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IBM NL and the Emerging Business Opportunities

Analysis of facilitators and inhibitors for EBO innovation within IBM Netherlands

I.J. Plugge
Amsterdam
September 20th 2004

TU Delft
Delft University of Technology

IBM

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Student
I.J. Plugge

Professor
Prof. ir. W. Dik (TU Delft)

Committee
dr. ing. M.A. Zegveld (TU Delft)
D. Schiferli MSc. (IBM)
dr. R. Verburg (TU Delft)

TU Delft
Delft University of Technology

IBM

Management abstract

The platform Emerging Business Opportunities (EBO's) is a key element of IBM's innovation investments. EBO's are meant to be sustainable growth engine to deliver innovative solutions that IBM's mainstream business eventually can execute and scale to growth. An Emerging Business Opportunity (EBO) is a potential growth area for IBM for which IBM's EBO board has decided that it is worthwhile to make investments in, meant for discovering and developing a market. An EBO is managed by a system that provides room for discovery and development aiming at adoption by IBM's lines of business located in different countries in which IBM is active.

EBO innovation is defined as the process starting when a new development is officially promoted to have an EBO status by the corporate EBO board until the moment the EBO has become Business As Usual in the Dutch IBM organization and market or is abandoned. The part of EBO innovation that takes place within IBM NL is defined as EBO implementation.

The study focuses on identifying current inhibitors and facilitators for EBO innovation within IBM NL. The unit of analysis is IBM NL. This study is explorative and is a first step at identifying facilitators and inhibitors for EBO innovation. It addresses both organizational and implementation related factors influencing EBO innovation. The study has resulted in a first overview of EBO innovation within IBM NL and an initial advice for IBM NL management consisting of directions of measures that can be taken to increase the chance of success of EBO innovation.

A theoretical framework (Tidd, Bessant & Pavitt 2001) has been used for analysing EBO innovation. Conclusions are based upon a qualitative research consisting of 13 interviews with different people working within IBM NL consisting of higher management, technical leaders and EBO employees. The conclusions are split in three sections: [1] phases in EBO innovation, [2] organizational arrangements within IBM NL for EBO employees, and [3] organizational factors influencing EBO innovation.

First, two phases: transfer and commercialisation, are currently present within EBO implementation. The transfer phase aims at value recognition of new EBO offerings created by EBO employees within business units of IBM NL. And second a commercialisation phase consisting of the execution of an offering by both EBO and BU employees, possible partners and customers.

Second, organizational arrangements for EBO employees are not optimal, and are split up in (1) experiences of EBO employees, (2) measurement systems and (3) knowledge exchange. First, inhibitors brought forward by EBO employees are: little recognition and support from colleagues, EBO's are not widely known in IBM NL, EBO employees do not experience a team – or EBO feeling, and the missing of clear lines and direct management within IBM NL. Second, a BU manager indicated that EBO's are seen as an overlay over the current organization with no added value. Third, the used measurement system provides room for business development by EBO employees. In contrast came forward that the used measurement system creates an image of 'EBO's have no added value'. Fourth, intra EBO knowledge exchange among geographical boundaries is present, as is knowledge exchange among functional boundaries. Three inhibitors concerning knowledge exchange are: the lack of structured knowledge exchange between EBO employees within IBM NL, the lack of good communication between EBO employees and a BU manager, and little to no marketing of EBO successes.

Third, organizational factors influencing EBO innovation are here related to strategy and culture. On strategy: key individuals in the organization have a clear vision towards innovation, the role of innovation for IBM and the role of

EBO's within innovation for IBM. A coherent IBM NL vision for EBO's on how to approach, support and what EBO's can mean for IBM NL has not been indicated. On culture, EBO employees indicated that they mainly experience a quarterly driven environment leaving less room, acceptance and support for business development. Awareness of the relevance of innovation has been found in every individual I interviewed. Furthermore, initiatives are taking place, like the innovation and technical council and the innovation centre, which could enhance EBO innovation. Hence, both supportive and non-understanding attitudes were indicated.

Three areas of measures are presented: [1] organizational arrangements for EBO employees, [2] culture and [3] strategy. A first constraint for these measures is that IBM NL is a local office. Most strategic decisions concerning EBO's are made outside IBM NL and EBO employees are managed from a regional level. Second, the solutions should at most lead to new tasks that can be carried out by current IBM NL employees or a shift of tasks. Third, the current EBO situation within IBM NL will be taken as a starting point for these measures.

Area 1 focuses on the organizational arrangements for EBO employees, and is meant to improve their working situation. Cross EBO knowledge transfer within IBM NL and creating a team and EBO feeling, might be improved with measures like: an overview of people involved in EBO activities within IBM NL, arrange meetings between EBO employees, tools like a website, a forum, a community tool or a list of people on 'same time'. A formalised version is the creation of a (virtual) EBO team consisting of EBO employees. The activities of the EBO employees do not change. A location could be under the highest sales - or country manager.

Area 2 of measures is meant to create more awareness and support of the relevance of and support for EBO's among employees within the business units. The purpose is to tighten the link between the EBO's and the business and vice versa. No specific measures for this area are presented.

Area 3 of measures deals with taking a strategic approach towards EBO's and EBO opportunities. EBO employees create offerings that can become actual projects carried out by EBO employees and BU employees. It is most likely that some of these projects will be more promising than others. A committee consisting of members of the innovation and/or technical council together with key managers, like BU managers and the country manager can make these strategic choices. They can decide on directions how to refresh or add options to the business portfolio and adjust business unit structures (human resources, capacity, focus areas etc.) to deal with the chosen direction. A second option is to link an EBO to a BU and that strategic choices are mainly made on a BU level.

Preface

This report has been written for my thesis as part of the Management of Technology (MoT) program, faculty Technology, Policy and Management of the Delft University of Technology. The MoT program focuses on themes managers need to manage technology. Courses address themes like: Strategy, Innovation, Supply Chain Management, ICT Management, Presenting, Negotiating and Decision-making. Innovation is one of the main themes in this program and has my special interest.

It is well accepted that the ability to innovate is a source of sustainable competitive advantage as it allows companies to create and survive in competitive markets in the long term. This study aims at giving a contribution in gaining insight in and implementing research of the field innovation management.

IBM has a reputation of being innovative and they have no doubt about the business value of innovation. Its ability to innovate constantly is one of its sources for creating sustainable value. One of the options for a company like IBM to keep growing is to capture new markets. But how does a large multinational like IBM with local offices through out the world breed this kind of innovation into the whole of its organization, so that it becomes a repeatable and manageable happening? This is a theme that is addressed in this thesis and which it should contribute to. Doest this report say it all? Certainly not, but it is a place to start if you are concerned with thinking about management issues that address this field. Please feel free to identify those areas in this report that you might think are useful.

There are several ways how this report can be read. First, fairly straightforward: reading it from front to back. Second, readers who are interested in the theoretical framework for analysing EBO innovation are referred to Chapters 2-4. Third, those readers who are especially interested in the inhibitors and facilitators and the indicated directions of solutions for EBO innovation in IBM Netherlands are referred to § 8.4 and Chapter 9. For the readers who are interested in the interviews, these are presented in Append II & III.

Then finally I would like to thank all the people who helped me write this thesis or supported me in a way. First, my supervision team: Professor Wim Dik, Robert Verburg, my mentor at IBM Djeevan Schiferli and my mentor from the Delft University Marc Zegveld for their professional, supportive and motivating supervision. Second, I would like to thank all the people I have interviewed for their cooperative attitude. Furthermore I would like to mention: Arvid, Jeroen, Tor, Caroline and Hester for the good discussions about so many things and the nice coffee breaks and lunches.

Amsterdam, 20 September 2004,

Ian Plugge

Contents

1 Introduction

The concept of capability in innovation management raises the question of how it is developed over time. This must involve a learning process. It is not sufficient to have experiences (good or bad). The key lies in evaluating and reflecting upon them. And then develop the organization in such a way that the next time a similar challenge emerges the response is ready (Tidd, Bessant & Pavitt 2001). This thesis contributes to the learning process of EBO innovation within IBM NL.

1.1 Background and Setting

This is a thesis on the Emerging Business Opportunities (EBO's) within IBM Netherlands. Organizations, like IBM, have to be prepared to renew their products and processes on a continuing basis; else wise their survival chances are seriously threatened (Tidd ea. 2001, Tushman & O Reilly 1997). This implies that it is not a question if IBM should innovate but *how* it should organize its innovation system. This means for a large multinational as IBM that also local country offices, like IBM NL, have to know their role in the company's innovation system.

IBM

An introduction into IBM is presented to learn more about the company that is the subject of this thesis. International Business Machines Corporation (IBM) was incorporated in the New York State in 1911. During its existence, IBM has developed itself from its first product, the world's first time recording, to the current multinational corporation with hundreds of products and services. These products and services include personal computers, printing systems, servers, software, as well as consulting, financing, and technical training services. These days, IBM is the world's largest information technology (IT) company, the world's largest business and technology services provider, and the world's largest IT financier. IBM is currently (2004) public owned, has customers in over 160 countries and has about 320,000 employees working in manufacturing, research, services, development labs and sales and marketing[i].

Headquarters are U.S. based in Armonk, NY and this is where the main strategic decisions take place. IBM is organized in three geographies: Americas, Asia Pacific and Europe, Middle East and Africa (EMEA). The Dutch IBM organization[ii] (IBM NL) belongs to EMEA. EMEA is divided into 5 regions and IBM NL belongs to region north, consisting of the countries UK, Ireland, South Africa and the Netherlands.

IBM opened its first office in Amsterdam, The Netherlands in 1914. IBM NL has currently approximately 5,000 employees and delivers a wide range of hardware, software and matching services[iii]. Its business activities in the Netherlands are mainly sales-oriented, which consist of three sectors: product operation, customer relationship management (CRM), and supporting activities. The product operation sector includes IBM global financing, global services (consulting, application management, etc.), software, enterprise systems, personal computing, and international logistics groups, while sales and marketing, customer fulfilment, human recourses, finance and planning, etc. are under the supporting sector. An organi gram is presented in Append I.

Emerging Business Opportunities

Based on IBM's limited growth rates, it was clear that IBM was not leveraging the emergence of new technologies and industries to the best possible extent. The focus and pressure on short-term results did not allow for sufficient efforts around strategic business building. Current markets and existing offerings were more important than building new offerings and new markets. As a result the "3-Horizon" model, see Figure 1-1, was introduced to allow for a more balanced portfolio of investments into new topics and markets. An aligning process was also introduced to allow new opportunities to form and develop into mainstream business for the IBM Corporation.

So, over the past four years, IBM has taken a systematic, company-wide approach to create new growth businesses, called Emerging Business Opportunities (EBO's)[iv]. EBO's are company-wide acknowledged business opportunities that have the potential to create significant revenue for the various IBM business units. Emerging Businesses Opportunities are an important component of IBM's overall growth strategy. EBO's are about innovative and market-changing topics, providing new answers to customers' wants and needs in the marketplace[v].

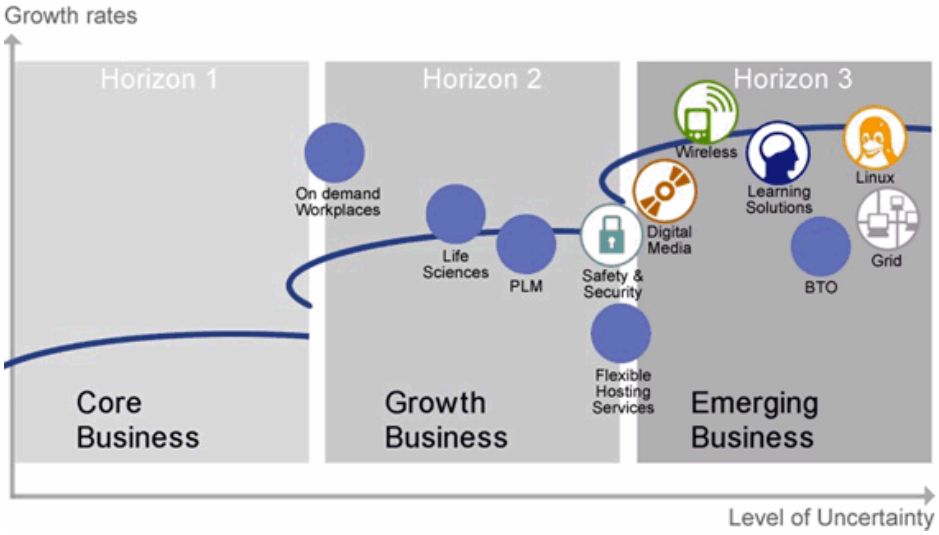

Figure 1-1 '3-Horizon' model of businesses[vi]

Emerging Businesses Opportunities are an important component of IBM's overall growth strategy and are new business opportunities aiming to generate significant future revenue and profit[vii]. The Emerging Business Opportunities are a key element[viii] of IBM's innovation investments in which innovation is considered as bringing an idea to business value.

EBO's are there so IBM continues to innovate and differentiate via innovation. They function as a leverage for IBM's R&D investments to their customers more quickly. And so aim at establishing a sustainable growth engine that delivers innovative solutions that IBM's mainstream business eventually will execute and scale to growth.

A formal process has been established in IBM Global Services (IGS) for managing the pipeline of EBO's from early ideas to the actual EBO stage. The Global EBO Portfolio team in IGS is driving this process, and manages the portfolio of EBO's throughout the various maturity stages[ix]. The IBM offices in the local countries have the role to commercialise the technologies and products captured in the EBO's on the local markets.

An active portfolio management approach is used for EBO's. The current portfolio consists of various EBO's, like Linux, Grid, and Wireless at different maturity stages for exploring and validating innovative solutions. As stated, EBO's address growth areas to accelerate in IBM performance gaps of revenue growth and brand image areas, thus EBO's: (1) capture emerging markets, (2) drive new business models and (3) participate early in potential disruptive technologies. Most EBO's in the current portfolio were initiated by IBM's internal business units including brands, research, corporate strategy and others, as well as external sources, such as Venture Capital companies, Market Analysts, and directly from customer feedback.

"EBO's differ significantly from traditional businesses," says Jo Stark, EBO executive for IBM Global Services[x] EMEA. *"They require an entrepreneurial approach in which the task is to develop, test and validate the business strategy and get to market quickly to build business traction and establish IBM Global Services in a strong leadership position early enough. In addition, they need to be managed and measured within a system that nurtures them, encourages razor-sharp focus, has a passionate cross-organization team with stamina, and allows adequate time and flexibility to develop and capture new markets*."[xi]

The basic set up of approaching an EBO is that initially, the EBO gathers a team of subject matter experts that create solution white papers, industry value propositions and customer presentations. EBO architects and consultants collaborate with colleagues from BCS and IGS in presales for pilot projects around these innovative solutions. This way references are obtained, that accelerate demand generation and sales enablement. In this process on reaching maturity, the lead role transitions from the EBO team to the corresponding Lines of Business team for Business as Usual execution. Given this scope, an EBO is defined as:

Emerging Business Opportunity

An Emerging Business Opportunity (EBO) is a potential growth area for IBM for which IBM's EBO board has decided that it is worthwhile to make investments in meant for discovering and developing a market. An EBO is managed by a system that provides room for discovery and development aiming at adoption by IBM's lines of business located in different countries in which IBM is active.

The commercialisation of an EBO deals with introducing new technologies, products and services by a global company. Commercialising new concepts and technologies on a market is not an easy task [Tidd ea. 2001, Tushman ea. 1997, Mohr 2001]. Several inhibitors will have to be countered before these opportunities actually start to create revenue.

The topic of this study is the part of the EBO process that concerns IBM NL and deals with the following questions. How should the process of placing an EBO on the Dutch market and the aligning organizational context be organized within IBM NL? What is the current status? What is going well and what can be improved?

Recent experiences with the EBO's like life sciences, Digital Media, Wireless and Grid form the basis of a case study from which lessons have been learned. This Chapter is an introduction into this problem and the objectives that will be dealt with in this thesis. The theoretical setting, problem definition and the objective of the study are presented as well as the borders of the study.

1.2 Problem description, scope and research questions

Problem description

The inducement for this thesis was signals about difficulties with the introduction of the EBO life sciences in the Netherlands[xii]. The EBO infrastructure has been put into place to create new growth areas for IBM to create significant amounts of revenue. It is both in IBM's and IBM NL's interest that an optimal approach is used to introduce and commercialise an incoming EBO. Therefore the following problem statement is proposed:

What are the current facilitators and inhibitors within IBM Netherlands for successfully commercialising EBO's on the Dutch market?

Scope and research questions

In order to analyse the implementation process from an innovation perspective several pre-conditions defining the current IBM situation, have been defined:

- IT Multinational, US Based Head Quarters (HQ's) with local country offices throughout the world;
- A company wide infrastructure has been put in place for creating new markets for IBM;
- EBO's, defined by EBO Board, must be positioned on local markets by local offices like IBM NL;
- An EBO comprises aspects like a vision, description of the market opportunity and/or descriptions of technologies/solutions;
- EMEA EBO management announces when an EBO will be introduced within a certain country or region.
- IBM NL implements the EBO on the Dutch Market;
- Direct EBO management takes place on a regional level;
- Regional EBO management funds EBO employees;
- EBO employees are currently located within the Business units within IBM NL;
- EBO employees implement EBO projects together with BU employees.
- Current EBO teams within IBM NL range from 1 to 4 persons.

The following study-constraints have been defined. First, the unit of analysis within this thesis is IBM NL. IBM NL, as part of the multinational IBM, has no direct control on choices about EBO's made in the US or on EMEA level. This means that IBM NL should create the right circumstances, consisting of the right organizational context and performing the right activities, and management actions to commercialise an incoming EBO within the constraints it has a local country office.

Second, this study is explorative and is a first effort at identifying facilitators and inhibitors on different levels. The EBO process needs to be executed as well as managed and takes place in an organizational context. Implementation and organizational related factors all influence the success of the EBO process and are considered relevant. Hence, this thesis focuses on both organizational and implementations factors influencing EBO innovation within IBM NL. This angle is chosen because this study is a first step in identifying facilitators and inhibitors and these factors might include inhibitors for EBO innovation within IBM NL. Chapters 2 to 5 provide a theoretical study to obtain an overview of these factors. Due to this chosen broad scope and the given time in which the study has been performed, identified factors influencing the success of the EBO process have not been researched in a detailed level. This study can function as a foundation for future studies on this topic.

Third, the focus is on managing the EBO implementation process within IBM NL. The study results in a first overview of EBO innovation within IBM NL and an initial advice for IBM NL management consisting of actions that

can be taken to increase the chance of making an EBO a success. Recommendations concerning how to manage the change process fall outside the scope of this study.

Fourth, a basic assumption is that IBM thinks that creating new markets is important. For that reason IBM decided to create the EBO infrastructure in the first place. This study takes a pro-EBO angle. The advice focuses on countering the identified inhibitors and strengthens found facilitators.

Fifth, the current EBO situation within IBM NL will be taken as a starting point for possible changes as it is not likely that a radical change of the organizational set up can be reached if necessary.

Sixth, aligning with the nature of the study, the presented solutions (Chapter 9) are not filled in on a detailed level. They provide directions and thoughts on how to counter the identified inhibitors. Given the fact that IBM NL is a local country office, solutions are constrained as follows. A first constraint is that IBM NL has to act within the constraints it has as a local office. This means that most strategic decisions concerning EBO's are made outside IBM NL and EBO employees are managed from a regional level. Another constraint is that the solutions should not lead to the hiring of new employees but at most should lead to new tasks or a shift of tasks.

The scope of the thesis is summarized in Figure 1-2.

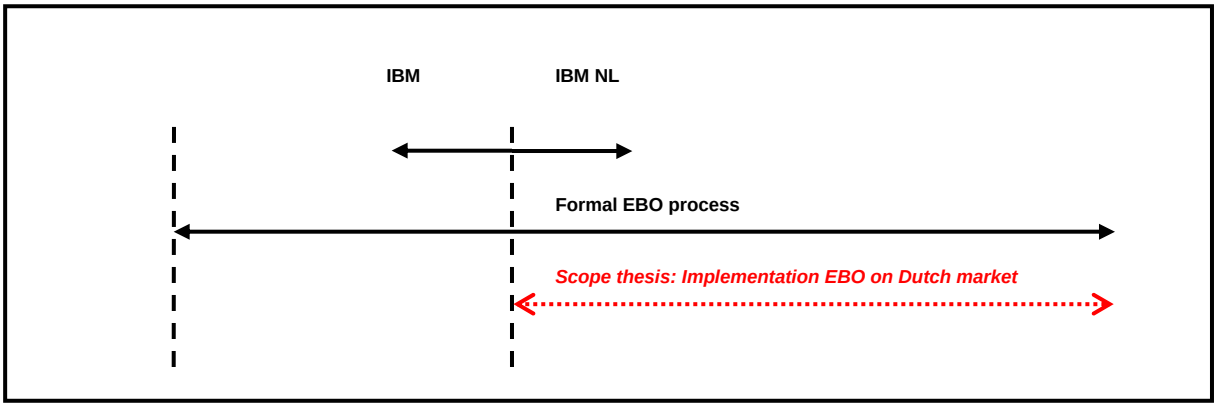

Figure 1-2 Scope thesis

My suggestion is that there are 5 research questions that then form the key questions of *this* thesis and can contribute to the answer of the problem statement:

1. Is the EBO process an innovation process?
2. Which phases can be distinguished in the EBO process within IBM NL?
3. Which organizational arrangements are needed for EBO employees within IBM NL?
4. Which organizational factors within IBM NL influence the EBO innovation process?
5. What is the role of IBM NL management in the EBO process?

Resuming, the aim of this report is, that it will lead to a better understanding of the EBO innovation within IBM NL.

1.3 Relevance, Field of the study and Methodology

Relevance

This study has the following relevance for IBM NL. First, they gain insight in their current approach towards EBO's and the organizational context in which the EBO process takes place. Second, the study can lead to an increase of understanding and improvement of how to deal with EBO's. Then third, this study can give IBM management thought on how to approach EBO innovation and increase the chance of EBO success for future EBO's.

