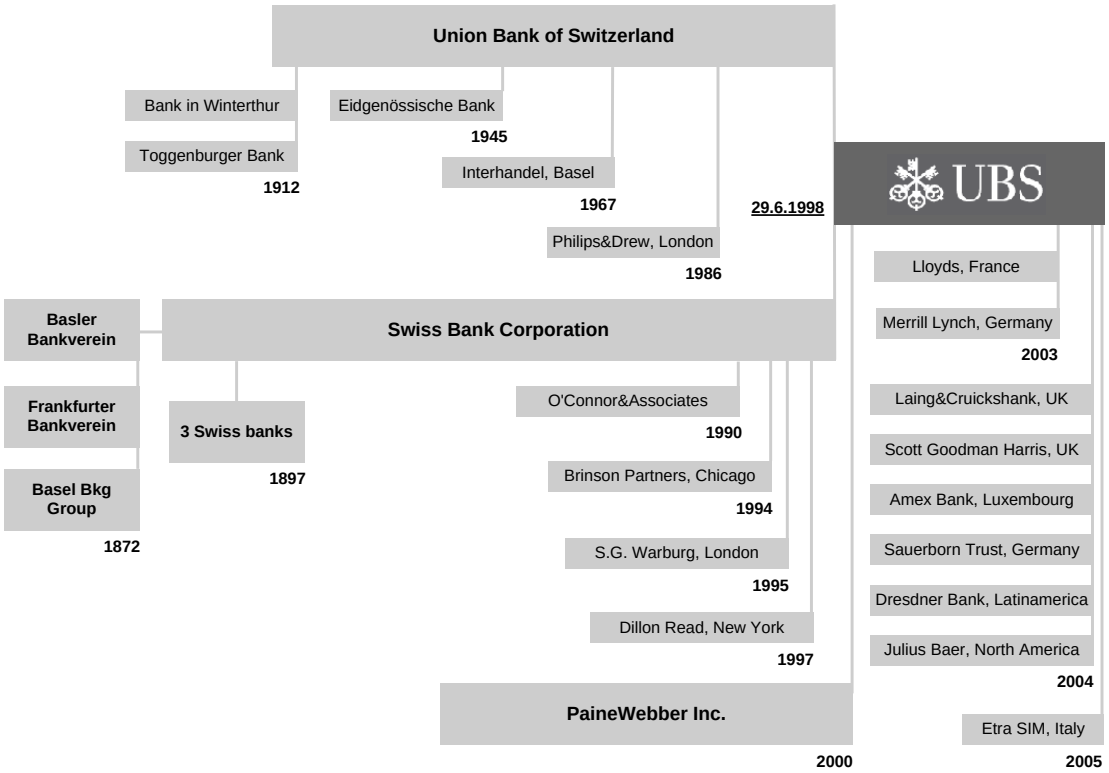

Figure 7: The UBS history

In the banking industry, it is clear that only a big bank is going to have the money and power to operate globally. In addition to economies of scale the more client assets the institute manages the greater the deals it gets from suppliers. In this respect, UBS faces a number of strategic challenges as a UBS top senior executive noted:

> "I think there are forces that support size, scale, and global reach. It is clear that this does not imply a need for large bureaucratically led rigid organisational structures. I think the challenge will be to capture the benefits of size, while at the same time staying alert, entrepreneurial, client-centric, and global in thinking. That is the kind of [business] model we are trying to follow: A management style which reinforces values of partnership, of collegiality and of teamwork."

4.3.2 UBS today

The successful merger of the Union Bank of Switzerland and the Swiss Bank Corporation and the integration of its businesses made the UBS Group one of the world's leading financial firms, successfully combining financial strength with a global culture that embraces change. A top senior executive emphasised the open and dynamic approach of the bank to strategic change, whereby the mainspring of the firm's achievement will continue to drive its future success:

> "UBS transformed itself [particularly during the end of the 1990s] through a series of major transactions and our successful integration of these new businesses. Each move brought very distinct contribution to the group. …What has made the strategy successful is that, along with the strategic and financial implications, we carefully evaluated the cultural fit of each organisation. Our cultural openness and willingness to learn from diversity of viewpoints mark the history of UBS and are at its very core, its essence."

Thanks to a global set of businesses, they serve a global client base. This included, defining a global brand that reflects all the acquisitions and mergers. This strategy had two objectives. On one hand, is it a clear marketing and brand strategy, but on the other hand, it is a strategy for the continuous increase of efficiency and productivity in operations. The acquired brands vanished and UBS introduced itself from mid 2003 onwards as a single brand (one firm) for all its businesses. Today, the

UBS Group is one of the largest companies by a combination of sales, assets, profits and market value in Switzerland and one of the top-ten financial service institutes in the world. Across industries UBS was ranked 35 (Financial Times, 2005). Table 9 shows the ranking of the UBS Group according to total assets, market capitalisation and assets under management. Later is considered as the main indicator in the banking industry. The client assets under management of over € 1 trillion are spread between its European and US wealth management operations and its Swiss private banking subsidiaries.

	Total Assets ($bn 2003)		Market Capitalisation ($bn 2003)		Assets under Management ($bn 2004)	
1	Mizuho Financial Group	1285.5	Citigroup	243.4	**UBS Group**	**1116.6**
2	Citigroup	1264	Bank of America	170.6	Merrill Lynch	964
3	**UBS Group**	**1120.5**	HSBC Holdings	163.7	Crédit Suisse Group	462.8
4	Crédit Agricole Group	1105.4	Wells Fargo & Co	98.6	Wachovia Corporation	275
5	HSBC Holdings	1034.2	Royal Bank of Scotland	95.8	Deutsche Bank	198
6	Deutsche Bank	1014.8	**UBS Group**	**86.7**	Bank of America	193
7	BNP Paribas	988.9	JP Morgan Chase&Co	77.7	HSBC Holdings	161
8	Mitsubishi Tokyo	974.9	Wachovia Corp.	61.7	Citigroup	151.9
9	Sumitomo Mitsui	950.4	Barclays Bank	57.5	Morgan Stanley	145
10	Royal Bank of Scotland	806.2	Mitsubishi Tokyo	57.2	Dresdner Bank	139.6
	Source: The Banker, July 2004		*The Banker, July 2004*		*Scorpio Partnership, June 2004*	

Table 9: World ranking of the top ten financial institutes

With offices in 50 countries, UBS today is present in all major financial centres worldwide. At the end of 2003, UBS employed 65,929 people, 40% of whom were located in Switzerland, 39% in the Americas, 15% in rest of Europe, and 6% in Asia Pacific. UBS is one of the best-capitalised financial institutions in the world, with a BIS Tier 1 ratio of 11.8%, invested assets of CHF 2,200 billion, shareholders' equity of CHF 35.4 billion and market capitalization of CHF 95.4 billion at 31 December 2003. The net profit for the year 2003 was CHF 6,385 million.

UBS has also won a series of awards in 2003 and 2004 – reflecting widespread recognition for its achievements over the past five years. UBS was named "The World's Best Bank" by Euromoney (2003) in its annual Awards for Excellence,

because of their sharp focus and ability to avoid credit losses and proprietary trading problems. In all, the firm won 15 top rankings in the Euromoney report, among them "Best Foreign Exchange House", "Best Equity House", and technology awards for "Best Electronic Services in Finance". UBS led eleven categories of the technology awards, among them "Best Bank in Electronic Foreign Exchange". According to Euromoney, UBS conducts almost a quarter of the online foreign exchange market, electronically. UBS therefore transacts more business electronically than any other bank. Early in January 2004, Euromoney distinguished UBS as the "Best Global Private Bank" in their first annual survey of wealth management providers. Also, in 2003 UBS Global Asset Management business won the Lipper European Fund Award for "Best Overall Group" (Lipper, 2003) as well as eight Standard & Poor's awards in Switzerland for various asset classes (Standard&Poor's, 2003). Although the relevance of awards can be questioned, it is assumed that analyst, clients, and other stakeholders associate all the mentioned factors as well as awards with profitability, effectiveness, quality, and prosperity.

A top senior executive summarised what the bank could learn from its achievements that finally made UBS what it is today, and what needed to be considered for a successful transformation. He noted:

> "Firstly, you need to combine a systematic, analytic approach with a strong intuitive sense for capturing opportunity. Secondly, you need a powerful joint vision. And the vision did not [for the latest string of mergers and acquisitions] just revolve around an economically attractive business rationale. There were at least as many cultural features. Thirdly, balancing top management continuity and renewal was crucial. Success depends on being open to bringing in new blood at the very top of the organisation, but ensuring commitment to the original long-term vision and goals. Fourthly, you must make sure to leverage the most out of your mergers and acquisitions by drawing upon their often unique set of capabilities, resources, franchises or cultural characteristics. Lastly, a clearly articulated integration strategy is vital. Not all of our acquisitions were integrated immediately. But whether you do a swift integration or a more long drawn out one, you should try to have an intense, upfront debate about which approach to follow."

4.3.3 The organisational structure

The management and oversight structure of UBS is based on two separate boards – the Board of Directors and the Group Executive Board. The Board of Directors is the most senior body, with ultimate responsibility for the strategy and the management of the company, as well as the supervision of executive management. The Board of Directors also defines UBS's risk framework, principles, and overall risk taking capacity. A clear majority of the Board of Directors is non-executive and fully independent. The Group Executive Board, on the other hand, assumes overall responsibility for the daily management of the UBS Group, for the development and implementation of strategies and for business results. Together with the Chairman's Office of the Board of Directors (the Chairman and the Vice-Chairmen), the Group Executive Board, in particular the CEO is responsible for the alignment of the Business Groups to UBS's integrated business model and the exploitation of synergies across the entire bank.

UBS is structured in four *business groups* and a corporate centre, but managed as an integrated firm. Business groups are led by members of the Group Executive Board, each of whom is individually responsible for the performance of his or her business group. One level below the business groups are *business areas*, which are led by a member of the Group Managing Board, who reports logically to a member of the Group Executive Board. The purpose of the Group Managing Board is to align leadership with the bank's agenda and targets according to strategic objectives, culture, and incentives. The members' role is to understand challenge and contribute to further developing the bank's direction, values, and principles and to promote and communicate its culture both throughout UBS and externally.

Figure 8 illustrates the organisational structure of the UBS Group valid from 1 January 2004.

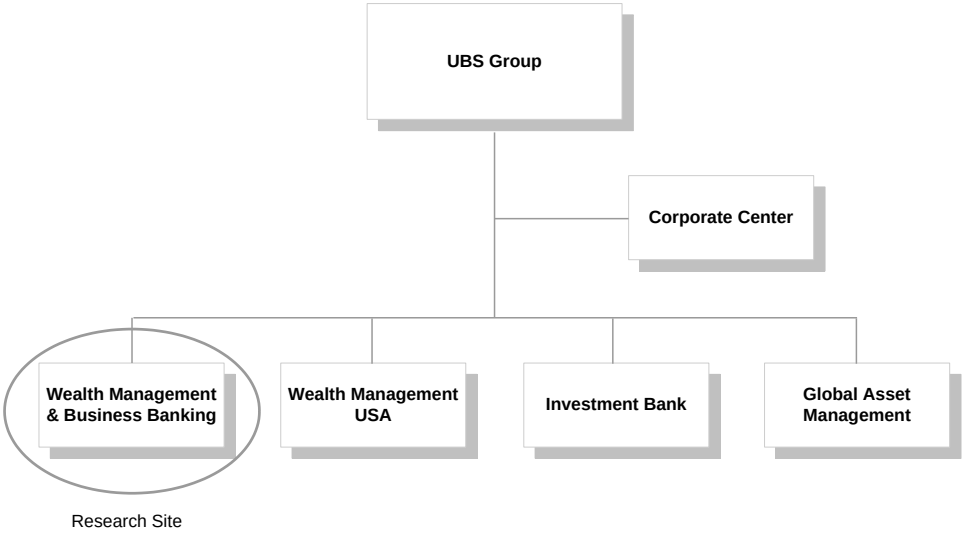

Figure 8: UBS group business structure

Without going into the financial report some key figures like *return on equity* of 18.2%, basic *earnings per share* of CHF 5.72, *cost/income ration* of 75.2%, and *net new money* into UBS's Wealth Management businesses inclusive USA of CHF 50.8 billion indicate the value, size and income structure of the bank. The share of the five business groups to the total operating income of CHF 33,972 billion can be seen in Figure 9 (UBS, 2003).

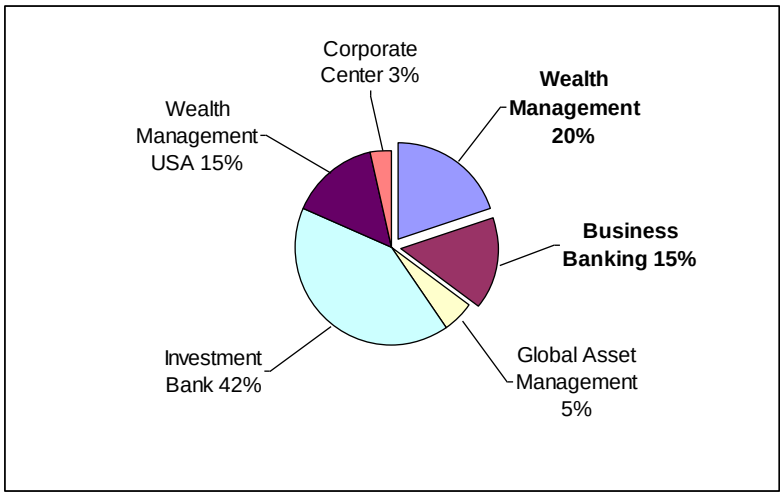

Figure 9: Contribution of the business groups to the total operating income

While Investment Banking and Wealth Management USA have their headquarters in the US offices of the business group, Wealth Management are mainly in Switzerland and the United Kingdom. Business Banking and the Corporate Centre are based in Switzerland and Global Asset Management is - as the name says - globally active. Besides the groups', vision and strategy, some business groups differ completely from others in terms of corporate culture and businesses. A top senior executive put into perspective that although each business group has cultural values firmly in place there are no strict divisional boundaries. The bank draws upon the capabilities of its business areas, where everybody has an entrepreneurial mandate.

Sponsors for this research were found within the business group Wealth Management and Business Banking that reports as one entity. This business group is therefore introduced in detail in the next sections in contrast to the other business groups that were not examined in such detail. The background story is seen as an important part of the case study. It helps to develop a better understanding and gives important insights into the business group.

4.3.4 UBS Wealth Management & Business Banking

The business group is divided into two sub-units, namely Wealth Management and Business Banking. While Wealth Management serves wealthy and affluent clients, Business Banking Switzerland, serves retail and corporate clients in Switzerland, and houses the majority of the support functions. Businesses that focus on client needs, can only fully exploit their potential if they are provided with a reliable and efficient infrastructure. These business areas are categorised into three units. The *origination units* are generating direct revenues. The *middle-office*, namely Products&Services and Market Strategy&Development and the *back-office*, namely IT, Operations and Resources, provide infrastructure, products, and services to the entire business group and to other UBS businesses.

Figure 10 illustrates the business group Wealth Management & Business Banking valid from 1 January 2004.

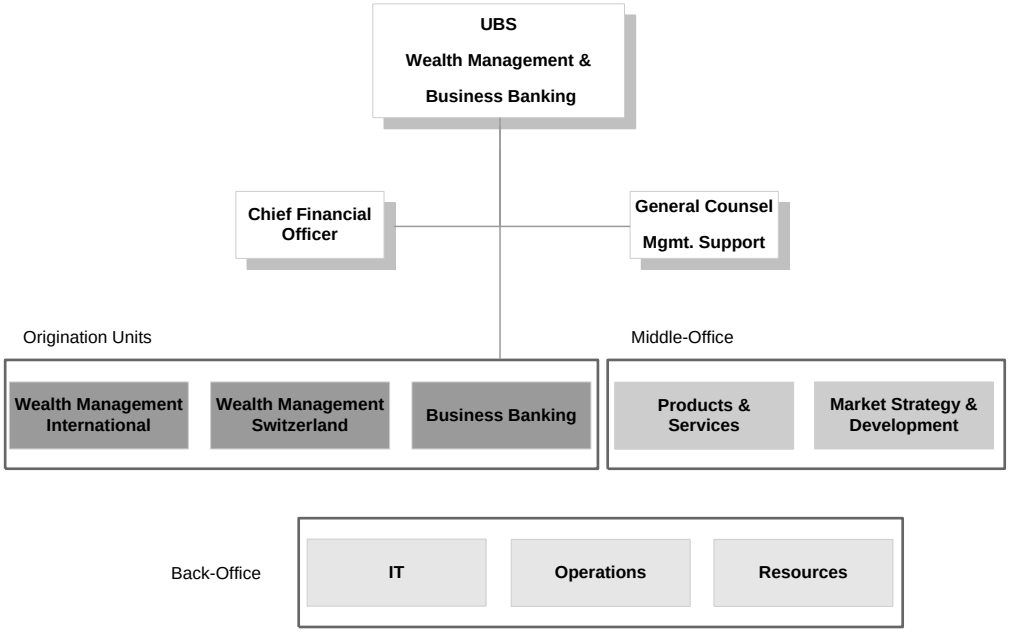

Figure 10: UBS Wealth Management & Business Banking business structure

4.3.4.1 UBS Wealth Management

Wealth Management provides a comprehensive range of products and services individually tailored for wealthy clients around the world via its global branch network and through financial intermediaries. With CHF 701 billion in invested assets on 31 December 2003, more than 140 years of wealth management experience and an extensive branch network comprising 112 offices in Switzerland and 56 offices around the world UBS claims to be the world's largest private bank (Scorpio Partnership, 2004). Wealth Management's major competitors comprise all globally active wealth managers, such as the wealth management operations of Crédit Suisse, HSBC, and Citigroup. They also compete with private banks that operate within their respective domestic markets, such as Pictet and Julius Baer in Switzerland, Coutts in the United Kingdom, Deutsche Bank and Saarland Oppenheim in Germany, and Unicredito in Italy.

The total headcount of UBS Wealth Management, of 9,176 on 31 December 2003 included 3,300 client advisors. These combine strong personal relationships with the

resources that are available from across UBS, helping them provide a full range of wealth management services. UBS Wealth Management and Business Banking operates a so-called open product platform that gives clients access to a wide array of pre-screened, top-quality products from third-party providers that complement UBS's own lines. UBS's credibility and reputation hinges on their ability to ensure that clients receive the best products and services available, regardless of whether they produce them internally or access them from external sources. However, as UBS do not intend to become a one-stop financial supermarket, they carefully choose and screen third-party offerings, selecting those that meet the high standards of clients' demand. Depending on their financial situation and individual preferences, clients have varying requirements regarding the level of service they expect. UBS Wealth Management product and service portfolio is clustered in four categories, namely UBS Investment Products, UBS Investment Solutions, UBS Financial Planning, and UBS Wealth Management Solutions.

UBS Investment Products are the first level of their product and services framework comprising advisory services primarily focused on effective management of a standard suite of transaction oriented products, as well as credit and life insurance products to cover clients' basic needs. Their clients benefit from service and execution standards across a full range of products that stretches from equities to foreign exchange and from structured products to precious metals. In addition, UBS clients can access a wide range of alternative investments, from their own hedge funds to third-party private equity funds and fund of funds products. The credit products include a range of products – mainly mortgages and margin loans – for the financing needs of their clients. The UBS Life business in Switzerland focuses on the sale of unit-linked products that are sold alongside more traditional life insurance policies from third-party sources. UBS International Life extends the product offering to Europe and provides clients with highly flexible long-term investment, retirement, or inheritance planning solutions.

UBS Investment Solutions, the second level, adds systematic advisory services such as asset allocation, investment selection, and portfolio management. Clients can choose between discretionary portfolio management and advisory management of

assets, just as they can choose between UBS and third-party investment management. Clients that opt for discretionary portfolio management delegate the management of their assets to a team of professional UBS portfolio managers according to an investment strategy agreed with their client advisor that reflects their risk appetite. Many clients wish to be involved in the management of their own assets, with support from UBS's investment professionals. For them, Wealth Management provides analysis and supervision of portfolios and their risk profiles, together with tailor-made proposals to support investment decisions.

UBS Financial Planning, on the third level, provides professional financial planning services that help clients achieve their personal and financial objectives, assisting them when they face key financial decisions at different stages of their lives. The financial planning advice UBS provide to their clients and their families covers all eventualities, from education funding and gifts to children through to business start-ups and inheritance planning. Specific advisory services include retirement planning, succession planning, asset protection, tax planning, insurance advice, and the establishment of trusts, foundations and other corporate structures.

UBS Wealth Management Solutions, at the top end of the range, provides the whole spectrum of financial services in an exclusive and very individualised format for individuals, considering their entire asset base. These services include real estate advisory, art banking and corporate finance services for company and vineyard owners, as well as reporting and custody services. Their initiative for ultra high net worth individuals aims to create a consistent and pro-active approach for this client segment by leveraging all the efforts and resources of UBS worldwide. Last, in the product portfolio is corporate finance advice and services for business owners through a team of professional investment bankers who can draw on the extensive resources of UBS's Investment Bank.

4.3.4.2 UBS Business Banking

UBS AG with its full time equivalent headcount of 17,620 on 31 December 2003 is the leading bank in Switzerland with a market share of roughly 30%. At the end of 2003, the Business Banking Switzerland unit had around 3.5 million individual client accounts, and relationships with around some 150,000 corporate clients, including

institutional investors, public entities, and foundations based in Switzerland. Clients have invested assets of CHF 212 billion. With a total loan book of CHF 139 billion on 31 December 2003, UBS led the Swiss lending and retail mortgage market. The interest income contributes to Business Banking revenues by approximately two thirds. Together with the e-banking services and customer service centres, 1,225 ATMs and 303 branches across Switzerland the bank provide a network that is more extensive than that of any of their domestic competitors. Competitors in Switzerland are banks in the retail and corporate banking market that includes Crédit Suisse, the country's cantonal banks, Raiffeisen Bank, and other regional or local Swiss banks.

As well as offering standardised products to the retail market for individual and small company clients, as well as more complex products and advisory services for larger corporate and institutional clients and financial institutions, UBS also offer payments, securities, and custodial services to more than 3,000 financial institutions worldwide. This offer reflects the bank's "UBS. The bank for banks" strategy. It focuses on offering state-of-the-art services to other banks, allowing UBS to optimise the utilization of their infrastructure. Other banks that lack their scale can outsource their payment, security, and custodial services, benefiting from UBS's wide-ranging infrastructure and expertise.

While strong personal relationships with customers are very important in wealth management, the attitudes of clients in the area of business banking has changed in recent years. To meet their needs which one is flexibility to account access using the full range of modern communication technology, UBS Business Banking provides an integrated multi-channel strategy. The traditional strong physical branch network in Switzerland has therefore been complemented with electronic channels. These continuous investments in information and communication technology (ICT) have made operations efficient. During the last few years, almost 80% of payment orders were initiated via electronic channels. Distribution, operations, and branches are therefore more important for UBS Business Banking than for other business groups. The logistics business areas furthermore provide services to other UBS business groups. For example, interbank foreign exchange and options transactions from key

Investment Bank locations, such as London, Stamford (US), Singapore, Hong Kong, and Tokyo are centrally processed in Switzerland.

4.3.5 Vision and strategy

The overall vision of the UBS Group is to be recognised as the best global financial services company. This means for the business group Wealth Management, becoming the global leader in wealth and asset management, for Investment Banking being among the selected leaders in services to corporate and institutional clients globally and for UBS Business Banking, keeping the position of the leading bank in Switzerland. As other banks claim to be overall financial services institutions, providing banking as well as insurance services to customers, UBS has no "bank-assurance" aspiration. Further, they do not have any retail banking activities outside Switzerland. The strategic focus of the UBS Group is on investment banking, asset management, and wealth management, all on a global scale, as well as retail and business banking in Switzerland. To meet business excellence in all business areas, mergers and acquisitions have been part of the growth strategy. The UBS Group states officially that after a decade of transformational mergers and acquisitions, the bank has over the past two years, built a successful record of organic growth. It is part of the UBS strategy to make use of internal resources, and at the same time, the bank is open for acquisitions that expand the presence of its core business that is wealth management respectively.

UBS's growth strategy in the wealth management business in the key markets, namely Europe and Asia Pacific, is very ambitious. A member of the Group Managing Board explained that his goal was to massively increase the UBS wealth management market share in Switzerland by 2010. As numbers are confidential, he put it into perspective by saying that UBS Switzerland had obtained its present market share within the last 135 years, where the goal for the next five years would be an increase of almost a quarter of the current market share. An expansion strategy into domestic European wealth management was launched in 2001, focusing on the five key countries with estimated 80% of Europe's potential wealth investments, namely the United Kingdom, Italy, Germany, France and Spain (in that order). Recent acquisitions of Lloyds TSB in France, Merrill Lynch in Germany,

Laing&Cruickshank and Scott Goodman Harris in the United Kingdom and Etra in Italy, however, confirm an approach that is more based on growth through acquisitions rather than organic growth. The acquisitions in the United Kingdom for example doubled the UBS' asset base in the United Kingdom to £ 10bn. UBS set itself a goal of managing £ 50bn in the United Kingdom within five years. The rationales for the European wealth management initiative are twofold and grouped into defensive elements and offensive elements. Growing regulations in Switzerland and pressure from European authorities on the country's bank secrecy laws and tax politics are considered as the defensive elements, in addition to the protection of existing client franchise and offering geographic choice to clients. Offensive elements are the core affluent wealth concentration, domestic wealth growth, and leveraging of the UBS brand and international franchise.

The continuous incorporation of acquired companies has finally led to a broadly diversified business mix. One initiative to corroborate the strategy is the "one firm" approach, which was launched in 2002 and dropped the suffix after UBS. For example, UBS PaineWebber changed to UBS Wealth Management USA and UBS Warburg became just to UBS Wealth Management. Furthermore, it is believed that UBS's customers should be able to effortlessly access all the services that the different UBS business groups provide, wherever and whenever they are required, and regardless of what combinations of teams lie behind the solutions. This is supported with the "integrated client service model", which is introduced later on in this chapter.

4.3.6 The innovation process

While there is a standardised strategy development process with business plans and stringent approval policies, the source of ideas that may "change the bank" and lead to strategic programmes are various. Some ideas emerge bottom-up from business units over time, while others are directed top-down from the Board of Directors or Group Executive Board. In the case of bottom-up development, ideas emerge from diverse lower level business units and are aggregated according to business area. Once an idea has made its way up to the head of the business area, it has reached the highest operational hierarchical level and is discussed by a member of the Group

Managing Board. He or she presents the potential idea at the annual strategy meeting in autumn to other members of the Group Managing Board. One goal of the Board is to incorporate potential ideas into business group strategies. Finally, if the idea is of strategic significance for the business group or the entire bank, a member of the Group Executive Board has to be involved as a sponsor, and it finally becomes what the bank categorises as "strategic programme". Strategic programmes often lead to strategic initiatives where the bank, then in a continuative step, takes actions for changes. A Director of the business sector, management support, put initiatives into relation with innovation:

> "The success of innovation must not be equated with the management of initiatives. It does not matter how many initiatives we run. What is important to the initiative affecting our clients is efficient implementation and effective communication."

It has been learned that the business areas are more or less free and self-contained in how they induce innovation. Within the business area, Market Strategy and Development there are decision-making support units such as Strategic Analysis and Business Development, Business Strategy Development, Corporate Strategy Development, Market Research and Analysis, Competitive Intelligence and Analysis, and Industrial and Environment Analysis. All these business units act as strategic advisors in executing against major business growth opportunities, and are responsible for the alignment of business strategies with the corporate strategy. As an Executive Director of marketing and communications noted about how they initiate innovation:

> "We learned from experiences with continuous comparisons and benchmarks with successful employees and groups, as well as less successful ones. We developed "best practices" and launched initiatives accordingly. Additionally we developed a feedback culture taking account of global diversity and implemented the "circle of excellence", where outstanding employees and leaders met annually and discussed solutions to various problems. These are just a few examples of what I believe is necessary to boost innovations bottom-up".

Continuing the examples of the business area Market Strategy and Development, they provide the entire business group with specialised knowledge and experience in certain areas. They also work together with external partners. Not only is the outside view a good practise of "think outside of the box", moreover several representatives within the bank request regularly expertise for analysis, assessment, and development of unfamiliar markets. On the other hand, they also contract people from external firms if there is lack of internal resources. Current examples of studies that could not have been conducted without external partners are; the evaluation of growth markets onshore business in Moscow, client insight study in France, client satisfactory study in Europe or assessment of growth potential for discretionary investment products with intermediaries in Europe just to name a few.

Conclusively, ideas for innovation of whatever type can emerge bottom-up, freely generated from various sources within the bank. They can also develop more systematically from specialised business units, such as market research with support from external sources. Additionally ideas might also be generated in a prescriptive manner and directed top-down by senior executives. Whatever the routes are, the ultimate goal is the successful implementation of novelties and/or improvements.

4.4 Trends in the financial service industry

4.4.1 Introduction

All institutes in the financial service industry are going through changes that strike at the very core of their businesses. Although they are facing challenges that are unique to them, they all operate in the same markets and are hence affected by the same developments. The banking industry terms these developments "trends". The conditions that lead to these trends are hard to predict, uncertain, complex, and therefore dynamic in nature. Most banks including UBS structure trends in the banking industry into five major areas, namely market, nature of demand, regulatory, economical, and technological. Some issues pertaining to one area may overlap and interact with others.

4.4.2 Market developments

The volatile and uncertain geopolitical climate accompanied by factors such as globalisation, international competition, specialisation, technological innovations, integrity, reputation, and choice of location has led to a dynamic and changing environment in the banking industry. Above all, a new competitive landscape is developing on increasing globalisation that has seriously affected established banks and caused a wave of corporate consolidation. New market entrants and flexible intermediaries that provide innovative products and services and serve clients on a global scale have become a threat that put revenues and margins under pressure. Thus, most banks experience foreign competition in domestic markets and at the same time, they have to expand their businesses on global markets. As a top executive at UBS affirmed:

> "I think in Europe we will see that the strong relationship-based traditional networks, operating on a national scale, will be eroded. We will see specialists operating globally, in a globally competitive environment gaining market share. This will result from clients demanding specialists with professional resources and the ability to harness the synergies of an integrated global platform. That will put purely national players at a structural disadvantage. I think the trend here is clear. The question is, how quickly will this process takes place, and that is very difficult to forecast. It also depends on the legislative velocity of the various markets in Europe."

On a macro economical level, financial markets have changed rapidly, capital has become global, and interest rates in most regions of the world have reached a 40-years low. The low GDP and inflation rates in most industrialised economies and unpredictable equity markets account for lower expected global growth rates. Therefore, growth opportunities are seen in onshore international markets. Targets of UBS, particularly for wealth management are the key countries with an estimated 80% of Europe's potential wealth investments, namely the United Kingdom, Italy, Germany, France, and Spain in addition to the rising of new financial centres, predominantly in Singapore and Hong Kong.

4.4.3 The changing nature of demand

The changing customer attitude is, according to UBS, a trend that all financial service firms have been facing within the last decade. One concern in the banking industry is that a major demographical shift in the industrialised world is occurring; to be exact the baby boom generation is approaching retirement. Consequently, traditional saving products have shifted in favour of pension plans and other investments. The expectations of this type of clientele to their bank have changed accordingly. Another factor that has changed customer behaviour and expectations is technology. Due to technological innovations, it has become easier, faster, and cheaper to obtain information about financial markets, products and services. This increasing transparency of products and prices has led to lower customer loyalty and a readiness to switch institutions. Lately, because of this, capital is easily transferable electronically on the global market and switching costs and barriers are no longer a hurdle. UBS identified that demanding "high net worth individuals" tend to behave like institutional investors. They hold products for shorter periods than they used to and, most notably, they want to select from a universe of "best of breed" solutions, regardless of where they come from. To sum up, customers are demanding a wider range of "state-of-the-art" products and services. Furthermore, they expect to be able to access information and place orders twenty-four hours a day, seven days a week from around the world through a variety of channels, securely and at low costs. Technological developments have always changed consumer behaviour, from the ATM to the Internet. However, all these factors pertaining to the changing nature of demand have led to advanced and complex services such as portfolio risk management, dynamic asset allocation, objective investment advice, and increasing investments in latest technology.

4.4.4 Regulatory and policy changes

The growing burden of domestic and international regulation is considered as one of the biggest challenges facing banks in the coming years. There are two types of regulators, the national government and industry bodies of which are important to the banking industry. For instance, in Europe the European Commission acts as a kind of central legal regulator, monitoring areas such as financial market supervision, tax

amnesties, fighting crime, and anti-money laundering initiatives, which are the main legal issues for the government. While most policies apply internationally, some are based on local laws. As the banking secrecy in Switzerland waived the case of various criminal activities, it is one of the most discussed issues at present (see *Appendix D)*. Significant efforts have been made on a national and international level to combat money laundering, the funding of terrorist activities, and the dubious assets of dictators and other criminals.

Although most regulatory issues have come into operation primarily under the increasing supervision of the European Union, the impact of local regulatory changes is becoming more and more global. US anti-money laundering regulations introduced under the PATRIOT act have had far-reaching effects for the entire banking industry. Another example is the Basel Committee on Banking Supervision on capital adequacy that will require banks to guarantee system compliance and redesign processes. It is estimated that large banks in the European Union will spend between € 80m and 150m on Basel II implementation. The complexity is increasing with the ongoing harmonisation of twenty-five national laws of the European Union member states. In retail banking a pan-European pension product would need equivalent tax treatment in each country where it is sold. For asset management, national as well as pan-European rules and regulations, such as EU wide registration of funds have increased complexity.

Regulations are a double-edged sword. While regulatory bodies attempt to loosen legal obstacles for offshore businesses, on the other hand, this form of change increases domestic competition. While some argue that, too much regulation hampers cross-boarder sales and damages profitability as well as paralyses innovation other bank manager, claim that loosened regulations make it easier for foreign companies to offer their products on every market. However, the divergent opinions on regulations have driven political and company agendas for years in an attempt to find the right balance between protectionism and opening.

4.4.5 The technological imperative

It is a given reality that financial service institutes do processing and communication of information rather than producing hardware. Technology is therefore a key driver for creating new business models, improving processes, and product and service development. In recent years, it revolutionised distribution channels. Making effective use of the opportunities of ICT and efficient information management is pivotal. Undisputedly, ICT has become an integral part of all businesses in a bank. The balancing act is to develop and integrate new business processes according to IT architecture standards quickly and at the same time operate the applications reliably and at low costs. The dynamic market developments in banking call further for developing and implementing new, faster, and smarter systems such as electronic banking, core banking processing, customer relationship management, or risk systems in order to keep up with increasing customer demands, legal implementations of policies and industry initiatives. Besides the integration of acquired institutes, disintegration and outsourcing efforts, and, in particular, coping with regulation provisions, has led to extra expenses for ICT and its organisational and technical adaptation.

All these factors enforce the process of updating or replacing core banking and other legacy systems that were designed back in the 1970s. Increasing awareness for a flexible IT infrastructure that is aligned with the business strategy has been observed. UBS affirmed that among them a number of other institutes are investing large sums into technology with the attempt to increase efficiency, distinguish them from other market players, and give them a competitive advantage. A member of the Group Managing Board, heading the IT organisation answered as follows to the question whether technology is the driving force behind new business models:

> "Banking has changed radically [within the last decades]. It has become integrated, our bank has evolved into a global financial services provider, and our requirements have altered accordingly. Although our product portfolio, too, has experienced substantial expansion, our IT system [entire core banking infrastructure] had not been adapted. Therefore, the decision to launch our modernisation programme [in 1999] was not a particularly difficult one, as it was based on clear business requirements."

> "Therefore, the driving force is rather a combination of business and market requirements and technological capabilities. In addition, of course to the clear need to remodel the new business requirements using the modern technological innovations in order to provide effective, future-oriented support for the business."