Field

For many years, economists regarded technical change as merely a component of the residual factor in economic growth equations. Today few would doubt its importance as a factor in economic progress, industrial change and international competitiveness (Dosi, Freeman, Nelson, Silverberg & Soete 1988). A great deal has been learned about the process through which technological change is brought to economic fruition, that is, the industrial innovation process, since the second half of the 1960s when researchers began to look inside the black box of the innovating company (Rosenberg 1982, Rothwell 1994).

Innovation has to do with change. This change can take two forms: change in products or services offered by an organization and change in the way these products or services are produced and delivered. Innovation is not only about inventing things but also bringing these inventions to the market, so commercialisation of inventions. This means that aspects like project management, financials and organizational routines all play a role in innovation (Tidd ea. 2001, Hamel 2000).

This thesis deals with commercialising radical, high-tech technologies, and services, captured in an EBO, by IBM NL. Therefore this thesis will belong to the research field of innovation management science. This study focuses on creating the right organizational circumstances within IBM NL for radical high-tech pushed product and service innovation to create new growth businesses.

Methodology

Given the defined scope, this study is explorative and is a first step at identifying facilitators and inhibitors for EBO innovation on different levels within IBM NL. Innovation theory will be used to analyse EBO innovation. Hypotheses are derived from theory and are presumed to be correct (Baarda 2001). These hypotheses will then be confronted with the IBM NL situation to see whether they are true or false. This type of research is suited for situations one thinks that a certain situation is the case. This is the case in this thesis in which certain inhibitors are suspected to be in place for EBO commercialisation. More on the way hypotheses are used in this thesis can be found in Chapter 5.

Therefore it is essential to have a clear understanding about the innovation theory that is applicable to the situation as sketched in this Chapter. And then second, one needs to know what the current situation within IBM NL is with regard to commercialising EBO's. This leads to list of facilitators and inhibitors for EBO innovation within IBM NL. Finally and thirdly, one needs to know how to change the inhibitors, thus knowing how to manage the change process. The first two aspects fall within the scope of this thesis, the third one does not.

Data collection will be two folded, due to the set-up of the research. The theoretical framework has been chosen by studying relevant literature found in libraries, and so to make sure that the study is firmly embedded in the scientific literature. Second, as this is an explorative study aiming to obtain a first picture of current and recent EBO activities and factor influencing these, data on the IBM NL situation has been collected through semi-

structured individual interviews. Section 7.2 provides a more extended overview of choices concerning the interviews and interviewees.

1.4 Outline of the report

This thesis deals with commercialising EBO's by IBM NL. The chosen research setting is an explorative research in which hypotheses derived from innovation theory will be tested on the IBM NL situation. Therefore this thesis consists of three parts as illustrated in Table 1-1.

Part 1 consisting of Chapter 1-6, contains the conceptual framework resulting in hypotheses that have been tested. This Chapter provides the outline and the scope of the thesis. Then Chapter 2 provides an overview of relevant innovation theory. Chapter 3 presents a model that will form the basis for analysing EBO innovation. Chapter 4 introduces an approach for dealing with EBO's derived from the model. Chapter 5 presents the hypotheses of the study. Chapter 6 present a framework in which for each hypothesis a scope has been determined so that the hypothesis can be confronted with the empirical situation.

Table 1-1 Outline of the report

Part 1 ***Conceptual Framework***	**Chapter 1** Outline and Scope of the thesis	**Chapter 2** From EBO towards innovation: Innovation theory on EBO innovation	**Chapter 3** Framework for analysing EBO innovation
	Chapter 4 Approaching EBO's by IBM NL	**Chapter 5** Hypotheses	**Chapter 6** Framework for analysis
Part 2 ***Empirical Case***	**Chapter 7** Empirical Study		
Part 3 ***Results & Advice***	**Chapter 8** Conclusions		**Chapter 9** Recommendations

Part 2, consisting of Chapter 7, consists of the case study on IBM NL. Chapter 7 presents the results of an analysis on recent introductions of the EBO's in the Netherlands.

Part 3, consisting of Chapters 8-9, closes the thesis by providing an advice for IBM. Chapter 8 presents the conclusions and Chapter 9 provides the recommendations.

Then finally, I wish the reader all the best in reading this report and I hope it will present some useful insights.

Notes

[i] "IBM press room", http://www.ibm.com/us (March 2004)

[ii] From here on is the global company IBM indicated as IBM and the Dutch organization as IBM NL

[iii] IBM NL's sells a wide range of solutions. Products range from personal computers to servers to mainframes. The software varies from operating systems to more industry specific customized solutions. The services lie in the field of business and IT consultancy, business transformation, e-business, system maintenance and strategic outsourcing.

[iv] http://w3.ibm.com/ibm/ebo (March 2004)

[v] http://w3-5.ibm.com/services/emea/3emgs.nsf/folders/emergingbusinessopportunities (July 2004)

[vi] http://w3-5.ibm.com/services/emea/3emgs.nsf/folders/emergingbusinessopportunities (July 2004)

[vii] http://w3.ibm.com/ibm/ebo/david_dobson_qa.html (July 2004)

[viii] To illustrate the importance and relevance of EBO's for IBM a quote of, Bruce Harrold, Senior Vice President of Strategy on EBO's: *"We've begun doing the right things, and we're learning. I think all great companies do something like this, they continue to rejuvenate themselves. Will we do it always like this? No – I think we'll learn more and someday we won't need to use a title like Emerging Business Opportunities, because it will be so natural that it happens throughout the company. But that is going to take some time. One thing that really worries me is how exhausting it is to have 18 of these (EBO's) going, as we do now, when I think we need 180 of them. How do we scale this up/? How do we get this discipline instantiated in each of the business units? Right now with 18 projects, we're very disciplined and stopping new things, and learning, and then starting again. We will need that discipline throughout the company (Underline added). The importance of nurturing new businesses can't be underestimated. Traditional management systems tend to reward short-term results, not nurturing emerging growth opportunities. And that is where IBM's Emerging Business Opportunities (EBO) program comes in."*

[ix] http://w3-5.ibm.com/services/emea/3emgs.nsf/folders/emergingbusinessopportunities (July 2004)

[x] IBM Global Services is the world's largest information technology services and consulting provider, generating record revenue and signings in 2003 of $42.6 billion and $55.5 billion, respectively. Some 180,000 professionals in more than 160 countries help clients integrate information technology with business value -- from the business transformation and industry expertise of IBM Business Consulting Services to hosting, infrastructure, technology design and training services.

[xi] http://w3-5.ibm.com/services/emea/3emgs.nsf/pages/interview (July 2004)

[xii] Commissioner of the thesis was Djeevan Schiferli, IBM NL innovation manager. He was triggered by sounds he heard within the IBM NL organization about difficulties with the introduction of the EBO Life Sciences.

2 From EBO towards innovation: Innovation theory on EBO innovation

Successfully bringing innovations to the market entails, first understanding the corporate and customer resistance to innovation and, second, overcoming those barriers (Sheth 1987)

2.1 Introduction

This Chapter starts with § 2.2 presenting a theoretical outline on innovation to provide the study with a solid scientific base by placing the study in innovation theory. Then second in § 2.3, the characteristics of the EBO process are presented to gain better understanding of the process that is the topic of this thesis. The Chapter ends with a summary in § 2.4.

2.2 Placing the thesis problem in theory and defining innovation

Innovation theory can be traced back to the 18th century. Early 18th century French economist R. Cantillon first introduced the term *"entrepreneur"* as the *"agent who buys means of production at certain prices in order to combine them into a new product".* Shortly thereafter, French economist J.B. Say made an addition to Cantillon's definition by including the idea that entrepreneurs had to be leaders. Say claims that an entrepreneur is one who brings other people together in order to build a single productive organism (Schumpeter 1951).

Alfred Marshall first formally recognized the necessity of entrepreneurship for production in 1890. Marshall asserts that there are four factors of production: land, labour, capital, and organization. Organization is the coordinating factor, which brings the other factors together, and Marshall believed that entrepreneurship is the driving element behind organization. By creatively organizing, entrepreneurs create new commodities or improve "the plan of producing an old commodity" (Marshall 1994). In order to do this, Marshall believed that entrepreneurs must have a thorough understanding about their industries, and they must be natural leaders. Additionally, Marshall's entrepreneurs must have the ability to foresee changes in supply and demand and be willing to act on such risky forecasts in the absence of complete information (Marshall 1994). Marshall suggests that the skills associated with entrepreneurship are rare and limited in supply and he implies that people can be taught to acquire the abilities that are necessary to be an entrepreneur. And, that the economic environment, which surrounds entrepreneurs, often limits their opportunities[i].

Schumpeter[ii] (Schumpeter 1911) was one of the first authors to use the term innovation and wrote: *"Innovation is the carrying out of new combinations of the means of production. This can include: (1) the introduction of a new good, (2) the introduction of new methods of production, (3) the opening of a new market, (4) the conquest of a*

new source of supply of raw materials or half-manufactured goods, (5) the carrying out of a new organization of any industry".

Drucker (Drucker 1985) states that innovation is the tool of entrepreneurs, the means by which they exploit change for a different business or a different service. It is capable of being presented as a discipline, capable of being learned, capable of being practised. Entrepreneurs need to search purposefully for the sources of innovation, the changes and their symptoms that indicate opportunities for successful innovation. And they need to know and to apply the principles of successful innovation. Entrepreneurs can take several forms. To be entrepreneurial, an enterprise has to have special characteristics. Entrepreneurs are a minority among new businesses. They create something new, something different; they change or transmute values. Entrepreneurship is therefore also being practiced by large and often old enterprises.

Tidd (Tidd ea. 2001) sees innovation as the core process within an organization associated with renewal- with refreshing what it offers and how it creates and delivers that offering. Innovation in this way is seen as a generic activity that is associated with survival, creating competitive advantage and growth. This definition of innovation will be used as the basis for the definition of EBO innovation used within this thesis. As the definition of Tidd is general, it will be delineated towards the scope of this study by looking at different views on innovation by different authors.

From a company's perspective, two types of innovation are now distinguished: incremental and radical innovation. Incremental innovation is about aligning fit to strategy, culture and processes and is directly related to the process of value creation and the process of production (Zegveld 2000). Radical innovation is defined as Schumpterian novel combinations and implies a shift from the existing path and related path dependent trajectories and results in a new perspective for the company. A new perspective will result in a change of resources like competencies and positional advantages as well as in a change of core stakeholders (Zegveld 2000). Firms need to find a balance between these types of innovation (Zegveld 2000, Tushman ea. 1997).

Tushman (Tushman ea. 1997) wrote: *"The source of sustained competitive advantage, and a way to avoid being trapped, is through building and leading ambidextrous organizations."* And then: *"Ambidextrous organizations get today's work done, they nurture incremental innovation an increased congruence among strategy and existing structures, competencies and culture. Ambidextrous organizations also help get tomorrow's work done, they couple incremental innovation with both architectural and discontinuous innovations."* Tushman concludes with: *"The ability to manage simultaneously for today and tomorrow, with contrasting alignment of people, structure, culture and process, is the key to long-term success".* Combining day–to-day business with creating new opportunities is an important theme in this thesis.

Consequently, to succeed both today and tomorrow, managers must play two games simultaneously. First, they must continually get better at competing in the short term, which requires increasing the alignment among strategy, structure, people, culture and processes. Yet efficiency alone will not ensure long-term success. In fact, today's success may actually increase the chance of tomorrow's failure. For sustainable success, managers must also master another game: understanding how and when to initiate revolutionary innovation and, in turn, revolutionary organizational change (Tushman ea. 1997). The arrangements needed within the organization to deal with doing totally new things, often involving radical technological and/or market change, are often very different. Firms need to learn to manage the steady state, doing what we already do better, kind of innovation and the radically new generations (Tidd ea. 2001).

EBO's are a systematic way for creating new markets and exploring new opportunities for IBM and are part of IBM's strategy. EBO's are concerned with finding new customers and with changes in the organization of resources and capabilities, and therefore are EBO's seen as radical innovation. Hence, this thesis deals with the implementation process of EBO's by IBM NL as part of the large multinational IBM of EBO's that within the force field of daily operations and new business development. Given this scope, EBO innovation is defined as:

EBO Innovation

EBO innovation is the formal process within IBM associated with renewal of what IBM offers for current or new customers within the context of EBO's. Innovation in this way is seen as the activities within IBM associated with creating new growth markets with new products, services or combinations of them derived from an EBO. EBO innovation within IBM NL begins from the moment an EBO starts within IBM NL and ends when the EBO either has become business as usual within the IBM NL business units or did not succeed and the EBO has been stopped. The part of EBO innovation that takes place within IBM NL is defined as EBO implementation.

2.3 Inhibitors for the IBM NL EBO process

The thesis is directed towards the role of IBM NL, which has to commercialise EBO's on the Dutch market. EBO's, containing either technologies, business concepts of product(s), are transferred over national and functional barriers. Afuah (1998) states that: successfully transferring potential innovations[iii] across functional, organizational, and national boundaries is not easy.

This section presents an analysis of inhibitors that influence the effectiveness of the commercialisation of the EBO's. As indicated, the implementation process is defined from the moment an EBO is announced until it diffuses in the market and becomes business as usual within IBM NL. Making the implementation process a success entails first a thorough understanding of the inhibitors that might be encountered. The purpose of this section is to explain why innovation is resisted. If it is understood why innovations are resisted, then these inhibitors can be anticipated in strategies. Two views on inhibitors are presented. The first one is from Sheth & Ram (1987) and the second one from Afuah (1998), which have overlap and are complementary.

Sheth's starting point is that corporations resist innovation as customers do, though both can profit from innovation. The problem is an aversion to change. The more radical the innovation, the greater the structural inhibitors are and, therefore, the greater the resistance is (Sheth ea. 1987). The solution is to understand the impact an innovation will have on the existing corporate and customer dimensions. The resistance to innovate comes from structural elements. Corporate resistance comes from the structural inhibitors inherent in expertise, operations, resources, regulation and market access. Customer resistance is built with the structural inhibitors inherent in usage, value, risk, tradition and image (Sheth ea. 1987).

Sheth ea. (1987) identifies five corporate inhibitors to innovation and these must be clearly understood before any innovation can hope to succeed. These include inhibitors of expertise, operations, resources, regulation and market access. The expertise and operations inhibitors are both problems of specialization, in technology and organization, respectively. They involve the inability of many corporations to integrate new patterns of behaviour into rigidly established routines. The resource, regulation and market access inhibitors are problems of

environment. They refer respectively, to the inability to acquire necessary capital, the inability to overcome regulatory hurdles, and the inability to reach prospective customers in an efficient and effective manner.

The first inhibitor is the expertise inhibitor. This refers to pure technology driven innovation, without regard for the needs and desires of potential customers. For any company to market a successful innovation, it must first sharply and objectively determine market forces and adapt to them. *S*econd is the *operations inhibitor.* Companies with specialized operations face inhibitors because innovation leads to changes in procurement, manufacturing and worker training, in short operational changes. Then thirdly *the resource inhibitor* is presented as the presence of insufficient funds, time and people. Fourth *the regulation inhibitor, which* can take several forms: Industry regulation, Government regulation, Limited utility monopolies and regulation related to patents and trademarks. The last corporate inhibitor is *the market access inhibitor.* This inhibitor can occur in physical distribution, in customer support services or in regulation. Market access inhibitors refer in general to all impediments that keep innovations from reaching receptive customers.

Sheth ea. (1987) identifies five inhibitors concerning customer inhibitors for adopting innovation. These can be grouped into two categories: those that are primarily practical or functional and those that are essentially psychological. The first set has to do with usage patterns, economic values and risks. The second set is concerned with cultural tradition and image.

The first inhibitor is *the usage inhibitor.* Innovations might not be compatible with existing workflows practices and/or habits. Innovations that require significant changes in the daily routine require a long market development process. A second functional inhibitor has to do with value. In this instance, value is a quantifiable measure equal to the performance-price ratio of the innovation as compared to existing alternatives. The third inhibitor is related to risk. This inhibitor arises because all innovations, to some extent, represent uncertainty and pose potential side effects that cannot be anticipated completely. Customers know that there are risks and try to postpone adopting an innovation until they can learn more about it. Risks can be of an economic, physical or performance nature. A fourth one is *the tradition inhibitor.* An innovation is resisted when it requires making changes in the traditions established by societal culture. The fifth inhibitor is *the image inhibitor.* Innovations require a certain identity at inception solely from their origins: product class, industry and country. If these associations are unfavourable as a result of stereotype thinking, they create inhibitors for adoption.

According to Afuah (Afuah 1998) is the effectiveness of a potential innovation transfer across functional, organizational and country boundaries a function of five factors: the absorptive and transmission capacities of the receiving and transmitting organizations, the difference in the cultures of the receiving and transmitting entities, the type of innovation, stakeholders, and the timing of the transfer. These can be divided into organizational and customer inhibitors.

The first determinant is the absorptive and transmission capacities of the receiving and delivering entities. Since it takes knowledge to absorb knowledge, the effectiveness of the transfer of a technology from one entity to another is a function of the extent to which the receiving entity has related knowledge to allow it to absorb the knowledge being transferred. This can take place along functional inhibitors. Does the firm have good gatekeepers to act as transducers between the two entities? Absorptive capacity is not limited to knowledge only. It can also mean having the right complementary assets, like skilled employees. In order to play its role in the transfer successfully, the transmitter needs a certain level of delivery capacity. It must be capable of articulating what the innovation is all about.

Difference in cultures is the second determinant. An organization's culture is "a system of shared values (what is important) and beliefs (how things work) that interact with the organization's people, organizational structures, and systems to produce behavioural norms (the way we do things around here)." Depending on how strong a corporate culture is, there can be subcultures within the firm. Such subcultures can have an effect on intra-firm technology transfer. There is also the not-invented-here (NIH) syndrome from which the receiving organization may suffer.

The third determinant is nature of innovation. The transfer of an innovation also depends on the nature of the innovation, specifically, whether it is radical or incremental, whether it is complex or simple, how tacit the underlying knowledge is, and whether it is knowledge based or bulk processing. The more complex[iv] the innovation, the larger the quantity of knowledge that must be transferred, and therefore the more difficult it is to transfer it. If the innovation is radical in the organizational sense, the transmitter may not even know what it is that it wants to transmit, and the receiver may not have the absorptive capacity to receive the innovation. How easily the knowledge is transferred is also a function of how tacit it is. The more tacit, the more personal interaction between transmitter and receiver is required. The more knowledge based, the more absorptive and transmission capacity is needed. What may be an incremental innovation in one country may be a radical innovation in another. The more complex the innovation, the more likely it is that co-opetitors will play a critical role in the receiving nation.

The fourth determinant is timing. For some innovations there is a certain time window, window of opportunity, within which an organization can undertake the activities that allow it to optimise its design or process. Thus if any technological or market knowledge is intended for such a product, it may have to be transferred during the window, or it might never be used again. The effectiveness of the transfer is also a function of when during the life cycle of the innovation the transfer takes place. Early in the life cycle of an innovation, when there is still a lot of uncertainty surrounding it, transfer is likely to be less effective than later in the life cycle, when uncertainty is reduced and both transmitter and receiver have had a chance to build absorptive and transmission capacities.

The fifth determinant is the involved stakeholders. In the transfer of innovation within a nation or region, the system of suppliers, factor conditions, customers, related industries, and competitors that supports an innovation is likely to be the same for the transmitting and receiving entities. Across national boundaries, however, there can be considerable differences between stakeholders from one nation to the other. In exploring trans-national innovation transfer, it is important to consider not only the impedance mismatch between transmitting and receiving entities. It is important to consider the mismatch between the receiver's and the transmitter's stakeholders. Several questions must be asked of the receiver and its new local environment. Do suppliers, competitors, customers and complementary innovators exist? It is not enough only to ask, as is traditionally done, whether customers exist for the innovation. How does the innovation impact the capabilities of these stakeholders? Extensive research has shown, for example, that in many industries tight links to suppliers are critical to the success of manufacturers.

2.4 Summary & Conclusions

This thesis deals with the implementation process of radical innovations, by IBM NL as part of the large multinational IBM, which aims at creating new markets with new high tech technologies, products and services or combinations of them within the force field of daily operations and new business development.

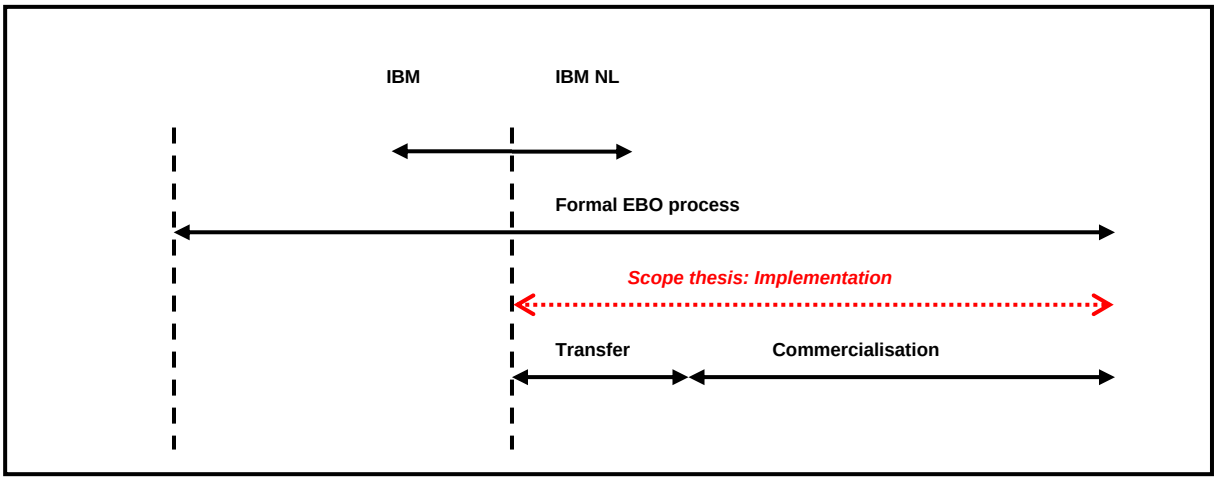

Figure 2-1 The EBO process within IBM NL divided into the transfer- and commercialization parts

The IBM NL EBO process is defined as the moment that the EBO is announced by IBM to be sold within the Netherlands until the moment the EBO starts to diffuse into the Dutch Market. Several inhibitors have to be countered in order to make the EBO process a success. These inhibitors are related to both corporate factors and market factors.

Based upon the findings of this chapter is the EBO process within IBM NL divided into two parts as illustrated in Figure 2-1. First, the transfer process, which deals with the transfer of the EBO towards the Netherlands, is defined by the announcement until the value recognition by IBM NL. This is the point where innovation takes place. This phase deals mainly with overcoming corporate resistance inhibitors. And second, the commercialisation process which is the actual commercialisation of the EBO on the Dutch Market. This involves both corporate and customer inhibitors.

Notes

[i] Parts of this section are based upon the text presented at http://www.technopreneurial.com/articles/ed.asp (July 04]

[ii] Schumpeter achieved prominence for his theories about the vital importance of the entrepreneur in business, emphasizing the entrepreneur's role in stimulating investment and innovation, thereby causing "creative destruction." Creative destruction occurs when innovation makes old ideas and technologies obsolete.
(http://www.pbs.org/wgbh/commandingheights/shared/minitextlo/prof_josephschumpeter.html, June 2004)

[iii] The word innovation, instead of technology as in most texts is used by Afuah (Afuah 1998), to emphasize the fact that both technological and market knowledge may be involved in the transfer as is in EBO's. The author to make the text consistent in this thesis because innovation is defined in a different way adds the word potential.

[iv] Afuah (Afuah 1998) defines complexity a function of: (1) the number of primary components and linkages between them that go into the innovation, (2) the innovation's dimensions of merit—its attributes as perceived by its local environment, (3) the number of interfaces between the innovation and peripheral innovations and their interrelatedness, and (4) the number of organizations in the innovation's local environment that are impacted by it.

3 Framework for analysing EBO innovation

Innovation needs to be managed in an integrated way. Consequently, a coherent framework is needed to integrate the whole process and management of technological, market and organizational change that are involved in innovation. Essential in this approach is that innovation is a process that can be managed and that innovation management is a learned capability (Tidd ea. 2001).

3.1 Introduction

In order to overcome inhibitors, such as presented in Chapter 2, associated with innovation transfer and commercialisation, a firm needs a systematic approach (Afuah 1998, Tidd ea. 2001). Innovation management is not a matter of doing one or two things exceptionally well but one of good all-round performance (Tidd ea. 2001, Christiansen 2000).

This Chapter presents the characterization (§ 3.2) and the set up (§ 3.3) of a theoretical framework for approaching EBO innovation within IBM NL. This framework provides a solid theoretical foundation guiding in setting up an approach for the commercialisation process of an EBO on the Dutch Market with the given constraints as presented in Chapter 1. The framework consists of the elements: generic innovation process (§ 3.4), routines (§ 3.5), context (§ 3.6), and management (§ 3.7). The Chapter ends with an overview of the framework (§ 3.8).

3.2 Characterization framework

The developed framework is based upon the work of Tidd (Tidd ea. 2001). The reasons for developing a framework based upon the work of Tidd are: (1) the work provides a coherent framework that deals with technological, market and organizational change which are relevant for the defined IBM NL situation; (2) the study is build upon many other studies and well respected authors[i] in the field of innovation management and therefore thoroughly funded in innovation literature; (3) if more information is needed, it provides clear references to previous studies; (4) the authors are well accepted in the field of innovation management.

A critical note can be made on the high level of generalization of the work of Tidd. It deals with innovation in a very broad way. Tidd (Tidd ea. 2001) claims that the process of innovation management is essential generic, and that organization-, technological- and market-specific factors will constrain choices and actions. Therefore the generic framework, derived from the work of Tidd (Tidd ea. 2001) is used but the constraints of this study (derived from the IBM NL situation) will determine the more detailed set up. The advantage is that the model is generic on a high level and can be adapted for different kind of innovations. And hence, this allows one to get a thorough understanding of innovation.

Innovation is assumed to be necessary for a firm's survival[ii] (Tidd ea. 2001, Christensen & Raynor 2003, Tushman ea. 1997). Innovation can be seen as the core process within an organization associated with renewal-with refreshing what it offers and how it creates and delivers that offering. Innovation in this way is seen as a generic activity that is associated with survival, creating competitive advantage and growth (Tidd ea. 2001). Innovation is about the interaction of technology, market and organization. The downside of innovation is that it is not easy, there is a high chance of failure (Tidd ea. 2001). Therefore, to increase the chance of success, a systematic integrative approach towards innovation is needed (Tidd ea. 2001).

The presented model takes an *integrative approach.* It aims to provide a coherent framework to integrate the whole process and management of technological, market and organizational change, involved in innovation. Also essential in this approach is that innovation is a process that can be *managed* and that innovation management is a *learned capability* (Tidd ea. 2001).

3.3 Set up of the framework

The model consists of four elements that are related: (1) generic innovation process, (2) context, (3) routines, and (4) management.

First, the innovation process is generic on a high abstract level. Innovation processes have regularities despite they often have a unique nature. The generic innovation process consists of the phases: scanning, strategy, resourcing, implementation and learning. Therefore is the first element the *generic innovation process* and this element indicates what has to be done.

Second comes the element *context, a*s innovation is context dependent (Tidd ea. 2001). Innovation management is about learning to find the most appropriate solution to the problem of consistently managing this process, and doing so in the ways the best suited to the particular circumstances in which the organization finds itself. Therefore particular solutions to the general problem of managing innovation will be firm specific. The following variables will influence a more detailed fill in of the model: firm size, national systems of innovation, life cycle (of technology, industry) and extend of perceived change.

Third comes the element *routines*. Success in innovation appears to depend upon two ingredients – (technical) resources (people, equipment, knowledge, money, etc.) and the capabilities in the organization to manage them (Tidd ea. 2001). Organizations develop particular ways of behaving which become 'the way we do things around here' as a result of repetition and reinforcement. These patterns reflect an underlying set of shared beliefs about the world and how to deal with it, and form part of the organization's culture – 'the way we do things in this organization'. They emerge as a result of repeated experiments and experience around what appears to work well – in other words, they are learned. Over time the pattern becomes more of an autonomic response to particular situations, and the behaviour becomes what can be termed a 'routine'. Important is that routines are firm specific and must be learned. Developing an integrated set of routines is strongly associated with successful innovation management. Basic skills are behaviours associated with things like planning and managing projects, or understanding customer needs. These simple routines need to be integrated into broader abilities which taken together make up an organization's capability in managing innovation. Routines address the current day-to-day operations, in which the EBO's have to fit in and hence where EBO's eventually are executed.

Fourth, innovation is a management question leading to the element management. Innovation is a management question, in the sense that there are choices to be made about resources and their disposition and co-ordination and that it can be managed to manipulate the outcome positively. Hence, management has clear responsibilities in the innovation process.

Figure 3-1 presents the model. The current set up of the model is generic so that IBM as well as IBM NL might be able to use it both. Off course, the model will be directed to the constraints of this study. The main focus will be directed towards the implementation process, which is the role of IBM NL.

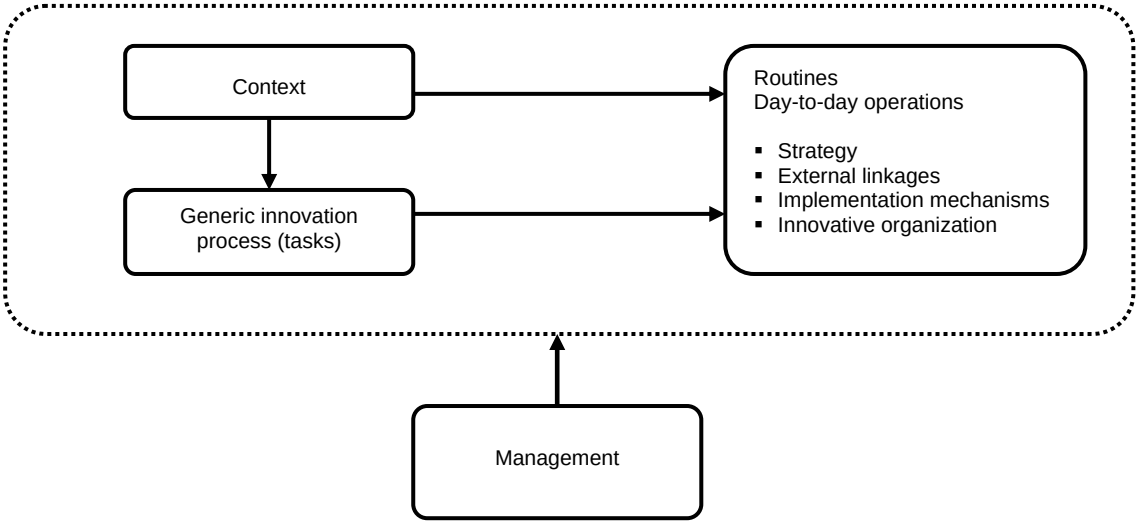

Figure 3-1 Set up framework for dealing with innovation

Sections 3.4 - 3.7 provide a description of the different elements. Not all elements are described in the same detail. Context, management and the generic innovation process are presented in the same detail as these elements consist of one level. Routines is described in more detail, as this element consists of several sub elements. Chapter 4 provides more details how the different elements relate to each other given the EBO situation for IBM NL, for instance on which routines should be directed to towards the EBO process.

3.4 The generic innovation process

The innovation process is the core process in an organization associated with renewal, with refreshing what it offers, and how it creates and delivers that offering. On a high level of abstraction is the innovation process common in almost every firm for different kind of innovations[iii]. Therefore it is suggested that organizations have to manage five phases making up the innovation process for introducing radical pushed high tech innovations to the market (Tidd ea. 2001): (1) scanning, (2) strategy, (3) resourcing, (4) implementation and (5) learning, as presented in Figure 3-2

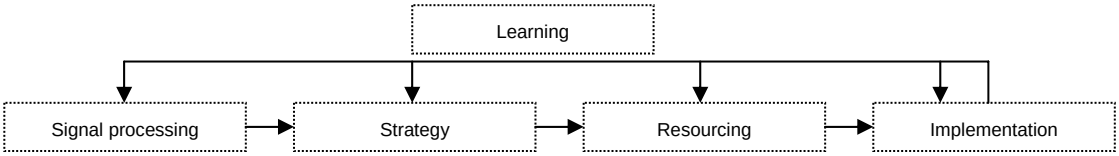

Figure 3-2 phases in the generic innovation process

The first phase is the scanning phase. Firms need to scan and search the environments (internal and external) to pick up and process signals about innovation. These could be needs of various kinds, or opportunities arising from research activities somewhere, or pressures to conform legislation or the behaviour of competitors, but they represent the bundle of stimuli to which the organization must respond. The EBO process responds to these kinds of stimuli.

The second phase is the strategy phase. This phase is about strategically selecting from this set of potential triggers for innovation those things which the organization will commit recourses to doing. Even the best resourced organization cannot do everything, so the challenge lies in selecting those things which offer the best chance of developing a competitive edge. The EBO board decides which opportunities are given the EBO status.

The third phase is resourcing. This phase deals with resourcing the option, providing the knowledge resources to exploit it. This can take place either by creating it through R&D or acquiring through technology transfer. Hence, this might be a simple matter of buying off the shelf, or exploiting the results of research already carried out, or it might be require extensive search to find the right resources.

The fourth phase is implementation. This phase deals with implementing the innovation, growing it from an idea through various stages of development to final launch – as a new product or service in the external marketplace or a new process or method within the organization. This is the role of IBM NL in the EBO process.

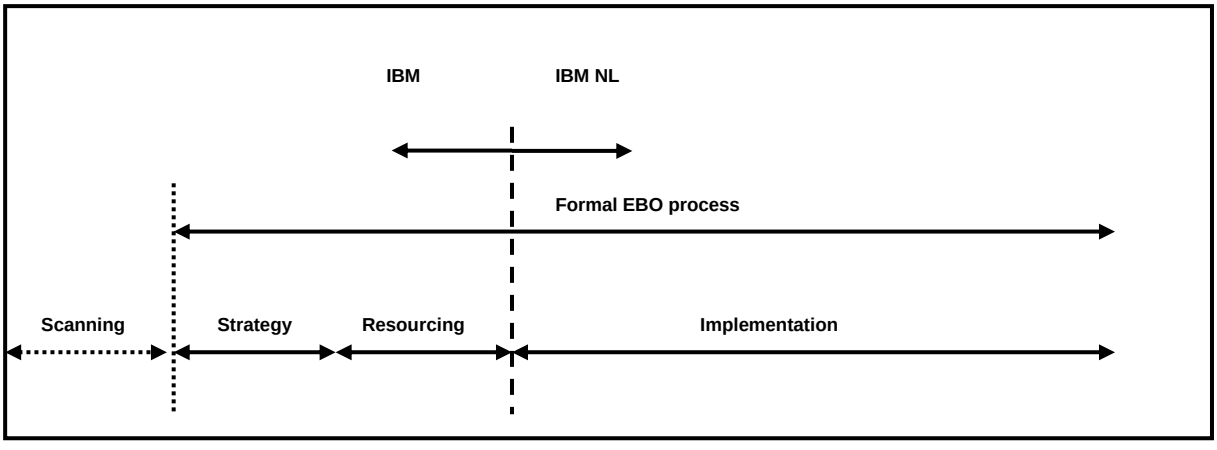

Figure 3-3 The EBO process mapped on generic innovation process

A fifth – optional – phase is learning. This phase is concerned with reflecting upon the previous phases and review experience of success and failure – in order to learn about how to manage the process better, and to

capture relevant knowledge from experience. This thesis can be placed in this phase in the EBO innovation process.

Within the EBO process are all these phases present as illustrated in Figure 3-3. Therefore it is concluded that the EBO process is an innovation process and is Research Question 1 answered.

3.5 Day-to-Day Routines

Organizations develop particular ways of behaving which become 'the way we do things around here' as a result of repetition and reinforcement. These patterns reflect an underlying set of shared beliefs about the world and how to deal with it, and form part of the organization's culture – 'the way we do things in this organization'.

Routines emerge as a result of repeated experiments and experience around what appears to work well, in other words, they are learned. Over time the pattern becomes more of an autonomic response to particular situations, and the behaviour becomes what can be termed a 'routine'. Important is that routines are firm specific and must be learned[iv] (Tidd ea. 2001). Hence, routines play an important role in successful innovation management.

Routines are important for this study because routines are what make organizations different from one another in how they carry out the same basic activity. Routines are firm specific and must be learned. Tidd (Tidd ea. 2001) claim that successful innovation management is primarily building and improving effective routines. Such learning comes from recognizing and understanding effective routines and facilitating their emergence across the organization.

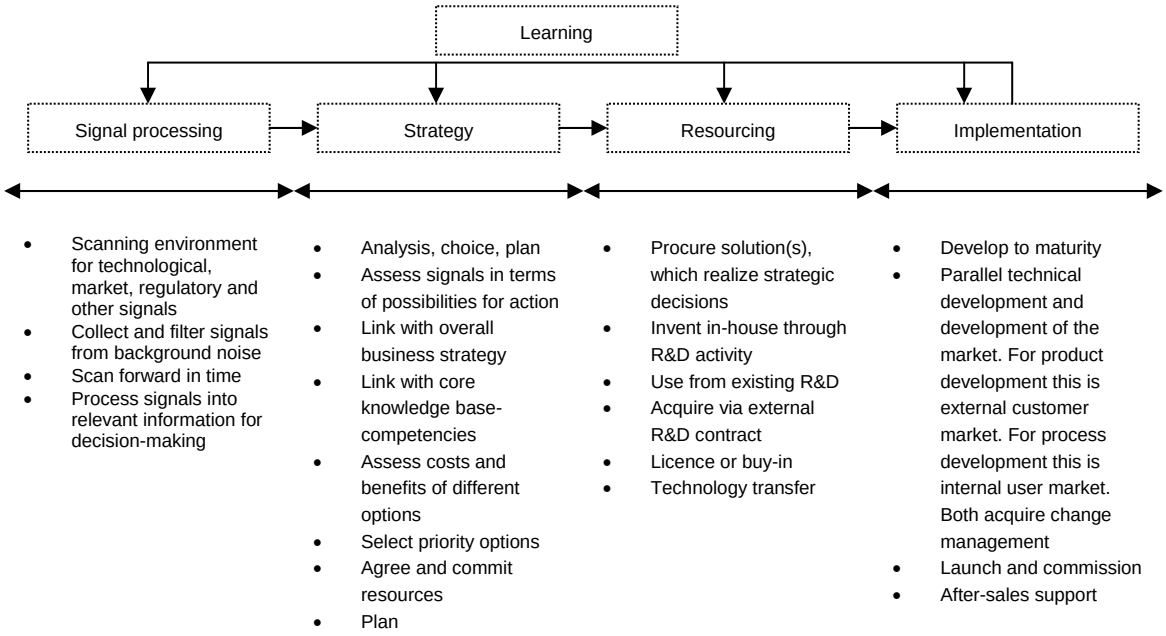

Figure 3-4 Routines underlying the process of innovation management for introducing radical innovations to the market

The focus in describing this framework is on which routines should be inside firm and how these should work given the constraints of the IBM NL situation. Routines will form the building blocks of the model. Routines can have a different kind of level of abstraction. For instance, the routine 'implementation' is of another, higher, level then teambuilding. Therefore, it is essential to provide a good description of what is meant with an addressed routine.

The phases, making up the generic innovation process, described what has to be done within the innovation process on a generic, high-abstract level. Routines can be assigned to the phases so that the phases are made more specific. Some examples of routines are filled in the generic innovation model presented in Figure 3-4.

IBM NL's part within the EBO process is the implementation process. Currently, IBM has its own routines in all kinds of fields, like dealing with customers, deal with customer support, project management etc. Not all routines are associated with innovation. Routines associated with successful innovation management tend to structure around four themes:

- Taking a strategic approach to innovation and the problem of its management;
- Establish and maintain effective external linkages;
- Building and using effective implementation mechanisms and structures;
- Developing and extending a supportive organizational context.

These clusters of routines influence the success of EBO innovation to happen and must be managed by IBM NL. Routines will be dealt with in more detail in the next Chapter. Meaning that all these clusters of routines play a part in the implementation process, which is the part of IBM NL in the transfer process.

It is case to find the right mix of routines based upon the IBM NL EBO context, making up the generic process, for implementing an EBO. It is the role of IBM NL management to steer the right routines towards the generic innovation process and make sure that the organization has these routines in-house. This is illustrated in Figure 3-5.

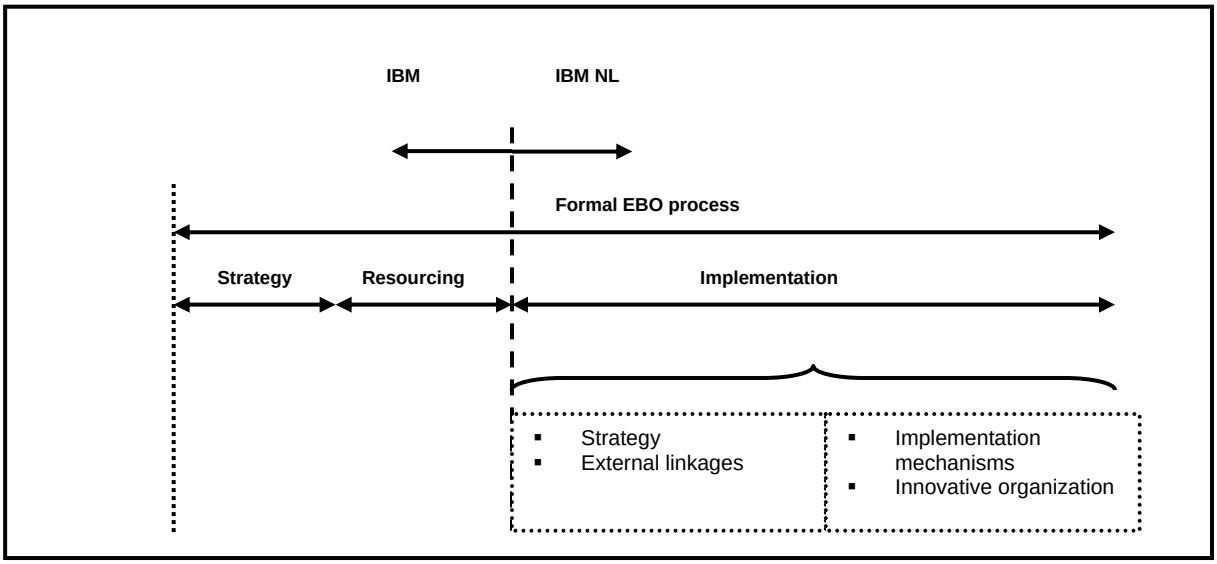

Figure 3-5 Themes of routines influencing the EBO process

3.6 Context

Innovation is context dependent. Therefore particular solutions to the general problem of managing innovation will be firm specific. Several authors mention variables that influence the set up of the innovation process (Tidd ea. 2001). The following variables/variables will influence the more detailed fill in of the generic innovation process: firm size, national systems of innovation, life cycle (of technology, industry) and extend of perceived change (Tidd ea. 2001), these are presented in Table 3-1.

The first variable is firm size. Innovation within multinational has a different set up then smaller firms as different parts of the firm have different roles. The second variable is National systems of innovation, which differs in terms of policies, institutions, customer thinking etc. The third variable is life cycle, as different stages in life-cycle emphasize different aspects of innovation, e.g. more uncertainty is likely to surround the potential innovation early in the life cycle. The fourth variable is degree of novelty. 'More of the same' improvement requires different approaches to organization and management to more radical forms.

Table 3-1 How context variables affects innovation management

Context Variable	Modifier to the basic generic process
Size	Multinationals need to have a clear division between roles of different organizations within the organization
National systems of innovation	Different countries have more or less a supportive contexts in terms of institutions, policies, customers etc.
Life cycle (of technology, industry, etc.)	Different stages in life-cycle emphasize different aspects of innovation, e.g. more uncertainty is likely to surround the potential innovation early in the life cycle. The kind of innovations will differ when an industry start to mature
Degree of novelty	'More of the same' improvement requires different approaches to organization and management to more radical forms.