4.4.6 Economical pressure

Low margins and unpredictable volumes have made it harder to generate the revenues necessary to provide good returns on products and services. The increasing pressure to manage costs to improve profitability lets institutes shift to new value creation models. There are two basic approaches to increasing value, decreasing costs, particularly high fixed costs, or creating new revenue streams respectively. Concentration on core competencies and outsourcing of non-core businesses such as support processes in operation, transaction processing, and ICT are practical cost reducing approaches and considered as action fields by many institutes, including UBS. Within this approach, the organisation as such becomes increasingly specialised. For the second approach, namely creating new revenue streams, building and leveraging capability for innovation more efficiently and systematically becomes important. Several institutes in the financial service industry have changed their innovation processes. They consider new operating models that eliminate company boundaries with the attempt of developing new products, services, and businesses in collaboration with partners, rather than making use of internal resources exclusively. On the distribution side, sharing revenues with third party distributors has become a recent industry trend. This represents a paradigm shift in the value chain, in which banks substitute their own products with more profitable products offered by others. Moving from a fixed to a variable cost structure and working with other firms to spread risk and create new businesses are areas that will be changing the way in which banking business has been done for decades.

4.5 Implications of the trends

4.5.1 Introduction

The dynamic developments discussed in the previous section have had an enormous impact on the banking industry during the past twenty-five years. Based on the analysis of the industry environment, it is assumed that three main trends, namely changing nature of demand, regulatory changes, and technological developments will continue to have a huge impact for most global banks. As UBS is an universal bank with different businesses, the trends do not challenge all businesses to the same extent.

4.5.2 Different challenges for different businesses

Banking is generally grouped into four areas, retail banking, wealth management, asset management, and investment banking respectively. The case organisation sees several factors determining the development over the coming five to ten years. Wealth accumulation due to more capital-intensive activity in developed economies and growth in global equity markets will affect UBS' wealth management businesses. Additionally to these two factors, demographic shifts will accelerate retirement provisioning and asset growth and have an impact on UBS global asset management activities. As a traditional bank, lending services have been replaced by securities trading and other financial market activities, corporate restructuring of cross-boarder consolidation, and increased investments of assets in equity products, have changed the traditional business practice of UBS Investment Bank. Where retail banking is a domestic commoditised business with low growth, investment banking on the other hand, is an international business with different business rules and culture. As the goals and expectations of wealthy, retail, or institutional clients differ, UBS, similar to any other bank, distinguishes between different country specific customer types. Services provided in Switzerland are categorised for individuals, companies, financial sector, financial intermediaries, governments and public sector, and non-profit organisations and charities. The focus for this study was on "individuals" in the businesses wealth management, retail banking, and asset management as these are most affected by the current trends.

4.5.3 Major implications

Banks have to find solutions to cope with the changing nature of demand while satisfying their existing clientele. Today, mature customers wish to select products from an universal content. At the same time, they expect much more service from their client advisors. Therefore, as well as product price and performance, advanced advisory processes and relationship management becomes crucial. To cope with these challenges, on the one hand continuous development of innovative products to competitive prices is essential, and on the other hand, there is a need to provide clients with third party products that can be combined with the bank's own products and services. A number of banks are thus implementing new models for selling products and services and for adding client value on an international base. Drawing on interviewees opinions, there are several approaches to meeting these challenges. One approach is to open up product portfolios, precisely offering proprietary products in combination with third party products on domestic markets. Another approach for satisfying demanding clients is to bundle products, services, and the advisory process to a solution that adds value to the client. To reach an international clientele, banks will further distribute their solutions through internal as well as external sales channels.

Regulatory and legal obstacles prevent banks from selling products and services in international onshore markets. One way of doing business internationally is to develop the capability to integrate compliant products from local providers into their offerings. To add to these challenges there is, particularly in mature markets like Switzerland, pressure from tax amnesties and concerns about the banking secrecy. These factors have been a competitive advantage for decades and, if repealed, would drive assets back onshore. Although a number of bilateral arrangements have been made with Switzerland, as it is a major financial centre but not member of the European Union, there have been concerns from numerous interviewees that these developments are leading to an increasing level of repatriation or regulations of assets booked in international markets. As the case may be, firms have had to build up local branches to serve clients. The trust that clients placed in the bank when they had accounts and assets managed in Switzerland, has to be maintained anew for offshore business activities. The latest acquisitions of local fund management and

private client businesses by UBS in Europe, anticipates those concerns, in addition to growth strategies in the very fragmented wealth management market. Rebuilding trust in other cultures with other legal systems can be achieved more easily with the acquisition of established local institutes. There is no doubt, policies and regulations affect any bank to a certain extent and might shift the competitive landscape radically.

While the economy is global, financial market supervision and regulations are still organised nationally, alongside all cooperation and participation in international financial committees. Active efforts to expand its financial relations with European Union member countries are on the agenda, even if international collaboration with the aim of protecting Switzerland's interest is not always without tension. Nevertheless, Switzerland has been under constant political pressure for almost a decade, notably exerted by the European Union (EU) and the Organisation for Economic Cooperation and Development (OECD) to relax and bring into line its banking rules with EU regulations. New negotiations on further topics including combating international financial crime and fraud, the equivalence taxation of savings income and issues regarding the banking secrecy might hit Switzerland as a financial centre (see *Appendix D*). The Swiss combination of low taxes, bank secrecy and political stability, once a competitive advantage, might face competition in the future, particularly in private banking from offshore financial centres such as Singapore and Hong Kong, which provide similar factors with high net worth individuals.

Implications due to the technological imperative are various since it became the backbone of any activity in banking. It has affected all banking businesses likewise. The new opportunities arising out of ICT might be additional driving forces in the rapid development in the financial service industry. Information and technology for processing customer information is playing an increasingly crucial role in banking. Banks paid less attention to information, particularly customer information in the 1970s and 1980s due to the lack of adequate technology to achieve this aim. This changed with the innovations of ICT, e.g. data-mining systems allowed data to be stored, analysed and retrieved and has become an essential part of customer

relationship management. However, the technology imperative can be discussed from various perspectives. It can be seen as a driver of demand rather than a consequence of it. For instance, ATM and Internet Banking were originally a means for efficient information processing and increasing productivity. Both technological innovations changed customer behaviour and revolutionised the banking industry more rapidly than anyone anticipated. Technology in general not only changed *where* clients do their banking, it also changed *how* they do it. UBS believes that to leverage technology fully it has to be aligned with the business intent. Technology and business interact and can only together increase the bank's innovation capability.

Disintegration of the traditional value chain is one consequence of the major trends in banking. Banks will reduce their production depth by outsourcing supporting processes or providing third party products to their clients. Consolidation is another effect of the trends discussed. The number of mergers and acquisitions in the Swiss banking sector accompanies this. Many interviewees confirmed that several trends interact and finally lead to consolidation. Globalisation, although it is taking place at different speeds in different sectors of the banking industry, is therefore one driver of consolidation.

4.5.4 Summary of the trends and its implications to the banking industry

The examination of the environment of the financial service industry found that the contextual and causal conditions are challenging all institutions in the banking industry to a certain extent. Without understanding the trends, neither would proactive strategy be possible nor would quick reactions. The entire financial service industry, however, is going through a phase of dynamic development, particularly since the start of the 1990s.

Table 10 summarises the main five challenging areas in the banking industry and its pertaining trends and implications.

Challenging areas	Trends	Implications
Market developments	• Globalisation of financial markets, clientele, and locations • Fierce competition from incumbent banks as well as from new market entrants and intermediaries • Uncertain and unpredictable macro-economical environment	• Merge and/or acquire to remain big in various businesses • Collaborate with others even competitors • Grow internationally as well as on the domestic market
Nature of demand	• Increased level of involvement in their investments • Higher expectations from their bank in terms of integrated advice and services • Decreasing loyalty towards their bank • Shift into more complex products • Increasing demand for third party products • Greater search for security and reassurance • Anytime, anywhere offerings throught divers channels	• Improve breadth and depth of offerings • Clear processes and transparent pricing structure • Seek out best-of-bread products and services • Focus on client advisory services • Bundle product, service, and process to a solution • Offer a variety of distribution channels
Regulatory and policy changes	• Global and local impact on activities such as European savings tax initiative or capital requirements (Basel II) • Industry investigations and fighting crime, e.g. anti-money-laundering, funding of terrorist activities, dubious assets of dictators and other criminals • Repeal of the banking secrecy, *i.e.* know your customer (PATRIOT act) • Legal and regulatory constraints for offshore businesses	• Be informed about global developments • Implement internal and external processes, reporting, and control mechanisms • Necessary investments in ICT for implementing compliance • Provide third party products that comply with local laws and regulations through international local branches
Technological imperative	• Pressure to reduce IT costs • Necessity for a flexible IT and application architecture to meet opportunities • Clients expect technological innovations and security • Replacement of old core-banking systems • New distribution channels	• Improve efficiency of IT and application operation • Build or buy decision (standardsoftware) • Define core competencies to ensure appropriate returns on investment • Innovate and lead the market
Economical pressure	• Slow growth in established markets • Shrinking margins for commoditised products • Increasing pressure to manage costs to improve profitability • Concentration on core-competency and outsourcing of non-core businesses	• International growth through the development of foreign markets • Target higher value-added products and services • Judge appropriate capacity level, *i.e.* move from a fixed to a variable cost structure • Scalling-up to absorb and spread risk

Table 10: Trends, challenges, and implications in the banking industry

4.6 The banking industry at the beginning of the twenty first century

4.6.1 The phenomenon

Induced by several trends, the major phenomenon that will be driving change beneath the surface of banking for the next few years seems to be the transition from a closed to an open innovation paradigm. Within the new paradigm, focus lays on the client advisory process rather than product innovation. The operating model and the way people work, even the very nature of the organisation itself may change radically. Becoming an open, flexible, and agile organisation requires overcoming organisational inertia. To achieve this aim firms in the banking industry see one possible answer in what they termed "open architecture". This open and flexible operating model promotes collaboration with third party product and service providers and in addition prompts the organisation to think more flexibly, rather than bureaucratically and mechanistically.

The transition is a long-term process and consumes loads of resources. Some banks, such as the one in questions, are more advanced than others are. Based on the analysis and synthesis of the empirical data, it can be said that there are five key elements that have been most affected by the transition process, namely *product, process, structure, competencies,* and *culture.* To reduce complexity, factors that affect the bank indirectly or from outside the organisation such as the Euro, risk considerations, the global financial system or the changing nature of society itself, although important they are not elaborated further within this study.

4.6.1.1 Product

During the 1970s and 1980s, most banks focused on product innovation apart from incremental innovation with the aim to increase efficiency. Rapid product development and bringing these products on the market was considered as imperative. The infrastructure for processing information pertaining to a product was expensive and complex to maintain. In addition, intermediaries and new market entrants were forbidden by regulation from entering the sector. Product innovation was an exclusivity of incumbent banks, whereby these banks provided a number of

proprietary products to their clients. The developments in the banking industry, as discussed previously, changed the competitive landscape radically. Today all market participants are able to process or outsource information management reliably and at reasonable cost. Banking business in international onshore markets is less subject to strict regulation, particularly in the European Union. Although the nature of most banking products remains the same, they can be more easily imitated. The increasing variety has finally led to falling margins and moved banking products from differentiated status to commodity. Therefore, most differentiated firms attempt to bundle various products and services on a global level. These banks attempt to open up their operating models to allow customers greater flexibility.

4.6.1.2 Process

Within the closed paradigm, organisational boundaries for the value chain were within a single function. Processes did not actually go across boundary lines including the functions of several business partners. In addition, banks did not regard processes as a means to increase customer service as a complementary to their product offerings. One reason was that banks yielded good profits with the products they pushed to the market, and that focus was on operational process efficiency rather than process innovation for customers. This changed in recent years due to the fact, that products became commodity and customers more mature. Most banks today focus on advisory processes to provide a significant amount of added value to customers beyond just product sales. The advisory process is the real texture to the relationship and perceived by clients as value for money in the relationship with the bank. This process may include services from third party providers wherever beneficial for the client and the bank. Operating open models for product and service innovation requires a smart advisory process as complementary. In the bid for differentiation, one business priority of UBS is perfecting the client experience with the global implementation of a holistic client advisory process.

4.6.1.3 Structure

Hierarchical, rigid, and bureaucratic organisational structures were legitimate to manage a centrally organised firm where strategies were dictated top-down and working one’s way up was characterised by many hierarchical levels. These traditional and vertical structures are not appropriate anymore because decision-

making and implementing strategies are slow in addition to the changed perceptions of employees about career and incentives. Today's dynamic environment calls for structures that help banks to be more responsive to environmental changes and demands. Therefore, innovative firms implement more flat, flexible, process-oriented, and team-based structures that focus on coordination and collaboration across organisational boundaries. Thus, flexible structures not only facilitate the development and implementation of strategic actions effectively and efficiently, they also support open innovation. At UBS, for instance, business areas are relatively autonomous and support entrepreneurship. Managers in general are free to decide whether they collaborate with external companies or use internal resources, products, and services. Client advisors are enforced to use their own judgement as to how they focus on current customer accounts or nurture new opportunities. The new type of organisational structure in banking is based on flexibility and developing new core competencies. The essential capability is believed to be adaptability. This means moving quickly towards new opportunities as well as increasing the speed of adjusting to changing business environments. The cause for this has been explained by a project leader who said that structure is preceding organisational behaviour and - is hence fundamental for the transition.

4.6.1.4 Competencies

Sophisticated systems for managing information were not available twenty-five years ago. In addition, there were no structured processes on how to capture and transform information manually. Consequently, knowledge was mostly kept in the heads of individuals rather than processed and disseminated with the help of information and communication technology. In particular, client advisors were not very keen on sharing information within the organisation. Banks realised in the 1990s the importance of sharing and incorporating knowledge and developing human capital. This increasing awareness is reflected in a number of structural changes and in the installation of improved customer relationship systems. In addition, discontinuities and the uncertainty in the financial service industry called for evolving and developing competencies rather than static knowledge. As a number of interviewees pointed out, these competencies are not necessarily related to banking. The ability to utilise relationship management is understood as a kind of soft skill that is used to

integrate relationship knowledge with captive banking knowledge. It has been said that interactions of the banks workforce with external business partners are increasing due to opening up operating models. Developing a unique set of dynamic competencies is what UBS, representative for other firms, considers as the main source for the management of the transformative change process. As a UBS representative phrased it, these core competencies are a *mélange* of knowledge that ties sets of other resources together. This include the ability to collaborate with business partners as well as the skills required for nurturing clients.

4.6.1.5 Culture

Changing the way of doing business and developing a set of new core competencies includes behavioural and cultural changes. Banking used to be a closed and traditional business for decades. Processes and structures that supported this paradigm have changed within the last ten years. The open innovation paradigm with its nature of collaboration beyond company boundaries even with competitors requires an open and innovative organisational culture that emphasises organisational learning. In an industry that seemed to be stable for decades, the change towards an entrepreneurial and open attitude is a challenge. Furthermore, it has been confirmed by several UBS representatives that adopting new processes, structures, and competencies is not everybody's native. Building a learning and innovative organisational culture across the organisation is therefore considered as a key success factor for the transition from closed to open innovation. It has become a top leadership priority for most banks. UBS reacted to this challenge with a number of initiatives. With the "circle of excellence" for example, knowledge is disseminated diffused throughout the organisation in the form of "best practices" or with the "empowerment" of product managers, which gives them more scope for decision-making as the bank attempts to encourage entrepreneurial and innovative behaviour. These concepts are discussed in detail within this chapter.

4.6.2 Intervening conditions to the phenomenon

Having discussed the specific properties of the phenomenon, there are intervening conditions that either facilitate or constrain the actions taken. These conditions influence strategies and business priorities alike. The right vision and strategy

followed by a number of actions are, for example, considered as crucial enabling conditions for strategic change. As UBS has anticipated the dynamic developments, it encompasses two different strategic directions; exploiting existing resources and capabilities with the aim to manage costs to improve profitability *and* to focus on exploring innovation opportunities for growth. This is reflected in ambiguous business priorities *industry leadership in efficiency* and *perfecting the client experience.* In particular, the latter meets the phenomenon of open innovation and mastering the advisory process. None the less, both business priorities became global initiatives with comprehensive changes to the entire organisation.

One main intervening condition that is bearing upon the banks actions to achieve the business priorities is the new way of doing business openly and in collaboration with external partners. One consequence is intra-enterprise competition because of the fact that a proprietary product is only sold to clients as long as there is not a better similar product available from third party providers. Some argue that such an intra-enterprise, competition might motivate employees to monitor market offerings more rigorously. Consequently, this might lead to continuous improvements of the bank's own products. On the other hand, opponents see reliance on different business partners as a threat. Open and flexible operating models tend to cannibalise own products. Being open is an individual trait. Some experienced bankers and many other valuable employees feel pressure on them. They are not used to pressure that might come from colleagues in addition to pressure from external competitors.

In most cases, new operating models require a new infrastructure. Hence, the case organisation needs an open, modern and flexible application and IT architecture that is aligned with the business intent. As UBS' technical infrastructure was designed back in the 1970s, its proprietary and inflexible architecture stifles innovation. The further maintenance of the old infrastructure became too expensive and unreliable. IT costs have risen unacceptably in recent years. As the growth strategy of the bank includes acquisitions, the quick and efficient integration of these institutes calls for a flexible infrastructure. In sum, complexity, cost, and risk increased, while at the same time client services deteriorated and innovation capabilities became severely limited. Therefore, in the words of a member of the Group Managing Board, UBS needed a

"radical new beginning", and so, in 1999, they launched the largest and most expensive programme with the aim of renovating the core banking capabilities in order to improve flexibility and increase efficiency.

In order to take advantage of modern and flexible technology and open industry standards, new business functionalities that facilitate future business demands, *i.e.* "open architecture" will be launched stepwise. As one of the first multinational banks, UBS has recognised the opportunities arising out of open architecture. The bank is further convinced that process innovations will become more important within an open innovation paradigm. The client advisory process will therefore be accountable for customer retention and customer loyalty rather than product innovations. Since the bank accepted this new paradigm a couple of years ago, it has launched a number of initiatives with the aim to leverage open architecture and to provide clients with complemented value adding processes. These initiatives are included into the strategic solution programme. This programme provides the conditions for innovation and facilitates the transition to open innovation.

4.7 Open architecture: The new operating model for product and service innovation

4.7.1 Introduction

Because the terms "products" and "services" are often used interchangeably, the case organisation's definition is explained first. To gain an initial understanding of how the bank's business groups work together to provide customers with a solution consisting of products, services, and a value-added process, the business model is examined next. The main action strategies to respond to and manage the transition process have been explored and explained in detail and are part of the main body of this section. These strategies are related to product and process innovations, which is one level below the overall business model of the bank. This examination includes organisational innovation from a structural and organisational point of view. This is represented in a new infrastructure and set of core capabilities.

4.7.2 The understanding of products and services in banking

In contrast to industrial companies in the manufacturing sector, financial service institutions do not provide physical goods but intangible products and services. For banks, these consist of liquidity, information, and transformation services. It can be said that the credit risk of a bank corresponds to the investment risk of any other company, and liquidity risk corresponds to the capital structure risk. Banks are also facing interest rate risk due to maturity transformation, and a bank risks having to refinance its long-term loans at rates that exceed the rate of interest on the loan if the interest rate structure changes. Because every single business needs a bank for their financial transactions, insolvency of a bank can have significant external impact on the overall economy. This effect is potentially more serious than if an industrial company were to go bankrupt as a Managing Director in the business area products and services elucidated. He explained that what in bank jargon is called "systemic-risk" means that if there is a run on a bank, a chain reaction might be the consequence and could result in the collapse of other banks. Because of these threats, banks are generally more regulated than industrial companies are. The latter explains the notable attention on regulatory and monitoring in the banking industry.

The terms "services" and "products" are often used interchangeably in the financial service industry, which may lead to confusion. Therefore, several UBS representatives were asked for clarification of these terms. They noted that they usually mean products as well as services if they talk about product innovation. Notwithstanding, they concluded that a distinction must be made for technical reasons. This means that a clear distinction is a requirement for the cost and revenue allocation to the management information system (MIS). With the installation of the global product catalogue a couple of years ago, a definite definition of products and services became inevitably. UBS therefore, consistently categorises products, modules, and services as follows.

> **Product:** something that a client can purchase "stand-alone", e.g. private account, savings account, all kinds of credit cards such as classic, gold, platinum. For instance, can a credit card be purchased without having an UBS account. A product is the smallest element still of use to the customer which the bank can reasonably calculate in its MIS.

Module: something that a client can not purchase "stand-alone". A debit card for example is dependent on an account (product) and can therefore not be sold without having an account at UBS. Module is a very technical term and used rarely in common communication.

Service: part of a product that is too complex that it could be automated. It therefore requires in any case an interaction with the customer. Services for direct clients include financial planning or portfolio management. Services that UBS provides to other financial services institutes include cash currency services such as clearing and mass payment or security services such as custody and clearing and settlement and many others in the area of asset management, private banking, corporate finance, and trade and export finance. Regardless what customer type, a service is a process that generates added value for the customer.

For the development of products and services and bringing them to markets, an integrated business model is used. Where the middle-office business areas products and services, and market strategy and development are responsible for the development and management of innovations and the operation of the integrated business model, the origination units are responsible for the sales.

4.7.3 The integrated client service model

UBS developed a business model with the idea that teams from across businesses and organisational units could work together to pool different skills for the benefit of an individual client. Thus various business groups put the "one firm" philosophy into action. The model first calls for a thorough understanding of clients' needs first. Subsequently, clients are navigated between solutions that are produced in-house as well as obtained from third party providers.

Figure 11 illustrates the banks integrated client service model.

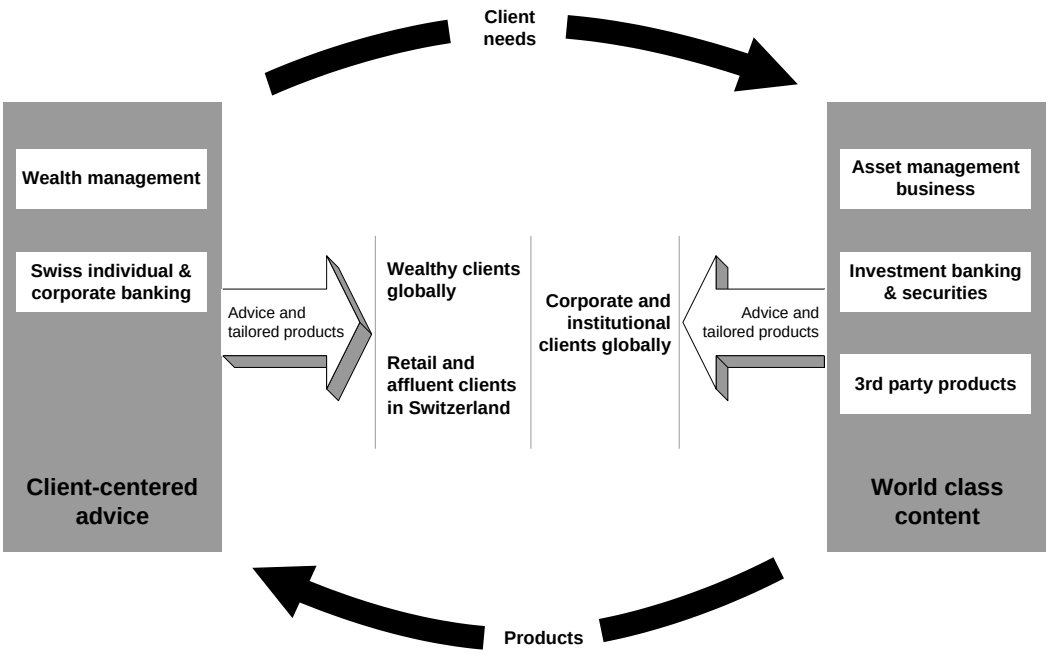

Figure 11: The integrated client service model

The wealth management businesses provide client-centred advice and tailored products to their clients. They, in turn, are supplied with product and research offerings from the investment banking, securities, and asset management businesses. At the same time, these businesses provide advice and tailored products to their own corporate and institutional clients while being kept alongside of changing client needs by the wealth management businesses. This in turn helps them develop innovative new products and services. Overall, the exchange benefits both sides. Individual clients benefit from sophisticated products and services while UBS wholesale businesses enjoy access to optimised distribution opportunities. Acting as "one firm" also enables the entire UBS Group to extend key client relationships across several businesses. The integrated business model, in line with the overall "one firm" approach, ensures that, where UBS has a best-in-class offering, it captures the whole of the value chain. The exchange of services, knowledge, and capabilities across the firm gives UBS the ability to build a coherent infrastructure that does not duplicate activities. This also helps to capture synergies between different components of businesses, eliminating redundant infrastructure, services, management, and control. The top management of the bank views the benefits of the

model in terms of strong management, risk culture, cost efficiency, shared services, and shared expertise. Thus is the integrated client service model considered as the cement that holds together the business groups, investment bank, wealth management, asset management, and retail and business banking. Accordingly, it is the final tight linkage of all the streams, which contributes to the banks innovation capability.

Operational excellence means for the bank that in all key businesses, scale and scope are committed, as this will enable the delivery of a full spectrum of services. This can only be achieved if both the efficiency of operation and quality of products and services provided are improved continuously as several senior executives affirmed. While respondents from the IT departments put emphasis on how operational efficiency regarding systems and applications can be improved, members of the origination units of the bank, mainly recognise process innovations as drivers to improve service quality. Based on the model, there are numerous approaches on how to develop new products and services. While the innovation process used to be somewhat *ad hoc* for decades, efforts have been made in recent years to structure the innovation process at UBS.

4.7.4 The product and service innovation process

Understanding, what customers really need cannot be stressed too strongly according to a Managing Director responsible for processes in the business area of products and services. Also, besides various methods and guidelines for product and service development, the way in which innovations are implemented is crucial. While the old innovation paradigm (market push) was to build a product and then find clients or investors, the new way of product development is to listen to the client or investor first and then find appropriate solutions. Product innovations at UBS therefore start with the analysis of customer needs. The Managing Director and head of banking products emphasised this ironically:

> "It cannot be that a product manager while having an overly hot shower in the morning comes up with a new idea, runs to the office, develops that idea, and in the final step seeks someone who wants that product or service. New product development, in any case, must start from the opposite perspective, with the analysis of customer needs first. The time has gone where banks pushed their products to the market without involving clients."

It is essential to generate a value proposition for the customer first, and then to develop a value proposition for the innovation as such that satisfies the customer's needs. If the value proposition has potential, the product management team comes forward with a proposal for implementation. The innovation is no more than a value delivery. However, it is important though to assess the entire value chain and to decide which parts are to be performed within UBS and which parts are for partnering would be more profitable. Final stages are the rollout and maintenance of the innovation. This is what new product development for UBS means – doing and implementing new things or improving existing things rather than just thinking up new things.

There has been a transition of the role of product development and management in recent years. These disciplines have become more structured and standardised. The bank improved processes and made organisational changes accordingly. A new business process model for product development was installed which is divided into renewal processes (product life cycle) and delivery processes (client life cycle). While renewal processes include idea generation, product planning and product development, delivery processes include client acquisition and origination, business settlement (delivery) and client services. Product managers were empowered and are new responsible for both the product life cycle and the client life cycle. They have to focus on service offerings, but are also accountable for reaching productivity targets. In addition, building relationships within the organisation with, for example, application developers or business users, as well as clients for understanding and segmenting demand is another key responsibility. It is believed that business initiatives can so be launched, executed, and finally implemented more efficiently and effectually. The new product and service innovation process implies an advanced technological infrastructure. This includes the global product catalogue, sophisticated

product calculation, and product profitability calculation. Eventually, the philosophy of product development and the role of the product manager changed basically, as the Managing Director responsible for product management noted:

> "Product managers have [new] to understand the complete value-added chain, particularly as a generator of costs and revenues and optimise these. He or she acts along this chain as a general entrepreneur and has the duty to escalate counteractive events. This new role requires additional soft qualifications. Besides banking industry knowledge, an open attitude will also be important, whereby the product manager uses both external and internal benchmarks as well as third party products and services. For example, product managers are since a couple of years accountable for choosing content providers of value added products in order to deliver investment product services to clients and client advisors. As product managers face competition both from within the bank and from external business partners, they have to execute structured and project-like procedures for innovation. Being open in the way business is done leads to a transparent innovation culture rather than innovating *ad hoc* in the peculiar manner experienced in the past. This latter decreased motivation and often resulted in endless political friction – not to mention ineffectiveness and higher costs for the entire innovation process."

4.7.5 Time to market for product and service innovation

The time to market of new products and services is crucial in many businesses and so it is for UBS, according to numerous statements. UBS is positive that introducing and bringing a new product onto the market can be achieved in most cases within weeks rather than in months or years. According to product managers, is the time from the idea to selling the product mostly consumed during controversies between other business units such as marketing and market research and IT departments. The cause for coordination problems is often due to the lack of IT support for pricing, forecasting sales, and product profitability associated with new or existing products. In the past, product implementation and integration into the current application architecture were conflicting issues. However, the situation has improved drastically over the last couple of years. As a product manager recalled:

> "Frictions between IT and business [product development] are due to the fact that both parties had different performance measurements. Further, there was no common communication level. Understanding was often diametrically opposed. We from product development were talking about business opportunities with our new products, while the IT guys always saw problems in terms of application integration, data ownership (especially about client information), and resources for development and maintenance. Anyway, several organisational changes have improved the product development process within the last couple of years. I think that many positive effects in the area of product development seemed to be a result of a number of initiatives."

It has to be said that the benefits of faster product development are difficult to assess. There are no benchmarks accessible in terms of the time it took to develop a new product before the radical improvements, neither are there statistical data that indicate the length of time it takes from development to commercialisation today. Comparisons before and after have therefore not been performed. Where a new management information system to measure and interpret distribution performance has been implemented as part of the new infrastructure, it will always be difficult to compare product development speed since the bank seldom develops similar products and services twice. Obviously, many factors added to improvements. Product developers said that product management tools, to support their business, have become more practical and flexible since they have implemented the open architecture and the new IT infrastructure. On the bottom line, rapid product development and time to market have been objectives for many years as an Executive Director and head of core client infrastructure services put it:

> "It's all about the architecture - how flexible we are, how quick a product can be developed in-house and how quick a third party product can be integrated into our existing systems. Quick integratability will become a crucial competence and key success factor in future."

4.7.6 The open architecture model

It was learned that the open architecture idea has its origin in fund distribution, whereby a bank delivers funds from third-party providers, if such funds satisfy

defined quality requirements. The term “separately managed accounts” (SMA) is banking jargon and stands for one prominent application of open (fund) architecture. The Money Management Institute (MMI, 2004) defines SMA as the practice where financial institutes offer individual investment accounts in which they provide their clients with advisory services and funds managed by independent asset managers. The next logical question is what openness and partnerships for third party products and services actually means for the bank. As the application of the open architecture philosophy is one of the main action strategies to the phenomenon, several proponents of different business areas stated that open architecture is *en vogue* in the banking industry. In particular, it is considered as a key success factor and prerequisite for modern product and service innovation in banking.

According to the Fédération Européenne des Fonds et Sociétés d'Investissement (FEFSI, 2004), the industry in Europe had approximately € 3,700 billion in assets under management where 8% are third party funds and 92% are proprietary funds. This number is estimated to rise to € 6,000 billion by 2014 with 30% third party funds and 70% proprietary funds. It is said that this industry is in a state of rapid growth and has experienced a compound annual growth rate of 21% for the six-year period ending December 31, 2001. These numbers indicate the growth potential for third party managed funds and the trend into open architecture. Since more financial services institutes and advisors have realised the potential of the open architecture, demand for SMA is increasing enormously. A study conducted by Scorpio Partnership (2003) found that 93% of Swiss wealth managers were offering multi-manager products. Multi-manager products comprise manager of manager’s products, funds of funds or fund supermarkets and are similar in terms for SMA.

Drivers for open architecture are, as discussed previously, the trends in the banking industry, *i.e.* increasingly sophisticated customers are demanding more choice, advice and best-products; rigorous regulatory and compliance burden that prevent institutes from offshore business; and the global competition that has led to margin erosion and moved banking products from differentiated status to commodity. After speaking with several representatives from different business areas, it seems that open architecture is mainly customer driven. For instance, it was assumed that today

funds form an integral part of investments and are, because of flexibility, diversification, and efficiency reasons an attractive alternative to direct investments. The Managing Director and head of banking products explicated:

> "In the asset area [wealth management] clients wish to get unbiased advice. As a reliable company, we are only able to satisfy this demand if we combine third-party products with proprietary products. It would not work out, even mathematically, if all financial service institutes assured their clients that on the one hand, they are providing unbiased advice and on the other, they are selling their own products exclusively. This would mean that they had all best in class funds, which we all know is impossible."

He explained further that clients today for instance, decide which funds they want from which asset management institute. The client in this case splits the value chain. UBS responded to this trend with its open architecture. UBS merely acts in this model as client advisor and contact to third party asset managers; hence, the process is divided into two parts, client acquisition, and retention and distribution access. Within this model, UBS provides clients with a financial intermediary with a broad range of approximately 8,500 investment funds from 140 partners, including other banks, investment fund firms, asset managers, brokers, and insurance companies. It has to be said though that UBS has a restrictive provider and fund selection process. The process includes quantitative screening, in-depth qualitative analysis and on going due diligence. Further developments in open architecture over the next few years, to come are seen by the bank as intensifying and deepening relationships with third party providers beyond just providing products. Establishing relationships with a few high quality partners is one goal. The most profitable partnerships or distribution channels are those that remain for a long time.

The advantages of the open architecture for customers are "one-stop-shopping", *i.e.* the flexibility of choosing products from a whole universe of contents in all fund categories with standardised pricing. Open architecture gives clients access to a wide array of pre-screened, top-quality products from third-party providers that complement UBS's own range. The goal is in any case, to provide clients with the best solution – even though this might come from competitors. A representative of

UBS Wealth Management United Kingdom associated open architecture with the thought of outsourcing and added:

> "Within our outsourcing strategy we provide a complete product range to our clients even though we do not have expertise in all areas. Although we are one of the largest banks in the world, I concede it as fact that we are not specialised in all areas. It would be ineffectual if we tried to master everything. Furthermore, it would be simply impossible. However, while outsourcing certain products at the same time we can focus on our strength and core competencies. For example, we in the UK have a good reputation for managing cash and bonds, and tend therefore to manage these assets in house. But for equities we prefer to identify and select the best outside managers on behalf of our clients. Following this approach, I have the flexibility to offer my clients a complete individual solution consisting of UBS manufactured and managed products, as well as products that are managed by third parties. This is what we call a multi-manager product or multi-brand strategy. I think that there is high potential in offering our high net worth clients such flexibility."

Raised in the example above, a second rationale for being open to third-party product selling is the concentration on core competencies. This view is in line with middle office units responsible for product innovation. From a bank's perspective, open architecture is a way to increase entrepreneurial flexibility. As the head of banking products pointed out:

> "Value chains are more fragmented than in the past. Single elements are analysed meticulously to find out in which areas the bank has core competencies, and in which it would make sense to find an appropriate partner. We are taking everything into account - core competencies, available internal resources, and efficiency - with the goal of how the bank could generate volume. Consequently, internal sales channels, external sales channels, and internal products, as well as third-party products, are always part of the strategy."

To challenge the trend, UBS is not only developing innovative products such as for example, the new UBS Libor mortgage, which is not a fixed-term product rather it is available for, amounts as low as CHF 100,000. What is more, the bank distributes and introduces them over modern channels. So does UBS Life expanding its range of

life insurance products to include two attractive product lines from the Bâloise Insurance Company. This new partnership will allow UBS to expand its offering of third-party products as part of its open distribution architecture. Product management systems thus provide tools for new and complex products so that branch offices and intermediaries understand them quickly and clearly. However, many of the modern, open, and flexible ideas that emerged in recent years could not have been implemented ten years ago due to the limited technical possibilities.

Drawing a correlation between time-to-market and entrepreneurial flexibility seems to be difficult. Some respondents argued that the new platform facilitates the open architecture paradigm and accelerates product and service innovation, but could not substantiate it with benchmarks or other performance measurements. Additionally some expressed reservations and said that time-to-market might be quicker if the bank incorporate external partners while others argued that it depends how efficient activities are performed. For the latter case, it does not matter whether they are internal or external. A Managing Director in the product and services development business area emphasised that he has had excellent experiences with external partners, and that collaboration within the bank is sometimes more difficult. At the same time, he contradicted and said the same applies *vice versa*. Nevertheless, he acknowledged that:

> "It is clear to me that the bank loses strategic flexibility if collaboration with external partners is undertaken. In other words, if product and service innovation is done in-house it is much easier and quicker to make any necessary adjustments during the development, production, and even commercialisation stage of the solution. As the responsible person for the solution, I have the authority to solve problems with an internal phone call rather than with time-consuming negotiations with external business partners. "

Based on the data from numerous different interviews no regularities could be detected on how and when collaboration occurs. It is supposed to be a subjective, *ad hoc* and not a structured decision-making process depending on the individual preferences of the responsible director. To all appearances, the hesitancy to answer detailed questions regarding partnering might be a sign that collaboration and

relationship management is a kind of business secret unless it has been released as a success story. To elaborate this further, a couple of executives from the products and services business area were asked what they considered the best example of the open operating model in recent years. They mentioned the collaboration with PostFinance in areas such as funds, cash handling, and lending operations.