3.7 Management

The innovation process is generic on a high abstract level and is context dependent. This process can be managed, in the sense that there are choices to be made about resources and their disposition and co-ordination and measurement to manipulate the outcome positively (Tidd ea. 2001). The process eventually results in business models for the EBO. Given the model, the role of management is:

- Overview: understanding of the whole EBO innovation process,
- Transformation: guiding the transformation between the phases
- Choices within the process: directing the right routines towards the EBO transfer process
- Implement the right formal arrangements, like measurement system, information systems etc.
- Support: Have a supportive attitude towards EBO innovation

3.8 Summary

This Chapter presents the set up and the characterization of a framework for guiding how to organize IBM NL for EBO innovation given the IBM NL constraints. The model will form the basis for answering the proposed research questions in Chapter 1. The model provides a coherent framework to integrate management of technological,

market and organizational change for dealing with the transfer process of an EBO. Essential in this approach is that innovation is a process that can be *managed* and that innovation management is a *learned capability*.
Given the constraints of this study, the generic innovation process must be adjusted for a set of variables aligned with the nature of the EBO's. Hence, it is important for IBM NL to be aware of the context of EBO innovation to define their approach towards their role within EBO innovation. The arrangements needed within the organization to deal with doing totally new things, often involving radical technological and/or market change, are often different. Firms need to learn to manage the steady state, doing what we already do better, kind of innovation and the radically new generations[v], hence a different approach to incremental and radical innovation is necessary. This means that they have to direct the right daily routines towards the generic innovation process and fit the tasks of the implementation process in the IBM NL organization. This is the role of management. They have to set understand and overview the process, be aware of the context, set criteria of success, direct resources, control the process and have an overview. Eventually, the innovation process must result in offerings that can become business as usual in the IBM NL organization. *It is in this context that the facilitators and inhibitors for the transfer process will have to found.*

It was concluded that the EBO process is an innovation process as it fits the generic innovation process, hereby answering research question 1 and proving the foundation to use the framework of Tidd (Tidd ea. 2001) as basis for this thesis. The phase implementation is the part of IBM NL in the EBO innovation process.

Notes

[i] To mention some authors: Rothwell, Leonard, Christensen, Hamel.

[ii] In this study I shall not argue about the necessity of innovation for firms as this is taken for granted, see Tidd ea. 2001, Christensen ea. 2002, Tushman ea. 1997

[iii] Christensen (Christensen ea. 2000) supports this: *"Innovation projects have a lot of unique elements and do not repeat things often. Nonetheless there will be certain regularities in the innovation process, regardless of how different the projects are. These regularities will allow one to think about the process more systematically."*

[iv] Basis skills are behaviours associated with things like planning and managing projects or understanding customer needs. These simple routines need to be integrated into broader abilities which taken together make up an organization's capability in managing innovation.

[v] This point, that a different approach is necessary toward incremental and radical innovation is also made by Christensen ea. (2000) and Tushman ea. (1997)

4 Approaching EBO's by IBM NL

Successfully transferring potential innovation across functional, organizational, and national boundaries is not easy. IBM has to make choices how the EBO will be picked up, like: Who should we chose to run the new EBO. Which organizational unit in IBM NL will do the best job of implementing the EBO on the market? What is the best way to structure the team that will launch the EBO and what organizational arrangements need to be made?

4.1 Introduction

A systematic integrative approach towards innovation is needed, to increase the chance of success for creating successful innovations (Tidd ea. 2001). The framework, presented in Chapter 3, provides a framework for approaching the EBO process in a systematic way. In this Chapter, the framework will be directed towards the part of the EBO innovation process within IBM NL, the implementation process.

The framework consists of several elements that are related. The innovation process is generic on a high abstract level. This process can be managed, in the sense that there choices to be made about resources and their disposition and co-ordination and measurement to manipulate the outcome positively (Tidd ea. 2001). The process eventually aims in creating successful offerings derived from the EBO that will be executed out by the business units within the IBM NL organization as business as usual.

IBM NL management has to deal with these factors in their approach towards the EBO implementation process. This Chapter presents a set up of the implementation process and the control by management in which will be dealt with the factors that determine the effectiveness of the transfer and the commercialisation. Given the constraints of this study, the focus will be on managing the total system of introducing EBO's in the Netherlands. This means that the centre of attention is on steering and controlling the arrows in the model and not the detailed set up of the separate components.

The approach presented in this Chapter is a process approach following the generic innovation process because this represents what should be done. The approach dealt with several topics, derived from the framework that influence the process for EBO innovation to happen within IBM NL. This Chapter should not be read, as if this Chapter is the only truth but a framework touching upon topics that are important in the eyes of the author.

The set up of this Chapter is as follows. First, the elements making up in new EBO offerings are presented in § 4.2. Second, the EBO IBM NL characteristics are mapped on the context variables in § 4.3. What then follows are three parts of the element Routines. First, is strategy discussed in § 4.4, followed by the implementation process § 4.5, after this the supportive organizational context in § 4.6. All these facets are connected in the dynamic EBO innovation process § 4.7 and the Chapter closes with a summary in § 4.8.

4.2 Unpacking Business Models for an incoming EBO

EBO's are about creating new offerings that IBM NL can implement and eventually become business as usual. This section provides a framework for thinking about elements that are a part of new offerings. For the incoming EBO are the following activities important. Customers need to be found, a strategy needs to be developed, possible new alliances with partners are needed and a supply chain must be organized. Hence, promising offerings must be developed. IBM NL must have a framework that deals with all the essentials of a business model that forms the basis for the offering for an incoming EBO.

The framework presented is taken from Hamel (Hamel 2001) and comprises all the elements that a business concept needs[i]. Each EBO requires that new business models for the Dutch market are created. The activities that need to be deployed to make the EBO a success are derived from the components that make up a business model. A business concept comprises four components:

- Core Strategy: the essence of how the IBM NL chooses to compete or to create a new market with the EBO. Elements are business mission, product/market scope, and basis for differentiation or basis for existence.
- Customer Interface: has four elements: fulfilment and support, information and insight, relationship dynamics and pricing structure
- Strategic Resources: every competitive advantage worthy of the name rests on unique firm specific resources. Strategic resources include core competencies, strategic assets and core processes.
- Value Network: surroundings of the firm, which complements and amplifies the firm's own resources. Includes suppliers, partners and coalitions.

These components are linked together by three bridge components:

- Configuration of activities: refers to the unique way in which competencies, assets, and processes are combined and interrelated in support of a particular strategy.
- Customer benefits: refer to a customer-derived definition of the basic needs and wants that are being satisfied.
- Company boundaries: refers to the decisions that are about what the firm does itself and what it contracts out to the value network

A basis for differentiation can be reached by combining these elements in the right way. Some of these facets may already be defined for the incoming EBO. It is essential though to understand these and to be critical whether the pre-defined facets are relevant for the Dutch situation.

The presented framework must be considered as a flexible framework providing the building blocks to make the EBO a success. This framework helps IBM NL, with its assets, knowledge and capabilities to find the concept for making the EBO a success. Hence, the business model implies that there are three critical success factors for a successful introduction of the EBO:

- Understanding the EBO (technology, solutions, potential customers, trajectory)
- Understanding the Dutch market, (potential) customers, partners and competitors
- Understanding capabilities IBM NL: resources, communication channels, current focus

Hence, an offering is a created business model within the context of an EBO addressing themes like customers, partners, support, customer value etc. The most promising and successful offerings eventually have to be carried out by the organization and must become business as usual. And the question that then comes into mind: How should IBM NL approach this, given the EBO constraints.

4.3 Context: Characteristics process

Innovation is context dependent (Tidd ea. 2001). Therefore particular solutions to the general problem of managing innovation will be firm specific. The following variables will act as a modifier to the generic innovation process: sector, firm size, national systems of innovation, life cycle (of technology, industry) and extend of perceived change (Tidd ea. 2001), these are presented in Table 4-1. The context variables of the model will be filled in along the constraints for the IBM NL situation. IBM NL has to be innovative within its constraints as a local country office and this study focuses more specific on EBO innovation, which constraints the IBM NL situation as follows:

- IT Multinational, US Based Head Quarters (HQ) with local country offices, like IBM NL, throughout the world
- EBO's aim at creating new markets for IBM
- EBO comprises a vision, description of the market opportunity, description technology/solution
- Pre defined EBO's by HQs, that must be positioned on the local markets by local offices like IBM NL
- HQ announces when EBO will be sold (EBO is pushed towards local country offices)

Table 4-1 How context affects innovation management within the company

Context Variable	Modifier to the basic generic process
Size	IT Multinational, US Based Head Quarters (HQ) with local country offices, like IBM NL, throughout the world => HQ vs. IBM NL, division of roles, transfer along company boundaries
National systems of innovation	Dutch innovation system: Dutch regulations, policies, universities, customers, etc.
Life cycle (of technology, industry, etc.)	EBO technologies will differ in place of life cycle (most likely to be in early stage of life cycle),
Degree of novelty	Radical pushed technologies towards the Dutch market. Most likely new to both IBM NL as the Dutch Market

Size influences the generic innovation process. The focus in this thesis is on creating new growth businesses in a multinational in which radical high-tech technologies are pushed to IBM NL. Hence, the EBO has to be transferred to local country offices and implemented on the local markets. This means that clear roles need to be defined. Important for IBM NL is what they need to know. Important is the awareness of the absorptive and transmission capacities of IBM and IBM NL, and the difference in the cultures. Important thus, for the generic innovation process is that clear roles are divided and that there is awareness of the role of the other partner. Knowledge has to flow over functional, divisional and national inhibitors.

National Systems is important because the EBO's are placed in a new national context. In the transfer of an EBO to a new nation or region, the system of suppliers, factor conditions, customers, related industries, and competitors that support an innovation is likely to be different for the transmitting and receiving entities. Across national boundaries, there can be considerable differences between these variables from one nation to the other. Thus in exploring a cross-national innovation transfer, it is important to consider the mismatch between the

receiver's and the transmitter's stakeholders (Afuah 1998). Several questions must be asked of the receiver and its new local environment. Do suppliers, competitors, customers and complementary innovators exist? It is not enough only to ask, as is traditionally done, whether customers exist for the innovation but: how does the innovation impact the capabilities of all these stakeholders[ii]?

Life cycle is important because for some innovations there is a certain time window—window of opportunity—within which an organization can undertake the activities that allow it to optimize its design or process. Thus if any technological or market knowledge is intended for such a product, it may have to be transferred during the window, or it might never be used again. The effectiveness of the transfer process is also a function of when during the innovation life cycle the transfer takes place. Early in the life cycle of an innovation, when there is still a lot of uncertainty surrounding it, transfer is likely to be less effective than later in the life cycle, when uncertainty is reduced and both transmitter and receiver have had a chance to build absorptive and transmission capacities. Different countries stand ready to accept products at different times during the life cycle of a product, when the cost of the product has dropped and these countries have built enough absorptive capacity to receive the innovation (Tidd ea. 2001, Afuah 1998).

Degree of novelty has influence on the approach towards innovation (Tidd ea. 2001, Christensen 1997, Leonard 1995, Afuah 1998, Mohr 2001). Radical innovation will need a different approach then incremental innovation. This has to be taken into account for both the internal organizational perspective as well as the perspective of the customer.

4.4 Strategy: Preparing for the EBO

In current strategy literature it is generally accepted that strategy is about the processes and content of interactions between a company and its environment and how current and future developments may shape these interactions (Zegveld 2000). The following higher-level (strategic) factors are two essential pre-conditions for sustained innovation to take place. First, there must be top management commitment to and visible support for innovation. This is especially important in the case of radical innovations that might encounter internal and external opposition. Second, the presence of a long-term strategy in which innovation plays a key-role (Rothwell 1994, Tidd ea. 2001).

Innovation is inherently risky, and even well endowed firms cannot take unlimited risks (Tidd ea. 2001). This is also true for IBM NL with the EBO innovation process. Therefore a clear vision towards the EBO's is necessary. Strategy making essentially involves a combination of analysis (of possible innovation options), choice (selection which of these to commit resources to) and planning (deciding how to make innovation happen). These are the key elements of strategy used within this thesis.

First, there are no correct recipes for locating R&D and related innovative activities in the firm. Tensions are inevitable between organizational decentralization for rapid implementation, and sensitivity to production and customers, on the one hand, and organizational centralization for the exploration of radical and long-term opportunities, not linked to current business, on the other. For IBM NL is this situation a given condition, as IBM NL has no own R&D. Possible tensions must be countered by taking these into account, when developing a vision. New opportunities must get room to develop and must strongly be linked to the current business, else wise they will be rejected by current organizational process. Second,

Then there are also inevitable tensions between geographic dispersion for adapting to local markets and integrating local skills, on the one hand, and geographic concentration for the effective launching of major innovations, on the other. This must be given room.

Furthermore is there the challenge to give these as new perceived EBO activities a place in the normal organization, hence that they become normal business processes.

The IBM NL management challenges are therefore:

- On a higher order, merging the normal day-to-day operations (with quick profit returns addressed as operational value creation), with more long-term search for new technological opportunities.
- Within this process: creating effective new EBO launches, with the competencies located in IBM NL

Hence, the vision must be compatible with the nature of the technological opportunities, e.g. complete emphasis on financial control will discourage innovation. IBM NL must have an EBO vision, guided by a higher order innovation strategy to deal with the issues mentioned above. Within this context is the EBO Strategy actually a pre-transfer activity. There must be a clear vision towards dealing and positioning EBO's within IBM NL before they come in. There must awareness of what the intention of the EBO innovation process aims at, and what the role of IBM is and if the organization is capable of dealing with introducing new technologies.

Strategy concerning EBO's can therefore be summarized by the following routines: have a clear vision towards EBO's of potential and place in the organization, analysis of the EBO's; assess signals in terms of possibilities for action; link with overall business strategy; link with core knowledge base-competencies; assess costs and benefits of different options; select priority options; agree and commit resources; and plan. This is schematised in Figure 4-1.

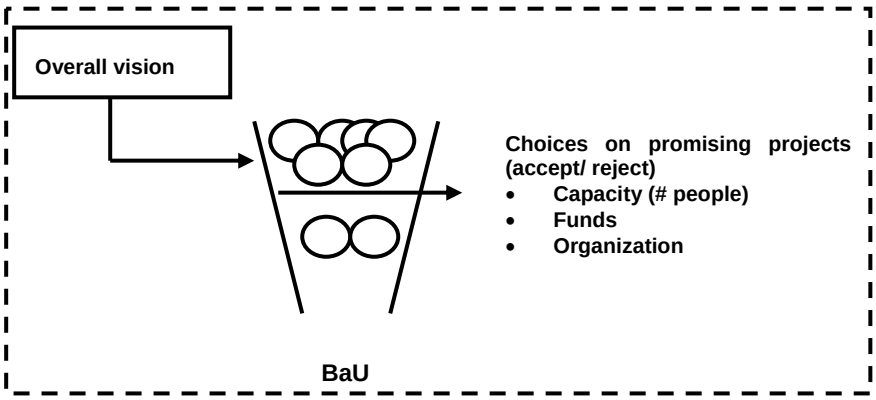

Figure 4-1 Strategy concerning EBO's

4.5 Implementation

Innovation can be seen as the core process within an organization associated with renewal- with refreshing what it offers and how it creates and delivers that offering. Innovation in this way is seen as a generic activity that is associated with survival, creating competitive advantage and growth (Tidd ea. 2001). Main decisions about EBO's are made outside IBM NL. EBO's are transferred to the separate countries in which they have to be

commercialized. This thesis deals with the implementation process of radical innovations, by IBM NL as part of the large multinational IBM, which aims at creating new markets with new high tech technologies, products and services or combinations of them within the force field of daily operations and new business development. Given this scope, innovation happens as: *Innovation takes place when a product, process, or service or combination of them that is perceived as new, is recognized to have value for IBM NL.*

The IBM NL EBO process is defined as the moment that the EBO is announced by IBM to be sold within the Netherlands until the moment the EBO starts to diffuse into the Dutch Market. Several inhibitors see Chapter 2, have to be countered for EBO innovation to take place. These inhibitors are related to both corporate factors and market factors. Based upon the findings of in chapter 2 is the EBO process within IBM NL divided into two parts. First, the transfer process, which deals with the transfer of the EBO towards the Netherlands, is defined by the announcement until the value recognition by IBM NL. This phase deals mainly with overcoming corporate resistance inhibitors. And second, the commercialisation process which is the actual commercialisation of the EBO on the Dutch Market. This involves both corporate and customer inhibitors. The generic innovation process compromises the whole EBO innovation process, also IBM's part.

The implementation phase is the heart of the innovation process. Its inputs are a clear strategic concept and some initial ideas for realizing the concept, and promising technologies. Its outputs are both a developed innovation and a prepared market, ready for a final launch (Tidd ea. 2001). This is the case for the part IBM NL plays in the EBO process. Main routines of the implementation phase according Tidd (Tidd ea. 2001) are: develop concept to maturity, parallel technical development and development of the market, launch and commission, after sales support.

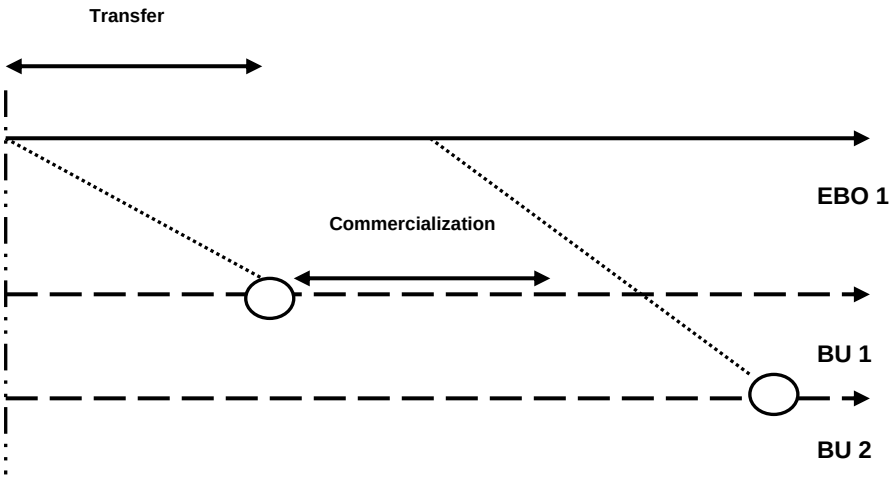

Figure 4-2 EBO opportunities in the BU's

EBO opportunities can be interesting for different business units and therefore projects derived from an EBO can be executed by different BU's, this is illustrated in Figure 4-2.

The EBO implementation process requires different knowledge aspects, like marketing, technical skills and the ability to handle the organization to deal with the transfer- and commercialisation process. EBO success depends not only on clear strategic direction and effective external positioning, but also on being able to manage projects from the initial ideas or opportunity to successful commercial products, services, or solutions. This involves a

sequence of problem solving activities and needs a staged framework for decision making about whether or not to continue with development, allocation of resources and so on. And this in turn requires skills in managing projects, linking different functional resources together, knowledge sharing, managing both technical and market development, managing the change process itself and ensuring that learning is captured from the experience of the project (Tidd ea. 2001).

In parallel with preparing the organization, associated with developing an innovation there is also a set of activities associated with preparing the market into which it will be launched. The market has to be developed and prepared, since it is only when a market makes the decision to adopt the innovation, the whole innovation process is completed (Tidd ea. 2001). The implementation process is one of sequentially collecting information, solving problems and focussing efforts towards a final launch. In particular it involves collecting information on actual or anticipated user needs and linking this back to the EBO implementation process, whilst simultaneously preparing the marketplace and marketing for the new product (Tidd ea. 2001).

Table 4-2 Enabling internal routines for implementation (Tidd ea. 2001)

Routine	Description
Early involvement and concurrent working	Interplay between designers, makers, sellers and users.
Stage/gate decision process	Operating within a structured staging process with reviews on both technical and marketing data with go/no-go decisions
Team working	Use of cross functional teams which contain representatives of all disciplines involved in the innovation and which has the autonomy to progress the project
Shared Project vision	Empowering teams and providing them with the autonomy and resources will only work if they have a clear sense of direction. One important way of providing this is to involve them in the process of vision-building, evolving the product concept in the context of a clear understanding of the underlying business drivers and competitive realities.
Appropriate Project structures	Closely linked with the concept of team working is the need to get a good match between the demands of the development and the operating structure which enables it.

Table 4-3 Enabling Market development Routines (Tidd ea. 2001)

Routine	Description
Customer testing	Essentially taking out prototypes of the product to users (or bringing in the users in to them out). This is particularly important in ensuring that the original still holds.
Test Marketing	Involves various kinds of trying out the marketing strategy.
Development of a marketing strategy	This is essentially similar to other strategic development, involving a mixture of analysis of the target market and the relevant strength, weaknesses, threats and opportunities.
Develop a marketing plan	This is a formal documented plan covering objectives, strategies and programmes to underpin the product launch.
Develop a support organization	Innovation not only involves extensive interaction and integration with internal functions, it also needs linking with external channels of distribution and promotion. Whether these are owned by the firm or external, the principle of early development is still critical.

Prahalad (Prahalad & Hamel 1994) wrote that organizational inhibitors are often inhibitors for a worldwide spread of new business- and product concepts. When creating new competition space, it is most likely impossible to know upfront which combination of characteristics the product or service must have, against which price it should be offered, to unlock the potential market (Prahalad ea 1994). Market research that is conducted for a new product concept is often unreliable. Prahalad advises to use expedition marketing. To explore new markets and find out things about it, is it absolutely necessary to enter the market with small attempts with low costs. What counts in expedition marketing is not hitting the target the first time, but how fast you can learn and so making sure that the next attempt is better. Expedition marketing is only a practical manner to explore future markets. The practical problem is keeping the time and costs of the product iteration as low as possible. Expedition marketing does not mean that products that are clearly not ready yet of not confirm to the wishes of the customer.

Expedition marketing means that the quality has to be aligned with the quality with the demands of the customer but it also takes into account that the demands of the customer in of the new market. Much will stay unknown, like: demands of customers; and the suitability of technologies. Table 4-2 provides internal routines for implementation, whereas Table 4-3 provides routines for the market.

The EBO activities should take place beside the normal day-to-day operations. Tushman (Tushman 1997) states that organizations can sustain their competitive advantage by operating in multiple modes simultaneously, managing for short term efficiency and control by emphasizing stability and control, as well as for long term innovation by taking risks and learning by doing. Different kinds of innovations require different kinds of organization hardware, structure, systems and rewards and different kind of software, human resources, networks and culture. As EBO's are new to IBM NL, the organizational arrangements needed to execute the tasks of the generic innovation process need to align with the EBO task requirements. This means that the organizational arrangements have to be adequate to meet the demands of the task. And that they motivate behaviour that is consistent with the task demands (Tushman ea. 1997).

Based upon the information above, for EBO implementation three facets are highlighted: formal organizational arrangements, knowledge flows and people. Organizational arrangements like measurement systems and people should be aligned with the nature of the tasks that will need to be performed. The characteristics of an EBO determine the approach for selecting people. To introduce something new to new customers a team should full fill the following conditions: Entrepreneurial, commitment, no distraction, autonomy, and experience. A project management structure correlates highly with success in innovation. This means a cross functional team which contains representatives of the disciplines involved in innovation. The characterization of the EBO implies the need of careful teambuilding. Unexpected problems might occur; new relationships have to be developed, internal and external relationships have to be managed.

Formal arrangements include strategic grouping, linking systems, formal reward, measurement and control systems (Tushman ea. 1997). Strategic grouping refers to the unit's formal structure. Liking mechanisms are the arrangements that knit together various parts of the firm and link it to its suppliers, partner and customers. Reward and measurement systems to the way employees are measured, rewarded and controlled. The point is to use these arrangements to drive improvement of the innovation process. More radical innovation has more uncertainty surrounding them and will require other measures then for instance normal sales projects.

Employees are part of the organisation and perform the actual implementation. Employees are located in several places in the model. Within this thesis EBO employees are the people who perform the actual implementation of the EBO's. Management need to ensure that that their people are aligned with the EBO tasks and work processes. This will require an assessment of capabilities needed to perform EBO tasks. And second find the people who have the knowledge, skills and abilities to perform them well.
EBO's are launched within the Netherlands from EMEA level and controlled by EBO management on a regional level. The link between EBO's and the business units within IBM NL needs to be strong as this is where the EBO projects will be executed and eventually must be made business as usual. Functional divisions within IBM can be divided by location, as for instance, R&D activities are grouped away from the mainstream sales operations in the Netherlands. Separation of this kind can lead to a number of problems in the overall EBO development process within IBM NL., for instance that the EBO concepts do not fit the market yet. But EBO's still need to be adjusted to the Dutch market and customers here might ask for certain requirement and good contacts with R&D might be useful. The same is true, for exchanging best practices of EBO projects throughout Europe. Then are there the

different EBO employees within IBM NL who can exchange knowledge about issues like: preparing the organization, approaching new customers and partners. This leads to three knowledge flows that are supportive for the EBO process: (1) intra EBO knowledge exchange through Europe, (2) cross EBO exchange within IBM NL and (3) knowledge exchange over functional inhibitors, for instance: EBO-R&D and EBO-Sales & Marketing.

4.6 Supportive organizational context

An innovation-accepting, entrepreneurship-accommodating culture is an important facilitator for innovation. Without this IBM will dampen the innovation activities, or lose all together, it's most valuable asset – dynamic entrepreneurial individuals (Rothwell 1994). Culture is a system of shared values and norms that define appropriate attitudes and behaviours for its members (Tushman ea. 1997).

The organizational context in which innovations are created and implemented has a large influence on success and failure. These are routines that just are present within a company at any given time. The following factors make for a more or less supporting context. These include the structure of the organization, the role played by key individuals, the training and development of the staff, the way in which people are organized, the extent to which people are involved in innovation, and how the organization itself goes about learning and sharing knowledge (Tidd ea. 2001), as presented in Table 4-4

Table 4-4 Components of the innovative organization (Tidd ea. 2001)

Component	**Key Features**
Shared vision, leadership and the will to innovate	Clearly articulated and shared sense of purpose Stretching strategic intent Top management commitment
Appropriate structure	Organizational design which enables creativity, learning and interaction. Not always a loose 'skunk works' model; key issue is finding appropriate balance between 'organic and mechanistic' options for particular variables
Key individuals	Promoters, champions, gatekeepers and other roles which facilitate innovation
Effective team working	Appropriate use of teams (at local, cross-functional and inter organizational level) to solve problems. Requires investment in team selection and building
Continuing and stretching individual development	Long-term commitment to education and training to ensure high levels of competence and the skills to learn effectively
Extensive communication	Within and between the organization and outside. Internally in three directions – upwards, downwards and literally
High involvement in innovation	Participation in organization-wide continuous improvement activity
External focus	Internal and external customer orientation; total quality culture
Creative climate	Positive approach to creative ideas, supported by relevant reward systems – a winners culture
Learning organization	High levels of involvement within and outside the firm in proactive experimentation, finding and solving problems, communication and sharing experiences and knowledge capture and dissemination

4.7 Dynamic EBO process

Figure 4-3 shows what happens with one EBO and how it is influenced. The presented phases above are all presented in a static way. This is off course not the case, as:

- Several EBO's are running along side each other within IBM NL
- EBO priorities have to be evaluated and if necessary reset
- EBO employees might work on several opportunities concerning different BU's
- Knowledge is exchanged among individuals constantly

- EBO's might be started up or closed down

As stated, research suggests that a structured process with several go-no go decisions is important for success (Tidd ea. 2001). The EBO innovation process takes place IBM company-wide. Given the IBM NL constraints, the outline of the EBO commercialisation process for IBM NL is derived from the four phases of the generic innovation process: strategy, resourcing, implementation and learning (Tidd ea. 2001). Main decisions about EBO's are made outside of IBM NL. This does not mean that there is no room left for IBM NL for making decisions about EBO's. Support of the persons is needed. To link the EBO's successful to IBM NL's business several evaluation moments should take place, involving key persons within IBM NL. One EBO might be more promising for IBM NL, then others due to factors like the Dutch market circumstances and the current organizational capacity.

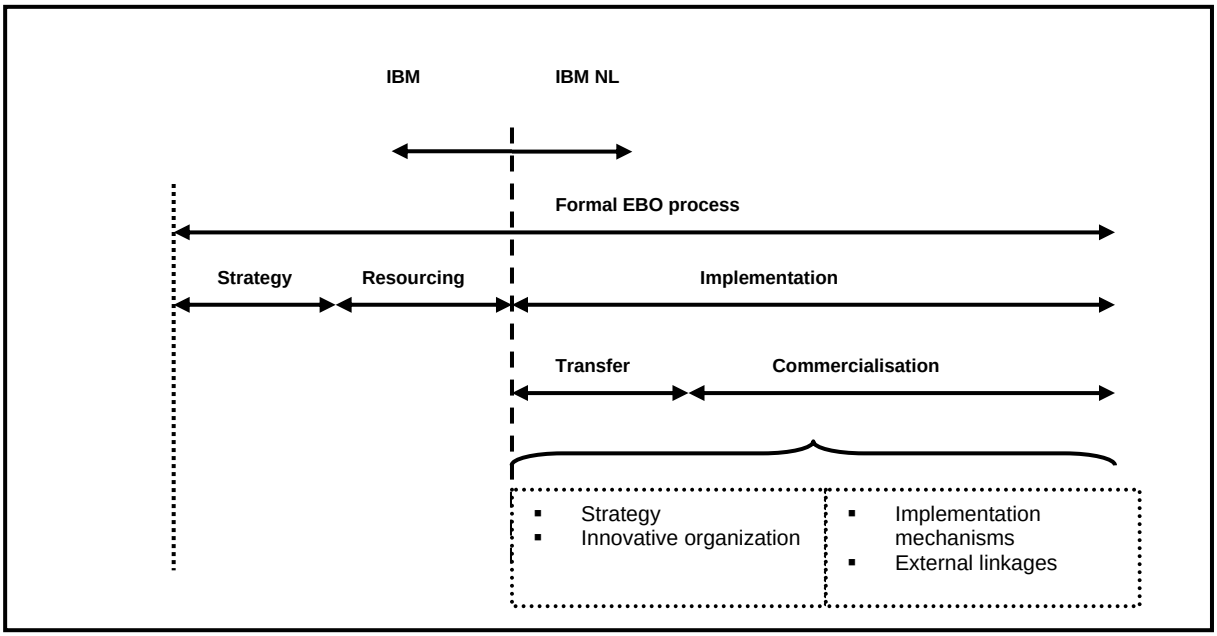

Figure 4-3 The EBO implementation process within IBM NL

Strategy issues are described in § 4.4. The set up of these choices will most likely depend on the ambition level of IBM NL. If IBM NL does not want to explore new markets and merely follow the mother company then it can play safe. If IBM NL wants to be more innovative and search for new markets and growth opportunities, it should take a pro-active approach towards the EBO's. This means that key individuals should set out a vision, link the EBO's to this vision and provide promising opportunities with resources. This process is dynamic, meaning that is has to be evaluated and adjusted on a certain time interval. Figure 4-4 provides an overview of the dynamic process. This then raises question if: IBM NL only should support the most promising EBO's or also provides support for EBO with more uncertainty, also this can be brought back to the ambition level of IBM and the room it has or can create.

The question that is likely to be asked: how much time do you give EBO opportunities? Prahalad (Prahalad ea. 1994) says that when creating new competition space, it is most likely impossible to know upfront which combination of characteristics the product or service must have, against which price it should be offered, to unlock the potential market. Market Research that is conducted for a new product concept is unreliable. To explore new

markets and find out things about it is it absolutely necessary to enter the market with small attempts with low costs. What counts in expedition marketing is not hitting the target the first time, but how fast you can learn and so making sure that the next attempt is better. This is only a practical manner to explore future markets. The practical problem is keeping the time and costs of the product iteration as low as possible. This will most likely depend on the status of the EBO and will depend on issues like: Has the EBO already been successful on other countries, can be estimation be made if this EBO is suited for the Dutch market.

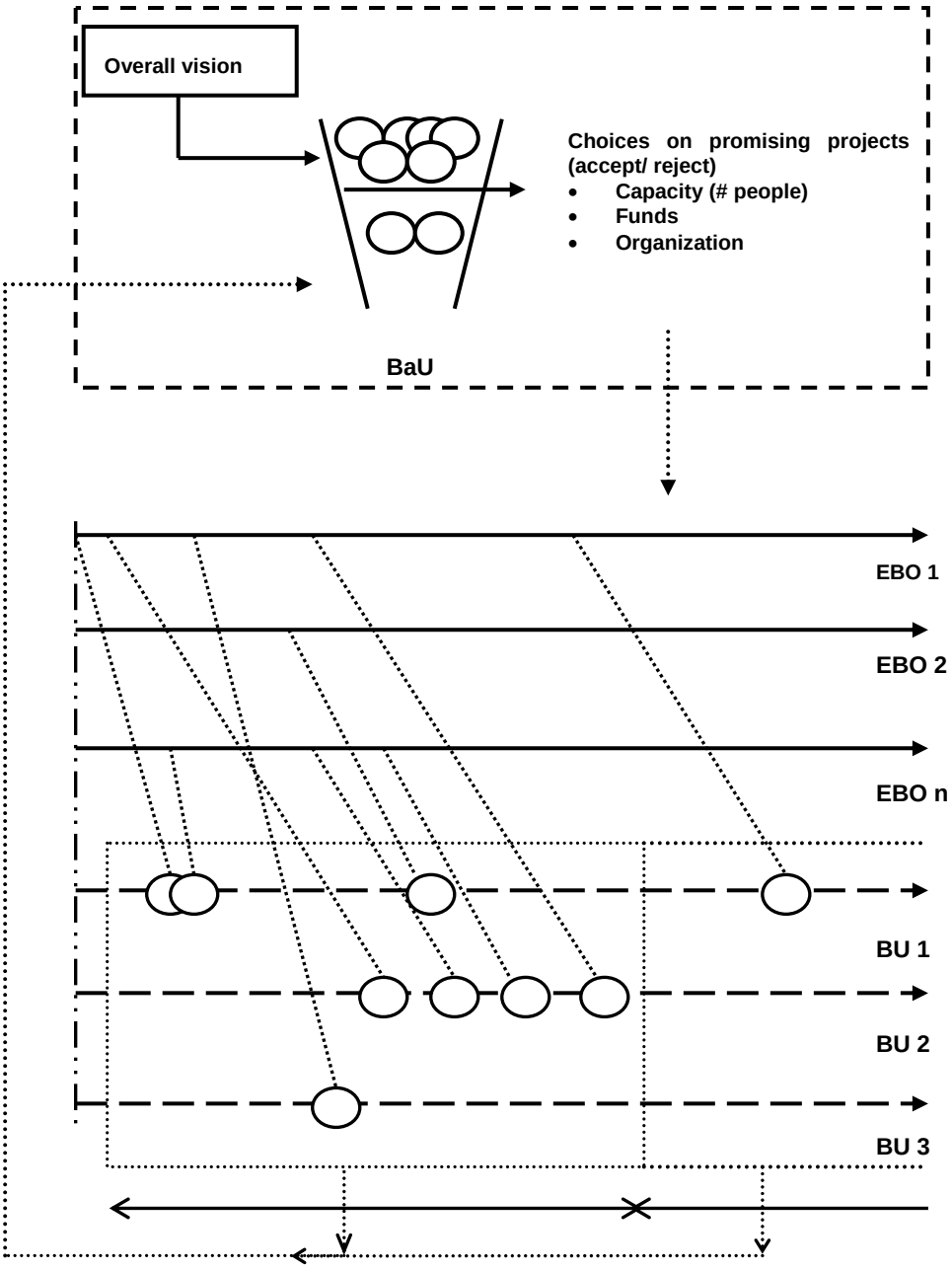

Figure 4-4 Dynamic EBO implementation process within IBM NL

4.8 Summary

The framework of Tidd (Tidd ea. 2001) is the basis for the analysis within this thesis. Elements present in this model have been chosen to check whether these are in place for the EBO organization.

EBO projects will be executed within the IBM NL business units. This implementation process is influenced by strategic choices within IBM NL and the supportive organizational context. Furthermore is the necessary that the formal organizational arrangements align with the nature of the EBO tasks. Important aspects influencing EBO innovation to happen are summarized in Table 4-5.

Table 4-5 Facets influencing the IBM NL EBO implemetation process

Facet	Framework	Goal	Focus	Main aspects
Transfer	Context-Generic Process	Guiding the intra IBM EBO transfer, knowledge	Creation value recognition within IBM NL for EBO projects	Understanding EBO Understanding Dutch market Find support in BU's Market exploration: Approach customers, partners. Activities performed by EBO employees
Commercialisation	Context-Generic Process	Creating successful business models that can be executed by the IBM NL BU's	Implement an EBO project by EBO employees, BU employees, partners and customers	Organizing Teambuilding Adaptation Market infiltration
Strategy	Routines [strategy] - Generic Process	Position EBO's within IBM NL	Vision towards	Aligning/fitting EBO strategy with innovation strategy, EBO's, strategic choices
Culture	Routines [Supportive Organizational Context]- Generic Process	Support	Supportive context for EBO activities	Awareness Understanding Support
Organizational arrangements	Context-Routines [Implementation mechanisms]	Arrangement supportive towards tasks	Provide optimal arrangement for the EBO employees to perform their tasks	Management Project teams Measurement systems Information systems Reward systems Promotion system
Knowledge flows	Context-Routines [Supportive Organizational Context]	Facilitate knowledge Communication	Show added value of EBO activities to organization Learning	Intra EBO exchange Cross EBO knowledge exchange within IBM NL Knowledge exchange across functional boundaries

Notes

[i] Hamel (Hamel 2001) argues that the unit of analysis for innovation is not a product or technology but a business concept. Business concept innovation is the capacity to imagine dramatically different business models concept or dramatically new ways of differentiating existing business concepts.

[ii] Afuah (Afuah 1998) uses the word co-opetitors, where as the author prefers stakeholder. Stakeholders in this case are suppliers, customers, competitors, complementary innovators, and related industries with whom a firm must collaborate or compete in order to succeed (Afuah 1998).

5 Hypotheses

5.1 Introduction

The platform Emerging Business Opportunities (EBO's) is a key element of IBM's innovation investments. They function as leverage for IBM's R&D investments to their customers more quickly. And so aim at establishing a sustainable growth engine that delivers innovative solutions that IBM's mainstream business eventually can execute and scale to growth. EBO's are about developing businesses and are strategic growth initiates for the longer term besides IBM's day-to-day operations.

The following problem statement has been set: *What are the current facilitators and inhibitors within IBM Netherlands for successfully commercialising EBO's on the Dutch market?* A theoretical study has been performed to define a framework for analysing EBO innovation. The unit of analysis is IBM. This thesis focuses on both organizational related factors as well as implementation factors influencing EBO innovation within IBM NL and this Chapter presents the hypotheses.

In § 5.2 is a summary of the theory presented. Then, in § 5.3 are the hypotheses presented, that will be confronted with IBM NL EBO innovation. § 5.4 closes the Chapter with the limitations of the study.

5.2 Summary theory

Innovation is the core process within an organization associated with renewal, with refreshing, what it offers and how it creates and delivers that offering. Innovation in this way is seen as a generic activity that is associated with survival, creating competitive advantage and growth. Innovation is about the interaction of technology, market and organization (Tidd ea. 2001). It is generally accepted that innovation is not easy but that it can be managed (Tidd ea. 2001, Christensen ea. 2003, Tushman ea. 1997).

A generic innovation process can be identified on a high level of abstraction within each organization and for each type of innovation. The EBO innovation process fits into this generic process. For that reason I concluded, in Chapter 3, that the EBO process has the characteristics of an innovation process and consequently is the formal EBO process considered to be an innovation process, hereby answering research question 1. The answer of this question was based upon literature found within IBM NL about the EBO process and the characteristics of an innovation process as defined by Tidd (Tidd ea. 2001).

EBO innovation is the formal process within IBM associated with renewal of what IBM offers for current or new customers within the context of EBO's. Innovation in this way is seen as the activities within IBM associated with creating new growth markets with new products, services or combinations of them derived from an EBO. EBO innovation within IBM NL begins from the moment an EBO starts within IBM NL and ends when the EBO either has become business as usual within the IBM NL business units or did not succeed and the EBO has been stopped. The part of EBO innovation that takes place within IBM NL is defined as EBO implementation.

Several authors (Tidd ea. 2001, Afuah 1998, Leonard 1995, Rothwell 1994) have addressed (parts of) innovation as is addressed in EBO innovation.

Given the conclusion that the EBO innovation is an innovation process and that IBM's part is the implementation process, the remaining research questions 2-5 are rephrased:

RQ 2. Which phases can be distinguished in EBO implementation?
RQ 3. Which organizational arrangements are needed for EBO employees within IBM NL?
RQ 4. Which organizational factors within IBM NL influence EBO implementation?
RQ 5. What is the role of IBM NL management in EBO innovation?

Implementation can be divided into two parts. First, the transfer process, in which the EBO is transferred towards the Netherlands, is defined by the announcement until the value recognition of the EBO by IBM NL. And second, the commercialisation process which is the actual commercialisation of (concepts derived from) the EBO on the Dutch Market by employees within IBM NL.

The theoretical study resulted in the framework presented in Chapter 3. The framework is there for analysing EBO innovation. The next step is to deductively derive hypotheses from this model that will be verified for IBM NL. A hypothesis is here defined as: a supposition derived from theory that answers a research question, which then will be tested if this is in place within IBM NL through research. If a hypothesis is accepted for IBM NL, then this will be a facilitator for the EBO implementation by IBM NL. If the hypothesis is false, it will be an inhibitor.

As the research questions show, the scope of this study is broad due to explorative nature of the study. This study is a first step at identifying facilitators and inhibitors for EBO innovation. It focuses on both organizational and implementation related factors influencing EBO innovation. This study will provide a fundament for future research for EBO innovation in which, if necessary, several facets can be explored deeper.

Given these findings and scope, the research questions 2-4 all addressing the EBO implementation process will be transformed into 8 hypotheses derived from the framework Figure 3-1 and Chapter 4. Research Question 5 will be answered in Chapter 9. Basic assumptions in this study are that innovation can be managed and can be learned (Tidd ea. 2001), meaning that it is also possible to manage and to learn to manage EBO's.

5.3 Implementation of EBO's by IBM NL

A hypothesis within this thesis is defined as: a proposition that closes the studied theory. It is a supposition, about the relation of certain characteristics of the unit of analysis in this thesis (IBM NL), which forms a preliminary answer on the research questions (Baarda 2001). Each hypothesis deals with a separate characteristic of IBM NL that is related to the success of EBO innovation[i]. Based upon the literature study, it is assumed that if a hypothesis is in place for IBM NL that the chance of success of EBO innovation increases.

As stated in Chapter 4, this study focuses on the arrows in the framework. Table 5-1 presents the relations between the components of the framework, research questions and the aligning hypotheses. Given the findings in theory as resumed in Chapter 4, the hypotheses presented in this section answer the research questions. The hypotheses are split into two different groups. The first group is corporate factors that influence EBO implementation. The second group is operational factors concerning EBO innovation.

Table 5-1 Relations between Components Model, Research Questions and aligning Hypotheses

Facet	Framework	Goal	Focus	RQ's	Hypotheses
Transfer	Context-Generic Process	Guiding the intra IBM EBO transfer, knowledge	Creation value recognition within IBM NL for EBO projects	2	5,6
Commercialisation	Context-Generic Process	Creating successful business models that can be executed by the IBM NL BU's	Implement an EBO project by EBO employees, BU employees, partners and customers	2	5,6
Strategy	Routines [strategy] - Generic Process	Position EBO's within IBM NL	Vision towards	4	1
Culture	Routines [Supportive Organizational Context]- Generic Process	Support	Supportive context for EBO activities	4	2
Organizational arrangements	Context-Routines [Implementation mechanisms]	Arrangement supportive for EBO tasks	Provide optimal arrangement for the EBO employees to perform their tasks	3	3,4,7
Knowledge flows	Context-Routines [Supportive Organizational Context]	Facilitate knowledge and information Communication	Show added value of EBO activities to organization Learning	3	8

Treating innovation as a corporate-wide task is an important success factor for innovation (Rothwell 1994). Innovation needs managing in an integrated way; it is not enough just to manage or develop abilities in some areas (Tidd ea. 2001). Hence, the chance of successfully commercialising an EBO increases if the following hypotheses, derived from the model are in place for IBM NL.