4.7.7 Collaboration with PostFinance

PostFinance is a fully-fledged financial services provider within the financial services business unit of the Swiss Post. With an income of CHF 897 million and 2,148 employees, the operating result came to CHF 243 million in 2003. This represents growth of 20% over the previous year. The reason for this positive development was the growth in customer assets of around CHF 5 billion that also made a significant contribution to the increase in total assets to CHF 43 billion (Swiss Post, 2003). In May 2002, PostFinance entered the loans business, and now offers three types of "Yellow Mortgage" in collaboration with UBS, namely the Yellow Mortgage fixed, the Yellow Mortgage dynamic, and a combined product. Because of the current interest rate situation, the fixed mortgages accounted for around 70% of sales. By 2008, PostFinance hopes to achieve a market share of two percent with its mortgages for private customers. PostFinance is putting its faith in products that are transparent and easy to understand.

From the end of 2005, PostFinance operations centres will be taking over the processing of voucher-based payments for UBS. This collaboration represents a show of confidence from UBS in Swiss Post's financial business unit. PostFinance considers this cooperation as a good basis for gaining more customers for this type of arrangement in the future. In order to compete on equal terms with other financial services providers, PostFinance is continuing to pursue its aim of one day obtaining a banking licence one day.

The Managing Director responsible for banking products explained UBS' intention for this collaboration as follows:

> "The credit business has four elements in its value chain: distribution, balance management, risk management, and servicing [services] such as consulting, pricing, contracting, and payment transactions. In Switzerland, we [UBS] have core competencies in all four areas. However, an analysis found that an expansion of servicing would not be very beneficial for us. On the other hand, servicing has been a core competency from PostFinance, in addition to its very strong branch network. As PostFinance does not have a banking license that would be required for balance and risk management, they agreed that UBS covers the banking business, and PostFinance contributes distribution and servicing to the partnership. This is what you might call a classic win-win situation."

In this instance, the base for collaboration is the open architecture, in which the bank analyses strength and weaknesses of its value chain, and collaborates wherever it its beneficial, rather than trying to cover the entire value chain with internal resources as a closed business model would claim. What the above cited Managing Director called a "revolutionary business model innovation in the financial services sector", provides the bank with new routes for selling their products through partners in addition to their established internal distribution channels.

4.7.8 Open architecture and multi channel distribution

The PostFinance collaboration is an excellent example for multi channel distribution based on the open architecture, in which UBS acts as the producer of products which are sold through a third party distribution channel. In that case, the funds are sold through Swiss Post offices as its own products. Actually, they are managed and administered by UBS Global Asset Management – just like the funds sold by the Italian partner bank under its proprietary label in Italy. In addition, UBS acts as the custodian bank for the Swiss Post. The practice where products are sold under the partner's brand name is called "private labelling" or "white labelling". On the other hand, the bank also acts as the distributor of third-party products and as a producer for products that are sold over third-party distribution channels. Depending upon where the bank does business, in the domestic market or offshore, there are additionally two perspectives to consider. Offshore, in other words means that the bank does business out of its jurisdiction and tax domicile. However, the bank can sell its own products through internal and external distribution channels on the

domestic market. In offshore markets, the bank mainly sells third party products that comply with local law, tax, and regulations through its branches. From a supplier perspective, the bank develops products for the domestic market, but only limited products for offshore markets. Figure 12 illustrates the distribution and supplier perspective in four quadrants.

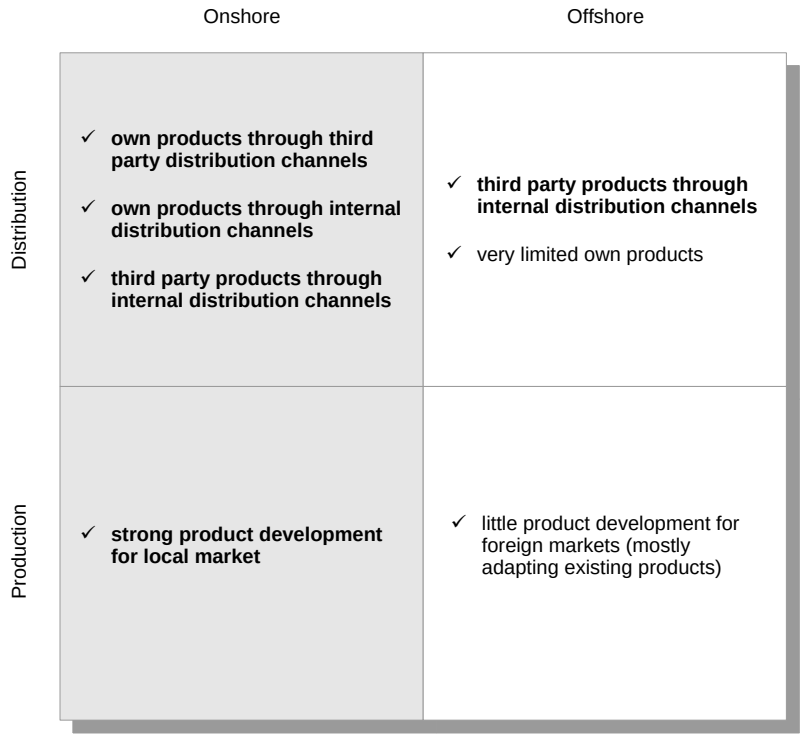

Figure 12: Open architecture quadrant

The UBS open architecture philosophy is a “multi-brand” approach, whereby UBS includes various third party products in its proprietary products. As the Managing Director of investment solutions explains, there are other operating models such as “single-brand” where only in-house offerings are provided or the “supermarket” where the customer is able to choose “best of breed” solutions from a complete market offering. He argued that the single-brand operating model could not be justified in the present market environment because the bank will never be the best in class for all asset classes. In addition, this strategy denies a holistic sales approach and results in a lack of objectivity in advising clients. The disadvantage of the “supermarket” is that customers required substantial knowledge about the products sold. The bank left their customers alone with an investment decision. The

"supermarket" may also result in an over supply of products, information overload, and lack of steering due to limited research and distribution capacities.

A good example of where UBS employs the distribution perspective is its international mortgage business. An internal study of UBS found that the mortgage business is profitable with a mortgage volume in the United Kingdom of estimated € 846 billion with a proprietorship of 27%, and for Germany € 1,050 billion with a proprietorship of 68%. As the business is profitable, UBS wants to sell mortgages in these countries but cannot provide clients with its own products because of local laws and regulatory constraints. Because of these constraints, no product or service can be similarly sold in European countries, wherefore open architecture is necessary and justified. UBS has to sell third party products from the local market provided by local banks, building societies, or specialised mortgage lenders. Therefore, UBS collaborates in the United Kingdom with institutions such as The Woolwich and Countrywide Credit Industries. This in-sourcing is also done for products which UBS is not specialised in. Hence, UBS distributes insurance products from other financial service institutes or sells hedge funds from so called "content boutiques", that are small but highly specialised firms.

There are, however, general principles and selection criteria when to collaborate. Commoditised products such as products that do not exhibit significant differences in quality or content should, whenever possible and economically meaningful for the advisor, be purchased from UBS Group entities. On the other hand, in-house produced products should not be provided to third parties under more attractive terms than the bank's origination units. Responding to the question about the importance of the open architecture and being open for providing composite and complex products in collaboration, a Managing Director within the business area products and services stipulated clearly and precisely:

> "We [UBS Group] are a global player. If we acted narrow-mindedly in a world that is becoming more and more open and transparent, and where businesses and products affiliate with partners, we would no longer be able to satisfy our clients. We would lose business in offshore markets because of regulatory constraints."

> "Even if we did everything within the bank, which from a resource-based view is ineffective and unrealistic, our competitors would cooperate with partners and promote products, services, and solutions that are more interesting to potential clients. As product information is globally accessible and easier to compare, clients became, in our time, more mature in their decisions. We would hardly have any business prospects if we denied that fact. Hence, I think that it is the market pressure of being a global player that drives us into open architecture and collaboration."

He further said that innovative client-tailored products have always been a vital success factor in product development:

> "If we speak about open architecture, we continuously have to have the client perspective in mind. Our clients expect that we provide exactly the products they are seeking and unable to find at other banks to good conditions – otherwise we will lose them. The client wants the product from us, unless parts or sometimes the whole product comes from a third party provider."

Increasingly effective co-operation between the markets has recently taken place. The above statements were cross-checked with an Executive Director from market strategy and development. He was asked what the advantages of being a global player in terms of providing third party products, as well as offering own products via other financial service institutions are. He confirmed other statements:

> "The client should in any case get the best solution that might come from different business groups of the bank. This is part of the UBS integrated client service philosophy. Without doubt, the best solution is not always our own product. If that was true, we would be the best bank for every single product, in every area. This is an illusion. That is why we need an open operating model in which we can choose a partner who has a solution that can be combined with our own to fulfil our clients' needs, and to our clients' best advantage. The advantage of being one of the biggest banks in the world is that we can choose our partners from the global market, and also that we might add value to our partner with our strong and reliable brand."

Based on the information given, open architecture seems to be vital for UBS and most other similar market players. The process of the interviews also revealed that

the transition from a closed innovation paradigm to open and flexible operating models though is a strategic challenge. This leads to the next section where a number of representatives of the bank were asked about the requirements for such an open architecture.

4.7.9 Requirements for the open architecture

Requirements for the open operating model are grouped into structural requirements and implementation requirements. The basic structural requirements are organisational in nature. They include i) the adoption of an advisory-oriented, product neutral consultative process; ii) the creation of a flexible financial solutions platform, the inclusion of "best-of-breed" third party products to dynamically meet client needs with customised solutions and iii) the systematic gathering of insights from qualitative and quantitative customer and market research which turn it into value-added knowledge and services for customers. Additionally, there are basic organisational innovations needed to build new core competencies. These core competencies include establishing clear product management responsibilities, implementing a systemic product development process, and employing a comprehensive and consistent product-positioning framework. A member of the Group Managing Board emphasised the importance of such a framework for client advisors as an example for other roles:

> "Client advisors need to identify and communicate offerings to clients in a quick and decisive manner if we [UBS Group] are to achieve our business growth objectives. They need to see each product within a common context and cannot spend laborious time matching individual clients detailed life-stage needs with individual products on a one-off basis. They must invest their time building and enhancing client relationships and gathering assets, not searching for appropriate solutions. It is a challenge and opportunity at the same time. That is why we attempt to position all existing and new products in a solutions framework that advisors can easily understand, so they know how and when to apply it with any client with any financial need seamlessly. The product-positioning framework is an innovative concept that provides the context for product development and helps to prioritise products. Finally it promotes collaboration among product groups, internally as well as with third party providers."

In addition to the structural and organisational requirements, there are critical functional issues for a successful implementation of the open architecture. These implementation requirements include i) client relationship related processes and functions such as structured product development processes, customer relationship management tools and processes and consolidated account information (core static client data); ii) structural components such as due diligence factories and processes and systematic and structured training capabilities and iii) an aligned compensation model. Besides these three types of requirements, there is another form of competency that is not necessarily related to banking, namely the ability to utilise relationship management. The bank understands it as a kind of soft skill, which should be used to integrate relationship knowledge with tangible banking knowledge and the new functional competencies mentioned above. It has been said that interactions of the bank's workforce with external business partners are increasing due to the open architecture. The management of the bank is convinced that the new dynamic core competency of the banker of the future includes various qualifications. This will contribute to UBS' intellectual capital. It was also argued from various sides that building up these new core competencies affect the organisational culture.

The importance of viewing business conditions differently, *i.e.* with an open mindset, and its resistance by some employees, was discussed with a member of the Group Managing Board. He said that he understood that the open architecture strategy comprises a cultural change and it is therefore normal that some employees have difficulties to cope with this change, even though it is necessary. Some might have felt more comfortable with the (old) traditional way bank business had been performed for decades. Not all employees are flexible enough to adopt new paradigms and not everybody is an "intrapreneur". Consequently, some are defending the old (closed) corporate culture and their peculiar interests. The challenge though is to develop an innovation culture as fast as possible. Combining and synchronising efforts that, although global, have a regional focus and are based on local cultures is crucial. The UBS management phrased this intention "global strategy, regional focus, and local respect". A member of the Group Managing Board put it this way:

> "Creating a work environment in which ideas flow is a leadership task that demands full commitment. It has to be directed top-down but concurrently we must initiate collateral bottom-up activity."

> "One of the first steps in changing and developing an innovation culture is to make sure that everybody understands the market drivers that have transformed banking businesses. If there is no justifiable rationale for change, people will resist it and adaptation of new ways to work will fail. After the workforce has acknowledged these circumstances, we can go one-step further and introducing innovative forms of thinking. We from the managing board have to provide conditions that enable our people to see the world differently. This means establishing an intelligent disobedience that challenges business as usual. This might develop the ability to think more openly and out-of-the-box. At the same time, we have to empower our employees and let an innovative enterprise culture prosper. This reflects the believe that open minds can open markets, and that is why global diversity of cultures such as multiple perspectives, skills, and experiences are important elements in our values."

4.7.10 Concluding remarks

Several reasons that led to the open architecture for product and service innovation have been discussed within this section. Within this operating model the sales forces is flexible in selling third party products instead of own products. By the same token UBS produces products and sells its products through third-party providers in addition to its internal distribution channels. Thus, the primary objective is to add client value through an optimal solution regardless of whether the products are internally developed or picked from third party providers. As this model is in its first stage, there are also threats in relying on different business partners. One consequence is intra-enterprise competition because of the fact that a UBS product is only sold to clients as long as there is not a better similar product available from third party providers. While some argue that such an intra-enterprise competition might motivate UBS to monitor the market offerings more rigorously and continuously improve its products continuously, opponents see in this philosophy threats.

Disadvantages of open architecture might be that it cannibalises the bank's own products. Data protection is another concern that might deter partners. If UBS products are distributed through third party channels, the business partner has the client contact and is privy to confidential client information. Similar applies if UBS sells third party products. Even though both parties assure that client data is not used for internal marketing activities, there is always a risk. Building trust beyond organisational boundaries is becoming increasingly vital for sustained partnerships, especially for cross-boarder activities. The top management accepts this concern as another crucial leadership task.

Being open is an individual trait. Some experienced bankers and many other valuable employees feel pressure on them. They are not used to the fact that pressure might come from colleagues in addition to pressure from external competitors. Changing the way of doing business includes behavioural and cultural changes. Not only does this issue need to be addressed with caution, furthermore the bank also realises that such additional cultural changes in addition force restructuring in the bank. It is believed that organisational behaviour and culture originate from organisational structure. Developing an innovation culture is a crucial and ongoing activity that so far has consumed much effort and time. On return achievements can hardly be measured quantitatively.

The management is convinced that with strategies, like "one firm", the integrated service-client model, operational excellence within their core business area, and open architecture UBS, as such, is in an exceptional position to take advantage of the opportunities from open innovation. In particular, they justify open architecture by saying that it will be the *de rigour* business philosophy in the banking industry for the coming years. Even supposing UBS has made a great effort in recent years towards the open architecture and improving its processes, *ad hoc* innovation is still common. It was further learned that one important structural requirement of the open architecture operating model is the adoption of a product-neutral advisory process. This process has increasingly become indispensable for innovation success before products, time to market, or entrepreneurial flexibility.

4.8 The client advisory process: Complement to product innovation

4.8.1 Introduction

The commoditisation of products, market developments, as well as client trends have challenged the front businesses of most financial service institutions. Reliance on improving market conditions is not an option. UBS strives for leadership in effectiveness and efficiency. In particular, focus on the customer as a major characteristic of the open innovation paradigm calls for innovative processes to serve clients and leverage product sales. In addition, rigorous cost management, considered as essential to improve cost-income ratio and profitability, can be achieved with the optimisation of processes. Therefore, the aim of developing the client advisory process is twofold, adding customer value and decreasing cost.

The aim of this section is to meet the research objectives regarding process innovation as a form of organisational innovation. Therefore, front personnel such as client advisors from the origination units, mainly UBS wealth management, were interviewed. The first part discusses what the bank understands under process innovation and how it influences product and service innovation, where the second part looks at the consequences of the fusion of products, services, and process.

4.8.2 The nature of process innovation

UBS defines innovation as novelty (radical innovation), or improvements (incremental innovation) of existing processes or of products and services alike as accepted generally, but with the remark that the definition of process innovation is difficult in practice. Two concomitant factors are responsible for this difficulty. The fusion of products, services, and processes and the customer-centric characteristics of processes respectively. The first was exemplified with the credit asset transfer (CAT) while the second was examined in detail with the client advisory process. Both stand for considerable major process innovations, which have considerably affected the studied bank's organisational as well as technological infrastructure.

Firstly, concerning the fusion of products, services, and processes the main informants, namely the head of management support and the head of marketing

services both agreed that it has become irrelevant to put independent emphasis on the definition of each of these elements. The head of marketing support concluded:

> "I believe that the achievements of product and service innovation, and the processes to accomplish these achievements, interact with each other. They are interdependent, and should be perceived by our clients as a coexistent bundle of products, services, and procedures [processes]."

An interesting example of such a process that includes the distribution of a product and a complementary service is the credit asset transfer. Within this "service", UBS provides a process that certifies the interface between the bank and its business partners. This credit asset transfer (CAT) model enables UBS to use consulting centres and the sales forces of partners, such as PostFinance and numerous other institutions. The model operates successfully for mortgages where real estate promoters distribute UBS mortgages products while the bank handles risk and capital management plus refinancing through the purchase of accounts receivable that are all classical bank competencies. The credit asset transfer does not come into play after the client debt has been entered onto the balance sheet, but rather transfers the client risk as soon as the mortgage has been concluded. The asset transfer does not affect the client relationship of the cooperation partner, which acts as originator – both partners remain independent. Interesting though is that the distribution perspective of the CAT model is based on the open architecture philosophy.

Also, a main characteristic of processes is that the client is part of the process. A deeper investigation into process innovation led consequently to the client advisory process of the bank. This process is considered as a typical complementary to product offerings. The head of management support put it this way:

> "The advisory process is knowledge-intensive and based on trust and a good relationship between the client and the advisor. Therefore, the advisory process has a great impact on the suggested products, and biases the clients' perception with every interaction or experience the client has made with the bank."

Innovation whatsoever might produce something new within UBS but must not be innovative for clients. One Executive Director commented that innovation in general and particularly process innovation must therefore always be seen from a subjective perspective. He substantiated this as follows:

> "There are situations in which we want the client to notice the innovativeness of the bank, but there are other situations where we offer a product or service that in our [UBS] sense might be highly innovative, but that the client takes as a standard service, or a service that he or she just accepts as expected. For example, we promote the CAT model as a true innovation and clients know the complexity of this service and its value. On the other hand, the client advisory process involves huge internal efforts, but is perceived by clients as just another banking service. Paradoxically we are able to sell the CAT service, but we may not charge for the advisory process."

As the client advisory process is a global initiative, which includes large-scale organisational changes it will be discussed throughout this section.

The examples revealed a basic phenomenon in the banking industry, which is that the nature of process innovation is complex and difficult to capture. Interestingly, one interview partner used to work in the manufacturing industry before entering the bank. Therefore, he was familiar with manufacturing innovation processes and was prompted to compare and contrast innovation patterns in the manufacturing sector with that of the bank. After having him explained the reversed product cycle for innovation in services, he recalled that in the 1970s, with the installation of the first mainframe computers in manufacturing as well as in the service sector, the ultimate goal was to improve processes. After that period, particularly in the banking industry, the adoption of product innovation was preceded process innovations until the early 1990s. As customers became more demanding in the 1990s, product and process innovations were simultaneously improved in an attempt to increase quality. This finally brought process innovations back to the centre of strategic thinking and justified the client advisory process initiative. Other bank managers later confirmed that radical process innovation always includes comprehensive organisational changes because of the increasing interaction of products, services, and processes.

4.8.3 The impact of process innovation

As the advisory process has the client at its centre, it is the client therefore, who changes the industry. An increased level of involvement in their investments and higher expectation of customer services are just two challenges the bank has to cope with. At the same time, a decreasing loyalty has been noticed. A top executive at UBS Wealth Management responded to the basic question "what clients want?" that the wealth management industry not only faces a more mature clientele, what is more personal finance has reached a higher complexity. Clients have raised interests in integrated advice, as there is a growing demand for complex products, a greater search for security and reassurance, and increasing interest in third party products such as life insurance. In addition to the impact from client side, UBS assumes that industry trends such as regulatory and fiscal amnesties and corporate consolidation lead to increasing pressure to manage costs to improve profitability. Not forgetting the developments in markets that predict lower expected global growth rates in wealth management assets. According to UBS internal sources, the market forecast of annual growth of core affluent and high net worth assets is estimated at 6.7% for the USA and 9.2% for Europe a year from 2003-2006. New growth opportunities are therefore expected in markets like Asia and Middle East.

Asking about how these developments have affected process innovation, UBS representatives argued that all these changes gear the banks business goals and priorities, and hence affect process innovation or as some termed it "organisational innovation" in certain ways. However, a senior manager emphasised that one has to understand what banks drive before investigating actions and consequences. He explained in an *excursus* that the main goal for every bank is the net profit before tax influenced by two streams; the *net revenue* such as return on assets, invested assets and loans and *total costs* on the other hand. Although these value drivers apply to every bank, the strategic goals consequently might vary. UBS defines its strategic goals as return on assets (RoA), total client assets, net new money, loans, and cost/income ratio. These financial drivers lead to two main business priorities, namely *perfecting the client experience* and *industry leadership in efficiency*. While client experience is considered as a radical process innovation that is complementary to product and service innovation, efficiency efforts improve processes in an

incremental way. Incremental process innovation in this case focuses on operation and cost issues. The Executive Director of marketing and communication explained this ambiguity as follows:

> "I think that process innovations have always the aim to reduce cost and effort for our internal and external customers, and to achieve differentiation from our competitors. Any initiatives regarding process innovation are therefore not primarily linked to products. On the other hand, we attempt to increase our revenues with new and improved products and services whereby we don't have to change our processes necessarily in order to support our product innovations."

Incremental innovations relate therefore not on client activities or innovation in terms of novelty. This is in contrast to mastering client experience as the other business priority as mentioned above. The so-called "four-step client advisory experience" (FSAE) is considered as a true process innovation (novelty) that leverages product and service sales. Interviewees considered the advisory process to be one of UBS' competencies of the future. Within this process, the advisor provides a customer tailored solution from a universe of products and services available from UBS and external parties.

Since the main forms of process innovation are radical or incremental in its nature, they affect either one or another direction of the bank's business priorities. The reason why further investigation focuses on the business priority *perfecting the client experience* is that the client perspective came through strongly in most interviews. The FSAE started as a radical process innovation that turned in its second phase into a series of incremental innovations to improve service quality. Nevertheless, it seemed less interesting to examine the nature of radical and incremental innovation *per se*, but the entire process.

4.8.4 The four-step client advisory experience

As clients have come to expect better services and intensified customer care, UBS has had to take action. One action that has been noticed immediately by clients is that the bank has been spending more qualitative time with them. The goal is to double the time client advisors spend with their clients. It is assumed that delivering better

service and becoming more customer responsive is vital but not enough. For gaining customer retention, an advanced advisory process that guides customers reliably and seamlessly through the interaction with the bank is considered as very important. The implementation of such a process on a global scale and its continuous improvement is a challenge in its own right. To adopt the process and benefit from it, client advisors need to develop new competencies. More empathy is indispensable for a better understanding about clients' expectations. It was observed that the emphasis on the four-step client advisory process shifts the way of doing business throughout the organisation.

Questions like "how do clients choose and why should they choose UBS?" were answered by "customers logically validate providers to gain emotional benefits". The bank assumes that without meaning and appraisal there is no emotion. Clients seek attributes or features on factors to achieve benefits. Their definition of what constitutes a benefit for them comes from their perception and values. The bank believes that clients have high qualitative expectations about the nature of advice. This advice finally supports their decisions. Therefore, especially in wealth management, the bank attempts to combine logical and emotional drivers to achieve clients' confidence in their decisions and consistently delivers these values. A senior executive in the wealth management business area put it this way:

> "I think that if we consistently deliver this client experience we will see return on assets and asset growth, as a result of the client's predisposition to consolidate their assets with institutions that give them confidence in their financial decision."

The term "experience" in that sense hits the mark. The client experience in the end creates knowledge for the bank. This knowledge is very precious because of the fact that adaptation or imitation, without reproducing the circumstances and social context that led to its development, is difficult for competitors.

What then determines how advice provides decision confidence? Client advisors argued that the nature of the advisory relationship and the nature of the advisory

process facilitate confidence for their clients' decisions, and is further perceived as a strong differentiator factor against their competitors. As a client advisor noted:

> "I think in future we have to differentiate through client relationships and the way we provide products and services, rather than just through the performance of products. Intangible factors such as client trust of UBS and a structured advisory process, accompanied by a strong brand, come to the fore of the banks strategic initiatives."

The crucial questions then are how UBS executes differentiation with the advisory process and why relationships are considered as sustainable differentiators. As examined earlier, the product manager is responsible for creating a value proposition for the customer in the form of a product or service, or a bundle of both (product life cycle). The client advisor in a second step is the one who delivers this value proposition (client life cycle). The four-step client advisory process ensures that UBS delivers the brand promised everywhere in the world, anytime and in the same quality. The bank is strongly convinced that in the bid for differentiation, the advisory process is what provides the real texture to the client relationship and trust. It has been declared as a core process that captures and economises client experiences and perception, and will become a new core competency of the bank.

The client advisory experience (process) covers four steps: i) *client profiling*, in which clients perceive that the advisor listens to them and takes time to understand their needs; ii) *investment proposal and solution* where advisors provide comprehensive solutions tailored to the client's needs; iii) *agreement and implementation* that stands for collaborative work where the advisor together with the client make the right decision and iv) *review*, which is the process of systematically monitoring the clients portfolio, safeguards the clients best interests and keeps the client informed.

To sum up, the differentiator factors that leverage competitive advantage in wealth management are representative for other businesses such as business banking, asset management, and even investment banking. Important factors for a coherent client experience, include highest qualification of all people involved in client interactions, the advisory environment, intelligibility, the structure of the process, the time that the

advisor spends with clients, the extent of client centred activities on all solutions provided, proactiveness and monitoring of suggested solutions, and the quality brand of UBS as a "global powerhouse". These factors corroborate the attitude of "differentiate or die" as a member of the Group Managing Board stated:

> "I am convinced that differentiation will no longer rely on product or service level, or on back office processing, furthermore the client advisory process will be the key differentiator for the future and has to be addressed as such".

4.8.5 Initiation and implementation of process innovation

In general, the way UBS initiates process innovation varies. One approach has been to constantly use benchmarks. Within this approach, the bank compares processes and successes between outstanding achievements and such that require improvement. Besides surveys at regular intervals on all levels, top management is questioned equally. The "circle of excellence" for instance, is an incubator for innovation whereby outstanding employees meet at least once a year and discuss various problems and threats. The aim is to develop creative solutions in heterogeneous groups. From the analysis, the attempt has been to develop "best practices" and in a second step to implement these within initiatives and actions. It is important that the initiatives merge into one another in a seamless transition. For example, the next initiative of the successive implementation of the four-step client advisory process will look at product and service consistency, called "four-step consistency process".

Although these approaches appear to look like just additional methods for facilitating innovation, they are in fact part of a whole system of initiatives that go beyond innovation management. The aim is rather to systematically create and incorporate knowledge. The continuous accumulation of knowledge in the form of "best practices" and case studies, and its explicit discussion may increase the learning capability of UBS across all business groups. This is a process over a longer period, in which "knowledge has to thrive and prosper through experience and cannot be built rapidly" as the head of marketing services for banking products stressed. He elaborated this further by saying:

> "Our approach is a kind of innovation management system and must not be equated with initiative management or innovation management independently. More than ever, the success of innovation is not depended on the quantity of initiatives but on the relevance of the initiative for our clients and the effectiveness of how the innovation is implemented internally and communicated externally. Key is the interaction of innovation and a set of initiatives to develop and deliver the innovation. If this attitude is not part of the culture and values of our client advisors and any front personnel, our clients are unlikely to accept UBS as an innovative and trustworthy bank. Therefore, the global implementation of the four-step client advisory process must be accompanied by various actions, e.g. change management activities. Additionally, sophisticated knowledge about client experiences and the management of relationships is a vital part of this innovation system. However, I prefer to use the expression initiative in our communication to express that we "initiate" innovation continuously throughout out all UBS businesses, rather than using the term "innovation" simply for sexing up our daily activities and everything we do because of marketing reasons."

To support the unique banking proposition that is to create client value and accelerate growth a framework consisting of three main initiatives has been applied, *managing the team*, *managing the clients,* and *managing sales processes* respectively. This framework further includes ten "best practices" reflecting the advisory process in all origination units. Activities to manage the team are i) regular coaching sessions, ii) weekly sales meetings, iii) leading indicator tracking, iv) target transparency, and v) deputy procedures. The clients are managed with vi) stringent client prioritisation and action planning, vii) client contact management, and viii) client profiling respectively, while the sales process includes ix) optimised product campaigns and x) the organisation onto product champions. These standard guidelines have to be used on a global scale and of course have enormous impact on cultural issues, processing and the use of applications and tools.

Consequently, UBS promotes its advisory process as a client experience, in which the client and the satisfaction of needs are in the centre of the process. It was learned that UBS representatives preferred to talk about a global initiative rather than a radical or incremental process innovation. The reason for their caution is that if they talked about the client advisory process, as a radical innovation, this would appear to

clients as a novelty, which it should not be. The number of initiatives to increase the client's experience should be perceived by clients as implicitness. In addition, the client advisory process is considered as the lynchpin for numerous organisational innovations. The bank strongly believes that this strategy increases sustainable client value added and hence customer retention.

4.8.6 Concluding remarks

The examination found that value-adding client services in complement to product offerings are an excellent opportunity to differentiate from competitors. Therefore, a rising strategic importance of process innovation has been observed, whereby the origin of process innovation is the client with its experience. For gaining a better understanding of customers and for incorporating this knowledge, a sophisticated standardised process is necessary. The four-step client advisory experience represents this intention.

Within the four-step client advisory experience initiative a set of tools and recommended procedures has been implemented on a global scale. UBS believes that they fit into the open architecture strategy. The condition to combine open architecture and the advisory process has been laid to a certain extent with integrated and balanced technological and organisational infrastructures. This urged for organisational restructuring that influenced the adaptation of necessary competences. In particular, aligning knowledge acquisition, knowledge interpretation, and knowledge retention from their clients with banking knowledge is vital, in addition to the capability to operationalise this new knowledge with the support of technology. The bank's management believes that the development of such inrastructures and a set of new capabilities are indispensable conditions for future banking business.

4.9 The conditions for the transition

4.9.1 Introduction

The data identified, found that open architecture and client focus, as the main forms of organisational innovation, might change core competencies, and requires a new technological infrastructure. The realisation of these strategies, and coping similarly

with the business priority, *industry leadership in efficiency,* is a huge challenge. Both are strategically important issues. In particular, the successful implementation of the strategies is a vital part of the transition to open innovation. Besides a set of new capabilities that are required for the transition, the bank also realised that these ambiguous strategic challenges can only be addressed with an underlying flexible IT infrastructure that is aligned with the bank's overall strategy. Another important value driver of the bank is the expertise of the workforce, which is built on experience, innovation and learning. UBS captures the knowledge produced and incorporated it into explicit descriptions or maps, conceptualised as "enterprise architecture framework". This framework builds the basis for all strategies and innovations regardless of whether they are IT specific or have business character.

This last section of the case study explains the importance of a technological infrastructure that integrates organisational innovation. The integration issues identified from the merger together with the new challenges were the enabler for the launch of the bank's largest programme. The top management of the bank expects extensive and significant effects from the programme that will put UBS ahead of its competitors in many areas for the coming years. The "strategic solution programme" bundles several initiatives with the aim to integrate organisational and technological innovations. Focus of the examination is on the strategic rationale of the programme rather than its technological aspects.

4.9.2 The programme that changes the bank

4.9.2.1 The need for a radical new beginning

The banking platform had become a threat and a non-assessable risk over the years. The sponsor of the strategic solution programme explained in an interview, that there was a period of time, in which companies favoured a "best-of-breed" approach, which meant selecting the best product of each type and integrating them. This implied that for each type of application the bank needed, they used the most capable product in the marketplace rather than selecting one large integrated solution from a single vendor. This was seen not only as an adequate strategy for UBS, it was *usus* in the 1970s up to the late 1980s. Systems for core banking processing, actually the whole system environment and solutions, referred to as "legacy" systems, became

hugely complex over time. To be exact, applications had been developed without standards and with little attention to the overall IT architecture. The latest examples are electronic banking and other Internet solutions that had been developed out of the IT architecture - "quick and dirty" as UBS project leaders expressed. These solutions were mostly discussed isolated from organisational dimensions. Another reason that increased complexity was the merger in 1998 and the ensuing acquisitions. As numerous auxiliary systems had been bought as "best-of-breed" or were developed individually, and then linked together and added to the monolithic core banking systems, they had created diverse interfaces and led to a Gordian knot with data and process redundancies. This "application jungle" is not only very difficult to maintain, it also increases operational risk and costs.

Although most legacy systems are already written off in the accounting ledgers, they are cost intensive because of maintenance. The argument often heard was that UBS is investing in ICT alike other financial service institutions. Unfortunately, IT costs are not accounted explicitly, the figure for administration, IT, and telecommunication expenses was CHF 6,086 million in 2003 (UBS, 2003). To figure out the IT expenses of the case organisation, secondary studies were used. Minz *et al*. (2004) and Tower Group (2003) found that banks spend 8-10% of their operating income on IT. This is more than double what other industries invest, helping to make financial services the largest IT spending vertical next to telecommunications. A benchmark of IT costs in European banks concluded that the share of IT costs as a percentage of the operating expenses are about 20% (Minz *et al.*, 2004). Using this formula, IT costs at UBS reached between CHF 4,400 and 5,000 million, which is more than two thirds of the net profit at the end of 2003. Although, this calculation could not be verified within the bank because of confidentiality reasons, it indicates that IT management plays a significant role in the performance of the bank. The bank's cost/income ratio that shows the operating income as a percentage of the operating expenses of 75.2% is another indicator for efficiency besides profits per employee of roughly CHF 130,000 (employees include executive officers and profit before tax as at the end of 2003) that illustrates the automation level and employee productivity of the bank.

While the costs can be put into figures, keeping the overview of a complex application landscape is an effort that can hardly be quantified. In terms of knowledge-management, expertise and knowledge of certain old systems is dispersing. On the trust side, lack of confidence in the infrastructure and imprecise prognoses for future failures are seen as potential risk factors. Lack of customer focus in processing is another constraint. Specifically, were business processes were restricted to a set of hardwired connections of incompatible systems due to the design of business models, which dated back to the 1970s and 1980s. Consequently, client services deteriorated and innovation capabilities became severely limited, while at the same time complexity, cost and risk increased. To sum up, the old infrastructure lacks a service-oriented view. In particular, a single and accurate view on customer data is seen as eminent today to better understand the customer's value, and to provide them with appropriate services. The Executive Director responsible for the core client infrastructure reflects the importance of client information in the following statement:

> "The consistency, reliability, and confidentiality of client information is crucial in the banking business. Client information is integrated into all kinds of transactions. The location and ownership of managing client information has therefore been a political discussion over the years. Although there have been endless arguments, critiques, and opposition to redesigning data management, I strongly believe that accessing a central client information base will be of great value."

Inertia may occur if an organisation deconstructs established processes and organisational structures without introducing new types of innovation. UBS has had to pursue a twofold path of concurrent construction and deconstruction and progressively changing legacy structures. Most see the overhaul of the application and IT architecture as a condition to transform the organisation. Although IT is the platform on which future success can be built, the pertaining organisational change is the crucial factor and was therefore addressed in a coexistent manner. To sum up, the integral design of total transformation, including organisational and technological issues is, in the words of a member of the Group Managing Board, "…what we at UBS are pursuing with a radical new beginning".