Corporate Factors

Hypothesis 1 deals with the relationship Routines [strategy] - Generic Process. Strategy is one of the themes influencing the generic innovation process (Tidd ea. 2001) and hence, EBO implementation. In current strategy literature it is generally accepted that strategy is about the processes and content of interactions between a company and its environment and how current and future developments may shape these interactions (Zegveld 2000). The following higher-level strategic factors are two essential pre-conditions for sustained innovation to take place. First, there must be top management commitment to and visible support for innovation. This is especially important in the case of radical innovations that might encounter internal and external opposition. Second, the presence of a long-term strategy in which innovation plays a key-role (Rothwell 1994, Tidd ea. 2001). Considering then that IBM NL is part of IBM, hypothesis 1 is derived.

IBM NL has a clear vision towards the role of EBO's for IBM NL.

Hypothesis 2 deals with the relationship Routines [supportive organizational context] - Generic Process. An innovation-accepting, entrepreneurship-accommodating culture is an important facilitator for innovation. Without this IBM will dampen the innovation activities, or lose all together, it's most valuable asset – dynamic entrepreneurial individuals (Rothwell 1994). Culture is a system of shared values and norms that define appropriate attitudes and behaviours for its members (Tushman ea. 1997). This leads to hypothesis 2.

IBM NL has an innovation-accepting, entrepreneurship-accommodating culture supportive towards EBO tasks.

EBO innovation fits the generic innovation process, as concluded in Chapter 3. It is important that management understands that the generic innovation process needs to be aligned with the nature of the innovation. The

context determines the more detailed set up of the process. This context consists of different variables and is concerned with size, national system of innovation, life cycle and degree of novelty (Tidd ea. 2001). The characteristics of EBO innovation are: product and service innovation perceived as new within IBM NL and by customers, customers not necessarily present in current customer base and developing life cycles of the EBO's. Given these characteristics of the EBO, EBO innovation needs to be aligned with the nature of the EBO.

Operational Factors

Hypotheses 3 and 4 deal with the relationship Context-Routines [Implementation mechanisms]. The context of the potential innovations determines the more detailed set up of the process. The variables that make up the context define a certain amount of uncertainty, which EBO implementation faces. Given the characteristics of the EBO, the measurement system for employees working on the EBO needs to be aligned with the nature of the EBO. There must be acceptance of risk and an associated need for sensible termination criteria. There must be long-term commitment to the EBO projects, based not on the sole criterion of short-term return on investment, but on the considerations of future market penetration and growth. This leads to hypotheses 3.

The measurement systems within EBO innovation align with the nature of EBO's.

Organizations can sustain their competitive advantage by operating in multiple modes simultaneously, managing for short term efficiency and control by emphasizing stability and control, as well as for long term innovation by taking risks and learning by doing. Different kinds of innovations require different kinds of organization hardware, structure, systems and rewards and different kind of software, human resources, networks and culture. As EBO's are new to IBM NL, the organizational arrangements needed to execute the tasks of the generic innovation process need to align with the EBO task requirements. This means that the organizational arrangements have to be adequate to meet the demands of the task. And that they motivate behaviour that is consistent with the task demands (Tushman ea. 1997). This leads to hypothesis 4

EBO employees have organizational arrangements within IBM NL that align with the nature of EBO innovation motivating for performing their tasks.

Hypotheses 5 and 6 deal with the relationship Context - Generic Process. EBO innovation takes place in the whole of IBM. Therefore clear roles must be defined between IBM and IBM NL. EBO's needs to be transferred towards IBM NL and then have to be commercialised on the Dutch market. Both the transfer and the commercialisation phase have specific inhibitors, and therefore both need specific attention in certain areas. The transfer phase ends when the value of a concept derived from an EBO within IBM is recognized to have value and a go decision for a project has been given. After this phase is over, the actual commercialisation process starts within IBM NL. This leads to hypothesis 5:

EBO implementation is divided in a transfer process and a commercialisation process.

EBO innovation, and hence the EBO implementation, must be focussed towards a clear result. As EBO innovation needs to be given a new place in the organization and both the market as the organization must be prepared, new business models must be build. These business models need to absorbed by the IBM NL organization and become business as usual. This leads to hypothesis 6:

EBO implementation focuses on creating and executing new business models within the context of the EBO.

Skills, abilities and motives of the employees should fit with the task requirements present within EBO innovation (Tushman ea. 1997). EBO's employees will have to deal with more uncertainty and 'fight' for a part against the normal organization, as they have to give the radical innovations a place in the organization. This means that these employees should have skills, abilities and motives like: the ability to negotiate and persuade, be creative, ability to handle disappointments and have an entrepreneurial attitude. This leads to hypothesis 7.

People involved within EBO implementation require skills, abilities and motives aligning with the nature of the process.

Hypothesis 8 deals with the relationship Context-Routines [Supportive Organizational Context]. Treating innovation as a corporate wide task is an important success factor for innovation (Rothwell 1994). IBM has different kind of EBO activities within different countries involving different organizations and different EBO's. As IBM is a global company and most EBO related activities are both functionally (e.g. R&D) and geographically divided (e.g. EBO activities in other countries) different flows of knowledge can be identified. People can learn from each other so different kinds of knowledge flows are necessary. This leads to hypothesis 8.

Knowledge transfer is well arranged both intra EBO, cross EBO within IBM NL and to other functional departments involved in EBO innovation.

5.4 Limitations of the study

Given the framework, presented in Chapter 3 and the relations presented in Chapter 4 and the number of hypotheses presented in § 5.3, it is clear that not every factor influencing EBO implementation is taken into account. Given the time within this thesis had to done, I was forced to make choices on which facets had to be explored. The selected facets were chosen as these seemed most relevant at the time the thesis was performed based upon informal conversations with employees within IBM NL.

Remaining factors might be interesting to explore in a follow-up study. As an example, the actual implementation process by the employees could be analysed (involving facets like external linkages marketing techniques, customer approach etc.) and implementation mechanisms (team working, division of roles) and be compared so that they can learn from each other.

Notes

[i] The author wants to note the following. Baarda (2001) states: a hypothesis must be formulated in way that it is possible to derive specific verifiable assumptions from it. This is possible, by continuing this research, develop a scale to measure the success the EBO and see if it increases if all the hypotheses are accepted. This falls outside the scope of this thesis. Within this thesis, the derived hypotheses are assumed to be correct based upon the performed research by the cited authors. Hence, this study aims not at verifying of falsifying the hypothesis in general but focuses to see whether they are true to increase the chance of the success of EBO innovation.

6 A qualitative framework to analyse EBO implementation

6.1 Introduction

So far the study has been purely theoretical. Based upon the study of literature, a theoretical framework, for analysing EBO innovation, has been introduced in Chapter 3. From this model hypotheses were derived, see Chapter 5, which should be in place for IBM NL. In this Chapter are the hypotheses translated into a framework (see § 6.2) that forms the basis and scope for analysing the EBO innovation within IBM NL, thus EBO implementation. The limitations and the boundaries of the framework are presented in § 6.3.

6.2 Scope of the analysis

This section defines the scope of the empirical study. For each hypothesis (see Table 6-1) is a scope defined. Several indicators and a description describe each scope.

Table 6-1 Hypotheses

#	Hypotheses	Relationship framework
1	IBM NL has a clear vision towards the role of EBO's for IBM NL.	Routines [strategy] - Generic Process
2	IBM NL has an innovation-accepting, entrepreneurship-accommodating culture supportive towards EBO tasks.	Routines [Supportive Organizational Context]-Generic Process
3	The measurement systems within EBO innovation align with the nature of EBO's.	Context-Routines [Implementation mechanisms]
4	EBO employees have organizational arrangements within IBM NL that align with the nature of EBO innovation motivating for performing their tasks.	Context-Routines [Implementation mechanisms]
5	EBO implementation is divided in a transfer process and a commercialisation process.	Context-Generic Process
6	EBO implementation focuses on creating and executing new business models within the context of the EBO.	Context-Generic Process
7	People involved within EBO implementation require skills, abilities and motives aligning with the nature of the process.	Context-Routines [Implementation mechanisms]
8	Knowledge transfer is well arranged both intra EBO, cross EBO within IBM NL and to other functional departments involved in EBO innovation.	Context-Routines [Supportive Organizational Context]

The first hypothesis deals with strategy as part of the relation between the day-to-day organizational routines (strategy) within IBM and EBO implementation. Vision, output, strategic choices and involved persons define the chosen scope for hypothesis 1. Strategy is an essential pre-condition element for innovation to take place. A vision about the role of EBO's should be present. The vision must cope with facets like the role of EBO's for IBM (NL), the expected output and the place in the organization. Furthermore it is important to know who are responsible and involved in such a vision.

Hypothesis 2 deals with the impact of culture on EBO implementation. This is part of the relation between the day-to-day organizational (supportive organizational context) routines within IBM NL and EBO implementation. Awareness, acceptance and promotion define the scope of culture. Awareness is addressed as how people within IBM NL are aware of the relevance of EBO's for IBM NL and IBM. Acceptance is defined as how awareness is put into concrete actions beneficial or supportive for EBO implementation. Promotion deals with activities that are related to creating awareness and acceptance for EBO innovation.

Hypothesis 3 deals with the relation between Context-Routines [Implementation mechanisms], more specific between the context of the EBO and how EBO implementation is measured. Used measurement systems to judge the people working on the EBO define the scope for hypotheses 3. The amount of uncertainty that is surrounded with EBO projects should influence the measurement system of the project in providing more room. Due to the fact that I did not make an analysis on what kind of measures are supposed to be used, I compared them to normal sales measures used within IBM. The context variables can be used to determine the amount of uncertainty involved in the implementation process of the EBO.

Hypothesis 4 deals with the relation between Context-Routines [Implementation mechanisms], more specific with the organizational arrangements needed within IBM NL. These arrangements should be supportive towards EBO implementation. Know ability, team feeling, value recognition and place define the scope for this hypothesis. Know ability is the fact if EBO's are known within the IBM organization, team feeling concerns whether EBO employees (both intra as cross EBO) relate to each other and have a connection, value recognition is concerned with the fact if activities by EBO employees are appreciated and recognized by their surroundings and place in the organization deals with if EBO's have a front office (or face) in the Dutch IBM organization.

Hypothesis 5 deals with the relation Context-Generic Process, and more specific the phases that can be distinguished in EBO implementation. Goals, actors, involved persons/roles and go/no go decisions define the scope of hypothesis 5. Goals is concerned with the fact that the transfer phase aims at value recognition within a business unit of IBM NL, and that the commercialisation phase deals with the actual implementation and realization of a chosen business model. Actions taken deals with aspects: like business model building, like team set up, customer search. The third part of the scope deals with which persons/roles were involved in commercialisation process of the EBO during the different phases. Go/no go decisions are signs for a structured approach in which deliberately value is sought.

Hypothesis 6 deals with the relation Context-Generic Process, more specific between EBO innovation and the outcome: business models. The EBO process must result in new business models that capture value for its customers and for IBM. Business models address elements like: strategy, resources, customer interface and a value network. The focus will be on finding out if EBO implementation has a clear focus in which these facets are addressed. The focus of the EBO activities within IBM NL defines the scope of hypothesis 6.

Hypothesis 7 deals with the relation between the context and the people involved in making an EBO a success. Abilities, skills and motives define the scope of hypothesis 7. No psychological tests were carried out to test the employees on capabilities, but employees were asked whether individuals working on the EBO need certain skills, abilities and motives that fit with the task requirements of EBO innovation as EBO's employees will have to deal with more uncertainty and 'fight' for a part against the normal organization.

Table 6-2 Scope of research: translating the hypotheses for the empirical study

Hypo	Location in Framework	Scope in indicators	Description
1	Routines [strategy] - Generic Process	Presence vision	The presence of a clear vision towards innovation and the EBO's within IBM NL
		Strategic choices	Choices by IBM NL management concerning EBO's
		Output, Role	What is the expected output and role of the EBO's for IBM NL in total?
		Persons involved	Which persons are involved in developing, translating, envisioning and clarifying IBM's innovation strategy in a vision for IBM NL
2	Routines [Supportive Organizational Context]- Generic Process	Awareness	Is there awareness among employees of the relevance of the EBO process?
		Support	Is there support for the EBO process?
		Promotion	Is an innovative culture promoted through the organization?
3	Context-Routines [Implementation mechanisms	Used measurement systems	Is the specific nature of the EBO a reason to use different measures of success for the EBO then compared to normal sales projects
4	Context-Routines [Implementation mechanisms]	Know ability	Do IBM employees know what EBO's are about?
		Team feeling	Do employees working on the EBO have a team feeling?
		Value recognition	Are there activities recognized to have value and contribute?
		Place	Place in the organization
5	Context-Generic Process	Goals	The transfer phase aims at value recognition within IBM NL, Commercialisation in the actual realization of the business model
		Actions/Routines	What kind of actions were taken: like team set up, customer search, business model building etc.
		Persons/roles	Which persons and roles were involved in commercialisation process of the EBO
		Go/No decisions	Were there any specific turning points in the EBO where people deliberately think of continuing or stopping the EBO or projects within the EBO
6	Context-Generic Process	Strategy, resources, competitors, customer interface a value network	The EBO process must result in new business models that capture value for IBM. Business models include facets like customers, partners, technologies, services, etc.
7	Context-Routines [Implementation mechanisms]	Abilities, skills and motives align with nature EBO	EBO employees have characteristics like: ability to handle disappointments, entrepreneurial, creativity, strong, persistent etc.
8	Context-Routines [Supportive Organizational Context]	Intra EBO IBM	Knowledge flows of within one EBO activities among geographical barriers
		Cross EBO IBM NL	Knowledge flows between several EBO's within IBM NL
		Functional	Knowledge flows over functional barriers, e.g. R&D, marketing & sales, business units

Hypothesis 8 deals with knowledge exchange as part of the relation Context-Routines [Supportive Organizational Context]. Intra EBO IBM, cross EBO IBM NL and cross-functional knowledge flows define the scope of hypothesis 8. Intra EBO IBM knowledge flows are concerned with knowledge exchange, about for instance: projects, best practices and methods within an EBO. Cross EBO IBM NL knowledge exchange deals with knowledge flowing within IBM NL among EBO employees working on different EBO's. Cross-functional knowledge exchange deals with retrieving knowledge outside the EBO structure, for instance from business units or R&D. These knowledge flows cross both functional as geographical barriers. The scope of the research in presented in Table 6-2.

6.3 Limitations of the chosen scope per hypothesis

The restrictions of the chosen scope are related to the choices made by the author. The author realizes that some scopes could be broader. This is why the scope for each hypothesis is made explicit. Given the information, the author had during this explorative study at that time, the defined scopes as presented seemed most relevant.

7 Empirical study

7.1 Introduction

An empirical study has been performed to create a first image of the hypotheses, as presented in Chapter 5, for EBO implementation. The empirical study consists of interviews with people working for IBM NL. These people are related to factors influencing EBO implementation as presented in the hypotheses. The selection of the interviewees, a description of the methodology and the scope are presented in § 7.2. The results of the empirical study are discussed in § 7.3 and then in § 7.4 are the empirical findings combined with the research questions and the hypotheses.

7.2 Selection of the interviewees, methodology and scope

Data to create a first image of the hypotheses has been derived from interviews. Interviews have been chosen because this is a deductive study in which a first image has been created for hypotheses concerning factors influencing EBO implementation. This image can be shaped through interviews. These interviews provided people room to share their experiences and the author room to steer the conversation into the right directions.

Thirteen people within the IBM NL organization have been interviewed. Given the proposed framework and scope of the study, different views on the EBO's were needed to verify all the hypotheses. Therefore, people that were needed and have been interviewed have been categorized in 4 categories: people working on the actual implementation of an EBO within IBM NL, people concerned with EBO innovation on a management level, a third group of country technical leaders and a fourth group of people who have an interest in innovation. These people represent different levels present within the company and have different areas of interest and focus in their daily work. Interviewees can be categorized in four categories. People within in each group were chosen as follows. Within each group several relevant people were chosen based upon their knowledge of the relevant topic. These people were chosen based upon knowledge of D. Schiferli, IBM NL innovation manager. These people have been approached and those who responded have been interviewed.

The groups are built up as follows. The first category is the people who work on the implementation of the EBO's within IBM (EBO employees). This group consists of six people working or who have worked on the implementation of the EBO's: Life Science, Digital Media, Grid and Wireless and a regional EBO manager. The second category consists of people who can influence EBO innovation on an IBM NL management level. This category includes two people: the country manager and a business unit manager. The last two groups deal with people involved with innovation within IBM NL. The third category consists of two country technical leaders. The last and fourth group consists of two people who have a clear opinion about innovation within IBM NL: the person responsible of government relations and a person placed in mergers and acquisitions. These persons represent IBM NL in different ways, with different roles and with different views and experiences. Missing in this group of people are employees working in normal business units who have worked together with EBO employees in EBO projects. Furthermore, two other people, one working on EBO's on EMEA level and one working on the Wireless EBO, were involved in discussions about the set up of the EBO infrastructure. These discussions were helpful in for instance making choices that delineate the scope of this study. Annex II provides an overview of these people.

The interviews had a semi-structured set up. This method was chosen because it obtains relevant information, as it provides room to specifically target the different interviewees and it provides the room to explore general views, reasons or opinions about mentioned topics in more detail[i].

The hypotheses formed the starting point for the preparation of the interviews. Each hypothesis was translated into questions for the interviews. The indicators that define the scope for each hypothesis, as presented in Chapter 6, formed the basis for these questions. Validation questions were included to increase consistency within each interview. Each selected person was linked to several hypotheses and thus linked to certain questions, meaning that for each hypothesis the same questions were asked. The interviewees were divided over the various hypotheses aligning with their role, knowledge and opinions.

Interviews took place from July 8th until August 13th 2004 within the offices of IBM NL in Amsterdam. Interviews lasted from half an hour to an hour and a half, with an average of an hour. At the start of each interview, the author explained the purpose of the research and topics he wanted to touch during the interview. From that point on, interviewees could talk freely, while if necessary the conversation was directed to the prepared topics with the prepared questions. During all the interviews hand written notes were made. All the interviews were also recorded on tape and these tapes provide a reliable source for citations. Each interview was at least once listened back again, most interviews twice. To validate the obtained information from the interview, the conclusions drawn from each interview were linked back to the interviewee and asked for approval. 9 persons replied and the interviewee validated those conclusions of the interviews. Annex III provides the summaries of the interviews.

The obtained results from the interviews were structured in a matrix. Axis one presents the different hypotheses and axis two the interviewees. The results are aggregated in section 7.3 for each hypothesis. This means that the result per hypothesis is based upon the aggregated data of the persons that were linked to that hypothesis. This means that different angles are obtained per hypotheses, as different persons with different roles were interviewed providing consistency. For instance, hypotheses 1 is concerned with a vision towards EBO's. Both a management view, as operational experiences are included for making a judgement on this hypothesis. So, based upon the aggregated data per hypothesis, a judgement is made for each hypothesis either to confirm, reject or do not reject of confirm the hypothesis. *Important to note is that the conclusions drawn for hypotheses 1 to 8 in this thesis are based upon the results obtained of the interviews the author performed, unless indicated else wise.*

7.3 Empirical results

As we reach the end of this report, I will discuss the findings for the separate hypotheses in this section. Each hypothesis is repeated, the location of the hypotheses in the framework, as presented in Chapter 4 is indicated, the indicators that define the scope of the hypothesis, as presented in Chapter 6, are repeated, the relevant interviewees are given and is the obtained data from the interviews is presented.

Hypothesis 1

Hypothesis 1 was defined as: *IBM NL has a clear vision towards the role of EBO's for IBM NL..* This hypothesis deals with the relation Routines [strategy] - Generic Process and was translated into the indicators: presence of a vision towards innovation and the EBO's within IBM NL, the expected output and role of the EBO's for IBM NL,

strategic choices and persons involved in developing, translating, envisioning and clarifying IBM's innovation strategy in a vision for IBM NL

Different people were interviewed on this topic. Ranging from people involved in different EBO's as: Wireless, Life sciences, Digital Media and Grid. As well as people with different functions and roles: country manager, government relations and lead persons in the technical areas, and employees working on the implementation of the EBO's within IBM NL.

A hard innovation strategy for IBM NL does not exist. The country manager Indicated that this agenda cannot be determined on this level. A clear vision on future trends was detected within the interviews. Furthermore all interviewees had a clear view on what innovation is and what the role of EBO's within the innovation vision might be. Awareness was detected about what EBO's can do for IBM NL: create new markets and new revenue. Almost all the people agreed on this fact. Furthermore every person was aware of the additional amount of uncertainty surrounding EBO's for instance compared to normal sales projects.

Innovation is addressed as follows. Innovation is the successful introduction of something news. Within IBM is innovation seen as a process and it is not only about research and inventions, but also about the application of the invention. For IBM lies innovation on the crossing of what is technological possible and what from a business and financial need is necessary. IBM is technology minded, but a roll out of technology only happens when there is a hard measurable advantage. Innovation is process of trial and error and does not necessarily have to be a success. Innovation leads to new markets and can lead to disproportional value creation.

The EBO infrastructure was called into life because the application of inventions by IBM is not optimal. A small part of research is used to innovate and mainly with a focus to innovate within the existing businesses because people resist to change. In short, IBM reserves money for EBO projects then scans the market and the own company for new trends and ideas that might become important and then anticipate to these. Hence, EBO's are new product-service/market combinations. EBO's must contribute to IBM's double-digit growth ambition; hence they have to create value. EBO's are managed along a formal strategic management process. An EBO is a set of technologies/ services that need to be turned into solutions. EBO's are no commodity products, EBO's are still in the phase of market creation. The new value creation part is essential for staying competitive and this requires innovation.