4.9.2.2 The strategic solution programme

UBS put projects into two categories - "change the bank" and "run the bank". Strategic relevant projects come in most cases from the "change the bank" stream, where projects to improve efficiency and productivity in operation are part of a continuous improvement approach. "Run the bank" ideas for operational improvement emerge in most cases bottom-up. Sometimes, several ideas to optimise processes and procedures were collected over time before they were bundled into one large strategic programme. Strategic programmes usually shape the entire organisation. They always consist of several projects across the organisation and include external resources. Furthermore, a member of the Group Managing Board acts as a sponsor and monitors whether the strategic programme is kept in line with the overall strategy of the bank.

Although the Group Executive Board knew that the strategic solution programme (SSP) would shape the entire organisation, they took the risk and ordered the realisation in 1999. It is the biggest single and most ambitious programme ever undertaken within UBS including "change the bank" and "run the bank" components. Due to the high risk and complexity, UBS asked Accenture for a review of the programme scope at its initial state. A partner of Accenture confirmed that SSP is one of the most complex business and IT transformation programmes attempted by a financial institution. He stated:

> "We at Accenture do not know of any similar sized bank attempting a programme of this size and complexity. The key reasons for this include the high cost, the difficult management challenge, and the need for deep banking knowledge in order to design and build a universal banking system."

Accenture corroborates the belief of the bank's top management that this programme puts UBS ahead of other banks in terms of operational excellence and, at the same time, provides the bank with a flexible infrastructure that leverages the capability for innovation. The programme started with the redesign of the bank's business model, including reframing established value propositions to clients and the business group's roles in the value chain. The second part included mastering core static data, migration, and compliance issues and is planned to be terminated by the end of 2005.

The last part of the programme intends to implement a number of business innovations, what the bank calls "value applications" by the end of 2007. The historical background and the detailed planning of the programme can be seen in *Appendix E*.

4.9.2.3 Scope and outcome of the programme

It is apparent that there is a link between technological issues, cost, risk, and innovative business opportunities. All these issues have been considered and put into alignment with the integrated business model that incorporates the trends in the banking industry. Some members of the Group Managing Board saw technological innovations with an eye on future business requirements as an enabler to reduce the complexity and heterogeneity of their systems. Approaches such as running logically separate components on an integrated platform, and remodelling the actual and new business requirements and functionalities based on these components, can now be combined thanks to modern technological innovations, as explicated by the Chief Information Officer (CIO). One IT key directive therefore, was to build a new component-based application system within the framework of a comprehensive target application architecture, which enhanced entrepreneurial flexibility and time to market capability for new products and services. Furthermore, the application had to comprise multi-entity support capabilities, real-time processing around the clock, 24 hours a day 7 days a week availability, and allow the systematic re-use of components.

UBS envisage that the modular nature of the new architecture provides a technical and business foundation that will still be performing reliably in twenty years. Table 11 shows the major objectives grouped into three areas: i) renovation of the core banking capabilities in order to improve flexibility and reduce IT cost, ii) launch of new business functionalities in order to meet future business demands, and iii) the replacement of the IT platform in order to take better advantage of open technology and industry standards.

Area	Objectives
Renovation of core systems	• Reduced operational risk • Shortened time to market • Real-time online processing (7days/24hours) • Client facing application along business processes • Industry standard (non proprietary interfaces)
New business functionalities	• Entrepreneurial flexibility • Client focus • Adding client value through process innovation • Multi-channel management • Improved financial and management reporting
Replacement of IT platform	• Replaced UNISYS platform • Reduced maintenance costs • New flexible development environment

Table 11: Scope of the strategic solution programme

While the first two objectives are driven by business requirements, the replacement of the IT platform affects the entire IT architecture and its interfaces with application architecture and business architecture. Even though the physical exchange of hardware is one of the most rigorous activities of the programme, it is mainly technical in nature and is therefore not investigated further within this study.

The Executive Board of UBS expects from the transformation, benefits in the form of new business functionalities besides the IT related issues discussed earlier. First outcomes have been improved client reporting, reduced lead-time for the development of new products, transparency with respect to internal production costs and pricing, modular reporting concepts that satisfy client specific needs, and consolidated asset statements across multiple client masters. The new reporting engine improved the system stability due to the centralised reporting platform and the yearly maintenance cost could be reduced by roughly 25%, which makes up approximately CHF 2.5 million. Assets and liabilities include all requirements of the business case client reporting and benefit from advanced calculation and enquiry functions. Innovations in the area of treasury products led to a number of benefits in order entering, processing and operating. UBS Wealth Management and Business Banking and UBS Investment Bank benefited from central functions for induced foreign exchange and a new central interface.

While the above described business innovations bring novelty and great advantages for several business areas, there are other outcomes of the transformation that can be categorised into incremental innovation. In the area of securities processing for instance, core functions spread over 22 Abacus applications, 12 applications in decentralised environment, and 28 applications in end user environment. In the new SSP environment, this landscape will be consolidated and reduced to 12 components. This "one function once" initiative reengineers corporate actions and makes security functions ready for "insourcing". Archiving is another issue. According to UBS, 25% of the data volume is legally not required documents. Thanks to the new architecture, the operational archive and document reference data can be restructured and centralised. UBS perceive their clients output as a service where they can chose from various options. The bank reckons that a sophisticated output management may set UBS apart from the competition. Improving report quality, output options and optimising processes and machinery in the output centres are therefore strategic initiatives. The bank wants to reduce its production costs by half of the current production cost (2003) by 2008 while at the same time better fulfilling client expectations. UBS has also developed a consolidated global platform for financial accounting and management accounting that will be integrated into the new infrastructure. This central reporting platform launched a number of new functions and reports for service cost accounting, individual invoicing for clients, products, distribution channel and profit centre per product, client asset reporting, and the delivery of consolidated data to credit risk control. The massive reduction of applications, from ten to one central application and reconciliation processes will be the greatest benefit within this intention.

The realisation of the strategic solution programme provides effective and future oriented support for the bank's businesses without restrictions to flexibility. From a business point of view, the new infrastructure is seen as a backbone for future strategies and innovation capabilities. IT proponents added that reliability increased trust in banking and lowered maintenance costs. Interviewees from business as well as IT units agreed that a number of different objectives of the programme could all be achieved at the same time. The emergent knowledge from the integral re-design of the bank's organisational and technological infrastructure, its business model and

application and IT architectures respectively, have been captured in the enterprise architecture framework.

4.9.3 Enterprise architecture and knowledge management

As a member of the Group Managing Board stated "The business case alone is not enough – translating the strategic objectives into reality is what counts." It is important to understand that all the phases, from business case development to the operation of the open architecture or client advisory process, entail creation, sharing, and adaptation of knowledge. Using terms elicited in the interviews, the bank attempted to make this knowledge explicitly available in what they describe as "enterprise architecture". Enterprise architecture in the bank's understanding provides a framework that shares a set of interrelated and integrated models that foster a common understanding of the organisation and reduce complexity by means of abstraction. It captures organisational knowledge by creating structure and formal alignment of business, applications, and technology to meet the strategic objectives of the firm under constant change.

Figure 13 illustrates the UBS enterprise architecture framework. It embraces and aligns *business, application,* and *technical architectures* equally on three levels, namely enterprise level, solution level and operation level. Every level has its own framework that describes how the architectures are built and maintained. Furthermore, every architectural level is separated into different concerns such as context, planning, logic, and physical.

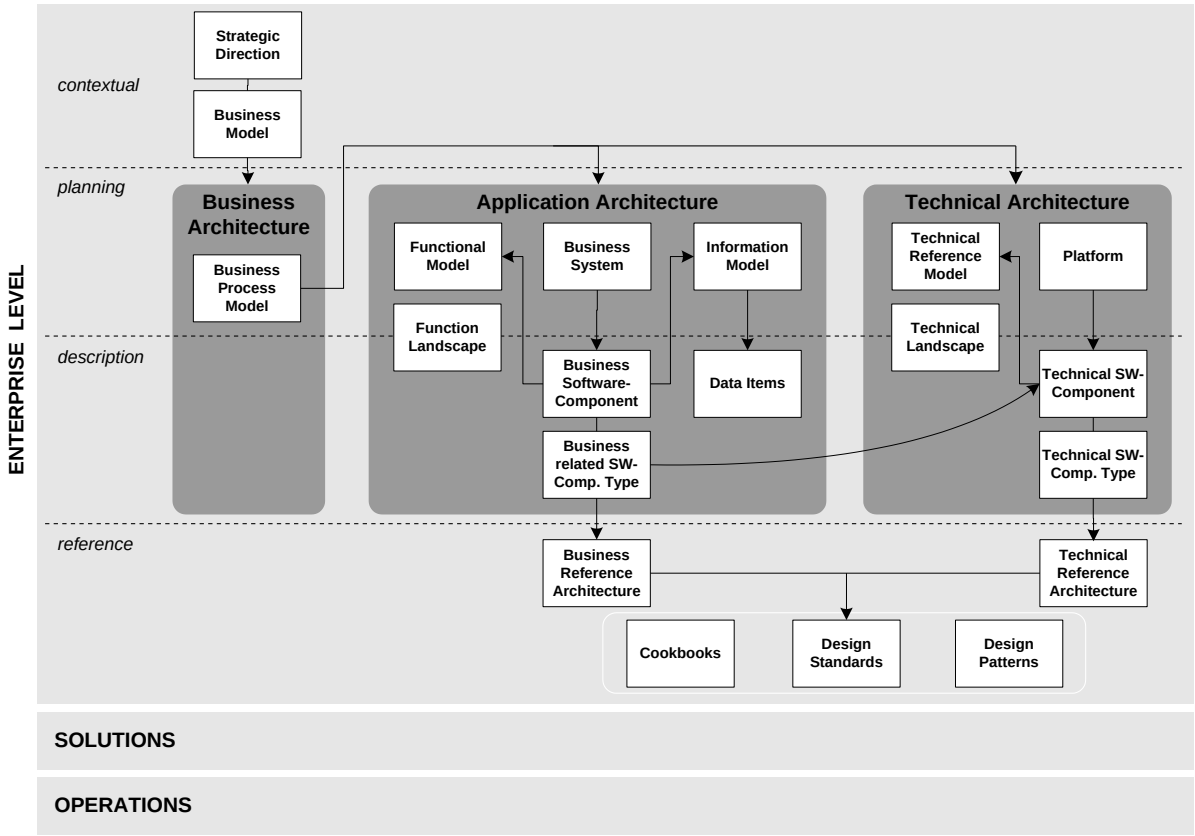

Figure 13: UBS enterprise architecture

As discussed previously, the vision and strategy of the UBS Group, is based on the global economical environment and trends in the banking sector. This is reflected by the strategic direction. The business model then, is the overall plan of what to achieve, precisely it includes:

- strategic scope, assumptions, objectives, and responsibility
- products and services offered
- partners, *i.e.* instance client segments, suppliers, alliances, third parties
- channels, *i.e.* instance telephone, mail, electronic banking, EDI etc.
- locations and time zones supported (if not global)
- regulatory constraints
- organisational structure
- in-sourcing and outsourcing plans and constraints
- volumes to be processed, *i.e.* trades per day, peaks, number of accounts
- service levels required

- data ownership
- main business processes and activities

The business model provides the basis for developing business processes and the required organisational structure. The strategic alignment, planning, the identification of requirements, and its assessment provide the basis for implementing strategies. In other words, the goal is to map the business model to the application architecture and further to the technical architecture. The advantage of this coherent framework is that once the knowledge on *enterprise level* is explicit available, effectual *solutions* can be built and *operated* efficiently in the bank's data centres.

The importance of such a structured framework was realised during the merger activities in 1998. The bank learned that clear formulations of particularly applications and technical architectures in both banks were a key success factor. UBS realised that explicit and well-structured enterprise architecture might be used as a meta communication platform to gain a comprehensive overview on the bank's business model, processes, application and IT landscape. This was necessary for the seamless integration of information from diverse sources, for instance, for linking business data and application data to better leverage that information.

According to the head of application architecture and the head of IT architecture, provides the enterprise architecture framework the organisation with a powerful construct that can be used to represent all the architecture components required to support the business. So has the enterprise architecture been used as a knowledge map for the strategic solution programme. In addition, it is considered as the base infrastructure for all activities, which imply organisational change and renewal. In particular, the transition to open innovation with the implementations of open architecture and the client advisory process benefit from a well developed enterprise architecture. Overall, the bank's enterprise architecture is a platform from where the bank can leverage its learning and innovation capabilities with the aim to transform implicit knowledge into structural capital.

4.9.4 Knowledge, learning, and innovation

A strategic challenge regarding knowledge management and organisational learning is how to maintain the diversity of all the unique voices of each of the businesses under UBS' "one firm" strategy and at the same time provide a level of integration. Teamwork and partnership between the business groups is what allows the bank to leverage insights across various functions and to take advantage of knowledge and ideas from across the firm. To meet this challenge, the bank established a shared ownership model for development activities. This model enables strategic flexibility in building business group programmes and processes that optimise business impact, while maintaining the overarching enterprise architecture for core programmes and the sharing of "best practices". A member of the Group Managing Board, responsible for learning and development, explained the UBS' learning philosophy as follows:

> "Learning and development must be positioned as a key means of driving and aligning corporate strategy and culture, thus going far beyond more traditional concepts of corporate education. Positioned this way, it becomes a powerful and not easily replicated competitive advantage."

In a rapidly changing dynamic business environment, a structured approach to knowledge management and organisational learning is required. One answer to this, represented in the shared ownership model, is the installation of a learning and development management committee. The aim of this committee is to balance learning and development activities between the management of the appropriate levels of consistency across business groups with the required levels of differentiation of these business groups. In addition, they are responsible for methods to capture and disseminate knowledge through "best practices" and incorporate this knowledge into learning programmes. For example, if one business group or business area plans to launch a learning or training initiative with the aim to share their experiences gained during a core programme or strategic project, the committee has to make sure that extant content and methodologies are used. Only so, can the development efforts optimally be aligned and leveraged across other businesses.

In 2002, the Group Executive Board established the UBS Leadership Institute to ensure that senior management development was firmly aligned around the corporate

strategy and culture. As leadership support plays a critical role, consistent involvement of members of the Group Executive Board at the Institute emphasises the value of knowledge sharing. This also reinforces and stimulates participation of employees across the firm. A number of activities have been organised since the launch of the Institute. These include the annual UBS Senior Leadership Conference for the 600 most senior employees or a series of fourteen Global Leadership Experience programmes. Both activities contribute significantly to knowledge exchange and organisational learning. The Leadership Experience programmes, for example, are a kind of "best practice" knowledge exchange. It is a platform where managers discuss different challenges faced by the various UBS businesses and the financial service industry at large. In particular, what it means to operate open architecture and to be truly client-focused. Although the activities mainly contribute to personal development advantages and organisational process improvements, they also create new opportunities to add value for clients.

The UBS Leadership Institute has increasingly focused on activities that help the businesses to develop their existing capabilities with the aim to leverage organisational knowledge. Therefore, the Institute has been engaged in applying specific learning and in supporting a number of key strategic initiatives. Initiatives include knowledge management, particularly the effective acquisition and incorporation of knowledge, open forms of managing for innovation, and integrated client focus. The management of the bank believes that with the discussed initiatives knowledge, learning, and innovation can be linked. In particularly, human capital is treated respectfully as investment in organisational knowledge, although the calculation of return on investment in the field of intangible assets is hardly measurable. However, as banking businesses are highly human capital reliant, the bank has focused on developing this capital. A key element of the discussed efforts is an integrated process where succession planning, performance measurement and management, on-the-job training, cross-organisational mobility, education, personal development and high-potential identification are highly woven into one holistic solution to create stronger social networks across the firm. As the head of learning and development put it:

> "We are a people business, and relationships across our businesses are key to effective execution of a "one firm" strategy and direction. We have built a common understanding of what we are trying to achieve as a business. We are now focusing from a leadership perspective on establishing relationships so that we can build those cross-border, cross-organisational networks necessary for our continued success."

To achieve the objectives, investments in technology are required as it plays an integral role in all of UBS' businesses. This is reflected, by enhancing their clients' experience of doing business with the bank but also for increasing the demand of products or reducing production cost for services such as the client advisory process. In addition, ICT is important for the acquisition, process, and distribution of knowledge. It facilitates the connection of employees and the development of their learning capabilities. Therefore, UBS plans to establish a common e-learning platform in 2006 to integrate all of the different systems, operating separately as a result of various mergers and acquisitions.

4.9.5 Drawbacks in the transition process

Change management issues always accompany radical transformation. Therefore, some fair comments to the strategies taken are synthesised. These are simple enough, but no firm can afford to ignore them. For instance, the focus on innovation and the pertaining flexible organisational structure raised questions concerning the categorisation of strategic projects. In particular, "change the bank" ideas are more likely to be discussed on top management level than "run the bank" activities. As latter focus on incremental improvements, activities are mostly related to IT and process optimisation. According to proponents, these are less attractive, which encountered difficulties for getting talents but also for project funding. Frustration was noticed if cost saving strategy suggestions with a proper business plan and evaluated outcome were shelved back in favour of innovation strategies with hardly incalculable risk and return.

A symptomatic impact of open architecture was the loosing strategic flexibility. There is a subliminal fear of losing control and becoming dependent. Intrinsic to this approach is that UBS like most other banks concentrate on their core businesses and

activities while incorporating third party products and outsourcing non-critical processes respectively. Uncertainty about the right degree of vertical integration was ascertained. However, just a few interviewees gave to protocol that they hesitate to cooperate with other institutions and retained to do business as they used to. Some are concerned about the required competencies for collaborative operating models. This though the management of the bank staged a number of seminars on how the value chain can - indeed *must* - be broken up to remain competitive. A product manager claimed that empowerment is good but sometimes it goes too far. Thus, the freedom of collaborating with partners instead of using internal resources or products may lead to friction as the Managing Director responsible for product management acknowledged. In the course of evidence, it was established that interviewees involved in product development claimed that pressure increased in terms of the time front personnel allow them to put products at disposal. In addition, there is ambiguity as to what degree client advisors favour internal products to third party products. However, the pressure comes from customers and is transferred to product developers. By virtue of the "integrated client service model", the entire bank expects rapid product development, better prices of internal products compared to third party products and exceeding performance.

A prevalent complain in the middle management and below is that the UBS Leadership Institute as organisational structure with the aim of leveraging knowledge for the transition to open innovation is exclusively for members of the senior management. Therefore, problems on project level or daily activities are often neglected. In addition, new management practices, particularly soft skills that are crucial for doing business in the open innovation paradigm, are negotiated inadequately. Employees with long experience in banking revealed criticism on how the bank attempts to change the organisational culture required for open innovation. The observation saw older workers fear of existence in the new paradigm.

4.9.6 Concluding remarks

UBS expects from the strategic solution programme a number of improvements in organisational and technological areas. The well-engineered enterprise architecture facilitates entrepreneurial flexibility and is considered as one vital advantage for

running existing businesses as well as envisioning new business opportunities. Another application among the multi-entity and multi-jurisdiction architecture is offering banking operations for other financial institutions, known as the "UBS. The bank for banks" concept. The development of a service-oriented architecture holds great potential. It is crucial for knowledge creation and transfer between project teams, different business areas, and even business partners. The bank's enterprise architecture is thus an explicit knowledge base that facilitates the rapid integration of acquired firms as well as the flexibility in product development, in particular the integration of third party products into the bank's product catalogue.

The result, from a technical point of view, is a new infrastructure based on open standards in more efficient software development and system maintenance. Additionally, the new modular and business component-based application architecture is a great advantage for exchanging proprietary legacy systems with standard software components. Therefore, the success of the complex overhaul of the application and IT architecture, including the renovation of the core banking systems, is related to the enterprise architecture framework that has been developed over the last few years. Based on the participant's view the infrastructure's flexibility is a backbone that enables IT to deliver real value. Integrating and aligning strategy with IT is according to the respondents significant for developing and leveraging the capability for innovation, as well as for the transition to an open and flexible operating model. Without such a flexible infrastructure, implementing and operating open architecture and the client advisory process would be rather unrealistic.

The results of the observation gave insights of how the UBS management has addressed the vital linkage between knowledge and organisational learning. The participant's view is apparent: knowledge and innovation come from the talent, enthusiasm, creativity, and experience of the employees. Consequently, organisational knowledge is created by stimulating employees to share their experiences. The Leadership Institute is one platform, where important management issues can be debated. Sharing valuable knowledge practices across business groups helps the bank to understand and evaluate further needs. This improves existing practice, increases organisational learning, creates new opportunities, and hence

leverages the firm's capability for innovation. Therefore, a "learning organisation" is not about theory or about technology and knowledge management solely. Instead, it is about "…being an organisation that has the drive and desire to transform itself wherever opportunities arrive" as a top senior executive noted.

4.10 Case study conclusion

UBS, as the biggest bank in Switzerland and one of the top ten banks worldwide in various businesses, plays an essential role for the Swiss economy. In addition, UBS as a global player carries weight in financial services and has therefore, an influence on a large number of stakeholders across the globe. The financial service industry on the other hand plays an important wider role in the Swiss economy. Although the conditions and core competencies of the different financial centres vary slightly, it is certain that a well functioning and efficient financial centre correlates with increased investments, productivity, stability, employment, and growth as well as lower cost of capital, as large and liquid markets leads to lower risk premiums.

Several trends have challenged the financial service industry during the last twenty-five years. Innovative banks such as the bank under question, respond to these trends with a number of strategies. UBS is confident it will generate economic value with the actions taken if they are aligned to the needs of the business. Delivering strategic advantage and superior returns to shareholders, as well as maximising value for customers by ensuring that they receive the requested level of quality, price, and delivery, is what all action strategies have in common. The bank's advantage is that it realised the need for transition towards open and flexible operating models, and the importance of adding client value through a superior client advisory process as one of the first big banks. Important though, is that initiatives were launched on a global scale across all their businesses coherently with a strong transformational leadership. The open architecture in combination with the four-step client advisory experience will be an effective and sustainable vehicle to face the trends in the banking industry and take advantage of the prevailing circumstances of the open innovation paradigm.

The case study showed that the bank understood that coping with these strategic challenges could only succeed if the management provides the organisation with the

appropriate architectures. The strategic solution programme set the conditions for further strategies and the transition. The importance of a knowledge map, referred to as enterprise architecture was discussed. Within this framework, the bank balanced business, application, and IT architectures. This framework has also been acknowledged as basis for linking knowledge and organisational learning. As discussed, this is particularly important to leverage organisational knowledge across the entire organisation and increase the firm's capability for innovation.

The next chapter interprets the findings of the discussed strategies with the aim to develop a theory that explains how the transition to open innovation can be managed successfully.

CHAPTER FIVE

5 DISCUSSION

5.1 Introduction

Having reduced and displayed the data in the case study, the last stage in Miles and Huberman's (1994) data analysis flow model is *conclusion drawing*. Based on open, axial, and selective coding techniques suggested by Strauss and Corbin (1998) the aim of this chapter is to interpret and present the results obtained from the case study. In particular, how UBS responded to trends in the financial service industry, and how they managed the recent shift from closed to open innovation. Based on the results of the case analysis an integrative framework has emerged. This is conceptualised as a system consisting of enabling conditions, architectural capabilities, and dynamic capabilities. These capabilities are conjoined through social capital and based upon an open innovation culture. They build a valuable and rare system, which facilitates the transition and leverages the capability for innovation of the firm.

As the process of building theory from case study research is highly iterative and tightly linked to the empirical data (Eisenhardt, 1989) the extant literature was constantly integrated, while interpreting the case study. The chapter starts with a brief recapitulation of the logical chain of evidence that was previously described in-depth in the case study chapter. As the researcher has strived to draw an interpretation from the linkage of the empirical data and the theoretical literature, enfolding conflicting as well as supporting literature is similarly discussed. The basis for theory building set the outcomes of the main transition strategies and transition mechanisms. These are synthesised accordingly. The understanding of change and transition is discussed next and leads to the conceptualisation of the three interrelated dynamic capabilities. In the last section, an attempt has been made to describe leveraging capabilities as the overall ability to align this system through social capital, with the aim of strengthening the conceptual perspectives that reside in several theoretical and practitioner contributions.

5.2 Synthesis of the case study

The logical chain of evidence developed by the researcher, based on concepts embedded in the "paradigm model" by Strauss and Corbin (1998) sets the structure for the case study storyline (see Figure 14). The context for UBS' strategic deliberations was the belief that the banking industry will continue to experience change driven by volatile and uncertain geopolitical climate, increasing competition, economical pressure, changing nature of demand, regulatory changes, and the technological imperative. This means that the causal conditions of the business environment, as the underlying driving forces of change, will become more complex and less predictable. In particular, will these changes continue to transform the needs of clients among a number of other implications. The major phenomenon identified is the transition from closed to open innovation.

As a mater of fact, continued success will depend on a rapid and flexible respond to the strategic challenges. Therefore, an attempt has been made to explain how UBS incorporated and linked various resources and put them into effect, to respond to and manage the phenomenon. This includes intervening conditions that either facilitate or constrain the action and interaction strategies. The focus was less on identifying and listing which conditions are causal or intervening, whereby contextual conditions influence all elements. Instead, the complex interweaving of multiple conditions and the interplay of the elements leading up to the phenomenon, to which the bank responds through action strategies and its consequences, was considered as important.

To recapitulate, the three main strategies analysed are: 1) open architecture, as the dominant operating model for innovation in the open innovation paradigm, 2) client advisory process, as a global and efficient client focused process as complementary to product innovation, and 3) enterprise architecture and flexible infrastructures, embedded in the strategic solution programme, as condition for innovation and the transition. Evidence abstracted from these strategies has led to a number of consequences and implications and are discussed at the end of this chapter. It is believed that this analysis process finally produced an integrated picture of interrelated concepts constructed out of the empirical data, and enhances the richness

of the study. It is argued that flexibility in utilising various methods and techniques was a key success factor for this qualitative research. A too dogmatic approach to analysis would have prevented the researcher from capturing the dynamic flow of events and the complex nature of relationships.

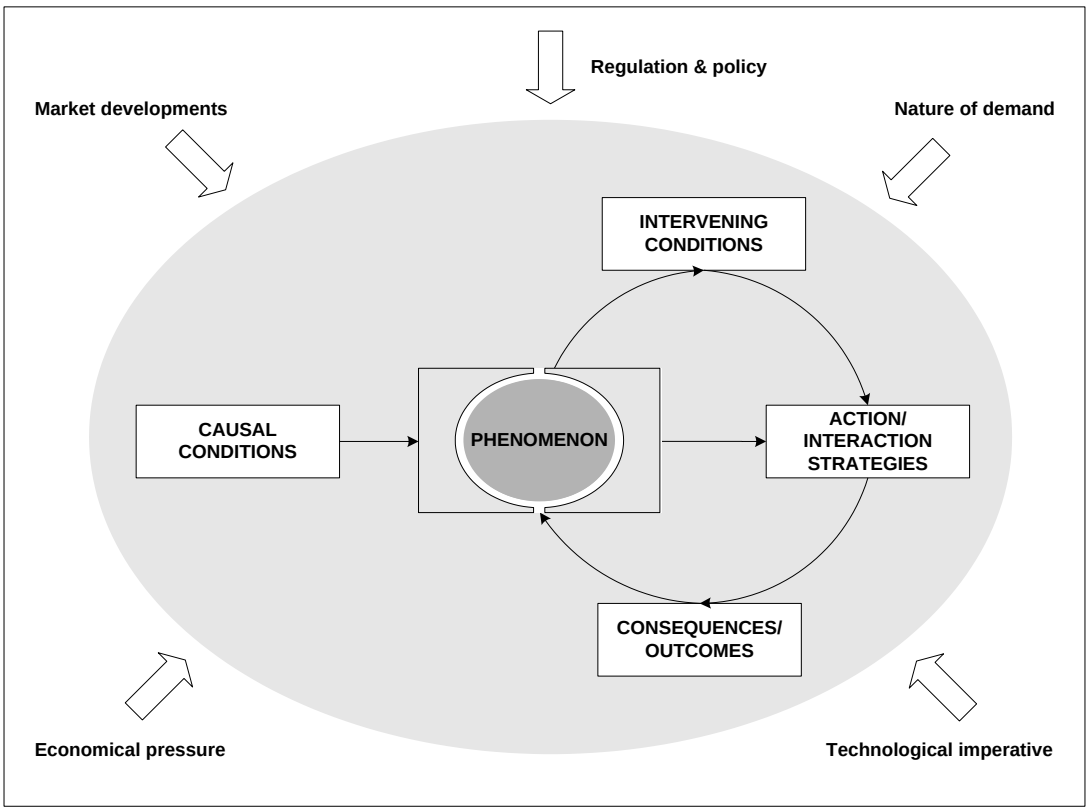

Figure 14: The logical chain of evidence of the case study

5.3 The strategies reviewed

5.3.1 Introduction

In this section, the findings of the case study were brought together with other sources of knowledge. It discusses the analysis results of the main strategies performed by UBS. This approach involved asking what is similar and what is contradictory to other market participant's strategies, and why. In addition to the linking of the empirical data with the extant literature, certain trends, concepts, and definitions were crosschecked with opinions and experiences made by other firms in the financial service industry. The attempt of this triangulation was to confirm and

corroborate the information given by the interviewees. Therefore, the interpretation of the case has resulted into stronger validity on a fundamental conceptual level.

5.3.2 Strategic value and meaning

The growth strategy of UBS during the last five years has been striking. It was learned that growth is still vital, yet the patterns of growth changed. Therefore, initial growth strategies as maintained by, for example, Penrose (1959) have to be viewed with care in the twenty-first century. Unlike in the 1980s and earlier, two contradicting management streams dominated business, optimising existing resources, and stimulating innovation and growth. Today these two strands can no longer be separated. Growth and in particular consecutive innovation cycles, as discussed in Barras' (1986) theory of innovation in services, hardly apply in today's dynamic and competitive environment. Not only do firms need to be capable of growth, the observation showed that they must also have appropriate organisational and technological architectures. Mobilising the workforce to pursue ambitious targets with their full commitment, in which they enjoy competition is crucial. This is born out of a culture that sees performance as a value and relies on outstanding leadership. Therefore, a trust-based open innovation culture unleashes the forces of growth and innovation. Schwenker and Bötzel (2005) who emphasised the importance of growth through trust or Bötzel *et al.* (2004) who suggest a systematic approach for managing growth both reflect the UBS strategy in their study.

Although the acquisitions in Europe, made to attract clients in the United Kingdom, Italy, Germany, France and Spain, are long-term strategies, market participants observed that UBS is the only player who is so aggressive in Europe and that it subsidises these initiatives with its lucrative businesses in Switzerland (Avery *et al.*, 2005). During the interviews, it was realised that several managers emphasised that the bank follows organic growth. UBS justified the growth strategy officially; in particular in wealth management in its annual report, with that it is open for acquisition whenever beneficial, as long as the potential acquisitions meet the bank's specific hurdles. These include, strategic fit, cultural fit and financial attractiveness and, most important, outweigh the benefit of repurchasing the banks own shares (UBS, 2003). The industrial analysis, however, found that organic growth is difficult

to achieve when most assets that private banks seek are not new assets, but are already being managed by competitors. Organic growth might be an option if there is no other company in the banking business to acquire or merge with.

Since one strategy of UBS is expanding the wealth management business to new markets in Europe and Asia Pacific, there are barriers to entry. For instance, building up a distribution network in international onshore countries with internal resources (organically) may be dissatisfying. A lack of deep and interpersonal relationships with local businesses and contacts to governments in these new markets entails increased management complexity and risks. Local rivals have developed strong ties to a number of stakeholders over years that yield in trust in business partnerships and trust and recognition of customers in the bank. Relationships are a valuable resource and cannot be duplicated for historical and political reasons (Miller *et al.*, 2002). This is illustrated with the failure of Citigroup that just copied regional rivals in Germany like Deutsche Bank (Miller *et al.*, 2002). According to their study, Citi's onshore banks were weak and margins were squeezed by competing local banks that have stronger social capital (Nahapiet and Ghoshal, 1998). This was confirmed by the case of Merrill Lynch, which illustrates that implementing an onshore strategy is not without difficulties. As the head of global private clients business at Merrill Lynch stated:

> "We thought we could be what we were in the US to clients in Europe, but it quickly became apparent that it is not easy to go head to head against the heavily entrenched and powerful domestic banks" (see Avery *et al.*, 2005:6).

Other competitors of UBS have less aggressive international growth strategies and focus on the sophisticated Swiss market. They believe that Swiss private banks are traditional and respectable private banks, and the service quality provided is not something that can be easily copied and adapted to other markets (Avery *et al.*, 2005). Focusing on the domestic market instead of taking risks abroad may be wise, as reflected in a study by Dyer *et al.* (2004). Their figures show that Switzerland is still the largest financial centre of $1.78 trillion of the world's $5.7 trillion of offshore private client assets followed by the United Kingdom. Hence, many banks headquartered in Switzerland have no need for global expansion.

According to the resource-based view of the firm, the bank is a collection of unique resources and capabilities that provides the basis for its strategy and the primary source of its returns (Barney, 1991; Wernerfelt, 1984). To grow organically, as stated by the case organisation, the bank would have to acquire resources in the form of inputs such as capital, equipment, knowledge, and people, independently in the new market. In addition, the expanding firm would require new capabilities, conceptualised as the capacity for a set of resources to perform a task or action (Amit and Schoemaker, 1993), which would not be available within the UBS Group. Therefore, individual resources would not increase the bank's competitiveness. To form competitive advantage, synergistic combination, and integration of sets of resources is indispensable. It is ascertained that UBS cannot rely on organic growth if it wants to remain the leading wealth manager in the world. A series of small acquisitions will therefore, most likely continue. A top executive of UBS, provoked to that enquiry, admitted that the bank's aggressive growth could only be achieved with acquisitions. In addition, he attenuated the observations of other market participants with that UBS has a kind of "BIHAG" (big hairy audacious goals) strategy (see Collins and Porras, 1994). In other words, setting very high targets is part of management thinking. Although the goals of increasing market share and growth are considered as ambitious, they are achievable. Since the future strategy is growth, "leadership for growth" became one key qualification for the members of the Group Managing Board.

In recent years UBS's growth strategy, in particular in onshore wealth management businesses across Europe, is paying off as the bank was ranked as Europe's top private bank and largest wealth manager worldwide (Avery *et al.*, 2005). While UBS has been able to explore new business opportunities in international onshore markets while watching profitability, other banks realised that due to the lack of financial resources they had to focus on profitability. UBS' ability to add more value than its competitors forced other banks to rethink their strategies. Carr (2004) agreed that even if a sustainable competitive advantage remains the *sine qua non* of outstanding profitability, adaptive capability (Powell, 1992; Volberda, 1996) is an important component of long-run success. This observation is in line with Dyer *et al.* (2004) who surveyed that profitability is a matter of creating the right product and client

mix, while tightly controlling cost and the margins that drive profitability. However, in many cases, innovative products and services and efficient processes are not enough to build strategic advantage in the sense of that "strategic advantage" is a unique resource that determines the firm's competitive renewal (Chaharbaghi and Lynch, 1999).

One consequence of the merger and acquisitions were brand confusion and conflicting priorities – showing the size and power of UBS and the intimate client relationship as the Chief Communication Officer of the UBS Group *ex post* noted. Until recently, it was UBS' companies acquired over the past decade, such as SG Warburg, Dillon Read or Paine Webber that commanded greater attention in markets like the United States or United Kingdom. There are arguments from specialists that "multibranding" remains typical of more product driven industries (Simonian, 2005) and that companies must always view brands through the eyes of their customers (Interbrand, 2004). The latter goes further and affirms that companies might think they own their brands, but customers think that they have a stake in them and hence companies need the customer's permission to make changes. The trend towards a "one brand" strategy is reflected by large banks such as HSBC or Merrill Lynch. Others, such as one of UBS' main competitors, the Crédit Suisse Group, also believe it should be united behind one brand. Therefore, a new brand positioning, including a new logo, will be put in place on January 1, 2006 with the aim to build real brand value behind the name. On the other hand, the Royal Bank of Scotland, for instance, retains multi-brand strategies, at least for some of their businesses.

Other criteria for UBS' decision to collapse its brands and focus on one name were factors such as innovative products, competitive prices, or technical primacy, and above all, customers that wanted a bank of the size and expertise they could rely on. What started with a $ 1bn write-off on the 2002 balance sheet because of the loss of the assumed brand value of Paine Webber, is gaining increasing international recognition. The respected annual league table of top brands compiled by BusinessWeek and Interbrand, ranked UBS from nowhere to 45th worldwide, between Luis Vuitton and Nitendo (Interbrand, 2004). Although brand value is a figure that is nearly impossible to define empirically, UBS' Chief Communication

Officer mentioned that it was worth spending a triple-digit million Swiss franc amount for the "one firm" and "You and Us" marketing campaign. Overall, evidence of the case regarding the successful adoption of the single UBS brand for all its businesses, illustrates the bank's ultimate ambition to client focus for expansion and innovation.

Aligned with the enormous marketing efforts, UBS adapted structures, processes, and services thoroughly down to application architectures and shared systems. Customers all over the world benefit from these improvements, in the way that they can access services provided by the various UBS business groups without even noticing it. The analysis result of the case study indicates seamless resource sharing, as reflected in the "integrated client service model", as one attempt to leverage the "one firm" philosophy. Although the improvements coming from the model are difficult to quantify, it is assumed to be in line with Moran and Ghoshal's (1996) research, in which they found that significant competitive advantages can be achieved through resource sharing among different organisational units.

5.3.3 Collaborative operating models: The open architecture

While the open innovation approach promotes collaboration with partners (e.g. Chesbrough, 2003a; Rigby and Zook, 2002), open architecture is a related concept. Open architecture is understood in the banking industry as an open and flexible operating model that goes beyond the concept of collaboration. However, due to the characteristics of services, open innovation in the financial services industry dissolves the distinction between the producer of services and the consumer of services. In particular, in the banking industry this challenges many institutes to change innovation processes and their mindsets. It was observed that in recent years, open architecture has become *jargon* for a new business model that supports the offering of third-party products to clients, as well as distributing own products through third party channels. The reason for an open architecture is evident:

> "In the asset area clients wish to get unbiased advice. As a reliable company, we are only able to satisfy this demand if we combine third-party products with proprietary products." (UBS head of banking products)

The Swiss Bankers Association (SBA, 2003:25) affirmed that in recent times, the traditional model of a universal bank comes more to the fore, complemented, and extended by the philosophy of the open architecture. As learned from the case study, the concept of open innovation as discussed in the literature review can be adapted to funds, mortgages, and a number of other banking products, but also to services and processes such as the processing and settlement of securities transactions. Taken to its logical conclusion, the philosophy leads to a banking model whose value is based primarily on its reputation as a hub for sales, quality assurance, and customer service, with the majority of the products and services sold, actually being bought in. The core competences of a networked bank of this kind, would include branding, product range policy and of course advisory services.

It was revealed that UBS, like other large universal banks, is in a position to act not only as a provider of products and services to other banks but also as a buyer from them. Therefore, they buy third-party products, incorporate them into their product portfolio, and sell them through their own distribution channels (see *Chapter Four* - Case study, Figure 12). This view is a major distinction between open architecture as understood in the banking industry and the concept of open innovation as suggested by Chesbrough (2003a; 2003b). The majority of smaller financial services institutions, however, are likely to operate as specialised suppliers, complementing their product range by offering targeted third-party products. As they act as suppliers, their business models are not designed to in-source external products and distribute them. To specialise, they most likely outsource classical transaction processing that is not their core competency to external firms with established infrastructure capacity, some of whom may be banks such as UBS.

It was learned at the Open Architecture Forum, hosted by the Financial Times, Barcleys Bank and BNP Paribas in London in 2004, that most incumbent banks are considering open architecture to a certain extent. While UBS invests about 50% in third party products for their managed funds portfolios, Crédit Suisse' share of external funds is about 70%. Merrill Lynch likewise, distributes more non-Merrill Lynch products than its own products, and added that tension is greater when the own products perform poorly. Another speaker at the Forum, from Mercer Oliver

Wyman, recommended an optimal profitability mix for banks of two-thirds proprietary and one-third external products. Deutsche Bank changed its distribution model in 2003 based on this recommendation. This restricted distribution is known in the industry as “guided” architecture in contrast to “open” architecture, which is a complete market opening. The trend towards an open architecture has encouraged most banks to sell their competitor’s wares, wherever the competitor provides a better product or service to satisfy their customer’s expectations. An explanatory statement by the researcher for open architecture is the metaphor of the Swiss army knife. The knife, as a global quality brand, consists of several tools of which the knife is excellent, but scissors, screwdriver, bottle opener or any other tool are of marginal use. However, the knife (bank) as such, is a high quality product (company) that integrates other helpful tools (products) for the user (customer). The idea of a Swiss army knife, with all best in class tools would be rather utopistic.

The benefits of the open architecture philosophy have been debated vehemently in the banking industry during the last five years. In contradiction to all the advantages, several concerns regarding open and flexible operating models were observed. Disadvantages stated by a few UBS representatives, include losing strategic flexibility if collaboration with external partners is exaggerated. This concern matches with other critical voices heard at the Open Architecture Forum. Main claims are that open architecture, in particular for asset management, not only decreases margins due to fierce competition but also cannibalises own funds. For instance, Deutsche Bank and DWS claimed that German funds are losing market share to foreign competitors on its domestic market. The compound annual asset growth for foreign groups is expected to be about 10% for the next five years. According to several asset managers across different banks, one reason for the foreign funds success is the trend away from fund distribution through internal channels, exclusively towards an open architecture distribution model.

To sum up, it seems that the advantages are outweighing the disadvantages. There exist many examples for open architecture in practice. The motivations, however, for the transition to such operating models differs. The reasons ascertained at the case organisation, such as the changing nature of demand and overcoming regulatory

obstacles for international onshore business amongst others, have been confirmed as predominant by other opinions from market participants and are consistent with the extant literature.

> "Customer pressure for a wider choice of top-performing products is driving banks into doing what was once unthinkable - selling their competitors' wares. But they [financial service institutes] are also finding this trend towards open architecture is encouraging them to focus on their strength and improve their own performance." (Avery, 2004: 89)

In contrast to the particular interests of bank managers for open architecture, the current literature suggest that in order to succeed, banks have to make the choice between producing proprietary products and services and distributing third-party products and services (Kostigen, 2004; Avery, 2004). Based on the gained knowledge about the subject matter and studies in the area of ambidexterity (Duncan, 1976; Tushman and O'Reilly, 1996), it is assumed that this "either or" decision is not valid for universal banks. It is argued that firms have to balance cost efficiency and the need of customer demands. UBS realised that if they wanted to satisfy their increasingly sophisticated customers, they had to run a dual strategy. This included developing quality products *and* providing third party products simultaneously, in addition to offering their own products through a network of distribution partners. The strategic debate, whether to focus on production, distribution or even combine both streams is in its early days. Anyway, the bank's approach is outlined below:

> "[We] are taking everything into account - core competencies, available internal resources, and efficiency - with the goal of how the bank could generate volume. Consequently, internal sales channels, external sales channels, and internal products, as well as third-party products, are always part of the strategy." (UBS head of banking products)

Banks will have to embrace radical change in their operating models, just as manufacturing industries did twenty years ago in respond to East Asian competition. UBS realised that open architecture not merely means opening up their organisational boundaries. Although there was a need to make boundaries more permeable through dismantling structures, the evidence at UBS confirmed the need

to alter boundaries that enable growth, collaboration, flexibility, innovation, and learning (e.g. Newell *et al.*, 2001a; 2002).

Because open architecture offers economies of scale, it is currently and for years to come, anticipated as the most efficient distribution model. Collaborative forms are continuing to evolve and new business models are emerging. For example, third-party services are a part of "UBS. The bank for banks" strategy. Therefore, UBS offers banks and financial institutions a wide range of modular services enabling them to concentrate on their core competencies and deploy their resources more effectively. At the same time, UBS can make optimum use of its own capacities and expertise to meet the needs of its clients. A good example is the case of the Raiffeisen Zentralbank Österreich AG (RZB). The RZB recently became the 50th CLS (Continuous Linked Settlement) third-party client of UBS. CLS is a process enabling simultaneous foreign exchange settlement across the globe, eliminating the settlement risk caused by delays arising from time-zone differences. With this partnership, RZB and its subsidiaries will be able to execute and settle their cross-border foreign exchange transactions through the CLS global settlement system of UBS. In the current environment of rising fix costs and shrinking margins, CLS delivers a much-needed reduction in the marginal cost of doing business. As RZB's global treasurer commented, "The quality of UBS's services and strengths in technology has given us the confidence to further increase our partnership."

Although collaboration is at its beginning in the financial service industry, in contrast to the manufacturing industry, first moving players may be centrally placed within the market and therefore more innovative (Powell and Grodal, 2005). This is because they will be best positioned to structure the most attractive deals with the most quality brands. Successful firms have to demonstrate agility, openness, and innovative forms of product portfolios regardless of where the products come from. It was evidenced that the adoption of an open architecture might be the most likely route to business effectiveness and an efficient operation model for product and service innovation. Furthermore, open architecture also supports serving customers with the optimal solution available on the markets.

5.3.4 Client integration and process innovation: The client advisory process

To gain strategic advantage, the bank strives to increase its competitiveness with services that add value to customers. It was said that it is not the product itself the clients are interested in, but services, which the product can provide. This argument conforms to the so-called economics of complementarities (Brandenburger and Nalebuff, 1996; Milgrom and Roberts, 1995). The understanding that customers buy expectations of future benefits rather than just products has grown since the seminal work of Levitt (1969). The results of the case study reveal that what has been relevant in the manufacturing sector, *i.e.* "most products require the services of several resources and most resources can be used in several products" (Wernerfelt, 1984:171), applies accordingly to the financial service industry. What can be added for the financial service industry today is that besides the unpredictability of customer demands, most customers, for their investment decisions, take aligned services to product offerings into account. It might be argued that the open architecture *vogue* may obscure the fact that customers often value banking relationships more highly than access to a pantheon of products. It is a fact that banking products are commodities, but by no means the way of distribution. Therefore, it is argued that banks must build an emotional bond and long-term relationship with customers through excellent services. The observation showed that UBS has put much effort into all the capabilities customers expect to find in the relationship with the bank. The client advisory process, which on the bottom line is perceived by clients as a bundle of services, contributes essentially to customer's benefit.

The almost fanatical devotion of UBS to satisfy customer demands and provide them with exceptional value-adding services, became the centre of strategic thinking and hence the very core of their businesses. The foundation for targeted offerings and differentiated services was found in a kind of value segmentation. Examples that indicate this concept at its upper extremity include art banking, philanthropy services, inheritance and succession planning, tax advisory and innovative services for sports stars, artists and entertainers. Strategic advantage is interpreted as exclusive specialisation, which in this case, at the same time increases competitiveness as there are just a few banks that provide such services on a global

scale. Coutts is a good example of a successful bank that tailored its services to suit different client segments similar to UBS wealth management, though only in its home market of the United Kingdom. The case organisation's segmentation and specialist strategy has been acknowledged in the market. In fact, Avery *et al.* (2005) put UBS on top of a host of specialist services in their survey. Client benefit is thus generated by putting the customer into the centre of strategic thinking. From the banks perspective, on the other hand, the customers are a unique and valuable resource for building strategic advantage. Within this value innovation approach (Kim and Mauborgne, 1999) the client provides the demand for innovation (Backer, 1992; Whittington, 1993) rather than the bank, which is pushing product and service innovation to markets. This has a number of positive effects to the development of "buyer-seller" relationships as Grönroos (1990) noted.

Based on the empirical data, relationship satisfaction was identified as a crucial determinant for what the customer perceives as value added services. Therefore, with each positive interaction or experience the customer has had with the bank, the relationship is enhanced, and hence trust is increased. The importance of trust was emphasised several times:

> "The advisory process is knowledge-intensive and based on trust and a good relationship between the client and the advisor. Therefore, the advisory process has a great impact on the suggested products, and biases the clients' perception with every interaction or experience the client has made with the bank." (UBS head of management support)

> "Intangible factors such as client trust of UBS and a structured advisory process, accompanied by a strong brand, come to the fore of the banks strategic initiatives." (UBS client advisor)

Studies in the banking industry confirm the benefits of positive experience and participation in the banking relationship (e.g. Howcroft *et al.*, 2003; Ennew and Binks, 1996) or trust (e.g. Saparito *et al.*, 2004; Bejou *et al.*, 1998). This explains why the bank in question attempted to create an experience that would increase customer value and loyalty. Experience in this case is considered as tacit knowledge, which is developed through individual and shared experience (Nelson and Winter,

1982; Nonaka, 1994). It is difficult to replicate unless the experience that led to their development is recreated, which is hardly practicable. The systematic capture of this experience and development of customer relationships can be viewed as a capability that, if incorporated, may increase organisational knowledge (Nonaka, 1994).

The role of trust in the development and maintenance of relationships in the financial service industry became vital. It was observed that trust is especially important in wealth management, where the bank has the implicit responsibility for the management of its customers' assets, otherwise referred to as fiduciary responsibility but also for specialist services. Clientele in this segment expect unbiased objective advice from their bank, whereby the advisor looks beyond the bank's in-house range, and selects the best product on the market for them. Other important factors for gaining trust in the bank are a competent, reliable, and knowledgeable point of contact, the ability of the bank to get the basics right, open product architecture, and a general sense of value added including a stream of personally relevant investment ideas. At UBS, for instance, great importance is attached to the understanding of customers, whereby a good client advisor listens carefully and responds wisely by giving the best possible advice. "Listen to learn" is, for UBS Wealth Management, a concept to increase their customer relationship social capital with the aim of generating trust.

> "Listening tells our customers that we take them serious, that we want to do what is right for them and that we can provide better solutions if we understand their needs." (UBS top senior executive)

Becoming a long term "trusted advisor" is actually the overall intention of the examined "four-step client advisory experience". This includes client advisors providing their customers with holistic advice and acting demonstrably in the primary interests of customers, under consideration of other business and personal circumstances. As a result, customers will understand the value of advice and the value of service.

By virtue of all the efforts to increase customer value added, customer satisfaction was expected to be very high. Understandably, the bank in question did not say

anything negative about this to the record. To prove the researcher's assumption, independent data sources were included. Surprisingly, European private banking clients are dissatisfied, particularly with the levels of open architecture practised by their banks, as a survey in Switzerland, Germany, and the United Kingdom concluded (Booz Allen Hamilton and Reuters, 2003). According to the study, clients feel that their advisors, even if they promote an open architecture proposition, attempt to sell them generic, proprietary products and services. Furthermore, they are dissatisfied with service failures such as wrong transactions, sub-optimal back-office processes, order fulfilment, and reporting. In addition, many clients feel that their advisor is not proactive enough in providing them with investment ideas. The study also revealed that most institutions are not able to balance administration and customer service activities. The time bankers spend with their high net worth individuals is, according to the study by Booz Allen Hamilton and Reuters (2003) as little as five to ten hours a year on average. Although wealth management executives at UBS assured that one goal is to double the amount of time client advisors spend with their clients, no figures were disclosed. However, the results of defining excellence in private client servicing is astonishing. It is in contrast to what customers actually expect from a trusted advisor. In addition, following the poor investment return over the last five years, many clients have lost trust in private banks.

Another recent study investigated customer expectations and satisfaction in retail banking based on four index parameters, namely branch services, product knowledge, customer orientation and sales orientation (Booz Allen Hamilton, 2005). The study found that Swiss banks came off best compared to banks in Germany, Holland, Spain, Denmark, and the United Kingdom. Retail customers in the United Kingdom are most dissatisfied with their banks services. Surprisingly, according to the study, the client advisory approach of UBS is just average compared to its competitors in Switzerland. Although the advisors were assessed as knowledgeable and competent, the products offered were often not what the customers expected. The analysis results of the case study are in line with what Booz Allen Hamilton (2005) suggests. Retail banks have to improve their advisory processes towards a more holistic management (Ericsson and Karlsson, 1999), which includes providing

best in class products and services of third party providers as has been observed in wealth management and asset management businesses. If retail banks are not able to develop this capability, they run the risk of "stuck in the middle" (Porter, 1980), which might lead to a "long running strategic dilemma" (Porter, 1998). This means they will neither be a "service bank", *i.e.* high service level and excellent advisory processes nor a "product bank", *i.e.* high volume approach through low cost and standard products.

Considering the trends in the industry, predominantly more demanding and less loyal customers, commoditisation of products, shrinking margins, and increasing competition associated with consolidation; and based on the evidence abstracted from the case study, it is suggested that banks such as UBS must understand their customers well for being recognised as a "service bank". What customers finally want are products and services that are not more innovative or differentiated, but simply meet their expectations and are better than others. Against this background, Monnerat and Bernet (2004) investigated the factors by which customers measure the quality of a banking service and concluded that in private banking, priority will be given to continuity of service, professional advice, and the social skills of the client advisor, before the absolute performance of products. The discussion at the case organisation also revealed that the importance of professional advice correlates to the increasing complexity of products (Diacon and Ennew, 1996). In retail banking, main quality criteria for customer satisfaction were according to Monnerat and Bernet (2004) easy access to the branch, stability of the infrastructure, and speed and availability of banking services.

Derived from the analysis of the case study, banks in general must focus on differentiation based on value added to customers, in the form of quality and service so that customers are willing to pay a premium to cover higher costs or the specific knowledge pertaining to extremely specialised services. Brandenburger and Stuart (1996) conceptualised in their "value-based view" that unique value created is primarily reflected in competitive advantage. In other words, value created is defined by the buyer's "willingness-to-pay" minus the "opportunity cost" of the provider of the product or service. The resource-based view adds that value is derived from the

effective and efficient application of the resources (Barney, 1991). Therefore, cost is something that every firm might influence similarly and is anticipated as substitutable, where reliability, image of the bank and service quality are not. From the case study, it has become evident that the latter matters to customers most and should be treated as differentiation resources. Monnerat and Bernet (2004) have confirmed this argument in an extensive study in the Swiss banking industry. The authors found that, in private banking, the key criterion for the choice of a particular bank is the intensity of advice and the brand name before price. However, in retail banking the emphasis is more on the national presence of branches followed by price, brand name, and intensity of advice. Although they observed, in the recent past, that focus was led on cost reduction and process automation, their study investigated the investment conducts of banks until the year 2010 and concluded that investments will shift to improve customer loyalty and customer acquisition processes.

If customers trust their bank, they will understand and accept that quality service comes with a price tag. Focus on the customer is therefore considered as crucial in banking, in particular because of the fact that innovation in banking lies more in process and organisational changes than in product innovation in a traditional sense, as research in the US retail banking industry (e.g. Frei *et al.*, 1998) and United Kingdom (e.g. Bátiz-Lazo and Wondelsebet, 2004) confirmed. The focus on customers is manifested in one of the bank's business priorities respectively, *perfecting the client experience.* This is evident clearly in the fact that UBS reinvented the economics of its customer interaction, with the global implementation of the four-step client advisory experience (process). Within this strategy, the bank created an experience across all its channels, which has increased customer value and loyalty and differentiated UBS from other banks. In addition, it will enhance the value of the open architecture and might contribute to better results of customer satisfaction surveys in the future.

Notwithstanding, the customer focus strategy of UBS has been a success according to internal assessments, albeit not acknowledged in the surveys mentioned. The bank elucidated this with that they developed the ability to align sales, service resources,

and technology according to customers' specific value and profit contribution to the bank. In particular, UBS is investing in human capital to promote the new distribution model pertaining to the open architecture model and sales capabilities of branch employees. According to the bank, employees will face three mutually interdependent challenges such as more sales responsibilities, complex products, and stringent compliance requirements. These new skills have been successfully trained across the organisation. The overall approach of the case organisation, however, is neither a "me-too" reaction to what other banks do, nor a number of uncoupled ineffectual initiatives. Moreover, UBS declared its customer focus initiative as a global strategy with top management commitment. The superior client advisory process and the understanding to meet specific customer needs, reflected in the bank's customer-centric strategy, allows UBS to differentiate itself on dimensions that are hard to replicate by competitors.

Evidenced at UBS, process innovations such as the client advisory process rely heavily on the alignment of organisational and technological innovation. While business and IT executives have a strong desire to better meet customer needs and provide them with value adding services (processes), so do branch workers. A global survey by Accenture and SAP published in September 2005 confirms that assumption. Therefore, old, inflexible and loose systems would have an impact on how banks do business, with branch employees spending 40% of their time on back-office processes instead of customer-facing activities (Accenture and SAP, 2005). UBS's efforts to align organisational and technological innovations are considered as a key feature of their target infrastructure for the twenty-first century banking. Align

5.3.5 Enterprise architecture and flexible infrastructures: The conditions for the transition

The transition from a closed to an open operating model, and from product focus towards a client focus in order to compete, called for fundamental internal organisational changes at UBS. It was observed that the flexibility demanded by banks to cope with a constantly shifting marketplace, requires the technological equivalent of a spine, which provides support while growing and moving with the bank. Still the ultimate ambition for every firm is profitability, which is generally

measured with the cost/income ratio. Two streams affect profitability, respectively reducing costs or increasing revenues (income). The case organisation formulated *industry leadership in efficiency* and *perfecting the client experience* in its business priorities, when it came under cost pressure due expensive operation and maintenance of its legacy system landscape. As analysed in the case study, the bank's systems have been hampered by an accumulation of legacy systems, created as new products and services were developed and brought to market in a hasty manner. In particular, Internet and e-business applications at the end of the 1990s accounted for the uncontrolled growth of applications. Each application would have its own architectural design and database bolted on to an existing one, meaning that customer data would be entered on each system, and hence held redundantly. One interviewee expressed this concern:

> "The location and ownership of managing client information has been a political discussion over the years." (UBS Director of core client infrastructure)

There is enormous potential to increase efficiency with the harmonisation of systems that manage customer information. None the less, technology might increase demand for products and services and generate new means of income. For example technological innovations in the area of customer relationship management systems, opened additional ways (channels) for UBS to interact with its customers, turning customer information into profit and improving efficiency as well as profitability. That the UBS's investments in customer relationship management systems is the right strategy, was also confirmed by a study in the Swiss banking industry which assumes that banks will increase their present level of investments in systems to create customer loyalty by between 5 and 20% over the next five years (Monnerat and Bernet, 2004). UBS realised that sales, marketing, services, human resources, and appropriate systems all have to be integrated to achieve this goal. Innovative methods and software that take integrated customer data management, adaptive campaign management, econometrics, return on investment measurement and budget allocation into account, transformed traditional marketing into a more scientific discipline. Within this emerging management science, customer relationship management systems became vital to measure and improve return on marketing

investments and operational effectiveness. A number of interviewees emphasised that focus on data integration across different distribution channels, and the systematic use for distribution purposes of customer knowledge generated through customer interactions is indispensable. To eliminate historic shortcomings, the bank has made great efforts to integrate customer data and build a central accessible client information base. As quoted in the case study:

> "The consistency, reliability, and confidentiality of client information is crucial in the banking business." (UBS Executive Director of core client infrastructure)

> "I strongly believe that accessing a central client information base will be of great value." (UBS Executive Director of core client infrastructure)

Studies that investigated technological innovation and competitive advantage in the retail financial services (e.g. Morris and Westbrook, 1996) warn that ICT has the potential to transform an organisation, including the way in which tasks are performed and work organised, but it is just the platform on which success regarding the dichotomy of exploitation and exploration can be built (e.g. Scott Morton, 1992; Schein, 1992). The Midland Bank is a good example of being too focused on efficiency and neglecting innovation opportunities as Morris and Westbrook (1996) observed. After the development of a new system based on eight large district service centres for cheque processing, the Midland Bank became one of the lowest operating cost retail banks in Europe in the early 1990s and, according to experts, the bank with the world's largest banking application of such processes. Although Midland's programme was in its own terms a success story for technological innovation, the bank's innovative capacity was very low. It further failed to anticipate the developments in the market and industry and struggled with poor customer services. These circumstances finally led to the takeover by HSBC, which switched Midland's strategy from cost reduction to growth in market share. While the switch of the strategy might be considered as at the other extreme, this case shows how ICT might contribute, but also hinder a bank's adaptive capability (Powell, 1992; Volberda, 1996). In contrast to the Midland Bank case, it is anticipated that UBS is able to manage exploitation and exploration (March, 1991). UBS not just aligned business

strategy with its IT strategy, what is more they made IT an integral part of strategy by creating new capabilities in the organisation's information infrastructure (Prahalad and Krishnan, 2002; Henderson and Venkatraman, 1999).

Numerous researchers have defined the alignment of business and IT strategy. In general it refers to the extent to which an organisation's mission, objectives, and plans support, and are supported by IT (Luftman *et al.,* 1999; Hirscheim and Sabherwal, 2000; Duncan, 1995). Following this notion, UBS achieved the alignment within the three main objectives of the strategic solution programme. To recapitulate, these include the renovation of the core banking capabilities in order to improve flexibility and reduce IT costs, the launch of new business functionalities in order to meet future business demands, and the replacement of the core banking technology in order to take better advantage of open technology and industry standards. UBS claim to be the first of the world's top-ten banks that has replaced its core banking system. Furthermore, the bank is one of just a few that has implemented a variety of other aligned strategic initiatives to gain full strategic advantage. Other banks, such as the Bank of America, Citibank, Caixa Catalunya, Postbank, and ING Group, run similar, although smaller programmes, with the aim of replacing a diverse mix of legacy systems with a single, harmonised core banking system (Gruzin and Alvarez, 2003).

The analysis of the conditions for innovation at UBS concludes that the bank designs its ICT needs for business; secondly strives for operational efficiency, and simultaneously is reinventing banking technology to explore new opportunities. Although the purpose of this research was not to find correlations between technology and competitive advantage, the results are in slight contradiction to Barras' (1986) theory of the reverse product cycle for innovation in services. Nevertheless, this research agrees that the ability to innovate relies heavily on adaptation and exploitation of technology. Technology supports, for example, the client-advisor relationship but never supplanting it. Furthermore, it is anticipated that the investments in technology to improve efficiency and quality of products and services, in particular the client advisory process, to a certain extent led to innovations of new products and services. UBS's decision to replace their core

banking system, as a reaction to global need for flexibility and desire for integration, has been confirmed by a global survey by Accenture and SAP (2005). The central theme of the survey is that over the next five years banks will spend heavily on technology as they replace their legacy systems. Therefore, gaining flexible systems will help banks to remain competitive.

One success factor for all changes is believed to be the development of what UBS termed "enterprise architecture". This concept is in principle, modelling the way in which the entire bank works. It is a complete model of the organisation and a master plan, which acts as an integrating force between aspects of business planning. This includes goals, visions, strategies, and governance principles. Furthermore, it includes aspects of business operations, such as business terms, organisation structures, processes, and data and aspects of automation, such as application systems and databases. The lowest level builds the enabling technological architecture of the business, such as computers, operating systems, and networks. UBS' business architecture layer is similar to the description made by Schekkerman (2003) as well as Hamel and Prahalad's (1990) concepts. Notwithstanding, interviewees from the enterprise architecture departments insisted that they used the IBM enterprise architecture framework, which is based on Zachman's (1987) concept of information systems architecture as a basis and combined it with the open group architecture framework (see TOGAF, 2003) for the technical reference model. While IBM and TOGAF are mainly focused on the strategic planning and transition activities, UBS' enterprise architecture in addition, focuses on design and implementation aspects, which enforce an enterprise view of solutions.

Within this methodical and comprehensive framework, UBS is able to capture a vision of the entire organisation in all its dimensions and complexity. The well-formulated enterprise architecture is essential to the bank and is used for representing all architectural components required to support the strategic goals of the organisation. It includes a collaborative and holistic approach and is a sophisticated methodology used to manage the organisation beyond its boundaries. As enterprise architectures typically include many components, they can become very complex. Goal of UBS was to integrate all components well for the organisation to easily

evolve and successfully adapt to the frequent technology and business changes that occur.

Overall, the bank developed the ability to create and maintain an enterprise architecture that represents flexibility and innovation. This integrative ability, referred to it as "architectural capability", is viewed as crucial for the bank to survive and prosper in a dynamic and highly competitive business environment. It represents the case organisation's collective ability, derived from the seamless connection between its organisation and technological architecture. While the former consists of the organisation's strategy and business architecture, the latter is formed based upon the application and technology architectures. The "architectural capability" elaborated here, is more than just the skill set to plan and build, but also the knowledge, processes and systems to anticipate connectivity, to foster integration, ensure endurance and accommodate future changes. This view is reflected in numerous quotes:

> "It's all about the architecture - how flexible we are, how quick a product can be developed in-house and how quick a third party product can be integrated into our existing systems." (UBS head of core client infrastructure services)

> "Quick integratability will become a crucial competence and key success factor in future." (UBS head of core client infrastructure services)

The bank's "architectural capability" influences the way in which UBS copes with change in general and in particular on how it handles increasing customer demands without increasing costs. As a result, a new generation of service-oriented architectures has emerged. Instead of customised and hardwired connections between applications, databases, or operating systems, service-oriented architectures rely on standardised interfaces and explicit descriptions. Other large companies have started to focus on service-oriented architectures, such as Merrill Lynch, Eastman Chemical, and General Motors, creating optimism about the business appeal of this new approach (e.g. Brown and Hagel, 2003). Service-oriented architectures make

integration easier without friction or customisation, and provide much greater flexibility in supporting business operations.

Flexibility is one important element at UBS to align strategy and IT as a means of applying IT in an appropriate and timely way, in harmony with business strategies. Flexible architectures have a number of advantages as the case of Thailand evidences (Barnes, 2005). Thailand is a market that is resisting pressure from global players and is untypical of other emerging areas. During the past ten years, Thai banks have developed the capability of successful and efficient use of technology and innovation. It is assumed that technology is substitutable. Thai banks for instance, offer a product portfolio that is, according to Barnes (2005) in some areas more innovative than in the West bundled with excellent customer services. In addition, access is provided through innovative channels such as stable mobile and secure internet connections. Such service pushes up the boundary for new entrants regardless of how big they are.

An organisation with a flexible application and IT architecture is able to respond rapidly and easily to changing business conditions. In particular, it allows the firm to introduce new business practices and processes more rapidly and at lower cost. The easier integration of acquired firms and efficient integration of products and services from third party providers are other advantages observed at the case organisation. Integrating IT systems has been a crucial part of bid battles for banks, as the take over of Abbey National through Santander Central Hispano confirms (Croft, 2004b). Santander's intention is on cost cutting at Abbey that missed to tackle the issue of its old legacy systems. Therefore, much of the cost, estimated £307m per year, will be saved by replacing Abbey's IT platform, and integrating its services to Santander's modern and flexible architecture. This is in addition to generating extra revenues of an estimated £100m per year. Croft (2004b) also investigated the migration of NatWest's 446 IT systems by Royal Bank of Scotland's acquisition, and found that the cumulative benefits realised by the end of the NatWest integration programme would be £5.5bn - about £1.4bn more than its original plan. To generate new sources of revenue from its architecture, the encompassing flexibility is also evident in the growing number of banks, which pay to use UBS' IT capacity, conceptualised as

"UBS. The bank for banks". Monnerat and Bernet (2004) confirmed that the trend in particular in small and medium-sized banks, will be to focus on their core competency (Prahalad and Hamel, 1990) and further reduce their production depth by outsourcing supporting functions, such as transaction processing to banks like UBS or Santander (e.g. Croft, 2004b).

The results not only revealed the reduction in operational cost, but also the increase of efficiency in implementing change. In particular, for keeping up to date and complying with all the regulations, revolutionising distribution channels to meet the changing nature of demand, and the creation of new business opportunities. It is argued that "architectural capability" symbolises a multifaceted, interconnected, yet loosely coupled set of knowledge, processes, and systems that lead the bank the way to voyage through the dynamic and changing business environment. This ability is extremely crucial for firms whose survival relies heavily on the sophisticated deployment of IT and endless strategic renewal (Barr *et al*., 1992). As a vital ingredient in fabricating "architectural capability", IT cannot be perceived merely as a resource or burden that can be developed and managed in isolation. The concept of "architectural capability" appreciates the vitality of flexibility (e.g. Volberda, 1996) while acknowledging the need for rigidity. It shares the same recognition for agility, like the notion of dynamic capability (Eisenhardt and Martin, 2000; Teece *et al*., 1997) but without discarding the importance of control and bureaucracy. This ability is also important for the balanced implementation of organisational and technological infrastructures (e.g. Prahalad and Krishnan, 2002) based on the overall enterprise architecture framework.

5.4 Key achievements and critical success factors

There are significant achievements in terms of product, service, and process, innovations resulting from the main action strategies. Key achievements that affect the innovation capability of UBS Wealth Management and Business Banking, were in 2003 according to the aggregated case data, the transition of the integrated business model, the "power of partnership", and first outcomes of the new flexible application and IT infrastructure such as a number of tools in the product development and management area. The list in Table 12 is not exhaustive, and the

achievements may be interpreted and prioritised in different ways from different angles. Unfortunately, an aggregated list on enterprise level has not been officially disclosed by the bank. Nevertheless, several senior executives approved these achievements as broad areas of improvements.

Key achievements	Relevance to business
Transition of the integrated business model	• Open architecture introduction and implementation • Open architecture as multi-channel distribution platform realised with PostFinance • Improved ways of operating as part of the integrated business model, including open architecture • The stronger role of portfolio and product manager and its empowerment • The worldwide implementation of the four-step client advisory experience
"Power of partnership"	• Increasingly effective co-operation between the markets, in particular for offshore business • Improved collaboration for launching and executing innovations between internal business areas such as market strategy, products and services, IT and origination units • Quality partnerships for integrating third-party products • Quality partnerships for distributing own products throught third-party distribution channels
New and flexible infrastructure	• Global (web-based) product and service catalogue • Product profitability framework • Measurement and interpreting distribution performance in MIS • Tools for benchmarking costs • Long-term contracts for offering the infrastructure to other institutes

Table 12: A selection of key achievements and its relevance to business

To reach these achievements and at the same time optimise the value chain to deliver solutions that exceed client expectations, key success factors have been identified. These are categorised into client, partnership, employee, and financial. Among the importance of considering these factors constantly, front and back office personnel rely equally upon leading edge technology for operating the open architecture or for serving customers. Since ICT is required for almost all activities, it has not been mentioned in particular. None the less, technology, in combination with the other factors plays a central role for the bank's viability.

Clients: understand, guide, and meet client expectations. Having a superior understanding of client requirements and providing clients with clear navigation

rather than pushing products from origination to placement. Innovation quality and fair prices in high-margin investment products and objective advice coupled with open architecture.

Partnership: for distribution, effective co-ordination and prioritisation of efforts and joint management of the bank's franchise value. Using the UBS brand to provide access and value. From the supplier perspective, create transparency and dialogue to gain access to best minds and platforms.

Employees: a strongly client and performance oriented culture with a high heterogeneous group of people united by the idea to support client advisors to succeed with their customers. Having an open-minded attitude to new open and flexible business models.

Financial: increase productivity and scalability through further rationalisation and automatisation in product and service development as well as a stringent management of products costs and pricing drivers.

5.5 The implications of the achievements for businesses

As we have seen, the conditions that led to the phenomenon have been approached on different levels. The case revealed that economic value in terms of superior returns to shareholders could only be achieved if customers receive the requested level of quality, price, and delivery. Delivering unique value added (Brandenburger and Stuart, 1996) increasing competitive advantages and sustained strategic advantage (Chaharbaghi and Lynch, 1999) is what all strategies have in common. These include the open architecture, where its success is contingent upon the client advisory process. The flexible infrastructure that facilitates this philosophy has been built within several initiatives of the strategic solution programme. Although, the outcomes and consequences, which emerged from the main strategies, are multifaceted, an attempt has been made to categorise them.

Firstly, the open architecture combined with the seamless client advisory process enables the bank to provide clients with a solution consisting of proprietary and third party products and services. This option gives clients the possibility of accessing

products from a universal content and allows them to be involved in their investment decisions. As the bank offers third party products, even from competitors, clients perceive this as unbiased advice. The auxiliary client advisory process, as a collection of integrated activities taken together, attempts to add value to clients. UBS believes that providing excellent service and being extremely useful, whereby the client defines usefulness, is what really adds value. It further improves the relationship between the bank and its clients. A good customer relationship leads to customer satisfaction and turns into customer retention and customer loyalty. With the growing trust in the relationship, the bank receives the status of a trusted advisor. Maintaining a trusted relationship is much easier than building it up and is therefore, the ultimate goal of client advisors. Hence, the client value added through the advisory process and open architecture is considered as *differentiation*.