On the other side, the following remarks were made of people working on the EBO implementation that:

- Direct management of EBO activities within IBM NL are missing. This can lead to the situation that the amount of freedom is too big, leading to too much experimentation. Focus is important, especially within a small EBO teams as they are operating in the Netherlands.
- A clear direction for EBO's is missing on local level, e.g.: What is the ambition of IBM NL in certain EBO markets?
- Innovative processes like the EBO activities should be more structured in the normal business processes of IBM NL

Hypothesis 2

Hypothesis 2 was defined as: *IBM NL has an innovation-accepting, entrepreneurship-accommodating culture supportive towards EBO tasks*. Hypothesis 2 deals with the relation Routines [Supportive Organizational Context]-Generic Process. Culture can be defined as a system of shared values and norms that define appropriate attitudes and behaviours for its members. Culture was translated in the indicators: awareness among employees

of the relevance of the EBO process, support for the EBO process and promotion of an innovative culture through the organization.

The main result is that people involved in EBO activities experience a quarterly driven short-term result culture within IBM NL. Projects have to create revenue instantly so that it can contribute to revenues of the next quarter. A technical leader addressed this as: 'An inhibitor for innovation is the cost-driven structure within IBM NL (controlled by the region). It leaves little margins to explore new possibilities like addressed in EBO's. The current status of IBM NL is that they are mainly (sub) optimising on an operational level. For strategy and tactical thinking is no room.' EBO employees seem to experience this in the fact that most EBO employees encounter issues like non-understanding of their colleagues about what their added value is.

On the other hand some EBO employees had explicit support of their managers and this worked as a facilitator because this provided extra room for business development. These managers understood that EBO projects couldn't always deliver immediately and room was needed for creating new partnerships and new product/service combinations.

Hypothesis 3

Hypothesis 3 was defined as: *The measurement systems within EBO innovation align with the nature of EBO's.* This hypothesis deals with the relation Context [Novelty, Lifecycle]-Routines [Implementation mechanisms]. Used measurement systems to judge the people working on the EBO define the scope for hypotheses 3.

Different people were interviewed on this topic. Ranging from people involved with different EBO's as: Wireless, Life sciences, Digital Media, and Grid. And people with a different function: regional manager EBO employees and employees working on the implementation of the EBO's within IBM NL and a BU manager.

All the people confirmed that different measurement systems were used compared to normal sales projects, meant for providing room for business development. Furthermore, some people indicated that the given targets increased most of the times aligning with the maturing of the EBO.

The region manager measured his business development executive (BDE's, people working on the implementation of the EBO's) upon hard and soft measures. Hard measurement is the amount of revenue creation; soft measurement is creation of awareness, partnership creation and showing added value to the organization. Dynamic EBO lifecycle management was detected, taken into account the life cycle of the EBO, by EBO management on regional level, meaning for instance that targets changed through the life cycle of the EBO. Hard measures were given more importance during the lifecycle of the EBO, as uncertainty would decrease.

One EBO employee indicated that the used measurement system is good and that it gives room for dealing with the uncertainty EBO's bring along. But that it could be 'sharper' every now and then in the sense of that once clear direction is given, targets can be set sharper. I see this as incremental improvements that can be made, as the right measurement system seems to be in place.

Important to note is that people working on EBO's indicated that these kinds of measures also form an Achilles heel as these can be misused to sit back because you have a protected position. A BU manager also confirmed this as for him this measurement system as creates the image that EBO employees are merely searching opportunities created by someone else to add to their target.

Hypothesis 4

Hypothesis 4 was defined as: *EBO employees have organizational arrangements within IBM NL that align with the nature of EBO innovation motivating for performing their tasks.* This hypothesis deals with the relationship between Context-Routines [Implementation mechanisms]. Know ability, team feeling, value recognition and place define the scope for this hypothesis.

Different people were interviewed on this topic, ranging from EBO employees involved in different EBO's as: Wireless, Life sciences, Digital Media, and Grid.

Issues that were mentioned by IBM NL EBO employees are: EBO's are not well known in the organization, the missing of a team feeling and EBO feeling and issues concerning the added value of EBO activities. Furthermore what came forward was that both EBO employees and other persons interviewed do not or partly know who is doing what with which EBO within IBM NL and that there is no current mechanism or vehicle to facilitate or structure this.

EBO management within region north funds EBO employees and manages IBM NL EBO employees. IBM NL EBO employees also have a local manager as they are placed in normal IBM NL BU's. EBO employees take one headcount within a BU, and their activities do not always directly contribute to the Business Unit. Indicated was that this place in the BU does not align with the role and function and this leads to the following pattern. Not all activities contribute directly to the BU, e.g. some activities are sector related, and hence direct added value for the BU is not always present. Someone who contributes directly to revenue creation for the BU could also take this place. Thus, less recognition for and attention to his contribution is present in BU. Several people indicated this pattern.

One EBO employee added that the described pattern leads to internal 'fighting' within the organization and so the time spend internally is as big as time spend on business development. And this leads to personal frustration. His IBM NL manager judges the EBO employee while the regional management has no direct decision power on his judgment. And this leads to no clarity about promotion, salary, troubles with headcount position, not really being part of a team and recognition[ii]. A BU manager, for whom it is very hard to see the presence of the EBO employees, and also to see the added value of the EBO employees, also confirmed this view. On the other hand there are EBO employees who indicated that their regional EBO managers judge them.

Hypothesis 5

Hypothesis 5 was defined as: *EBO implementation is divided in a transfer process and a commercialisation process.* This hypothesis deals with the relation Context-Generic Process.

Different people working on the implementation of an EBO were interviewed on this topic, ranging from persons working on different EBO's as: Wireless, Life sciences, Digital Media and Grid.

All the EBO's approached the implementation process along the same method. The EBO employees within IBM NL first think of new business models (offerings) in the context of the EBO including elements of partners, customers, customer value etc. Then there is an active search towards value recognition of this business model within an IBM NL business unit. If this takes place, the aligning account manager within the BU and the EBO employees together will pursue the opportunity and if needed the team will be extended.

One person mentioned that the chance is often big that a sales person claims success. All the preparations upfront from an EBO employee are not visible, meaning that it is hard to make the added value visible of the BDE. One person indicated that he was not completely happy with set up division of roles and the way the team worked. Though this is essential as is an inhibitor for the implementation process, this falls outside of the scope of this study because this is the actual teamwork.

Hypothesis 6

Hypothesis 6 was defined as: *EBO implementation focuses on creating and executing new business models within the context of the EBO.* This hypothesis deals with the relation Context-Generic Process. The focus of the EBO activities within IBM NL defines the scope of hypothesis 6.

Different people working on the implementation of an EBO were interviewed on this topic, ranging from persons working on different EBO's as: Wireless, Life sciences, Digital Media and Grid.

All the employees working on the EBO's, approached the implementation process using an active approach towards creating business models. All have a flexible attitude towards potential customers, partners etc. Most interviewees mentioned that customers need special care, as these projects are also often new for them. All employees also seemed to have a good knowledge about the content of the EBO and the industries they face[iii]. Several times was stated that EBO's are about business development. One EBO employee mentioned explicitly that he is not an inventor. His role is about bringing new combinations of products/services/partners/customers into life.

Hypothesis 7

Hypothesis 7 was defined as: *People involved within EBO implementation require skills, abilities and motives aligning with the nature of the process.* This hypothesis deals with the relation Context-Routines [Implementation mechanisms], more specific with the context of the EBO process and the people needed to perform the tasks concerning the EBO activities. Abilities, skills and motives define the scope for hypothesis 7.

Different people were interviewed on this topic. Ranging from people working on different EBO's, as: Wireless, Life sciences, Digital Media, and Grid. People with different functions: Regional Manager BDE's and employees working on the implementation of the EBO's within IBM NL.

All interviewees confirmed that certain abilities, skills and motives are needed for implementing an EBO. Recommendations that were given: you need people who can think outside of the box meaning people can step outside normal sales patterns, people who can handle disappointments because a lot of effort will not lead directly to result, self discipline, strong, ability to convince people, persistent, have the ability to deal with freedom, an entrepreneurial spirit, strong on content level and people who can handle the sales organization. Hence, this is often experienced 'heavy' person. They have to deal with the fact that added value is less visible and that they are confronted with a non-understanding of their added value. Another recommendation that was given was that teams should minimally consist of two kinds of people: runners as in enthusiastic sales (go-go attitude) and people who check the technical reality.

An inhibitor that was given is that the wrong people might misuse the freedom, which can give EBO employees a bad image.

Hypothesis 8

Hypothesis 8 was defined as: *Knowledge transfer is well arranged both intra EBO, cross EBO within IBM NL and to other functional departments involved in EBO innovation.* This hypothesis deals with the relation Context-Routines [Supportive Organizational Context]. Intra EBO IBM, cross EBO IBM NL and cross-functional knowledge flows define the scope of hypothesis 8.

Different people were interviewed on this topic. Ranging from people working on different EBO's as: Wireless, Life sciences, Digital Media, and Grid. And people with a different function: regional manager BDE's, employees working on the implementation of the EBO's within IBM NL and a BU manager.

The intra EBO knowledge exchange seems to work well. All the people communicate with their EBO colleagues abroad. One person mentioned that meeting people in England face-to-face works as a facilitator. Intra EBO collaboration is present between countries and regions: copy best practices, projects etc. One mentioned that it was also possible to fly in knowledge experts from outside the country who could talk with potential new partners.

Cross EBO knowledge exchange within IBM NL is missing. Most interviewees could name only a few other employees working on EBO's. A nice example is that two EBO employees were working on an initiative together and only later found out they both were working on EBO's.

Cross division contact was present in all cases. Almost all the employees working on the implementation of the EBO had contacts with IBM's labs. One person mentioned that he acts as a linking pin between solution-centres, R&D and IBM's (new) customers. Furthermore all employees had cross business unit contacts. On the other hand, there are clear sounds that the communication to the business unit is not optimal.

7.4 Conclusions

This is a thesis on EBO innovation within IBM Netherlands. The inducement for this thesis was curiosity of Djeevan Schiferli, IBM NL innovation manager, about the EBO activities within IBM NL. This study is explorative and starting point were recent and current EBO activities within IBM NL. The aim was to find out what is going well and what might need improvement of the EBO approach within IBM NL. The problem statement is therefore formulated as follows: *What are the current inhibitors and facilitators within IBM Netherlands for successfully commercialising EBO's on the Dutch market?*

The scope of the thesis is as follows. The unit of analysis is IBM NL and more specific, the role IBM NL plays in EBO innovation and how it could approach this role given its role as a local country office of IBM. A theoretical study has been performed, resulting in a framework for analysing the approach of the EBO process. From the theoretical framework, 8 hypotheses were derived, both concerning national organizational factors and operational EBO implementation related factors. The empirical study consisted of 13 interviews of IBM NL employees with various roles related to the EBO's and is meant to create a first image of the hypotheses.

Table 7-1 Empirical findings in relation to research questions and hypotheses

		Research Questions		
		2	3	4
		Which phases can be distinguished in the implementation process within IBM NL?	Which organizational arrangements are needed for EBO employees within IBM NL?	Which organizational factors within IBM NL influence the success of the EBO innovation process?
Hypotheses				
1	IBM NL has a clear vision towards the role of EBO's for IBM NL.			No hard vision present, tacit vision about innovation and EBO's is present within key individuals, like the country manager and technical leaders
2	IBM has an innovation-accepting, entrepreneurship-accommodating culture supportive towards EBO tasks			EBO Employees experience a focus on short-term results, leaving little room for business development. The technical leaders also indicate this phenomenon. The BU manager also confirmed this from his point of view.
3	The measurement systems within EBO innovation align with the nature of EBO's.		A measurement system is used that should provide more room for EBO employees. On the other hand, gives it EBO employees a bad image in the organization as it gives the impression they can lift on other peoples work.	
4	EBO employees have organizational arrangements within IBM NL that align with the nature of EBO innovation motivating for performing their tasks.		Current arrangements do not motivate EBO employees to their work: No team feeling, Limited contacts with BU's.	
5	EBO implementation is divided in a transfer process and a commercialisation process.	Within the EBO implementation process, the transfer phase and the commercialisation phase are present		
6	EBO implementation focuses on creating and executing new business models within the context of the EBO.	EBO level: EBO activities clearly focus on creating new business models within the context of the EBO.		
7	People involved within the EBO implementation process require skills, abilities and motives aligning with the nature of the process		EBO implementation activities within IBM NL are carried out with people who are aware that these people need skills, abilities and motives in line with the nature of the EBO process	
8	Knowledge transfer is well arranged both intra EBO, cross EBO within IBM NL and to other functional departments involved in EBO innovation.		Good intra EBO knowledge transfer Contacts present with labs Missing structured cross EBO knowledge transfer within IBM NL Link to BU is seems far from optimal	

A judgement will be made based upon the findings of an empirical study for each hypothesis. This resulted in facilitators and inhibitors for EBO innovation to happen within IBM NL. Important to note is that the conclusions drawn in this thesis are based upon the results obtained of the interviews the author performed. A summary of the

empirical results, in relation to the research questions, presented in Chapter 1, and the hypotheses in Chapter 5 is presented in Table 7-1. Table 7-2 provides an overview of the status of the formulated hypotheses.

Table 7-2 Status of the formulated hypotheses

Hypotheses	Relation in framework or element in framework	Status
1	Routines [strategy] - Generic Process	Neither rejected nor confirmed
2	Routines [Supportive Organizational Context]- Generic Process	Neither rejected nor confirmed
3	Context-Routines [Implementation mechanisms]	Confirmed
4	Context-Routines [Implementation mechanisms]	Rejected
5	Context-Generic Process	Confirmed
6	Context-Generic Process	Confirmed
7	Context-Routines [Implementation mechanisms]	Confirmed
8	Context-Routines [Supportive Organizational Context]	Confirmed for intra EBO knowledge exchange Rejected for structured cross EBO within IBM NL Neither rejected nor confirmed for knowledge exchange over functional barriers

Notes

[i] http://www.show.scot.nhs.uk/involvingpeople/methodologies/individualmethodologies/interviews.htm

[ii] A quote from an interview illustrating what EBO employees working on the implementation of an EBO experience: *"The current structure leads to a lack of visibility for the EBO sales. As he or she is mainly doing business development related activities, few "large" deals are closed which provide the EBO sales with this visibility. I believe that if the inhibitors would not be present, the LS EBO could be more successful due to the fact that we could focus more on externally related issues and the motivational aspect would be greatly improved, which in itself is business-enhancing."*

[iii] This conclusions is as indicated purely based upon the conversations held with the interviewees, no background study was made on this topic.

8 Conclusions

8.1 Introduction

This Chapter presents the scope of the study (§ 8.2), the conclusions related to the research questions (§ 8.3), a list of facilitators and inhibitors for EBO innovation given the study constraints (§ 8.4). The Chapter closes with a discussion (§ 8.5).

8.2 Scope of the study

This study focuses on inhibitors and facilitators for EBO innovation within IBM Netherlands. The platform Emerging Business Opportunities (EBO's) is a key element of IBM's innovation investments. They function as leverage for IBM's R&D investments to their customers more quickly. And so aim at establishing a sustainable growth engine that delivers innovative solutions that IBM's mainstream business eventually can execute and scale to growth. EBO's are about developing businesses and are strategic growth initiates for the longer term besides IBM's day-to-day operations.

EBO innovation is defined as the process starting when a new development is officially promoted to have an EBO status by the corporate EBO board until the moment the EBO has become Business As Usual (BaU) in the Dutch IBM organization and market or is abandoned. The part of EBO innovation that takes place within IBM NL is defined as the implementation phase.

The unit of analysis is IBM NL and the role IBM NL plays in the EBO innovation process. The study focuses on identifying current inhibitors and facilitators within IBM Netherlands for successfully commercialising EBO's on the Dutch market. The unit of analysis is IBM NL. This study is explorative and is a first effort at identifying facilitators and inhibitors. It focuses on both organizational and implementation related factors influencing EBO innovation. The study results in an initial advice (Chapter 9) for IBM NL management consisting of first directions of measures that can be taken to increase the chance of making an EBO a success. The current EBO situation within IBM NL will be taken as a starting point for possible changes.

A framework has been used based upon the work of Tidd (Tidd ea. 2001) to analyse factors that influence the success of EBO innovation within IBM NL. From the theoretical framework, 8 hypotheses were derived, both concerning factors related to the organisation as well as operational EBO implementation related factors. The factors derived from this framework presenting the range of factors researched in this study in relation to the research questions and hypotheses are presented in Table 5-1. The empirical study consisted of 13 interviews of IBM NL employees with various roles related to the EBO's. All conclusions are related to the hypotheses based upon the results of these interviews, unless indicated else wise.

8.3 Conclusions

This section provides the conclusions related to the research questions and the hypotheses. Both research questions and hypotheses are indicated between brackets.

EBO Innovation process

The EBO process is considered to be an innovation process *[Research Question 1].* A generic innovation process can be identified on a high level of abstraction within each organization and for each type of innovation and the EBO innovation process fits into this generic process. The answer of this question was based upon literature found within IBM NL about the EBO process and the characteristics of an innovation process as defined by Tidd (Tidd ea. 2001).

Phases in the EBO implementation process

The framework of Tidd shows that the generic innovation process is context dependent. I conclude the following for the relation Context-Generic Innovation Process. Due to characteristics of the EBO (novelty and life-cycle) and the size of IBM, two sub-phases must be identified within the implementation process, taking place within IBM NL *[Research Question 2]*. The two phases: transfer and commercialisation, are present within the current EBO implementation process *[H5]*. There is a distinction of phases within the EBO implementation process in IBM NL. First, a transfer phase, aiming at value recognition of new EBO offering thought off by EBO employees within business units of IBM NL *[H6].* Second, a commercialisation phase, which is the first implementation of a new offering by both EBO – and Business Unit (BU) employees, possible partners and customers.

Organizational arrangements within IBM NL for EBO employees

The framework of Tidd shows that Context influences which routines should be used for the generic innovation process and hence the implementation process *[Research Question 3].* I conclude the following for the relation Context-Routines (Implementation mechanisms).

EBO management within region north funds EBO employees and manages IBM NL EBO employees. IBM NL EBO employees also have a local manager as they are placed in normal IBM NL BU's. EBO employees take one headcount within a BU. Their activities do not always directly contribute to this business unit.

This current organizational set up within IBM NL leads to several inhibitors *[H4]*. First, several EBO employees indicated the following pattern due to this set up. Not all EBO activities by EBO employees contribute directly to the BU, as some new offerings are more interesting for other BU's. Therefore added value for the BU in which an EBO employee is placed is not always present. An employee who contributes directly (someone who is not working on business development but on normal day-to-day operations) could also take this place within the BU. This leads to less recognition for and attention to the EBO employee's activities. One person added that this leads to internal 'fighting' within the organization and so the time-spent internally on coping with these issues is as big as time spent on business development. And this leads to personal frustration. One person added that his IBM NL manager judges him while the region has no direct decision power on his judgment. And this leads to no clarity about promotion, salary, troubles with the headcount position and the feeling of not really being part of a team and recognition[i]**.** Hence, the current organizational set up of EBO employees does not fully align with their role and function. Second, EBO's are not well known in the IBM NL organization. None of the interviewees could mention all the EBO's currently running within IBM NL or mention the people working on them. Third, EBO employees do not have a team feeling or experience an EBO feeling. Fourth, the missing of clear lines and direct management

within IBM NL leading to that the amount of freedom can be too big, leading to too much experimentation. Fifth, the current experience of a BU manager is that EBO's are an overlay over the current organization. EBO employees have no visibility in the organization, and no added value is observable. This is also illustrated with the remark by an EBO manager that the chance is often big that a sales person claims success of an EBO offering and the preparations of an EBO employee are not visible.

I conclude that the set up of the used measurement systems provide room for business development by EBO employees *[H3]*. The used measurement system is different compared to normal measurement systems used for sales. On the other hand, an inhibitor that came forward concerning the used measurement system is the phrase 'spreadsheet sales'. This means that BU employees within IBM NL get a phone with people asking if they have created new projects that fit within an EBO context. If so, the caller can add this project to his or her target. This creates an image of 'no added value' at all. An EBO employee as well as the BU manager both indicated this.

I conclude that EBO employees within IBM NL are aware that EBO people need skills, abilities and motives in line with the nature of the EBO process *[H7]*. Several people involved with EBO activities confirmed that you need people with a profile aligning with the nature of the EBO tasks, like entrepreneurial, ability to handle disappointments, independent, convincing etc., working on the implementation of EBO's.

I conclude the following for knowledge exchange *[H8]*. Intra EBO knowledge exchange among geographical boundaries is present. As is knowledge exchange among functional boundaries, as for instance most EBO employees have good contacts with the IBM labs. One EBO employee indicated that face-to-face meetings with EBO employees in England works as a facilitator to increase his network, knowledge and involvement in EBO projects. Four inhibitors, concerning knowledge exchange, are the lack of structured knowledge exchange between EBO employees within IBM NL, the lack of good communication between EBO employees and the BU manager, lacking of top EBO support and little to no marketing of EBO successes. First, the first inhibitor regarding knowledge exchange is the missing of structured cross EBO knowledge exchange within IBM NL. Nobody really knows who is doing what with which EBO within IBM NL, as there is no current mechanism or vehicle to facilitate or structure this. Then second, the lacking of communication between EBO people and a BU manager, in terms of: how can we help each other? There is a feeling that the EBO organization is just an overlay organization. This feeling is enhanced by for instance people calling in (from abroad) just to collect revenue to place on their target, in which they did not contribute. This leads partly to misunderstanding between employees. BU employees can see EBO employees as specialists in 'spreadsheet sales', and only search for opportunities created by another to add to their target. Where as EBO employees sometimes see their efforts claimed by sales people, while they came up with the idea and made a lot of preparations upfront (which are not visible). Third, there is also no 'heavy' EBO manager who communicates the added value of his or her activities to key persons within IBM NL. Fourth, EBO employees do not market their activities and hence their added value is not visible and there is also no vehicle to structure and facilitate this.