Secondly, the open architecture creates a possibility to combat legislation and regulatory obstacles. It is an operating model that enables the bank to do business offshore in addition to banking in the domestic market. Therefore, third party products and services that are legally compliant are sold to clients through a network of international branches. The global presence leads to a robust competitive position and seeks to create value for a greater number of stakeholders. Being dedicated to total value management on a global scale affects the sustainable growth of businesses within appropriate risk parameters. This not only opens up new revenue streams for the bank on a global scale, it is also an advantage for the international clientele likewise, whereby they are able to access UBS products and services in a number of countries. In this case, the open architecture has a positive influence on revenues, risk, facilitates the growth strategy of the bank, and hence it increases *stakeholder value*.

Thirdly, open architecture puts the bank into the role of a producer of products and services. This supplier perspective is complementary to the distribution of third party products offshore. For the domestic market, products such as mortgages are sold through the banks internal channels as well as through external distribution channels. In the latter case, the bank takes advantages of its brand value and uses the distribution network of other companies in domestic markets. Products that are not

subject to regulatory and policy constraints such as funds are produced in-house and sold to other financial service institutes. The open architecture leverages the supply as well as the distribution perspectives and hence accelerates *economies of scale*.

Fourthly, the new infrastructures based on the overall enterprise architecture provide the entire bank with flexible procedures and systems. This opens up full panoply of opportunities, such as new ways of interacting with each other as well as with business partners and clients. It attempts to improve processes and access to new distribution channels in order to offer innovative products and services on a global scale. One major advantage is the quick integration of disparate corporate information systems of acquired companies, as well as the integration of third party products and services into the UBS product portfolio. Another advantage arising out of the core banking systems replacement is the multi-entity and multi-jurisdiction application architecture that enables the offering of traditional banking services such as for clearing, settlement, or credit asset transfer to other financial services institutes. Conceptualised as, "UBS. The bank for banks", it leverages UBS' IT capacity while offering it to the market. At the same time, other banks are invited to entrust non-core activities to UBS. These business innovations sound promising as many banks attempt to turn fixed costs into variable costs and free up resources to focus on areas where they can differentiate themselves from others. Not only has the flexible application and IT infrastructure led to operational efficiency, what is more it has become a valuable resource for generating a *new means of income*.

To sum up, in the past client advisors were order takers. In the new paradigm, they can be more entrepreneurial, choosing the mix of products and services that the open architecture offers. In addition, through the sophisticated client advisory process, they can focus on understanding their client's needs. The combination of open architecture and the advisory process contributes to an optimal solution for clients. Flexible organisational and technological infrastructures, embedded in the enterprise architecture, build the conditions for such business benefits. The observation showed further that the studied bank has improved efficiency and at the same time increased flexibility. This approach to management, as opposed to an "either/or" focus (Lewis, 2000) put UBS above the trade-off line (Adler *et al.*, 1999), in fact above average

industry performance in both efficiency and flexibility. This has been evidenced in the measurable outcomes delivered by the bank, such as cost/income ratio, high profits per employee, among other financial figures in addition to a number of awards and surveys that demonstrate UBS' performance and reputation, and has helped to strengthen the stakeholders' belief that UBS would succeed in the future. These outcomes finally put the bank at the top of the league tables of global companies. The visionary and strong leadership realised the need for the strategic transition to open innovation as one of the first top-ten banks. In the course of UBS' organisational transformation, enormous experience has been gained. The evidence suggests that the bank in question's greatest gain is the new intellectual capital, which has been created from all the strategies taken.

The next section reports on the case study results on how UBS managed to tackle issues interrelated through all layers of the organisation coherently and on a global scale. The discussion further introduces required transition mechanisms and what and how the firm learned from the transition.

5.6 The strategic transition process

As explained in the case study, trends account for change. While the direction of change and under what conditions the change occurred, has been understood from the empirical data, the result of the change is difficult to predict in a dynamic environment. Not much about the process of change itself can be said, except that it is a constant learning process. For this study, the process of change has been understood as the *transition* from a starting point, *i.e.* old paradigm and the end point, *i.e.* new paradigm. This transition process or "organisational transformation process" (Bacharach *et al*., 1996) is what Kuhn (1970) illustrated as the evolution of a new paradigm. The transition from the old to the new paradigm is always a complicated long-term process. As evidenced at UBS, the adoption to open innovation is incorporated largely in the strategic solution programme that will take up to seven years (see *Appendix E*). What one interviewee pointed out literally as "a radical new beginning" is what the bank perceives under strategic change and the pertaining "organisational renewal" (Barr *et al.,* 1992; Dougherty, 1992). Since flexibility, cost, and integration are among the top concerns of banks around the

world, small *ad hoc* changes are not keeping pace. A survey by Accenture and SAP (2005) revealed that, for example, transforming core-banking systems on a radical basis, to gain efficiency, flexibility, and market share, reduced operating expenses by as much as US$ 250m annually.

The banking industry used to be a moderate dynamic market for decades. The stable industry structure, defined boundaries, clear business models, and identifiable players made change linear and predictable in the past. The observation showed that progressive developments during the last twenty-five years have led to an industry with ambiguous structure, blurred boundaries, new business models, and new market entrants and intermediaries. In addition, speed, efficiency, flexibility, and reliance have all become equally important factors for success. As a top executive recalled:

> "[The banking industry] has changed radically. It has become integrated, our bank has evolved into a global financial services provider, and our requirements have altered accordingly." (UBS member of the Group Managing Board)

All these factors interact and are responsible for today's nonlinear and unpredictable change. They indicate that it is time for change to realise future success in a new competitive landscape. Broken down to the example of core banking operations, this means that core banking systems should not be viewed as merely a technological cost issue. What is more, the next generation of high-performing banks need to learn how to master both, innovation capacity and excellence in operations. This was partly achieved at UBS by exchanging their legacy systems. Primarily, with the transformation from highly customised systems to less complex application architecture that allows the use of standard business applications. The new open and flexible architecture in return facilitates consistent customer experience across distribution channels and product flexibility through open architecture.

5.7 Learning from the transition

How to get there and understanding what happens between the starting point and the end point, in particular how the bank in question managed this process is actually the learning process. The findings of the case support the suggestion made by Balgheim

and Gruzin (2005) who argued that to become "industrialised", banks should learn from other sectors and industries such as for example leading automakers. The role of the top management is to provide the organisation with conditions that facilitate radical change and the strategic transition (Fasnacht, 2004c). This includes a clear vision about the future business direction (e.g. trends and challenges) and operating models (e.g. open architecture). Secondly, the business strategy needs to be aligned with IT (e.g. application and IT architecture) and processes (e.g. client advisory process) accordingly. The management of the bank has embraced the need for the transition in its strategic thinking early. A future-oriented and strong leadership is key to survive the change, in particular in phases of uncertainty that occur typically between the old and new paradigm. The reason for this was noted at the bank, that is, it takes time to create the organisational behaviour required to deliver innovative results. Therefore, there is a phase where things might get worse for employees as well as for the organisation as such, before it gets better. This observation corresponds with studies in organisational change that refer to this phenomenon as the perils of the "J-curve" (e.g. Whittington *et al.*, 2000; Pettigrew *et al.*, 2003).

One important transition mechanism to open innovation is the UBS Leadership Institute. It plays a critical part of the bank's effort to create the future of UBS by accelerating and directing growth through cross-business teamwork. It provides ongoing forums for shaping and aligning UBS's strategic agenda, addressing critical strategic challenges and opportunities, leveraging leadership capability across business groups, and cross-organisational learning. Besides leadership qualities, the findings affirm that the case organisation has developed patterns or learning capabilities, which enabled learning from failures and experiences similar to what Argyris and Schön (1978) conceptualised as double-loop learning and deutero-learning. Within this organisational learning practice (Garud and Nayyer, 1994), participants constantly acquired information (Huber, 1991). Arrow (1962) recognised this ongoing process, where individuals are able to interpret and reflect on the information they acquired in order to enhance experience and knowledge, as "learning-by-doing". The UBS Leadership Institute is one platform constituted to share these experiences on a senior management level. The idea is that the top down transfer of experiences across other businesses creates organisational knowledge.

With individual experience growing, the bank as a whole, increased its "transformative capacity" (Garud and Nayyer, 1994) for managing the transition process as well as for generating business opportunities. Evidenced at the case of the Leadership Institute, the linkage of knowledge, personal development, and organisational learning stimulates innovation. The analysis found that for achieving product and process innovations to improve client services as well as for improving operational efficiency targeted use of technology is essential. This led to a growing awareness that strategic value derives from the imaginative combination of technology, knowledge, and innovation as grounded in the knowledge-based view of the firm. Therefore, the concept of "best practices" was used in a number of cases to exchange ideas and transfer knowledge. It helped to cope with the rapid advances in technology, product, and service innovation, as well as a stricter regulatory framework and fiercer competition. The studied firm also focused on the *process* of generating the knowledge of existing practice rather than on knowledge *per se*, as suggested by Newell *et al.* (2003). Such knowledge management is considered as another imperative transition mechanism. In particular, it saw the bank developing and maintaining the enterprise architecture framework as meta knowledge-map of the organisation.

The management's vision and early coping with the trends and challenges and the fast learning curve pushed UBS ahead of many of its competitors and made it a "learning organisation" in Senge's (1990) notion, whereby the organisation attempts to learn faster than the environment changes. Indication that UBS lead the way in many fields is that competitors adapted UBS' initiatives. One remarkable example is that Crédit Suisse has also developed a "one bank" strategy that will be implemented by the end of 2006, whereby the integrated management of banking and insurance is no longer their strategy. Regarding to learning and innovation, Crédit Suisse launched a Business School that took up operations on January 1, 2004 similar to UBS' Leadership Institute. As disclosed in the case study there is criticism among employees that the UBS Leadership Institute is exclusively for the senior-most leaders of the firm. Therefore, the aim of enhancing shared understanding and the initiation of actions associated with UBS's growth strategy can hardly be disseminated across all levels of the firm. In contrast, Crédit Suisse launched an own

corporate university that is more comprehensive with approximately 30’000 people attended the Business School. Their aim is to align the training strategy more closely with business strategy, to support the systematic transfer of experiences and best practices, and to further promote innovation, shared values and culture at all levels. Programmes ranges from the development of certified specialist in collaboration with external partner schools to leadership trainings. For example, there are distinct trainings to increase service quality. In strategic terms, Crédit Suisse is pursuing four main objectives; 1) results-oriented development of employee capabilities and competencies, 2) improving the understanding of strategy and values, as well as the willingness to implement them, 3) consistent involvement of management and experts in the training process, and 4) introduction of a standardised training quality management process.

The findings of the case study demonstrate that a number of resources and capabilities must be renewed and interrelated for the transition. The nucleus of the new open innovation paradigm consists of three dynamic capabilities.

5.8 The nucleus of open innovation

5.8.1 Introduction

This section suggests an integrative framework including the open innovation model and the concept of leveraging capabilities. The framework explains the bank’s overall ability to nurture enabling conditions to initiate, plan, and execute strategic change. In addition, it accentuates the alignment of such enabling conditions with architectural capabilities and a set of three interrelated dynamic capabilities. These are ambidextrous thinking, intrapreneurial attitude, and a holistic and systemic view of the firm. The identified dynamic capabilities are linked together through social capital to a system and are based on an open innovation culture. The study concludes that this integrative framework asserts the creation of value, competitiveness, and sustainability upon the systematic development of a firm’s leveraging capabilities.

5.8.2 The open innovation model

The open innovation model as shown in Figure 15 has emerged from the case study. It synthesises the trends from the broader environment that have led to the phenomenon. The transition strategies to respond to the strategic challenges have been analysed in the case study as well as the main transition mechanism that support the shift from the old to the new paradigm. Although open innovation is characterised by customer integration and flexible organisational and technological infrastructures, the determinants of the old paradigm endure, even though they became less significant.

The model focuses on the concept of the three dynamic capabilities, interconnected through arrows in the centre of the illustration. The arrows indicate that the dynamic capabilities only yield its full potential if viewed as a system that is based on an open innovation culture. In addition, it is now essential to extend the discussion by explaining how UBS tied these dynamic capabilities together and linked them with other resources such as enabling conditions and architectural capabilities. Of particular interest is how the firm benefited from the development and utilisation of social capital.

The next sections therefore explain the suggested set of new dynamic capabilities such as ambidextrous thinking, intrapreneurial attitude, and a systemic and holistic view on the firm. The aim is to develop an integrative framework based on the empirical data that explains how firms can master the transition and leverage their capability for innovation.

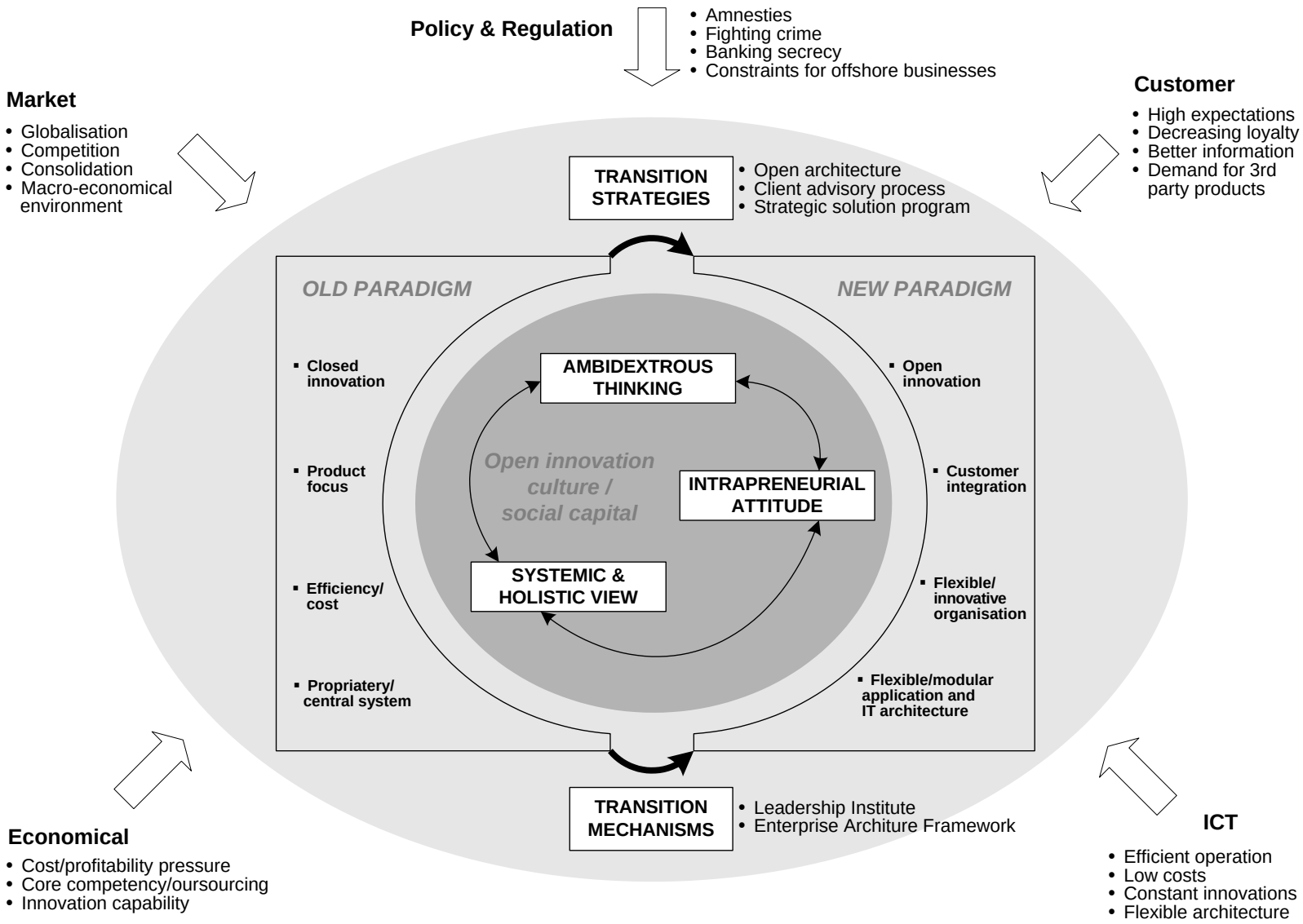

Figure 15: The integrative open innovation model

5.8.3 Ambidextrous thinking

In an uncertain and rapidly changing business environment, there is a challenge of addressing contradicting phenomena such as developing radical innovations while protecting traditional businesses. In particular, the balance of closed innovation versus open innovation, product focus versus client focus, efficiency versus flexibility, and proprietary and central systems versus flexible application and IT architecture is vital. Other, more specific trade-offs that the firm has to make are the "service bank" versus the "product bank" or as Porter (1980) argued, the explicit choice between differentiated positions and low cost and global growth and national responsiveness. Regarding the open architecture approach, this includes developing own products and in-sourcing third party products, in addition to distributing own products through internal channels as well as through a network of distribution partners. This means balancing the exploration of new opportunities for growth *while* exploiting capabilities for profit (March, 1991).

The ability to do two opposing things at the same time, has been discussed in the organisation theory literature as "ambidexterity" (Duncan, 1976; Tushman and O'Reilly, 1996) or from a more transformation perspective as "dualities" in changing (e.g. Sánchez-Runde and Pettigrew, 2003; Achtenhagen and Melin, 2003). Building ambidexterity into the organisation (Birkinshaw and Gibson, 2004) means that business practices of the old paradigm must not be replaced completely. None the less, focus in the new paradigm is on open innovation, customer integration, and flexible organisational and technological infrastructures.

Figure 16 on the next page illustrates the traits of the old and new paradigm. The bar indicates the shifting to the new dominant business practices of open innovation.

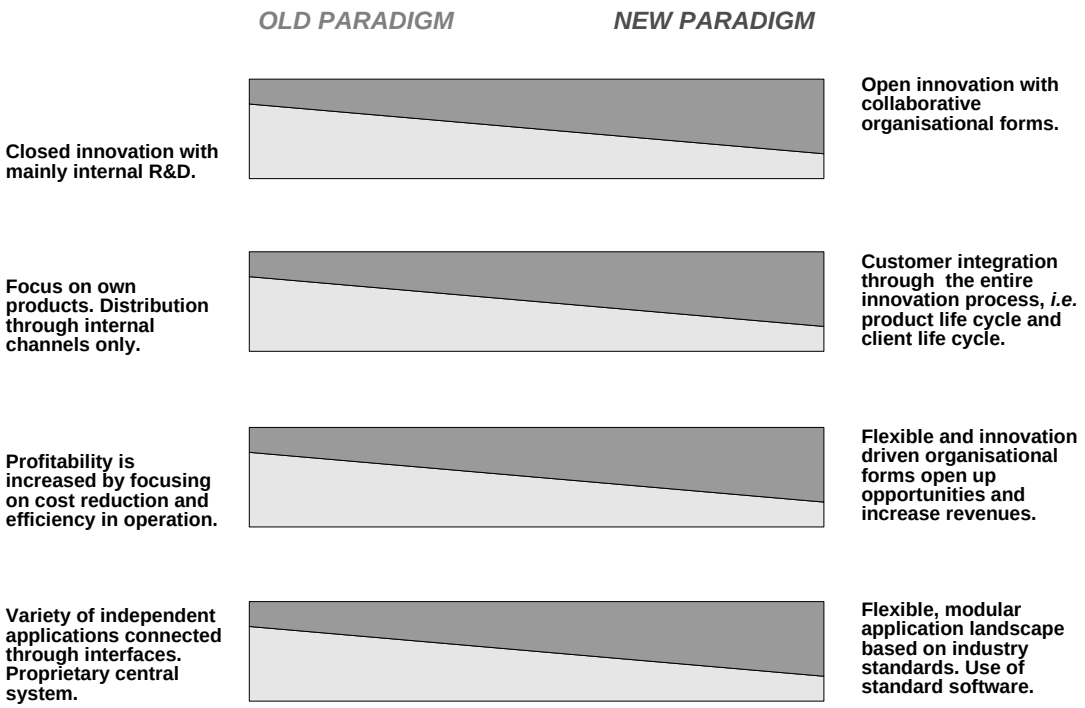

Figure 16: The balance of business practices between the old and new paradigm

The case study evidenced that the bank has developed the ability of coping with dualities. It suggests that management of dualities and achieving both, alignment and adaptability at the same time is possible. The observation ascertained that UBS built ambidexterity into the organisation, in which strategic and operational thinking across the organisation is derived from exploration as well as exploitation. Therefore, the ability to simultaneously execute today's strategy while developing tomorrow's, arises from the context within which the bank's employees operate.

Duncan (1976) argued that trade-offs between conflicting demands may be better managed by putting "dual structures" in place, so that certain business units, or groups within business units, focus on alignment, while others focus on adaptation. Although this thought is in line with Kanter's (1989) model for innovation, the logic of separated structures is unlikely to be successful, particularly in a dynamic and uncertain environment such as the banking industry, where strong information and communication flow between the two streams is evident. Communication across different structures would hamper the information flow. Furthermore, a number of interviewees emphasised the importance of constantly integrating resources and

capabilities. This would be difficult to achieve in managing separated or isolated organisational units. Therefore, it is argued that for firms which are in transformation, it is important to balance seemingly contradictory tensions not only simultaneously but also more flexibly at individual level.

To avoid rigid and bureaucratic structures, UBS has focused on "contextual ambidexterity" (Gibson and Birkinshaw, 2004). They developed a behavioural capacity that concurrently permeates all functions necessary for alignment and adaptability within the same organisational unit, rather than building up distinctive structures according to Duncan (1976), in which the two demands are kept separate. There is evidence of multiple paths in the process of establishing systems that result in ambidexterity. Building on the work of Gibson and Birkinshaw (2004) the results from the case study suggest the development of a carefully selected set of systems and processes that collectively define an organisational context, which allows alignment and adaptability to simultaneously flourish, and thereby sustain performance. This has been achieved through a number of formal and informal initiatives and actions across the organisation and conforms to Ghoshal and Bartlett's (1994) framework for organisational effectiveness. The supportive organisational context was made effective by the strong leadership of the bank, which put systems on all appropriate levels in place. As a reaction, individual behaviour has emerged towards a more open innovation culture. Building contextual ambidextrous capabilities into the organisation is complex, causally ambiguous, widely dispersed, and quite time-consuming to develop (Birkinshaw and Gibson, 2004). Nevertheless, this study suggests that it should be viewed as a key source of strategic advantage for leaders in the twenty-first century.

Strong evidence of this form of ambidextrous thinking was found in client advisors. Appropriate structures empowered them to use their own judgement as to how they focused on current customer accounts or nurtured new opportunities. In addition, they have to decide whether they offer their clients proprietary products or third-party products. At the same time, one attempt of the bank's "four-step client advisory experience" is to standardise the process, which restrains actually flexibility in favour of efficiency. As seen in the case study, the art is to balance this as reflected

in the clients' perception. Hence, the client measures whether the advisor is able to provide him or her with the expected value added. Other empirical evidence in support of ambidexterity provides the strategic solution programme. Thus, the bank is doing both, exchanging and modernising the IT infrastructure with the aim to increase efficiency, while implementing radical business and process innovation to explore new opportunities. As seen, focusing on increasing assets under management, market share, and growth may lead to insufficient profitability. According to a survey by Dyer *et al.* (2004) profitability is a matter of creating the right product and client mix, while managing efficient operations and tightly controlling cost and the margins that drive profitability. Managing cost and simultaneously maximising revenue generating capabilities, definitely calls for ambidextrous thinking.

A good example where ambidexterity was not considered, was found in the environment analysis of the banking industry. In the 1980s and 1990s, most banks were trying to optimise operation and reduce costs by pushing customers out of their branches in favour of ATM's and the Internet respectively. After a while, the institutions realised that they had begun to lose touch with their customers. This shortfall of nurturing customers is actually one reason why banks are now focusing on customer relationships so strongly. The crux of the concept of ambidexterity goes beyond the alignment of current operations, while being adaptable to changes in the environment. What challenges this concept even more, is that customers must never be neglected whatever activities are performed. A top executive stressed that while focusing on technological innovation,

> "…the challenge will be staying alert, entrepreneurial, client-centric, and global in thinking." (UBS top senior executive)

This finding is reflected in other studies which deal with dualities in organisational transformation, e.g. ABB (Ruigrok *et al.,* (2000), in leadership e.g. Östgöta Enskilda Bank (Achtenhagen *et al.,* 2003a), in learning culture (Achtenhagen *et al.,* 2003b) or people management (e.g. Sánchez-Runde *et al.,* 2003; Miles and Snow, 1984; 1994). The researcher agrees to what some respondents added that mastering dualities is a crucial task, which has to be systematically managed effectively and efficiently over

all. In respect to the dedicated dynamic capabilities for balancing traits of the old and new paradigm, additional capabilities for the transition process are required. These imply parts of the whole set of enabling conditions, architectural capabilities and dynamic capabilities including the discussed transition mechanisms. This thought extends the concept of ambidexterity towards *trinity*. "Balancing top management continuity and [organisational] renewal", as an UBS top senior executive quoted, signifies that despite balancing issues such as efficiency and flexibility and innovation, the firm needs to negotiate the transition process. This view emphasises the importance of a set of new capabilities for not just dual but *multilateral* strategic directions.

5.8.4 Intrapreneurial attitude

Staying alert and entrepreneurial is an ultimate ambition of the bank. It is reflected in the individual intrapreneurial attitude, which is considered as an imperative ability of the banker of the future. An executive noted that the bank's success calls for entrepreneurial spirit and initiative from each individual. But as growth continues, the complexity of global business increases geometrically. Hence, the organisation requires structures and systems such as procedures, policies, budgets, standards, rules, and the like for managing growth (Bötzel *et al*., 2004). And therein lies another ambiguous paradox of bureaucracy and innovation. Within a structural separation model (Duncan, 1976) coordination and communication problems would hamper creativity and innovation. The solution to this dilemma was that the bank's innovative management included both streams without separating business units. From an innovation perspective, this means operationalise intrapreneurial behaviour and incorporating its processes so that they become part of the organisational culture.

This is a learning process in which the intrapreneur integrates the external environment and organisational context as well as individual processes into a business plan that produces value. To achieve this, UBS first defined "intrapreneuring" and promoted the importance of being creative and innovative. The bank simply defined intrapreneurship as the act of innovation by the initiator of a new business idea within the organisation. This is similar to the definitions in the current literature, whereby they commonly term an "entrepreneur" someone who

build up a new business in form of a company (e.g. Wickham, 1998). The definition of a "corporate entrepreneur" (Guth and Ginsberg, 1990; Zahra *et al.*, 1999) matches what UBS understands under an intrapreneur. Thus, corporate entrepreneurship encompasses the creation of new businesses within an organisation, as well as the transformation of organisations through the renewal of the key ideas and assumptions on which they were built.

However, intrapreneurship or entrepreneurship respectively, is not only about innovative thinking. What is more, managers need to understand the business idea as a complete "new venture creation" (Gartner, 1985) inclusive of implementation and value creation. The bank noticed that its managers were familiar with planning processes, but were lax on creating new businesses. Therefore, they launched a number of training programmes, some organised by the UBS Leadership Institute, which showed managers how to design business plans. In addition, the top management alleged a set of structures, procedures, and incentive systems that facilitated intrapreneurship and at the same time developed ambidextrous thinking. Business groups and business areas were free to a certain degree to adapt these guidelines to meet their requirements. In praxis, they provided a less rigid organisational context on the business unit level, and empowered employees within these bounds. Referring to that, Gibson and Birkinshaw (2004:211) noted that a business unit as a whole "…manifests itself in the specific actions of individuals throughout the organisation". Likewise, the context of the system and structure at the bank that enables innovation is dynamic and flexible enough so that employees are driven to act in an intrapreneurial manner. For example, every business area has an entrepreneurial mandate in which it acts as a kind of autarky organisation. Managers within such business areas are free to a certain extent, to decide whether they collaborate with external companies or use internal resources, products, and services. To operate in this way a number of jobs have been enriched or enlarged in recent years. Job enrichment in this case adds new "vertical" tasks, while enlargement adds new "horizontal" tasks to jobs. Importantly, both modes have the aim to empower employees.

The culture of delegating authority and distributing decision-making has been considered as significant for organisational change and fundamental to the firm's agility. Through job enrichment, product managers are responsible for the product life cycle and client life cycle and are hence given more scope for decision-making. Thus, product management has evolved as a new discipline, fitting between operations and delivery at the same time. As noted by two executives:

> "Product managers have to understand the complete value-added chain." (UBS top senior executive)

> "He or she acts along this chain as a general entrepreneur." (UBS Managing Director of product management)

Front office personnel only sell proprietary products to clients as long as there is no better similar product available from third party providers. The analysis reveals that through the empowerment of employee's interactions collaboration is increasing. This provides empirical evidence in support of the conceptual arguments by Nahapiet and Ghoshal (1998) who advocated that the pervasive element of human collaboration is social capital. This includes many aspects of the social context, such as social interaction, social ties, trusting relationships, and value systems that facilitate the actions of the bank's employees located in a particular social context (Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998). Social capital is thus embedded among employees, as well as in the relationships the bank has with its customers and business partners. In particular, social capital with business partners is paramount for the bank to develop and maintain collaboration with its third-party product suppliers and distribution partners. In this case, social capital serves not only as a basis for collaboration, but also as the seed for accumulating stronger relationships. It is said to be both the origin and the expression of successful network interactions (Cooke and Wills, 1999). The analysis of UBS business practices established that social capital is a relational artefact that plays an important role in facilitating interaction, and hence is vital for the bank's intrapreneurs to utilise and develop. As stated by one interviewee:

> "Relationships among our workforce as well as with our clients are driven by the power of partnership. The power of partnership engenders involvement, respect, contribution, and mutual support." (UBS top senior executive)

As collaboration increases, the capability to collaborate leads finally to organisational learning as part of non-routine work processes (Dixon, 1994). It was further observed that the bank not only empowers managers, but also enables employees to become more innovative and flexible even in the course of their daily activities and routine tasks. Through empowerment, employees become owners of their tasks. Patriotta (2003) described this on a larger picture with identity building. Therefore, employees require opportunities to make informed choices. They must accept personal responsibility for their actions and its consequences as entrepreneurs would do. The observation at UBS saw empowerment as a state of mind that employees must enter on their own to a certain extent. The management in that case, exploit the bank's distinctive resources by creating routines. Therefore, they seek to extract enhanced services from successful "routinised" resources. This process creates and institutionalises knowledge by linking content, process, and emerging context in a systemic way over time. It is similar to what Patriotta (2003) conceptualised as the three "knowledge-cycles". Therefore, *foundational knowledge* is related to the design of the organisation and *procedural knowledge* refers to the routinised character of organisational action. *Experimental knowledge*, respectively, points to more mature stages in the evolutionary trajectory of knowledge and organisation. Adler *et al.* (1999) refute the prediction of organisation theory that "routinisation" of non-routine activities might lead to resistance. Adapted to the case, this means that client advisors reject modifying the traditional client advisory process with routines. It was observed that client advisors in particular are worried about losing their *status quo*. Therefore, it is suggested to develop social capital in order to avoid resistance to the use of routines by individuals and to preserve their task autonomy and variety.

UBS adapted various modes of empowerment as initial vehicles to promote intrapreneurship. There are also threats of empowerment strategies. For instance, once the bank implemented such approaches, employees expected continuous

enrichment and enlargement that was reflected in salary increase and career development. This system of working, if not controlled properly, may lead to a vicious circle. Particularly in upstream financial markets where employees will only stay as long as the firm is able to meet their wishes. As they gain intrapreneurial skills, they are more in demand on the job market. It is a double-edged sword, where on one hand the bank has to invest in its workforce's employability, yet on the other hand, this investment might have an adverse affect on the bank. Overall, the bank's management approach regarding intrapreneurship encourages ambidextrous behaviour that is both aligned and adaptable. In other words, organisational processes focus not merely, on how work is done effectively, but also ensure the empowerment, development, and commitment of all employees. This enables the workforce to become more risk averse, innovative, and flexible in their routine tasks. It is an adaptable approach, which is open to ideas from managers on different levels, and responsive to the changing environment.

The appropriate organisational structures enabled learning throughout the organisation. The aim has been achieving total customer satisfaction, innovation, and total commitment by all its members to provide service and quality. The way the bank has built an intrapreneurial attitude, for example, is similar to what Hedlund and Ridderstrale (1997) described and conceptualised as the "renaissance company men", in which individuals are simultaneously responsible for exploitation- and creation-oriented activities. The research findings suggest that for building intrapreneurship into the organisation, a strong management commitment is essential. Hence, the top management is responsible for providing the conditions that facilitate individual intrapreneurial behaviour with the aim of opening the employee's minds. Framing the organisational context is anticipated as an enabling condition for developing the open innovation culture. As the statements below, reflect clearly:

> "It is through entrepreneurial leadership that we capture opportunities, and succeed in the marketplace." (UBS top senior executive)

> "It is through leadership and accountability across our company that we establish direction, encourage creative collaboration, and provide an inspiring environment for our people." (UBS top senior executive)

5.8.5 Systemic and holistic view on the firm

For approaching the complex business world of the new paradigm, the analysis of the case study found that a systemic and holistic view is imperative for transforming the bank. In particular, in a dynamic and unpredictable environment, building an agile, ambidextrous, and flexible organisation is a challenge. This was recorded in a number of statements across businesses. Below are some quotes from the case study that emphasise the importance of a systemic view:

> "Firstly, we need to combine a systematic, analytic approach with a strong intuitive sense for capturing opportunity." (UBS top senior executive)

> "Our approach is a kind of innovation management system." (UBS head of marketing services for banking products)

> "…sophisticated knowledge about client experiences and the management of relationships is a vital part of this innovation system." (UBS head of marketing services for banking products)

The theoretical basis for these assumptions is that organisations are non-linear (e.g. Thietart and Forgues, 1995) and complex adaptive systems (Holland, 1975; Stacey, 1995). These *systems* have the capacity within them to respond to their *environment*. Applications of complexity theory to organisation science are reflected in the increasing interest in the science of complexity (see *Organization Science*, 1999). Thus, the science of complexity theory presents us with a completely different meta-paradigm (Stacey, 2003). Through this lens, the world of organisation is seen as a *system* held far from equilibrium (e.g. Brown and Eisenhardt, 1997). In a business world characterised by dynamism and complexity, links between strategies (e.g. strategic solution programme) and their long-term outcomes can sometimes get lost. In the observed case, what remains predictable is the system dynamic and the

archetypal behaviour it produces. The analysis concludes that predictability is possible at the general level but not at the specific. The opposite of the conclusion reached applies if firms would follow conventional closed, rigid, and unilateral management thinking.

Based on the complexity theory, the studied firm similarly to any other organisation is viewed as such a system with a high degree of ambiguity that attempts to match the complexity of its environment (Ross Ashby, 1954; Wiener, 1961; 1988). Thus, organisations have two ways of adapting to complex environments, complexity reduction, and complexity absorption (Boisot and Child, 1999; Weick, 1995). For achieving this, it is argued by the researcher that systems thinking and holistic thinking as based in the emerging science of "systems dynamics" by Forrester (1961) are vital capabilities, which are going beyond just managing complexity. The key is to understand and transform the bank as a whole system, whereby the overall business context must not be lost - also commonly referred to as failing to see the "big picture". In other words, missing the crucial connective elements of cause and effect within decision-making and strategy implementation might be catastrophic.

Systems thinking, as observed at UBS, includes the integration of structures, processes, and patterns such as relationship and learning. Addressing these elements, interconnected and as a whole system, not only strongly affected the bank's ability for the transition, what is more, employees continually expanded their capacity to learn. This form of learning, how to learn together within a network of relationships, is similar to what Senge (1990) conceptualised as the "learning organisation". That is, the organisation facilitates collaborative learning processes at individual, group, and system level and hence transforms itself continuously in a direction that is increasingly satisfying to all its stakeholders (Dixon, 1994; Garvin, 1993). One possible way from systems thinking to organisational learning can be achieved through empowerment of employees as the example of the product managers evidenced. Their empowerment gives them the overview of the entire innovation process rather than just parts of it such as planning, development, or delivery. Their views were expanded as a matter of the fact that their activities automatically included more decision-making authority and interactions within the bank as well as

across organisational boundaries. Therefore, it can be said that organisational learning is based on human communicative interaction (Dixon 1994; Brown and Starkey, 2000). Consequently, the more collaboration the more social capital may be generated. This leveraging effect could hardly be achieved with a closed innovation culture, linear and narrow thinking, and routine activities. Largely, learning in this case was observed as a main consequence of systems thinking.

Another good example that supports this argument is the bundling of a number of projects and initiatives with the aim of improving efficiency as well as to exploring new opportunities in the strategic solution programme. The top management, responsible for its compliance and alignment with the all-embracing enterprise strategy, monitors this programme holistically. It became clear that the programme as a whole is more valuable than the implementation of its individual projects. Implementing only a few projects at a time would therefore not yield in all the benefits that are available through a fully co-ordinated programme. Careful analysis further revealed that the case organisation attempted to do many projects in parallel, while they always kept the consequences of the entire programme in mind. Regrettably, none of the representatives at UBS was able to provide tangible evidence of the achievements. It is assumed that performance effects depend upon whole systems thinking and actions. This notion is reflected in a vast longitudinal study that observed innovative forms of organising, in particular transformation, in countries such as the USA, Japan, and Europe (Pettigrew *et al.,* 2003; Pettigrew and Fenton, 2000). The authors found that "system-wide change", in which the firm considers strategic change, structural change, and process change paid off best. This is what UBS understands under "…the integral design of total transformation." and is in contrast to most other firms that rarely take the risk to lead innovation with a "grand design" of total transformation (e.g. Schein, 1992). What UBS does is also different to partial combination of full system elements, also known as "piecemeal initiatives". It is suggested that for mastering transformative change, that is managing a complex system of innovative organisational change (Pettigrew *et al.,* 2003), systems thinking is required and is the appropriate approach.

The suggested dynamic capabilities can only show advantage if they are embedded in an open innovation culture. The next section discusses the importance of an open innovation culture and explains how the studied firm embraced it for open innovation.

5.9 Open innovation culture

As learned from the case, the financial service industry is in transition to the "era of open innovation" (Chesbrough, 2003b:35). As part of the new paradigm, the industry has adapted the concept of open innovation (Chesbrough, 2003a) in recent years, though it is known as "open architecture". This means that UBS, along with other banks, is giving up existing structures and routines in order to search for new management processes and collaboration forms, which are required for open innovation and client integration. Therefore, it is anticipated that in particular, banks in transition will benefit from what the researcher termed open innovation culture. As stated by an UBS executive:

> "Being open in the way business is done leads to a transparent innovation culture rather than innovating *ad hoc* in the peculiar manner experienced in the past." (UBS Managing Director of product development)

Schein (1997) defines culture as unconscious, adopted beliefs, perceptions, thoughts, and feelings that form and shape values. Based on the principles of Schein's definition, organisational culture is a set of shared values that characterise an organisation. In his earlier work, Schein presented organisational culture as the "glue" of the organisation, providing identity and strength (Schein, 1984:14). "Open business values" are the individual degree to which company representatives share, perform, and communicate. As interviewees quoted in the case study:

> "…changing and developing an innovation culture is to make sure that everybody understands the market drivers that have transformed banking businesses." (UBS member of the Group Managing Board)

> "…if there is no justifiable, rationale for change, people will resist it and adaptation of new ways to work will fail." (UBS member of the Group Managing Board)

Linking organisational culture theories with the interpretation of the case study, this would imply that open innovation culture facilitates the transition to new ways of organising in the new paradigm. It was observed that the bank in question has put much effort in establishing new values, norms, beliefs, meanings, and behaviours (Pettigrew, 1979) that are shared by the bank's employees and can be conveyed to new members of the organisation (Brown and Starkey, 1994). This could only be achieved through strong leadership capabilities.

The extant literature demonstrates widespread support for the view observed at UBS, in which organisational culture is something that can be manipulated through transformational leadership (e.g. Schein, 1997; Ghoshal and Bartlett, 1997; Bass and Avolio, 1993; Smircich, 1983). As quoted, one success factor of the growth strategy and pertaining organisational transformation of the bank was that:

> "… we carefully evaluated the cultural fit of each [acquired] organisation. Our cultural openness and willingness to learn from diversity of viewpoints mark the history of UBS and are at its very core, its essence." (UBS top senior executive)

Under the commitment-trust theory of relationship marketing (e.g. Morgan and Hunt, 1994) is the relationship between the bank and a customer characterised by trust, whereby one party has confidence in its partner's reliability and integrity. Trust between the bank and customers, is due to increasing product complexity, particularly in wealth management where the bank has implicit responsibility for the management of its customers' assets - an important factor for the generation of customer added value. Therefore, the study suggests an appropriate open innovation culture that provides the necessary condition for creating trust. This includes the amalgamation of individual knowledge and ideas to produce new products and services, and to create business opportunities. Leveraging and making knowledge explicitly available, across the bank, as well as sharing it with business partners to a certain extent, is represented in the enterprise architecture framework. This

framework is also acknowledged as a vital transition mechanism that helps the firm to manage change. Embedded in the enterprise architecture are concepts such as the "circle of excellence", "best practices", or "intelligent disobedience". Based on project work, the bank identifies and studies practises from successes, failures and even its competitors and makes the knowledge explicitly available with the aim of adapting the best approaches to other organisational units. This result in practice-based knowledge (Blackler, 1995; Dougherty, 2001), which refers to the way individuals do their tasks and includes the intricacies of thinking and acting in everyday work (Cook and Brown, 1999). The collective practice is a significant contribution to organisational knowledge, learning, and innovation if accumulated and reformulated systematically (Dougherty, 2001).

The bank as a global firm combines knowledge sharing tools such as Internet, intranets, personnel regular meetings, and conferences, with the aim of allowing the free flow of information, experiences, and opinions. Newell *et al.* (2001a) referred to the technical tools as "collaborative technologies" as a means "…to enable new organisational forms in a bid to overcome the twin tyrannies of spatial and temporal dislocation that impede global reach" (p. 74). Their research also suggest that such initiatives may become "electronic fences" (Newell *et al.*, 2001b) if organisational boundaries are dismantled without control. For instance, knowledge sharing across countries and departments through local intranets may decrease collaboration rather than increase it. This may exacerbate the problem of global knowledge fragmentation (e.g. Newell *et al.*, 2001a; 2002). Although the thesis has not investigated these issues in detail, some respondents were apprehensive about the increase use of technology instead of face-to-face meetings.

Social capital, as discussed previously, is indispensable for letting knowledge flow and facilitate learning from the experiences of others, otherwise knowledge will be blocked and rejected. The evidence abstracted from the case suggests that these concepts tolerate open minds, out of the box thinking, empower employees, incorporate social capital, and cultivate an open innovation culture. Moore and Birkinshaw's (1998) study in global service firms refers to these kinds of initiatives with the aim of managing proprietary knowledge, assimilating and building new

knowledge through the interaction of professional employees, and disseminating knowledge effectively throughout the firm as a "center of excellence". Similarly, Brown and Duguid (1991) and Wenger (1998) understood under a unified view of working, learning and innovation "communities of practice". However, while most of these concepts have a structural impact, the UBS concepts are more informal and flexible. A particular criticism of Moore and Birkinshaw (1998) is that they studied industry sectors such as consulting, construction, banking, publishing, or shipping. For instance, the researcher disagrees that Citibank, McKinsey&Company, and Oxford University Press as discussed in their study, operate under the same conditions, and have the same requirements.

UBS executives are not only concerned about cultural issues triggered by an open architecture operating model, they also believe that process innovations require an appropriate organisational culture. Providing such an environment where the client advisory process can propel product sales is therefore on the agenda of the bank's top management. As quoted below:

> "Creating a work environment in which ideas flow is a leadership task that demands full commitment." (UBS member of the Group Managing Board)

> "We encourage the free exchange of ideas, and demand teamwork." (UBS top senior executive)

There is no question that the influence of organisational culture to the company in general (Schein, 1997) and in particular service processes as complementary to product innovation (e.g. Milgrom and Roberts, 1995; Stuart, 1998) is significant. Explicit statements of some respondents of the bank emphasised the strong passion for the new advisory process, while others expressed more implicitly that they are less flexible in their activities due to stringent and standardised processes. This research disclosed that there are issues mainly arising out of peculiar interests that might lead to opposition. Most of those who are sceptical have been with the bank for many years, and see too much focus on openness and transparency as a threat that decreases their level of safety and value on the job market. They are addicted to the ways in which the traditional banking client relationship used to be done and are

hardly willing to contemplate change. These rigid values and beliefs of the old paradigm are mirrored in Schein's (1997) "organisational maturity-culture" and a hindrance for change and transformation.

The fear of those opponents is, to a certain extent, justifiable and is heightened by the anxiety of "routinisation" as analysed earlier. The more individual expertise the bank is able to incorporate and transform into structural capital (Stewart, 1997) the more client advisors become exchangeable, for example. It may be the ultimate goal of the firm to capture all client relationship procedures and experiences made into knowledge systems and make it easily retrievable for others but it is not the absolute goal for many client advisors. From a client perspective, some objectives of the four-step client advisory initiative might not be embraced, because some wealthy high net worth individuals are not eager to see their confidential conversations stored in systems. The tradition of confidentiality and banking secrecy in Switzerland is still considered by many potential clients as a determining factor when making their investment decision.

In conclusion, it is argued that an open innovation culture is a powerful and necessary instrument for supporting the three discussed dynamic capabilities. The findings suggest that strategic advantage can only be achieved if open innovation culture is considered as a source that is accepted by all employees as the organisational reality and truth. It is the responsibility of the bank's leadership to shape the organisational culture as required for open architecture and client integration. The results of the analysis acknowledge the way in which UBS opened up old patterns of thought in various areas. Thus, it is anticipated that an open innovation culture will continue to be an important source of innovation and learning. A top senior UBS executive confirmed this and noted that the bank's expertise is and will be built on "experience, innovation, and learning."

An open innovation culture is necessary for the development of social capital. Both sources build the basis upon which dynamic capabilities can be developed. The next section suggests social capital as glue and lubricant of a number of resources and capabilities required for open innovation.

5.10 Social capital: The glue and lubricant of open innovation

Social capital is a set of resources embedded into relationships (Burt, 1992) into which other resources can be invested with the expectation of future albeit uncertain returns (Adler and Kwon, 2002). Learned from the case, social capital is not only about collaboration, or about combining information and experience with the aim of creating value for product innovation as maintained by Tsai and Ghoshal (1998). What is more, social capital is also relevant for the strategic transition process as well as for driving innovation and growth of businesses in the new paradigm. The researcher anticipates that social capital, and in particular its management, will become an equally essential part of the firm's intellectual capital along with human (Coleman, 1988), structural or organisational capital and customer or relationship capital (Stewart, 1997). Therefore, it needs to become more central to strategic management thinking for facilitating resource exchange, the creation of intellectual capital, learning, entrepreneurship, efficiency, and product and service innovation (Starkey and Tempest, 2004). Since relying on existing resources and capabilities alone is not enough, social capital provides a firm with the ability to leverage its existing knowledge resources (Cohen and Levinthal, 1990; Grant, 1996), and to create new intellectual capital (Nahapiet and Ghoshal, 1998). The latter is accepted to be the foundation of an organisation's success. It is seen that all resources and capabilities are conjoined through social capital to enhance its synergy. Hence, social capital is vital for knowledge integration.

Social capital transforms existing knowledge into new intellectual capital, which is required for the strategic transition. It is further considered as the product of working together. The explanation for this assumption is that services as observed in the financial service industry, act on customer's information (Lovelock, 1983) and always involve customer interaction (Chase, 1978). This means that customers are the primary suppliers of inputs to the service process. It implies that services are bidirectional, in fact, information flows in both directions. However, the primary asset for developing, distributing, and rendering services is knowledge, and business in services is always characterised by dealing with people. As observed at the case organisation, all people in that context can be stakeholders e.g. customers, suppliers, business partners, even competitors. This implicates Chesbrough's (2003a) point that

with an open and collaborative approach, widespread knowledge may be incorporated. The findings of the case corroborate the logic of open innovation (Chesbrough, 2003a) that embraces external ideas and knowledge and combines it through social capital with internal resources and capabilities with the aim of creating new intellectual capital (Nahapiet and Ghoshal, 1998).

As evidenced at UBS, operating an open architecture helps the bank to develop rapidly and naturally, according to the new understanding of the prevailing open innovation paradigm and the knowledge it gains. Further, it is anticipated that the business model of the firm will define which portions of the value chain are provided internally and which externally. The value of the surrounding network, in terms of social capital, will link those portions to customers. Where the individual knowledge resides in the firm's human capital, social capital resides in the relationships among individuals and is considered as the glue that holds them together. As knowledge increases when shared, it can be said that one vital role of social capital is in the creation of human capital through a network of formal and informal ties with others. Where personal development and learning are put into action at a number of activities at the UBS Leadership Institute, informal ties are spun through an intrapreneurial and open innovation culture. Another interesting observation was UBS's recruiting strategy. For some complex posts, they are eager to hire teams instead of individuals because of the fact that a team is a kind of social and complex system and hence automatically includes the social capital. All the findings around the importance of social capital conform to Chesbrough's (2003a) observations that collaboration is becoming increasingly important albeit he did not relate it to social capital, but managing intellectual property pertaining to the manufacturing sector.

At UBS, it was manifested that the discussed three dynamic capabilities only release their full learning and innovation potential if there is social capital. This means, social capital inheres in the structure of relations between and among individuals. Therefore, it signifies the glue that holds relationships together and acts as the lubricant that eases interaction between those individuals. For example, intrapreneurship cannot flourish if a closed innovation culture and linear thinking dominates businesses, or if there is no open and collaborative climate in which

information can flow between individuals. This is because social capital is incorporated in the social structure in the form of learning, knowledge exchange, shared norms, values and beliefs, in which individuals operate. Hence, intrapreneurial behaviour is created through an appropriate open innovation culture that facilitates not only product innovation, but also organisational renewal. For instance, it was observed that the empowerment of employees on various levels implies that they act as intrapreneurs and develop a more holistic view on their activities as well as on the organisation as such. In this case, social capital occurs in the form of trust and trustworthiness that the management has in its workforce, and leverages the capability of anticipating trends and translating ideas into actions by interacting with the other resources. In many ways, this social glue is manifested in a number of patterns in the transition mechanisms.

Overall, social capital leverages the interactions between the firm's resources and capabilities. It provides the conditions for the management of the strategic change in an ambiguous and complex environment. To achieve this, the study suggests that managers should look through a social capital lens for gaining an enclosed understanding of the system that underlies collaboration. This reveals where and how collaboration regarding open innovation is created and what it relies upon. Therefore, creating and maintaining an open innovation culture that enhances the work environment, makes learning part of the transition process. In particular, balancing human, structural, organisational and social capital are basic leadership tasks for navigating in the open innovation paradigm.

The next section introduces the concept of leveraging capabilities with the aim to integrate enabling conditions, architectural capabilities, and the three suggested dynamic capabilities. It completes the suggested integrative framework by advancing the thoughts made in the open innovation model as illustrated in Figure 15.

5.11 Leveraging capabilities: The meta-capability for open innovation

As we have seen, the transition from existing strength to future potential, identified as the new paradigm, requires capabilities that make existing resources more

valuable and sustainable. Besides the discussed dynamic capabilities, it was observed that the availability of enabling conditions is crucial. Enabling conditions include a clear vision, strategic focus, strong leadership qualities, and sufficient financial resources. The research findings suggest that the firm needs leveraging capabilities to capitalise enabling conditions, manage, and execute transformative change. Auxiliary to this, as the case demonstrated, architectural capabilities are important for aligning business and IT and provide the firm with an appropriate flexible organisational and technological infrastructure. These infrastructures help the firm to manage and balance multiple strategic directions such as operational efficiency, innovation, as well as strategic change. The collective ability of nurturing enabling conditions and aligning them with architectural capabilities and the dynamic capabilities is represented with leveraging capabilities. This ability is becoming increasingly important. In particular, in a world of Schumpeterian competition, where innovation is a recombination of existing resources and capabilities with the aim of increasing knowledge and intellectual capital (Moran and Ghoshal, 1996) and where competitors can imitate products and services and reproduce capital, or technical and marketing capabilities rapidly and easily.

Based on the assumptions made, the potential for sustainable competitive advantage lies in anticipating trends sooner than competitors and systematically leveraging capabilities. Teece *at al.* (1997) added that to achieve new and innovative forms of competitive advantage, dynamic capabilities such as management capabilities and inimitable combinations of resources that cut across all functions are required. This chapter represents the above arguments with the concept of leveraging capabilities, which is seen as essential for doing business in the new paradigm.

Table 13 on the following page synthesises the required resources and capabilities of the firm for open innovation embedded in the concept of leveraging capabilities.

Leveraging capabilies	Description	
Enabling conditions	• Clear vision • Strategic focus • Strong leadership • Financial resources	The visionary management team constantly scans the environment and identifies trends and challenges at an early stage. Exercising strategic leadership includes setting up value creating business priorities that balance efficiency and innovation on a global scale as well as locally. In addition, strategic focus on growth, transformation and creating an organisational climate, where ideas and knowledge can flow, are vital activities that have to be performed simultaneously. Therefore, a strong leadership commitment is required that considers consistency from normative to strategic to operative management. Sufficient financial capital is a crucial condition for change and innovation because it effects resource allocation for initiatives. Investments have to be balanced for improving operating efficiency as well as innovative growth.
Architectural capabilities	• Aligning business strategy with IT strategy • Provide organisational and technological infrastructures • Capture and build enterprise knowledge	The firm's collective ability to align business strategy with IT strategy, provides the organisation with a platform for exploitation and exploration. Knowledge is made explicitly available within the enterprise architecture as a map that covers the firm's business model, processes, applications, and IT systems holistically. Architectural capability facilitates integration or organisational and technological innovation and pushes the firm toward more service-oriented architectures, in which both, flexibility and efficiency can be achieved simultaneously.
Dynamic capabilities	• Ambidextrous thinking • Intrapreneurial attitude • Systemic and holistic view	These three interrelated capabilities are the key sources of the transition. In addition, they represent the requirement for operating in the new paradigm. They facilitate coping with dualities, empower the workforce and leverage innovative and non-linear thinking among the management team and all employees. They are based on an open innovation culture and social capital, and have the power to transform the organisation as a complex system. These resources are of particular strategic importance in a dynamic and competitive environment.

Table 13: Required resources and capabilities of the firm for open innovation

Firms in the financial services industry operate in a dynamic, uncertain, complex, ambiguous, and hypercompetitive environment in which they do not just respond to the change, but instead, create them by their own actions. Therefore, it is crucial to find appropriate forms for addressing various resources and capabilities across the organisation with the aim to enable them to make the right decisions about what to focus on, abandon, or maintain. It is clear from the above discussion that intangible assets such as knowledge, relationships, and experiences are difficult to identify and hard to copy. Here again, a strong leadership is required to determine which skills are most promising and select them as priorities for development. The management has to provide the required organisational conditions to capture these emerging, potential, and hidden resources and build them into dynamic capabilities. Miller *et al.* (2002) found that over time, firms evolved a set of explicit organisational processes and designs to turn them into capabilities, and leverage them across the appropriate market opportunities. This also points to the importance of leadership, vision, and strategic focus, represented in the enabling conditions, to install systems and policies that create appropriate values and cultures for the process of embedding and enhancing capabilities within the organisation and shaping them to market opportunities. Leveraging capabilities means that managers need to find opportunities tailored to a set of capabilities, but at the same time, opportunities must also shape capabilities. Based on these arguments, it is suggested that innovative firms should develop a set of sustainable and rare capabilities by leveraging their evolving unique experiences and relationships.

Although this view goes beyond individual resources, it is consistent with the resource-based theory of the firm (Barney, 1991; Wernerfelt, 1984). It can be said that these capabilities are more fundamental than resources because they represent abilities to create resources and make them more valuable and sustainable (Miller *et al.*, 2002; Teece *at al.*, 1997). What is more, these resources are interwoven and amalgamated with capabilities to a system, characterised by tacit resources (Polanyi, 1966), causal ambiguity (Lippman and Rumelt, 1982), contextual ambiguity (Gibson and Birkinshaw, 2004), and social complexity (Barney, 1991; Reed and DeFillippi, 1990). The system in this case is more valuable than its constituent elements and outputs. It is further inimitable, immobile, non-substitutable, and hard to duplicate by

competitors. The evidence suggests that this system made UBS distinctively different from its competitors. Although complex, it is argued that the system is something that can be managed by focusing on it as a whole rather than on its individual elements. Therefore, the utilisation of social capital and techniques adopted from systems thinking is suggested. This includes mapping human, structural, and relational capital and incorporating it into strategy, processes, and organisational structures of the organisation. The study further suggests that only firms that consider all elements coherently get the rewards of the strategic transition. In addition, the generation of a holistic model opens the door to the potential of organisational learning and is believed to be the key mechanism for stimulating and reinforcing the firm's innovation capability.

5.12 Concluding remarks

The process of how UBS responded to the trends in the financial service industry, and managed to raise its international profile observably within just a decade is elaborated in this chapter. Much has been learned about how the bank transformed itself and took advantage of the opportunities of the new paradigm. As discussed in the case study, in the late 1980s neither of UBS' Swiss antecedents, SBC and Union Bank of Switzerland were prominent outside its domestic market, nor did either rank among the top twenty global banks. In Switzerland though, both were well positioned. Measured by balance sheet size, their combined market share reached as high as 50%. Since the merger in 1998, UBS has made enormous progress in all its strategic markets. In doing so, it has reaped the rewards of the transformative change that started in the late 1980s. Within its growth strategy, the bank has incorporated a number of firms into a single integrated global firm with a common set of aspirations and values. The outward expression of this shared identity was the firm's introduction of a unified brand in 2003. As a measure of its success in creating a truly global firm, UBS now earns the greater share of its operating income outside Switzerland. According to the bank, its workforce too is distributed globally, with a very sizeable presence in the world's largest financial market, the United States.

Notably, in little more than a decade, UBS became the world's largest wealth manager in terms of invested assets. In addition, the bank built a bulge-bracket global

investment bank that is on course for further expansion. It was observed that the firm has evolved a common culture that draws on important elements from all its various predecessor organisations. At the same time, it is working actively to promote its brand across the world. It is believed that the bank in question has the capabilities, capital base, and confidence for further substantial growth. Growth is therefore likely to continue, by organic means as well as by acquisitions. Several recent additions have helped UBS to expand its Investment Bank, as well as its Wealth Management presence in Europe. Above all, the bank remains focused on building an integrated business and an open innovation culture that is shared by all business groups; both essential ingredients for the continued success of the bank. Although the bank has flourished over the past twenty years due to beneficial conditions such as the combination of low interest rates, booming asset markets and rising demand for credit, the results from the case suggest that strength can only be sustained if the firm continuously develops the ability to adapt to changing conditions and manages strategic change.

As companies are forced to grow, the traditional phases, where transformative change and restructuring is followed by a phase of growth and *vice versa* no longer apply. This new rule denies dedicated well-defined innovation cycles as theorised by Barras (1986). In a dynamic and competitive environment, multiple strategic directions must be taken into account simultaneously and continuously. Therefore, optimising costs, stimulating growth, as well as managing the transition must be pursued. The findings of the study suggest that the firm's ability to grow at the beginning of the twenty-first century lies in extra capabilities. The interpretation drawn by the researcher in the present chapter reveals the importance of enabling conditions such as high profile leadership. Firms need an inner readiness for strategic change, a culture that gives employees the commitment and motivation to apply their capabilities. Therefore, the top management has to provide conditions for acquiring information in order to cope with the changing business environment, referred to as forces such as economical pressure, changing nature of demand, regulatory changes, and the technological imperative. Anticipating these trends earlier than other firms and adapting to changing conditions is a vital ability for competitiveness. Besides constantly detecting challenges in the business environment, initiating and

implementing the right strategies to respond to and manage the phenomenon in the banking industry, *i.e.* the transition to open innovation, is one determining factor for sustained strategic advantage.

It was learned that these strategic challenges effect the entire organisation and that they must be approached systematically and holistically. This is reflected in the observed integrated strategies namely open architecture and the client advisory process. The conditions for implementing such strategies are included in a number of actions with the aim to balance organisational and technological innovation. Where open architecture provides the firm with the required blood, adding additional client value with innovative services is complementary to it. To achieve the defined objectives of the main actions taken, the researcher saw the bank develop flexible organisational and technological infrastructures based on the descriptions of the enterprise architecture. These infrastructures must be aligned as they act as the basis for other business practices. They are like part of the bank's DNA. The introduced concept of "architectural capability" is one attempt to increase our understanding of how firm's link and align these infrastructures, in particular its business strategy and IT strategy.

In addition to the architectural capability, three interrelated dynamic capabilities were identified. These are required for the rapid, coherent, and organisation-wide implementation of strategies and especially vital for taking full advantage of them. Conceptualised as ambidextrous thinking, intrapreneurial attitude, and a systemic and holistic view on the firm, they build the nucleus of open innovation and accelerate business opportunities. They facilitate managing dualities such as cost and profitability *and* learning and innovation among others (March, 1991; Duncan, 1976; Tushman and O'Reilly, 1996; Sánchez-Runde and Pettigrew, 2003; Achtenhagen and Melin, 2003; Gibson and Birkinshaw, 2004; Adler *et al.*, 1999). In addition to these dual strategies, the management of the transition process as such generates a third dimension. Therefore, the study suggests the development of a set of new dynamic capabilities for managing multiple strategic directions. These dynamic capabilities as discussed are based on the actions of individuals and hence require intensive interaction. In this case, knowledge was accumulated and leveraged through the

process of combination and resource exchange as conceptualised by Nahapiet and Ghoshal (1998) and Nonaka and Takeuchi (1995).

This has been performed with a number of interactions within the organisation but also with customers as well as business partners in everyday work. Interactions within the organisation underline the importance of practice-based knowledge (Blackler, 1995; Dougherty, 2001) and "metaroutines" (Adler *et al.*, 1999). In addition, interactions with clients attempt to increase their positive experience with the firm. Interviews with the bank's closest business partners such as IBM for the infrastructure, SAP as banking software provider and Accenture as implementation partner, confirmed the importance of good relationships for open innovation.

As discussed, the most significant changes in banking are the open architecture philosophy and customer integration. Both streams demand developing positive experiences and participation of business partners and customers likewise in the relationship process with the bank (Ennew and Binks, 1996). The relationships between these are glued with social capital. Social capital is also utilised as lubricant to incorporate new information into the organisational context. It is seen as the integrator of interactions with the aim of increasing trust into the relationship. As trust in the relationship is growing, the bank becomes a reliable business partner for other institutions and a trusted advisor for customers. Therefore, the results from the study suggest that social capital should become more central to strategic management thinking as argued by Starkey and Tempest (2004). Based on this interpretation, the study suggests that leveraging capabilities are required to nurture enabling conditions to initiate, plan, and execute transformative change.

Assuming that an organisation is a complex and dynamic system (Thietart and Forgues, 1995; Holland, 1975; Stacey, 1995), managers need a holistic view of the firm. This is vital for the constant adaptation to the changing environment (Boisot and Child, 1999; Weick, 1995; Ross Ashby, 1954; Wiener, 1961; 1988). It is further argued that systems thinking (Forrester, 1961) is a crucial ability for managing transformative change as well as for attaining an ambidextrous organisation (Birkinshaw and Gibson, 2004). This includes radical and swift changes across the co-evolving dimensions of strategy, structure and process (Whittington *et al.*, 2000;

Pettigrew *et al.*, 2003) as well as the ability to align enabling conditions, architectural capability, and the three dynamic capabilities.

To sum up, the discussion in this chapter helps us to develop a coherent understanding of how the process of transformative change contributes to the renewal of the firm's innovation capability. An attempt has been made to conceptualise the findings from the study of UBS and its environment, and link them to the existing literature. It is argued that this emergent approach aligns enabling conditions, architectural capability, and dynamic capabilities in the organisation as a whole and hence builds a valuable and hard to imitate system. The proposed integrative framework combines the open innovation model as illustrated in Figure 15 and the concept of leveraging capabilities as synthesised in Table 13. The framework explains that like quality or innovation, such a system does not just happen. It needs to be created and actively nurtured.

The next chapter summarises the thesis. It discusses the findings and its implications on academia and management practice. Although an attempt has been made to close existing gaps in the literature there are limitations of the study. Therefore, some possible directions for further research are offered.

CHAPTER SIX

6 CONCLUSION

6.1 Introduction

This thesis has explored current strategic challenges in the banking industry. In particular, how UBS responded to these challenges, embraced the need for open innovation, and managed the transition to open innovation. Building on the critical examination and analysis of the phenomenon, the study provides an empirical account that is explorative in design and synergistic in nature. A number of strategic, organisational, and technological issues raised by the interviewees manifested that the workforce of the bank in question has, without doubt, the collective ability to successfully manage strategic change. This made the firm a leading example for an innovative and learning organisation in the banking industry.

The first section in this final chapter summarises the key findings of each previous chapter. Based on the limitations and contradictions of this study, future research directions are proposed. How the research questions were achieved and what we can learn from the learning organisation build the last section of this chapter. This includes a number of contributions from an academic and managerial point of view.

6.2 Summary of the thesis

Chapter One introduced the aims, motivation, significance, and background of the research including a brief methodology and thesis outline. *Chapter Two* was devoted to the analysis of current debates and perspectives on innovation and its broader environment and the transition to open innovation. The primary search of the innovation literature, contributed to the knowledge of the general field of scholarship to which the particular subject under investigation belongs. Besides the discussion of various definitions of innovation, and the different routes to and types of innovation, the examination of the manufacturing and service sector pinpointed a major gap. That is, most theories about innovation derived from studies in the manufacturing sector. The adaptation of such concepts to the service sector is difficult because of the fact that services encompass different characteristics and intricacies (De Brentani, 1991; Hill, 1977). This means innovation is sector, industry and sometimes even

business and firm specific (Miles, 1994). Based on existing theories, innovation in services follow different patterns to those in manufacturing (Boden and Miles, 2000; Tether *et al.*, 2001; Debackere *et al.*, 1998; Barras, 1986). Hence, it needed dedicated research. Therefore, more attention should be paid to innovation in services and its environment, in order to gain an in-depth understanding of the phenomenon that is required for developing cogent understanding (e.g. Gallouj and Weinstein, 1997; Sundbo and Gallouj, 1998). The lack of *service science* is in contradiction to the discovery that the service sector has become the largest contributor to the economy in industrialised countries (OECD, 2003).

The search of the literature identified a new systemic "method" or "means" for managing the innovation process. Chesbrough (2003a; 2003b) reinforced the scholar of collaboration (e.g. Eisenhardt and Schoonhoven, 1996; Anand and Khanna, 2000; Rigby and Zook, 2002) and suggested that firms need to open up their innovation processes and increase their collaboration activities with partners. Chesbrough (2003a) postulated open innovation as the core of a new paradigm for the twenty-first century. His research evidenced that many firms put open innovation in the centre of strategic thinking. As a consequence, organisational boundaries will become more porous and flexible. While some studies have proposed the "boundaryless organisation" (e.g. Slater, 1999; Ashkenas *et al.*, 1998), Buchanan and Huczynski (2004) argue that the trade-off between open boundaries and more stable structures is crucial. Therefore, appropriate organisational boundaries should be created that facilitate flexibility, creativity, and participation and include openness in knowledge management (McElroy, 2003). Newell *et al.* (2002) found in a number of cases that boundaries are important, for example, for knowledge sharing on a global basis.

Open innovation and its associated increasing emphasis on not only relationships with business partners (e.g. Rigby and Zook, 2002) but also with employees and customers (e.g. Thomke and Hippel, 2002) is one consequence of the information-based, knowledge-intensive and service-driven economy of the twenty-first century (Bartlett and Ghoshal, 2002). Organisations should therefore focus on the development of human, structural, relationship capital (Coleman, 1988; Stewart, 1997; Nahapiet and Ghoshal, 1998) and the incorporation of external knowledge

(Nonaka, 1994) while simultaneously focusing on flexibility and efficiency (March, 1991; Adler *et al.*, 1999; Prahalad and Krishnan, 2002). Balancing these strategic challenges forced many companies to change their strategic imperatives and business models. In particular, the banking industry has been affected by various developments during the last twenty-five years that forced many firms into radical transformation. This called for the adaptation of their technological and organisational infrastructures (e.g. Prahalad and Krishnan, 2002) based on an overall enterprise architecture framework (e.g. Schekkerman, 2003). Therefore, a set of new dynamic capabilities needed to be developed that went beyond the concepts discussed in the existing literature (e.g. Eisenhardt and Martin, 2000; Teece *et al.*, 1997). Based on the critical examination of the literature, the key issues for the further examination have been identified.

Chapter Three was dedicated to setting forth the methodology and design required to meet the research objectives. After a brief discussion about the philosophy in management research and the different stances, the research approach and strategy was explained. This included the researcher's judgement that management research is a trans-discipline that can best be investigated with a combination of methods and techniques (Gibbons *et al.*, 1994; Tsoukas, 1994; Whitley, 1984; Tranfield and Starkey, 1998). Based on the exploratory enquiry process, the study required a qualitative nature (Van Maanen, 1979) that answered the research questions with a case study strategy (Yin, 1994). The case study incorporated theory building and involved a process of inductive reasoning, in which the continuous comparison of the extant literature facilitated the exploration of new opportunities in analysing and interpreting the data (Eisenhardt, 1989). A number of actions were taken to overcome criticism regarding validity and reliability. Therefore, triangulation techniques such as crosschecks with external companies as well as using different data sources were employed. Data were collected through a number of valid and reliable instruments including semi-structured, in-depth, and informal interviews and also through participation at banking events and the study of documentation. Data reduction, data analysis, and conclusion drawing (Miles and Huberman, 1994) was based on coding principles suggested by Strauss and Corbin (1998). In particular, the

"paradigm model" (Straus and Corbin, 1998) was adapted to structure the storyline of the case study narrative.

Chapter Four explored the financial service industry and introduced the bank's vision, strategy, and structure. While the logical chain of evidence evolved, it was always related to trends and challenges of the contextual environment of the banking industry. The main part of this chapter built the examination of actions taken to cope with strategic challenges. The three main actions were analysed and described using interviewees' perceptions, perspectives, and experiences. Data were mainly organised according to themes without any interpretation and linkage to the extant literature. The result of this approach is represented in the in depth case study, which goes beyond the reporting of independent single acts.

The implementation of the main strategies led to organisational transformation, which radically renewed the bank. As a result, the bank benefited from a number of significant improvements. The flexible application and IT architecture, for example, built one of the major technological innovations. This platform helped the bank to align IT and business strategy and to achieve one of its major business priorities, namely leadership in operational efficiency. This is not only reflected in cost reduction, but also in the fact that the bank offers its capacity to other institutions and hence generates new means of income. The flexible technological infrastructure also facilitated open innovation. Within an open and flexible operating model, the bank distributes third party as well as its own products and services through its established channels. In return, it markets its products over third party distribution channels in international onshore markets. Benefits are mainly an increase in economies of scale, but it also offers customers a greater flexibility for selecting products and services. What is labelled by the bank as "open architecture" is considered as a radical organisational innovation that affects the entire organisation. In the same breath, the bank streamlined its client advisory process on a global scale and aligned it to the open architecture model as a complementary value adding process to customers.

Chapter Five discussed how the bank balanced multiple strategies in the transition to open innovation and at the same time increased its profitability. The main strategies of the bank were reviewed critically and compared with the findings of similar

studies. In addition, the opinions of other market participants were obtained. Focus was on understanding how the bank managed the strategic challenges and embraced open innovation while not neglecting daily business activities. As theory uses concepts, in the discussion chapter interpretations were placed on the data and linked with the extant literature. Within this process of theory development from case study (Eisenhardt, 1989) a framework emerged inductively. The approach used, provided an integrated set of conceptual tools and a holistic view, both of which are relevant to academics and practitioners.

The study concludes that open innovation is based upon the development of organisational and technological innovation and that it can be managed. In other words, efficiency, flexibility, as well as the transition process can be balanced. It was found that the transition to open innovation and doing business in the new paradigm requires a set of new management practices. This is reflected in the proposed integrative framework. This framework includes a number of concepts, whereby the open innovation model and the concept of the leveraging capabilities builds the core. To be precise, enabling conditions, architectural capabilities and three dynamic capabilities namely ambidextrous thinking, intrapreneurial attitude, and a holistic and systemic view on the firm were tied together and viewed as a *system*. In particular, social capital to knit a number of single resources and capabilities together is what made the system unique and difficult to copy by competitors. The findings of the study suggest innovation as a major driver of strategic change. The capacity to create and manage the discussed system is vital and believed to be a decisive factor for success. It is a valuable asset that may increase a firm's competitiveness and sustained strategic advantage.

Chapter Six briefly summarised the findings of the study. It disclosed the limitations and contradictions of the study and provided a future research agenda. In addition, it was devoted to show how the research objectives were obtained. The chapter concludes with the multiple contributions of the research that provided a distinct addition to knowledge.

6.3 Limitations and future research

The study has some limitations and offers some suggestions for further research effort. There are a number of general concerns about the objectivity of statements. Some of the answers given might have been neutralised by the informants while other statements might have overstated UBS's achievements. It was a thin line between misrepresentations of, for example, "lessons learned" and "learning from failures". As expected, most informants avoided talking about failures. It turned out to be difficult to elicit negative stories from bank executives and their business partners. Latter also showed solidarity as they had consulting mandates with the bank. An explanation for this reserved attitude is that banking secrecy and discretion are still sacred issues, which are deep seated in the organisational culture of Switzerland's private banking businesses (see *Appendix C*). As this peculiarity is understood to be a cultural issue, no solution can be provided.

Another limitation of the study is in having exclusively focused on the strategies within the bank's business group Wealth Management and Business Banking. Initiatives of other business groups belonging to the UBS Group, such as Asset Management and Investment Banking, were not included. The variation in the internal and external business environments of businesses in banking creates a situation in which management practices cannot easily be copied and hence might become irrelevant. The findings are therefore restricted to the context of private and commercial banking. It is expected that because of the idiosyncrasies of different banking businesses, outcomes might be at variance. Therefore, a number of suggestions, particularly the proposed integrative framework cannot as a matter of fact be adapted for all businesses. To overcome these limitations and for gaining a larger picture of the trends and challenges relevant to different parts of the banking industry, it is suggested to define a conceptual framework that integrates other banking businesses. This includes examining business groups such as private banks, commercial banks, asset managers, and investment banks. Research within such a framework might help to understand how banks manage strategic challenges, in particular the transition to open innovation on an integrated and global scale.

The methodological design of the current study led to a number of limitations. The chosen single case study was used to gain an in-depth understanding of dedicated strategies. Although the case study strategy and the use of the organisation as the unit of analysis to explore the phenomenon increased the current understanding and produced a number of valuable contributions, the findings can hardly be generalised. Therefore, the proposed framework for managing the transition to open innovation should be treated as an exploratory attempt. The findings might be valid for the investigated banking businesses, but not necessarily for the wider financial service industry or even the service sector. The key findings of the study can be refined, validated, and tested using other research methods, including quantitative research that surveys a large number of companies. Therefore, the results of this study needs to be restated and put into hypothesis that can be tested across industries. Through expanding the research, including the wider service sector, correlations between different industries might lead to generalisation.

An attempt has been made to explore the drivers for the strategies and to examine the entire life cycle of the open architecture, the client advisory process, as well as parts of the strategic solution programme. This examination is on the one hand retrospective, and on the other hand too recent that success could be measured in terms of tangible improvements. Additionally some of these strategies emerged over years; hence, they were aligned to the overall enterprise strategy gradually. For example, the analysed strategic solution programme has become so encyclopaedic in nature, that it was sometimes difficult to capture and link all of its related initiatives. Here again, this programme has produced various outcomes since its launch in 1999. Some could be measured while others are just expectations for the future. Future research that would analyse correlations between a firm's strategies taken and profitability, shareholder value and the like is suggested. In particular, research that critically examines measurable benefits in terms of revenues of open innovation might be interesting.

In sum, the generalisability of the results is restricted due to the single case study design and the focus on the two business groups instead of all business groups of a global bank. The findings, however, can be adapted to other wealth managers and

private banks of similar structure and size than the studied bank. The process as illustrated in *Chapter five*, Figure 14: The logical chain of evidence of the case study that trends lead to strategic challenges and cause a phenomenon, and that firms response to that phenomenon with action strategies applies to most industries likewise. However, every industry is hit by different developments. Where some trends such as the market and economical environment as well as technological imperative are of similar nature, other developments such as regulatory and policy issues in the financial service industry do have distinct traits. These dissimilarities generate different characteristics and intricacies for the phenomenon for other industries within the service sector as well as for industries in other sectors.

Besides the limitations of generalisability, the researcher believes that the integrated open innovation model as explained with Figure 15 can be used as overall navigator, although the determinants vary to a certain extent from industry to industry. Most notably the concept of leveraging capabilities may well be adapted by other industries as it is based upon the development of a set of new more or less general resources and capabilities. In particular, the suggested dynamic capabilities linked through social capital are of value for doing business in the new paradigm. This assumption is justifiable with the fact that every firm that is in transition from an old to a new paradigm undergoes organisational renewal and hence face similar challenges.

6.4 Major contributions of the research

6.4.1 Responding to the research questions

Answers for the key issues identified in the literature review emerged during the research process. In responding to the study's first research question, namely *"what are the key strategic challenges facing firms in the banking industry?"* the contextual environment of the banking industry was explored. This was achieved by interviewing executives at the bank in question as well as its business partners. In addition, valuable information was gathered by participating at industry events. Five trends that have challenged most banks during the last twenty-five years were identified and examined in detail. These include developments in the markets,

economical pressure, changes in the nature of demand, regulatory and policy changes, and technology innovations. These strategic challenges radically changed the business models of banks in recent years and guided the core interest of the research to the transition to open innovation.

The focus of the study formed the question "*how does open innovation help to address these strategic challenges?*. Valuable information to answer this question was mainly gathered from origination units of the bank, namely Wealth Management, IT, Product and Services, and Market Strategy and Development. Interviewees of those business areas pointed out that the characteristics of open innovation such as openness, ambiguity, flexibility, and customer focus must be addressed interrelated. The synthesis of the information given guided to three main action strategies with which the studied bank approached the strategic challenges. Strategies associated with organisational innovation were open architecture and the client advisory process, in addition to the enterprise architecture as a meta-model that integrates flexible organisational and technological infrastructures.

The third research question *"how do firms balance organisational and technological innovation in the transition to open innovation?"* was addressed by identifying the major strategic programmes of the bank and then by asking a set of distinct questions associated to these initiatives. A number of technological innovations led to the renewal of the proprietary application and IT architecture and were reflected in the bank's largest strategic programme. It soon became apparent that the trade-off between exploiting existing resources and exploring and striving for new opportunities and growth were conflicting issues (e.g. March, 1991). This dilemma was approached with the formulation of two broad business priorities with the aim to simultaneously improve efficiency and add client value. UBS called these initiatives "industry leadership in efficiency" and "perfecting the client experience". Further investigations in the field of enterprise architecture (e.g. Schekkerman, 2003) saw the bank develop coherent organisational and technological infrastructures (e.g. Prahalad and Krishnan, 2002) that align business strategy and IT strategy. The bank embraced the need for a set of new management practices that balance efficiency, flexibility, and innovation (e.g. Adler, *et al.*, 1999).

The findings of the previous questions built the basis of the fourth research question, *i.e. "what new resources and capabilities are required for open innovation?"*. Based on interviews across various business areas and hierarchical levels, a number of general requirements such as vision, strategy, leadership, and financial capital were labelled as enabling conditions for the strategic transition. A broader picture about recently developed resources that combine and integrate a set of individual capabilities emerged through the process of the systematic data collection. The findings are reflected in the concept of leveraging capability to nurture enabling conditions and link them through social capital with architectural capabilities and the three core dynamic capabilities. This account for a set of new management practices required for open innovation, namely ambidextrous thinking, intrapreneurial attitude, and a systemic and holistic view on the firm. These dynamic capabilities are based upon the development of an open innovation culture.

The last broad research question *"how can this set of new resources and capabilities leverage innovation?"* was answered by combining the empirical data with the extant literature. Thus, empirical input derived, in particular, from asking detailed questions about the methods and techniques employed for disseminating and transferring knowledge throughout the organisation. Although there was no global knowledge management concept in place, the study detected that the bank has made use of a number of concepts such as "best practices" (e.g. Newell *et al.*, 2003; Camp, 1989), "center of excellence" (e.g. Moore and Bikingshaw, 1998) or "communities of practice" (e.g. Brown and Duguid, 1991; Wenger, 1998). These concepts, combined with other findings of the case study, led to the suggestion that the firm can leverage its capability for innovation and increase its competitiveness by focusing on a *system* approach. This includes not merely incorporating new organisational knowledge (Nonaka, 1994) from a variety of collective organisational learning practises and developing a set of new dynamic capabilities, but also interweaving these capabilities on a total system basis (Garud and Nayyer, 1994; Starkey *et al.*, 2003). Thus, the *system* becomes intangible value that cannot easily be copied by competitors.

During the research, emphasis was primarily placed on the processes of *how* the case organisation operated, instead of purely on the outcomes. This enhanced our

understanding by providing a more comprehensive and integrated picture of the phenomenon under investigation and produced multiple contributions to knowledge. The key issues of the theoretical and managerial contributions made by this study are highlighted in the following sections.

6.4.2 Theoretical contribution

The exploration of the context outlined five major trends in the banking industry. As illustrated, these trends have changed strategies and existing business models radically. Based on the empirical data, a phenomenon was identified that will drive banks to organisational renewal. The discussion of this new open innovation paradigm, within the context of the banking industry, elaborates its nature as being practice-based, cross-unit, socially constructed, and context dependent. The principles of open innovation as suggested by Chesbrough (2003a; 2003b) could be linked to the concept of open architecture as operated in the financial services industry. The integration of knowledge from theories and combining it with the empirical evidence, *i.e.* the three main action strategies, contributes to the existing literature.

The understanding and conceptualisation of the ability required for adapting to the changing environment, and the mechanisms for the management of the transition is crucial. The empirical evidence obtained from the case demonstrates that collective capability and knowledge increased the firm's intellectual capital (Nahapiet and Ghoshal, 1998), and can be perceived as a unique and valuable learning system. Possessing such a system and the ability to manage it stimulates innovation and may well be a defining and sustainable advantage for firms in a continuously dynamic environment with barely predictable future. These findings endorse the importance of generating new dynamic capabilities for strategic management (Eisenhardt and Martin, 2000; Teece *et al.,* 1997) and technological and organisational infrastructures (Prahalad and Krishnan, 2002). The study suggests that the ability of combining and integrating different sets of resources, such as the dynamic capabilities, and knitting them together with social capital (Nahapiet and Ghoshal, 1998) is what the transformational leadership stands for (e.g. Schein, 1997; Ghoshal and Bartlett, 1994; Bass and Avolio, 1993; Smircich, 1983; Burns, 1978).

Firms can benefit from building ambidexterity into the organisation (Birkinshaw and Gibson, 2004) and nurturing innovation and learning by providing an appropriate open innovation culture that facilitates intrapreneurial behaviour of the workforce. This is reflected in a number of efforts embedded in the transition mechanisms. This includes empowering employees on various levels, capturing knowledge in "centres of excellences" and transferring and developing knowledge through the Leadership Institute or the concept of "best practices". These organisational learning practices are key to generate business opportunities (e.g. Garud and Nayyer, 1994, Dixon, 1994) and are considered as the first step in creating a learning organisation (Senge, 1990). The ambiguous environment and ambidextrous strategies require strong leadership and management commitment. Striving for leadership in efficiency can lead to inertia if the management neglects customer behaviour and fails to immediately adapt to the changing business environment. On the other hand, being too focused on the transition process might have negative effects on the motivation of the workforce and impair innovation and learning. Therefore, the study suggests that managers need multilateral and systemic skills to pursue multiple strategic directions.

These insights were synthesised and conceptualised in the form of an integrative framework. The framework presents an overall picture of how firms can successfully manage the transition to open innovation and, at the same time, increase efficiency and flexibility. The proposed framework is considered as the main theoretical contribution generated by the study and is a valuable addition to the current literature in the field. Its value resides in a number of criteria upon which it is based. *First*, the integrative framework emerged from multiple sources of evidence gathered from different hierarchical levels and various business areas within the studied firm. In addition, external views of the bank's business partners, as well as experiences and opinions from other market participants were incorporated. *Second*, the framework derived on the basis of the empirical data, but also emerged from relating this information to the extant literature. The interplay of reading the literature and doing an analysis of it, then verifying and combining this information with the empirical data, increased the existing knowledge by combining it. *Third*, the relationships between the enabling conditions, architectural capabilities, and dynamic capabilities

were explored. The concept of leveraging capabilities, as well as the importance of social capital to align various sets of resources and capabilities, was added to form the integrative framework.

6.4.3 Managerial contribution

The analysis of how the studied bank acted captures key issues from a process view. This approach is in line with the argument that the key defining characteristic of management research is its applied nature (Tranfield and Starkey, 1998). It is the understanding of the process within a specific context of application that contributes to managerial knowledge. In particular, what were the developments and conditions that led to strategic change and how did the observed firm manage the transition? Although much of the strategic, organisational, and innovation theories offer general guidance for managers, this study complemented the existing literature with examples of how the bank acted in the dedicated context of open innovation. In particular, it helps managers to deal with multiple strategic directions.

It has to be said that the interviewed employees already knew much of the study outcome. In Polanyi's (1966) aphorism, they know more than they can tell and have difficulties to see the integrated picture. Therefore, an attempt has been made to invite interviewees to reflect on the knowledge they possess and knowledge that is available and yet cannot be articulated. Reflected in the data collection process, this means that normative questions at top management level about vision and strategy as well as questions at project level about how the firm implemented certain things were combined. Through the process of letting interviewees explain their social actions, the understanding has been increased for both, the researcher and the interviewed. In addition, interviews were held in diametrically opposed departments, such as with front office personnel and IT staff. This heterogeneous set of data was linked to conceptual and theoretical studies as well as to practitioner oriented literature with the aim to identify a set of new management practices required for open innovation.

The proposed integrative framework adds an alternative view to the debate of the applicability of management research. The framework might help managers to gain a comprehensive understanding of strategic challenges and ways of how to approach

them. The embraced approach to this management research complemented the recommendations made by Starkey and Medan (2001) concerning new forms of research partnerships and training, and together addressed the relevance gap between managerial practice and academia. The various contributions of the study derived from theory-led and practise-led research and confirmed the importance of "a dual approach to the production of knowledge" in management research (Tranfield and Starkey, 1998: 350).

The suggestions above are reflected in the researcher's assumption and have been acknowledged in a number of articles with the aim to address integrative aspects of management research. An attempt has been made to transfer insights from the doctorate to management practice with three publications in *IO [Industrial Organisation] New Management*. The management journal for enterprise sciences evolved from the Swiss Federal Institute of Technology in Zurich in 1932 as editor and is jointly published by the Handelszeitung Verlagsgruppe as a member of the Axel Springer AG. The overall intention is to provide a large audience in the German speaking area with articles that integrate theory and management practices based upon trans-disciplinary research.

The latest article published in the journal mentioned explains the increasing dominance of the service sector and its pertaining changes to organisations and societies. It argues that more attention should be paid to the innovation process in services and service science as such. The article suggests adopting concepts used in manufacturing and natural science such as tests and experiments for innovation in services. As clients wish more than just products – they want a solution, it elaborates how companies can take advantages of this new phenomenon (Fasnacht, 2005b). Other articles published earlier in the same journal discussed the characteristics of the open innovation paradigm and stated that collaboration is the best fertiliser for innovation (Fasnacht, 2004a). Respectively, one article was devoted to the question of how firms can improve the implementation of strategic programmes by adopting open innovation approaches (Fasnacht, 2004b). In addition, a chapter in a book proposes how complex projects can be managed with a holistic approach (Fasnacht, 2005a).

Another article was published in a special edition on innovation of the *Neue Zürcher Zeitung* (Fasnacht, 2004c). As this paper addresses a broader audience, the article discussed how radical innovations push societies. It explains that new impulses come mostly unanticipated and can hardly be planed in contrast to incremental innovations. Nevertheless, the management must provide the crucial conditions for breaking through innovation. This can be in form of an innovation and learning friendly culture that facilitates the nurture of new ideas as seen at the bank elaborated in this study.

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APPENDIX A: INNOVATIONS IN BANKING

	Innovation	Adoption date (est.)
Service delivery or access to financial markets, i.e. new products and services	Bond	1960s
	Eurobond	1963
	Credit Cards	1969
	Junk Bond	1970s
	Convertible Bonds	1970s
	Money market deposits	1970s
	Money market mutual funds	1970s
	Collateralised mortgage	1970s
	Derivates	1970s
	Cash management account	1978
	Certificate of deposit	1979
	Adjustable rate mortgage	1980s
	Variable rate mortgage	1980s
	Self directed IRA account	1980s
	Sweep (asset management account)	1980s
	Debit cards	1987
	All in one account	1990s
	Direct payroll deposit	1990s
	Structured products	1990s
	Credit derivatives	1993
	Trackers savings account	2000s
	Wheater derivatives	2000s
Organisational functions, i.e. process	Risk management systems	1970s
	Automated voice response systems	1980s
	Automated cheque	1980s
	Computerised loan document generation	1980s
	Discount brokerage service	1980s
	High speed image processing of cheque	1980s
	High speed image processing of office documents	1980s
	Truncation of cheque handling process	1980s
	Telephone banking	1983
	Automated mortgage origination	1990s
	Centralised loan application process	1990s
	Customer informatin file	1990s
	Electronic trading of shares	1990s
	Loand tracking system	1990s
	Profitability analysis by customer	1990s
	Straigth through process	2000s
Common to both organisational function and service delivery	ATMs	1967
	Home banking	1983
	Electronic fund transfer (PoS)	1985
	Branch automation	end 1990s
	Transaction portal	end 1990s
	Internet banking	1997
	Mobile banking (GSM and WAP services)	1999
Miscellaneous types of innovation	Lockbox System	1980s
	Treasury work station	1990s
	Lobby automation (video banking)	1990s
	Loyalty schemes	1990s
	One-stop banking	1990s
	Online financial management system	1990s
	Personal banker	1990s
	Open architecture	*2000s*

Table 14: Innovations in banking (Bátiz-Lazo and Wondelsebet (2004)

APPENDIX B: INTERVIEW QUESTIONS

Below is a selection of the main questions asked. The questions are categorised according to themes and not listed *pro rata temporis*. Some questions were more structured and asked at the beginning of the data collection (exploration stage), where other questions had in-depth interview character and were used for explanation and understanding of the phenomenon being studied.

Trends, challenges and strategic change:

What is the bank's vision and strategy?

What is the bank's business model?

What are the trends in the banking industry?

How do you cope with technological innovation?

How do new business rules affect banking businesses?

How do you cope with the developments in e.g. market and client behaviour?

What have been the major strategies in recent years related to the trends?

Can you give me an overview of the most important strategy?

What are the critical success factors for strategy implementation?

How does the strategy development process look like?

How do you manage strategic change and at the same time focus on daily business and innovation?

Resources, capabilities and learning:

What are the banks core competencies / capabilities?

What is the contribution of external resources to innovation?

Could you have achieved similar results without external resources/ideas?

What do you most lack of if considering collaboration (capacity or capability)?

How do you acquire and incorporate knowledge?

What are the requirements for developing innovation and learning capabilities?

What are the required resources and capabilities for the next few years?

How does the top management address innovation and learning?

Product and service innovation:

What is the definition of a product / service?
What is / was the biggest product and/or service innovation?
How does the product development process look like?
How do you react to the increasing commoditisation of products?
What can be adopted from the manufacturing sector?

Open innovation:

What do you understand under an open approach to innovation?
Can you explain the open architecture?
What are the rationales for an open operating model?
Where do you see the advantages / disadvantages of an open approach?
What are the major challenges for open architecture?
What are the requirements for adopting the open architecture?
How did the innovation process look like twenty-five years ago?
How does the innovation process look like today (compare / contrast with the past)?
How does the top management address open architecture?

Organisational and process innovation:

What is the definition of a process?
What are / were the major process innovation in recent years?
What is the connection between products, services and process innovation?
What is the link between open architecture and process innovation?
What is your approach to initiate processes?
How do you improve your processes regarding efficiency?
How do you improve your processes regarding quality?
How does the client advisory process look like?
What is the value added of processes for clients?
What are the trends in the banking industry in terms of process innovations?
How do you cope with these trends?

Conditions and requirements for open innovation and its management:

What are the conditions for open architecture and the client advisory process?
What organisational infrastructure is required?
What technological infrastructure is required?
What are the benefits of open and flexible infrastructures/architectures?
What are the critical success factors for the transition?
What new management practices are required for the transition process?
What competencies are you currently developing for transforming the organisation?

General questions:

How do you position UBS in the global banking industry?
What is your growth strategy?
What do your clients expect / want from UBS?
Why do they choose UBS?
How can UBS differentiate from other banks?
What is your unique selling (banking) proposition?

APPENDIX C:
THE SWISS BANKING INDUSTRY

The Swiss banking industry includes all financial institutes that are governed by the banking law. Institutions that are subject to the banking law are required to submit at regular intervals a report on their balance sheet, income statement, equity, and liquidity to the Swiss National Bank (SNB). The SNB generally looks at the business activities of the parent company. This covers the domestic head office plus the legally non-independent subsidiaries in Switzerland and abroad. The Swiss banking system is based on the principle of "universal banking" under which banks can offer all types of banking services, although over the years different bank groups have emerged that have come to specialise in certain areas. The Swiss Bankers Association (SBA, 2003) describes the most significant banking groups in Switzerland as below:

Big Banks: The term "Big Banks" refers to Switzerland's two giant banking groups, UBS and the Crédit Suisse. They are huge no matter what index of measurement is taken: balance sheet total, assets under management or number of employees. Besides being strong in the domestic retail banking business, they are both very active in international investment banking and private banking.

Cantonal Banks or State Banks: True to Switzerland's federalist structure, nearly all of the country's 26 cantons have their own bank. Founded for the most part in the 19th century, the cantonal banks have been closely tied to the growth and development of their respective economies and populations. Most of the 24 cantonal banks existing today are state-owned institutions with liabilities guaranteed by the canton. Like the areas they cover, cantonal banks vary considerably in size. A cantonal bank's total assets range from CHF 1bn to CHF 58 billion. The smaller cantonal banks concentrate on savings and mortgage business, while the larger ones offer a wide range of services such as asset management, personal loans and export finance.

Regional Banks and Savings Banks: Swiss regional and savings banks are basically in the same line of business as cantonal banks, but typically restrict their business to smaller regions or selected territories within Switzerland. They are usually small or medium sized local institutions and are principally active in mortgage lending and savings. Although they are full-service banks, they do not as a rule engage in

international business. Since 1994 most of them have been affiliated to Regional Bank Association (RBA Holding), which acts as their clearing house. At the end of 2002, RBA Holding counted among its members 81 regional banks with a combined balance sheet total of CHF 53 billion, and employing around 3,100 people.

Raiffeisen Banks: The *Schweizer Verband der Raiffeisenbanken*, the Raiffeisen banks' association, consists of 471 independent banks that are mostly located in rural areas. They are structured along cooperative principles inspired by the philosophy of the German social reformer Friedrich Wilhelm Raiffeisen (1818–1888). The co-operatives have around 1 million members who hold participation certificates and are thus joint owners of the Raiffeisen banks. They basically serve the needs of a local and predominantly rural clientele, currently numbering more than two million. Their core business consists of mortgage, agricultural and commercial lending.

Foreign Banks: The foreign banks are subject to Swiss banking law and are regulated by the *Swiss Federal Banking Commission* just like any Swiss bank. Foreign banks have a foreign shareholder majority or have a foreign shareholder who exercises a significant influence over the bank. Most of the world's most famous banking groups are represented in Switzerland and the foreign banks are particularly active in private banking. Approximately 40% of all banks in Switzerland are of the type foreign bank.

Private Banks: Private banks are simply banks that specialise in the private banking or asset management business, usually for so-called "high net worth individuals". In Switzerland, the term "private banker" is specifically reserved for those banks where the partners carry unlimited personal liability for their bank. Today there are 15 "private bankers" in Switzerland. They are amongst the country's oldest banks, with some of them tracing their history back to the 18th century.

Other Banks: This group includes banks with various specialised business areas, such as banks concentrating on the stock exchange and securities business, mortgage investments or commercial loans to finance trade, industry, and commerce.

APPENDIX D:
THE SWISS BANKING SECRECY

A narrative to introduce the controversial theme of the Swiss bank secrecy has been seen more appropriate than citing law texts or official statement from governmental side or any other banking association. The explanation below is grounded on research by Holland *et al.* (1998).

The start of the Swiss bank secrecy goes back to 1934 right after Hitler came to power. In that dark time of German history, tens of thousands of Germans, concerned about the future of their freedom and wealth, were sending funds abroad, and much of this wealth went to Switzerland. To counter this asset drain, the German government enacted a new law ordering all citizens to declare their foreign investments. Failure to comply with this requirement was punishable by death. Even under the threat of death, most Germans did not report their Swiss accounts. Hundreds of Gestapo agents were then ordered to Switzerland in search of these secret accounts. They used bribery, fraudulent inquiries for account balances, wire-tapping, opening mail, and even posing as the supposed account owner to request funds. This Nazi onslaught against the Swiss banking traditions of respect for privacy and property prompted the Swiss government to enact the Bank Secrecy Act of 1934. As paraphrased by a Swiss banker:

> "The Act makes it a crime for a bank officer or employee to reveal any information about the customer's account to a third party without the written permission of the customer. Bank officers or employees are further prohibited from disclosing, even to the Swiss government, the existence, or contents of any Bank account. Bank employees are covered under the law, even after they have left the bank or the banking business. A violation is punishable by a prison term of up to six months and/or a fine of up to 50,000 Swiss francs. Even if the disclosure is by negligence, the fine ranges up to 30,000 Swiss francs."

Therefore, bank account privacy and secrecy still exist in Switzerland, but not if you break a Swiss law, or are a major political tyrant or dictator and have committed crimes against your citizens. Still, depositors are protected in many cases. Andreas Hubschmid, First Secretary of the Swiss Bankers Association, commented on this subject: "Bank secrecy was never meant to cover up for money launderers and criminal organisations". Today Swiss bankers must scrupulously identify their

customers or risk a run-in with Swiss investigators. The original and continuing purpose for Swiss banking secrecy is to protect the innocent, not to shield the guilty. Indications from both Swiss government authorities and Swiss banking officials point to the continuation of this policy.

Unlike many countries where cultural traditions and heritage are often discarded and changed like used cars, real change comes very slowly to Switzerland. For example, the earliest written account of Switzerland was in the first century B.C. when Poseidonius, a Greek writer, described the Swiss as "rich in gold but peaceable." Five hundred years ago in *The Prince*, Machiavelli's classic on political power, he wrote "Switzerland is known for her stability and military strength." Then in the 19th century, noted author Victor Hugo described the future of Switzerland when he wrote the following: "In history, Switzerland will have the last word." The past 700 years seem to affirm these conclusions. Switzerland continues its long tradition of a belief in gold, stability, and political neutrality combined with a strong defence, and is on a path to continue these traditions. A widespread view of Swiss people is therefore, although controversial, that they are reluctant to give up their freedom in terms of foreign policies, after having fought foreign domination for 700 years.

APPENDIX E:
THE STRATEGIC SOLUTION PROGRAMME

Historical background:

Where the Union Bank of Switzerland (UBS) had run a strategic programme in the early 1990s called "OASIS" Open Architecture Standard Information System, the Swiss Bank Corporation (SBC) had started a strategic programme in 1994 called "MIBA" Millennium Banking. Both programmes were driven by mainly technological issues with the objective to make the entire application landscape year 2000 compliance. After the merger of the two banks in June 1998 another important issue appeared. Besides the year 2000 compliance, the quick integration of the two different IT architectures became top priority. The bank decided to use the Abacus system by Unisys that had been run by UBS for a long time. The system integration completed in July 1999 in record time and seemed to be passing the year 2000 test successfully.

In the same year, the ideas of OASIS and MIBA were discussed and the two concepts harmonised. Recognising the need to overhaul the basis IT architecture comprehensively, UBS also had the radical changes in banking business in mind. While business was conducted by traditional branch operation, which accounted in the 1970s to eighty percent of client business, the banking model of the new millennium has become integrated and global as discussed in the case study. Additionally, many sceptics of the new economy euphoria had acknowledged a substantially higher trend in productivity growth as the benefits of new information and communication technology (ICT) spread through the economy, notably in the financial service industry. Productivity gains have lowered unit labour costs contributing substantially to the rise in corporate profitability.

Where technological innovation are implemented in the form of various projects at financial service firms, UBS subsumed all business and IT initiatives including MIBA and OASIS and launched one of their largest strategic programmes in their history. The aim was to achieve both, efficiency and innovation by aligning business strategy and IT strategy. Even though the initial goals were the transition from the post-merger solution to a strategic platform, and the replacement of the technical infrastructure of UBS in Switzerland, which was designed back in the 1970s, this programme copes with all opportunities of ICT and renews the heart of the bank, *i.e.*

their core banking system. The replacement by a state-of-the-art, component-based IT architecture, has been imperative in order to respond to changed business requirements and prepare the bank for the future. This open and flexible platform will be used as the foundation for many initiatives. In particular, it eases the integration of acquired firms as part of the bank's growth strategy but also facilitates the open architecture strategy and its complementary client advisory process.

Planning:

The strategic solution programme is separated into two main phases to reduce complexity. In fact, main parts of the programme have been phase I, SSP banking foundation and phase II, consisting of mastering core static data, migration, and SSP compliance. Where there was a preceding basis stage, the first use of the banking platform will make the so called value application. Figure 17 illustrates the different steps of the programme that are explained below.

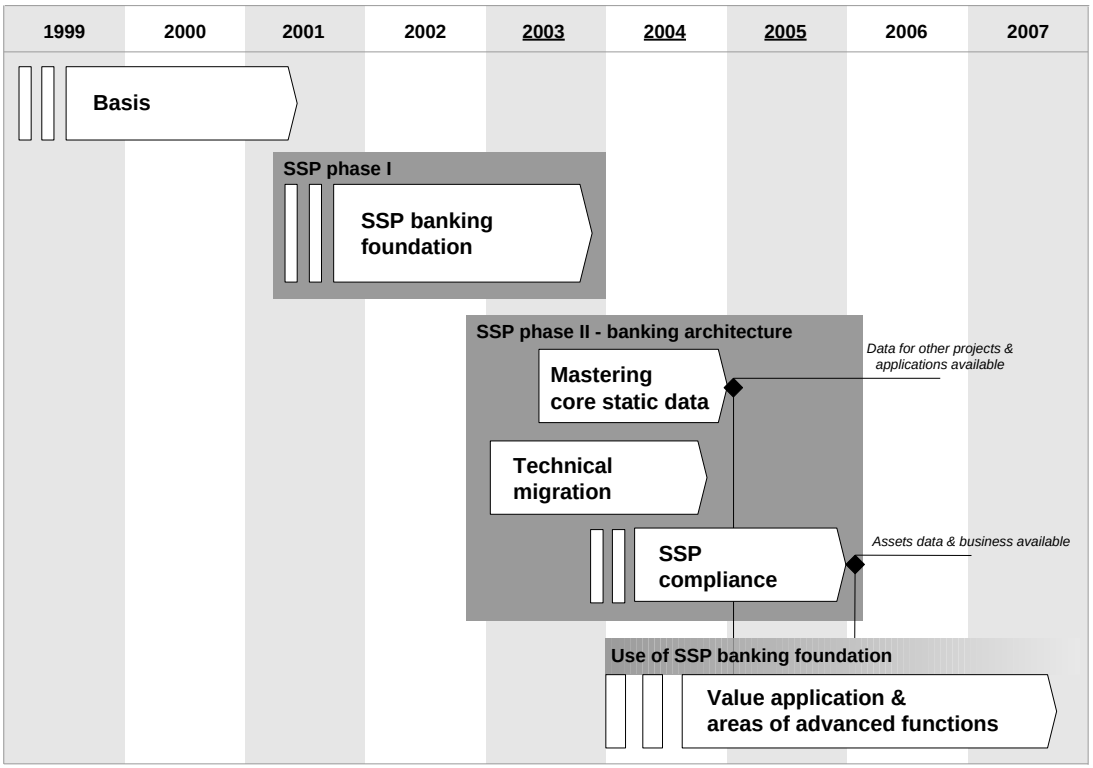

Figure 17: SSP planning

Before SSP started, the enterprise architecture of the UBS Group was redesigned and revised in the preliminary *basis* stage. Environmental trends in banking had been taken into account to meet the UBS strategic direction and intertwined it with the banks (new) business model. Special diligence was paid to align the business model to the application and technical architecture. This preparatory work set the basis for SSP and as the heads of application architecture and technical architecture both affirmed, it was the foundation stone for SSP's success. They stated, with the utmost probability, future strategic programmes in that dimension would be impractical. Examples of failures of similar strategic programmes at other banks, where not enough attention was paid to the underlying foundation were given by some interviewees but could not be proved.

SSP phase I had the objective to develop and implement a core client infrastructure including securities positions keeping, client cash accounting, decommissioning, core static data management, and financial and management accounting. This *banking foundation* considered business as well as IT related issues. While one outcome of the application and technical architecture was the definition of methods, processes and common tools for development of solutions, it also included a data warehouse programme. Standard software for human resources, supply management, and real estate were purchased and implemented at the same time as part of this initiative. Strategic alliances with suppliers were formed for the collaborative development of a cash accounting solution. An important milestone was reached in the third quarter 2003, when all client accounts were successfully transferred to the new platform. One of the results is that clients in Switzerland now receive newly designed account statements that can be tailored to suit their needs. The modular nature of the banking architecture lays a technical foundation that will help UBS further increase the overall flexibility of their products and services, while providing clients with more transparent information and data.

As SSP phase I has been successfully completed, some project data may be disclosed. During the foundation phase, there were about forty dedicated projects with in all 1,000 full time employees, led by a stringent programme management. Approximately 40% of the resources were drawn from external partners. Out of these

50% were from strategic partners, such as IBM, Oracle, SAP, Accenture, and Systor and 50% from companies mainly in highly specialised fields such as for instance securities management. For the later solution, UBS purchased a standard product by SDS (Software Daten Service). Investments for the 24-month phase were roughly CHF 400 million.

SSP phase II, which overlaps the last stage of the foundation stage, has been delivered a number of solutions over the entire phase. This phase in fact, has exchanged the old Unisys platform with the new SSP banking architecture built on an IBM platform. The phase is subdivided into three successive stages. With the process of, *mastering core static data*, the bank attempts to hold all kinds of client information as master data in the new platform. The aim is to maintain, partner, product, contract and pricing information centrally in SSP, and to provide to all other applications as slave data. Although, preparations for the technical migration of all Unisys applications started around the same time with mastering core static data, it was planned that the migration, without functional changes to processes, would not be finished before the end of 2004. This stage is mainly technical – porting data structures from one system to the other.

After the *technical migration*, all ported applications would be adapted to the new architecture. The benefits of the migration are many-sided and affect employees, developers, and customers. Real-time processing around the clock as well as improvements in financial and management reporting may take effect. In addition, the new banking architecture gives UBS the ability to shorten the length of time it takes to bring new product solutions to market. Lower operating and maintenance costs are additional outcomes. Functional improvements in terms of output management such as consolidated paper outputs for clients or new processes in asset management and numerous other business cases are a result of the *compliance stage*. What UBS calls *value applications* are the ultimate benefits of the new architecture. They are based on the banking foundation with all its organisational and technological innovations and will support strategic initiatives for years to come. These are seen as future opportunities with great innovation potential.

APPENDIX F:
LETTER OF CONFIDENTIALITY

+44 (0) 115 84 66628
kim.hoque@nottingham.ac.uk

The University of Nottingham

Nottingham University Business School
Jubilee Campus
Wollaton Road
Nottingham
NG8 1BB
UK
Tel +44 (0)115 951 5500
Fax +44 (0)115 951 5503
www.nottingham.ac.uk/business

TO WHOM IT MAY CONCERN

19 February 2004

CONFIDENTIALITY STATEMENT – Mr Daniel Fasnacht

This is to confirm that the above named is currently registered as a full-time student on the PhD programme at the Nottingham University Business School. Mr Fasnacht joined the programme in September 2002 and will complete no earlier than September 2005 with the submission of a dissertation.

His research investigates how open innovation approaches can be used as a platform for corporate change programs. As this is a qualitative research project, data are being collected through interviews from different strategic programs within the UBS Group.

All the information you provide will be treated with complete confidentiality. Your name will not appear in any thesis or report resulting from this study without your permission.

Signed:

Daniel Fasnacht
Doctoral Candidate in Strategic Management

Signed:

Professor Ken Starkey
Professor of Management & Organisational Learning
Head of Strategy & IT Division
Supervisor

Signed:

Dr Kim Hoque
Senior Lecturer in Human Resource Management
Director of Doctoral Programmes