Organizational factors within IBM NL influencing the EBO activities

The framework of Tidd shows that the generic innovation process has to be integrated within the normal operations. Routines correlating with successful innovation tend to structure around four themes: strategy, implementation mechanisms, external linkages, and supportive organizational context. Within this thesis, strategy and culture (as part of supportive organizational context) have been investigated, both as part of the relation Routines - Generic Process of the framework of Tidd *[Research Question 4]*.

I conclude the following for the relation strategy and the EBO implementation process *[H1]*. The country manager indicated that an IBM innovation strategy is not present on a local level. Key individuals like the country manager, a BU manager and technical leaders, in IBM NL have a clear vision towards innovation, the role of innovation for IBM and the role of EBO's within innovation for IBM. This vision was all present in tacit form, meaning present within individuals but not translated into a coherent vision in which issues like upcoming trends, the role of innovation and the role of EBO's have been written down. IBM NL direction team has recently called two new entities into life: the innovation and the technical council. The innovation council deals with the innovation ambition of IBM NL. The technical council deals with the capacity of recourses, education etc. of IBM NL for the vision of the council. The technical council is a virtual organization consisting of the best technical professionals of IBM NL. These councils think over the lines of business and have the ambition to introduce a more strategic approach towards EBO's on a local level. The councils are present within IBM NL to create the margins for innovation. From the implementation angle, EBO employees indicated that clear lines are missing in which the approach of EBO's within IBM NL can be placed. EBO's do not seem to have a real face in the organization. Leading to that, it is difficult to see who is working with EBO's and whom you should approach for business development opportunities. EBO opportunities often involve different kind of business units, all having their own interest, which does not always align with the interest of the EBO. I conclude that there is clearly a tacit vision and awareness of strategy issues within key individuals, but this is not translated into a coherent vision for EBO's and what EBO's can mean for IBM NL.

I conclude the following for the relation culture and the EBO implementation process *[H2]*. EBO employees indicate that they mainly experience a quarterly driven culture leaving less room, acceptance and support for business development. On the other hand, the country manager indicated that the IBM organization has an informal part that allows people to search for and discover new things. Furthermore a BU manager indicated that though short-term results are very important, there is room for business development. There is awareness of the relevance of innovation among every individual I interviewed. That is, both within key individuals in the organization as well as people working on EBO implementation. Furthermore, there are various initiatives currently taking place that could enhance EBO innovation to happen. Examples are the technical and innovation councils and the innovation centre, as these show awareness and support for innovation. Based upon the information available, I conclude that both supportive and understanding attitudes, acceptance and promotions as well as non-understanding attitudes towards EBO innovation were indicated.

8.4 Facilitators and inhibitors for the EBO implementation within IBM NL

First I would like to repeat that this study is explorative and is only a first attempt to identify facilitators and inhibitors for EBO innovation. This section provides an overview of the found facilitators and inhibitors given the scope of this study and are solely based upon the interviews that the author held. The number between the brackets refers to the hypothesis to which the facilitator of inhibitor is related. The following facilitators for EBO innovation have been found:

- Awareness of what innovation is, what it can do for IBM NL, and what the role of EBO's can be among key individuals in the organization *[1]*.
- Initiatives like the innovation and technical council in which business development gets a face in IBM NL *[1]*.
- Awareness and support for EBO activities among some IBM NL employees and managers *[2]*.
- A measurement system, to measure EBO employees, which provides room for business development *[3]*.

- The intended set up approach used by EBO employees: first creating new offerings and actively seeking for value recognition within the organization and then start the execution of the created offerings together with BU employees and possible new partners and customers *[5]*.
- Clear focus towards creating new business models, active search towards new partners, customers etc. *[6]*.
- Awareness that people with a right profile need to be working on the implementation of EBO's *[7]*.
- Presence of intra EBO knowledge exchange among geographical boundaries *[8]*.
- Presence of knowledge exchange among functional boundaries, e.g. EBO employees - R&D *[8]*.
- Face-to-face meetings of IBM NL EBO employees with EBO employees in England work as a facilitator to increase an EBO employee's network, knowledge and involvement in projects *[8]*.

The following inhibitors for EBO innovation have been found:

- A clear direction for EBO's is missing on local level. No clarity of the ambition of IBM NL towards EBO's *[1]*.
- Direct management of EBO activities within IBM NL are missing *[1]*.
- Experiences of focus mainly on short term results *[2].*
- Non-understanding of colleagues, non-understanding of managers of EBO activities *[2]*.
- No structured contact between EBO employees within IBM NL *[4].*
- Preparations upfront from EBO employees are often not visible, and hence no added value visible *[4]*.
- EBO's are not well known in the organization *[4]*.
- The missing of an EBO feeling and a team feeling by EBO employees *[4]*.
- Current experience of BU manager is that EBO's are an overlay over the current organization. No face of EBO employees in the organization, no added value visible *[4]*.
- Missing of structured cross EBO knowledge exchange within IBM NL *[8]*.
- No overview of who is doing what with which EBO within IBM NL, and there is no current mechanism or vehicle to facilitate or structure this *[8].*
- Missing of structured communication between EBO people and a BU manager, in terms of: how can we help each other *[8]*.
- Misunderstanding between employees. BU employees see EBO employees as specialists in 'spreadsheet sales', and only search for opportunities created by other to add to their target. Where as EBO employees sometimes see their efforts claimed by sales people, while they came up with the idea and made a lot of preparations upfront (which are not visible) *[8]*.
- The feeling that the EBO organization is an overlay organization. This feeling is enhanced by for instance people calling in (from abroad) to collect revenue to place on their target, in which they did not contribute *[8]*.

8.5 Discussion

The current regional set up seems to works partly for IBM NL. Most of the hypotheses were confirmed meaning that IBM is doing different things well. Special resources like people, funding and expectations compared to, for instance, normal sales projects are essential for making business development projects like EBO's a success.

Due to the explorative nature of the study, I would like to mention that all the facets that are labelled as a facilitator are still candidates for improvement. For instance, knowledge exchange can, most likely, be improved, as well as the tuning of the measurement systems. But extra study will be necessary to make good judgements about where these improvements should exactly take place.

On the other hand, the current regional EBO set up also immediately seems to be a weakness for business development within IBM NL. This set up seems to give no real incentives for IBM NL management to take an active approach towards EBO's as everything is controlled from out the region and higher up and EBO's do not directly contribute to their quarterly driven targets.

This leads to inhibitors, and these can be shortly summarized and connected as follows. Firstly, most EBO employees experience a focus on short-term results. As EBO employees are located in normal business units, which are sales driven and fast sales have priority, their colleagues in their surroundings do not always understand their activities and added value, as their activities are often also crossing the lines of business. Then second, an overview of employees working on EBO's within IBM NL is missing. Most EBO employees do not really have an EBO and team feeling and do not share knowledge with other employees in a structured way within IBM NL. The link between the EBO's and the BU's, who will have to execute the new offerings, seems far from optimal. Third, clear strategic directions for EBO's within IBM NL have not been identified. There is no mechanism to make strategic choices concerning EBO's. Therefore no real focus is given. Concluding, a strong link with the BU's is missing. The initiative is good, but it is not finished and seems to leave too little room and recognition for business development.

Another inhibitor is that the current set up leads to a lack of visibility of EBO sales. EBO employees are mainly working on business development related activities, meaning that few 'large' deals are closed which provide the EBO sales with this visibility. Further more due to the strong management lines per EBO, there are hardly any cross EBO contacts within IBM NL by employees working on the EBO implementation. There is also no local 'problem-owner' within IBM NL who controls this and most EBO employees seem to 'float' around within the IBM NL organization. A part of the inhibitors can be tracked back to the fact that small teams, ranging from 1 to 4 persons, work on EBO's within IBM and that these are all separately per EBO managed from the region. This seems from a regional EBO point of view quite logical as IBM NL is relatively small compared to, for instance the UK, where larger EBO teams work. But if one person is working on business development, his 'mass' is small which makes it hard to achieve big results.

In my eyes, innovative processes like the EBO activities should be formally structured in the normal business processes of IBM NL. The current situation seems to be that there is a vision on a corporate level in which clear division has been made. Funds and resources are reserved for EBO activities. On a local level like IBM NL is the division blurrier as there are no real own resources reserved by IBM NL for EBO's. The current funding model (reservations on a corporate level) seems to break by the geographical structure. And this seems to lead to more hard measurement thinking and operational thinking on a local country level.

Notes

[i] A quote from an interview illustrating what EBO employees working on the implementation of an EBO experience: *"The current structure leads to a lack of visibility for the EBO sales. As he or she is mainly doing business development related activities, few "large" deals are closed which provide the EBO sales with this visibility. I believe that if the inhibitors would not be present, the LS EBO could be more successful due to the fact that we could focus more on externally related issues and the motivational aspect would be greatly improved, which in itself is business-enhancing."*

9 Recommendations

9.1 Introduction

Chapter 7 presented the empirical study. This resulted in a list of facilitators and inhibitors for the EBO implementation process within IBM NL presented in Chapter 8. Concluded was that several facilitators are in place and IBM is doing a lot of things well and the author wants to stress this.

The next step is coming up with solutions that counter the identified inhibitors. This chapter provides directions of possible solutions. These solutions are presented to challenge the reader in thinking about facets identified in this thesis. The solutions are presented in § 9.2. A discussion about the solutions is presented in § 9.3.

9.2 Three directions of solutions

Actually, the first option that should be mentioned is continuing the current situation as it is. This is not an option in the eyes of the author. Several inhibitors have been encountered meaning that EBO innovation is not optimal. The identified inhibitors can be countered with measures, some simple, and some more complex. A basic assumption that can be drawn is that IBM thinks that creating new markets is important. Therefore IBM decided to create the EBO infrastructure in the first place. As it is the believe of the author that EBO's have added value for IBM NL the author advises that the situation should be improved.

In this section I will give a description of three solutions, which differ in the amount of actions that have to be made and define the bandwidth in which measures can be found. Given the scope and nature of the study, the solutions are not filled in to a detailed level, but provide directions and thoughts on how to counter the identified inhibitors. The presented solutions are named:

1. Make minor improvements to the current set up of the implementation process
2. Active approach towards EBO's within the current EBO constraints with a cross BU focus
3. Active approach towards EBO's within the current EBO constraints and link EBO's to one BU

Before presenting the solutions, the constraints for the solutions are presented. A first constraint for the solutions is that IBM NL has to act within certain constraints given the fact it is a local office. This means that most strategic decisions concerning EBO's are made outside IBM NL and EBO employees are managed from a regional level. A second constraint put forward by the author is that the solutions should not lead to the hiring of new employees but at most should lead to new tasks or a shift of tasks. A third constraint is that the starting point of all solutions is the current situation within IBM NL with the given EBO activities. My purpose in this Chapter is not to provide a so-called right answer, nor to promise or predict whether EBO's become commercially successful for sure. Rather, it suggests a structure in a challenging context how IBM managers might structure their thinking on EBO innovation by proposing a set of measures that can lead to a sound and well-thought through approach towards EBO's within IBM NL.

Make minor improvements to the current set up of the implementation process

In the current set up, there is only a small role for IBM NL, which can be shortly summarized as placing EBO employees in the local organization as IBM NL is compensated for their activities. Solution 1 focuses on the identified inhibitors concerning the employees working on EBO implementation. Hence, the scope of the solution relates purely to EBO employees working within IBM NL and is presented in Figure 9-1.

The inhibitor, cross EBO knowledge transfer within IBM, might be countered with some straightforward measures. For starters, make an overview of people involved within EBO activities within IBM NL. One can then start to arrange meetings between EBO employees. This can be just a coffee break, to get to know each other and share experiences.

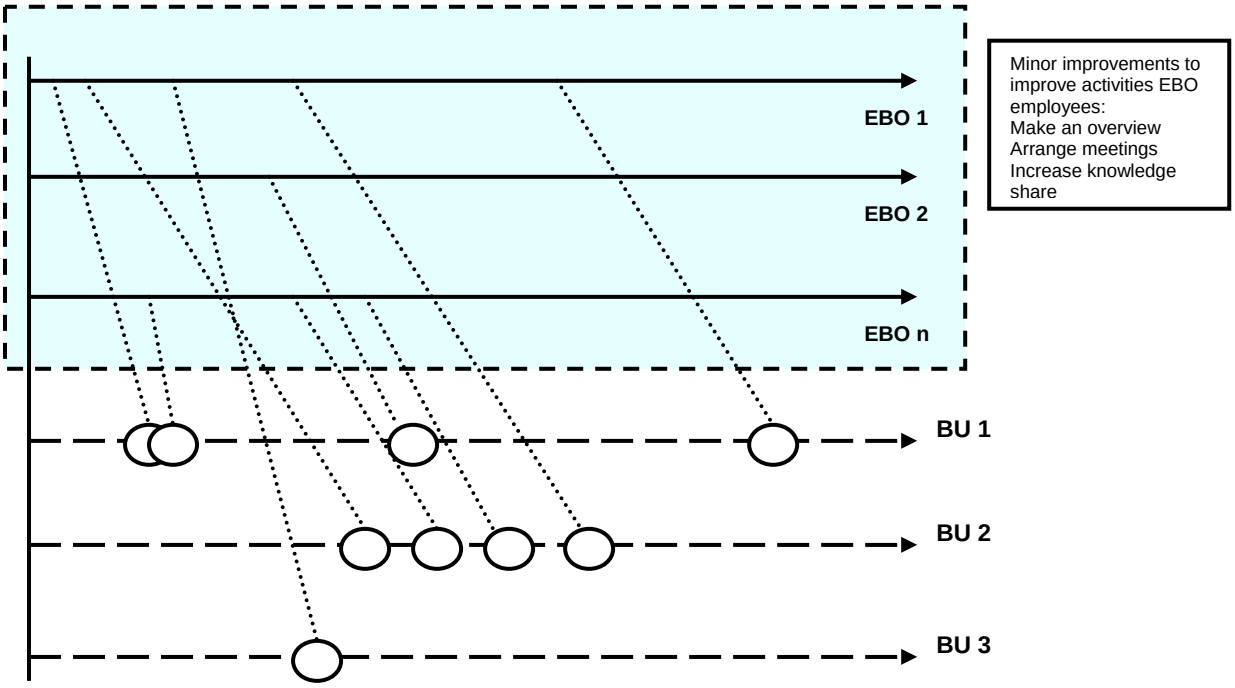

Figure 9-1 Minor improvements to the EBO process

Another simple tool to exchange information and knowledge might be a website, a forum, community tool or a list of people on same time. The common aspect is that all EBO employees within IBM NL are involved in business development. All these people are involved in issues like finding and approaching new customers, partners and convincing BU's etc. Employees can choose selves whether they think this is valuable and if they want to participate or not. This measure might also contribute in giving EBO employees more of a team and EBO feeling within IBM NL.

Off course there should be a 'problem owner' to deal with these measures. Solution 1 is simple and just needs some minor arrangements and a simple task description, which can be added to someone's list involved in activities that deal with long term ambitions of IBM NL. This might for instance be a person in the technical council.

Solutions 2 and 3 are more ambitious and involve taking an active approach towards the EBO's. The author does not have a clear view on the ambition and power of IBM NL as a 'separate' company within IBM. But a 'company' with over 5000 employees, serving a market of over 16 million people and has customers including a large number of companies including several multinationals, may have certain ambitions in the eyes of the author. Therefore, IBM NL is seen as an 'independent' company that has to act within certain constraints.

The goal is to make the process of creating radical innovations like EBO innovation more structured in the normal business processes of IBM NL. The measures must be aligned and fit into the framework given by the mother company and the current EBO infrastructure, as these are the constraints that IBM NL has to work in.

Active approach towards EBO's within the current EBO constraints with a cross BU focus

The set up of solution 2 is quite straightforward. The solution consists of three areas of measures, as presented in Figure 9-2, which I will explain.

The first set of measures (see Figure 9-2, blue area) deals with the EBO employees. A first measure would be the creation of an (virtual) EBO team. Members of this team would simply be the employees involved in EBO activities within IBM NL. The activities of these employees do not change compared to the current situation, as what changes are some arrangements in formal organization. The proposed actions of the first solution will be arranged in this solution. A possible place in the organization of this team could be under the highest sales manager or country manager. The term 'virtual' stands for the fact that I do not mean that EBO employees should go sit around in a corner and be together all the time. Their role is still to create new opportunities and actively seek value recognition for new opportunities within the different BU's of IBM NL.

This option has several advantages. First it provides the EBO employees with a team of colleagues with whom they can share experiences. Second, it provides business development projects aiming for radical innovation with a face in IBM NL. From an IBM NL innovation perspective is this important, because it gives innovation a face as well as the EBO's itself. Third, there is an overview within IBM NL of persons who deal with business development and a location where knowledge on this topic can be stored. This would most likely improve knowledge exchange between the EBO employees within IBM NL. Fourth, EBO employees need to 'fight' less for their place in the organization and could focus more on external business development. Fifth, their direct manager can compare them to their peers making judgements about promotion and salary etc., and can communicate the added value of EBO employees to key persons within IBM NL, like BU managers. This is indicated with the blue area in Figure 9-2.

The second set of measures (see Figure 9-2, red area) is meant to create more awareness and support of the relevance of and support for EBO's among employees within the business units. This is essential because the link from the EBO's to the business needs be close. Refreshing the business portfolio is eventually anyone's concern. Awareness and support should go all up to the BU managers (who will play a key role in the third area of solutions). How this should be achieved falls outside of the scope of this thesis, and requires more investigation.

The author believes that the process of renewing a business portfolio (offerings, capabilities, knowledge) should be naturally present in a company. IBM NL needs to look sharply at both technical developments and societal developments (laws, trends, moves of competitors) and spot for opportunities and think about how they can use this for customers besides their 'normal' activities. And this should not only take place by top management, R&D or on a corporate level. This is anyone's concern as it is a corporate wide task. Do not get me wrong, I do not mean that everyone has to start inventing new technologies but issues like awareness and acceptance of EBO

activities is a starter. For instance, if employees within a BU know that EBO's are around, and they have talked to a customer who had a question, but they just can not place it, then they know who to approach. EBO employees have a very active role in the process of creating radical innovations, but without support of the normal organization their efforts will most likely be ineffective.

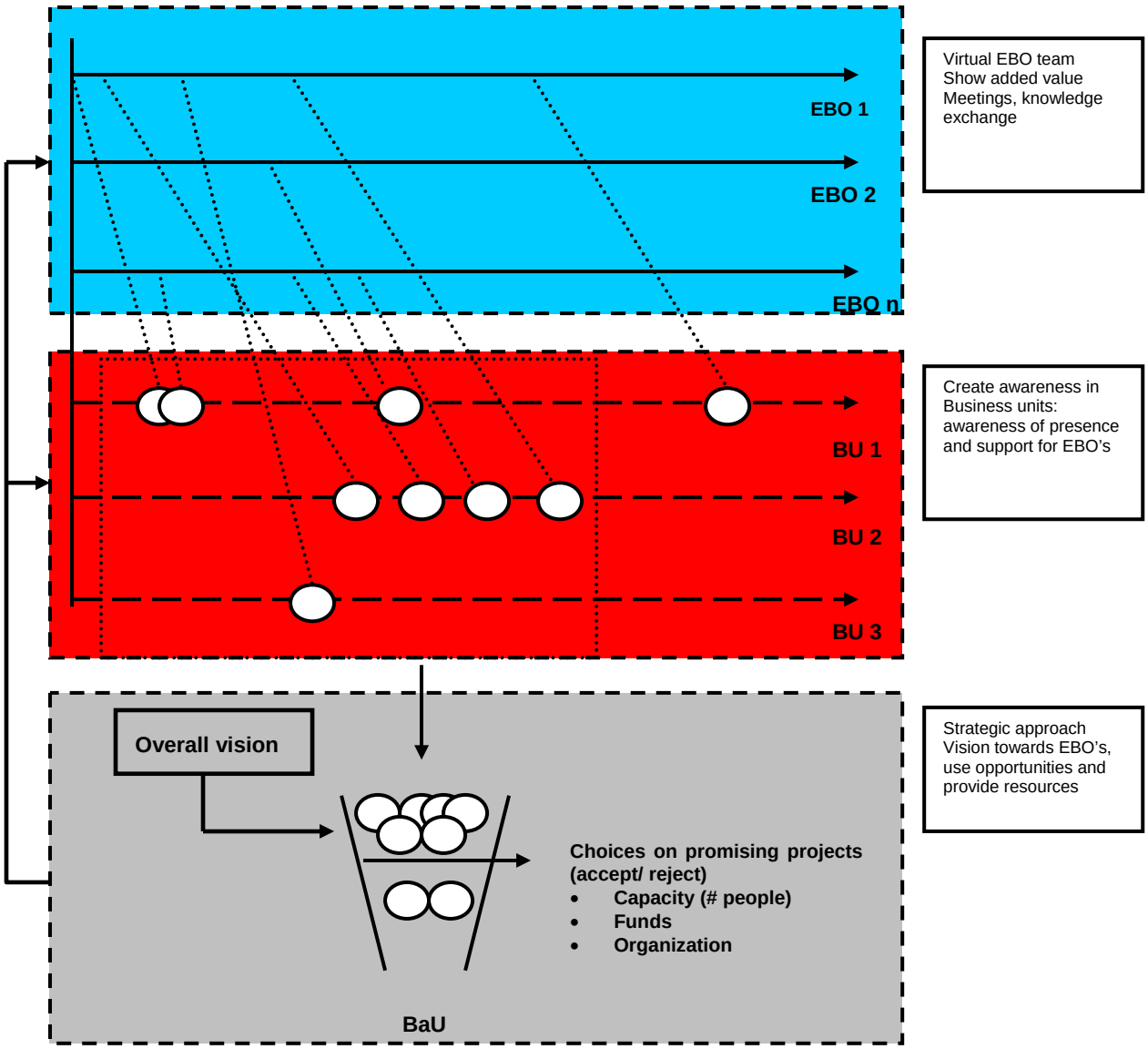

Figure 9-2 Active approach towards EBO's

The third area of measures (see Figure 9-2, grey area) deals with taking a more strategic approach towards EBO's and EBO opportunities. The platform of EBO's provides a structured platform for creating opportunities. The current EBO activities are given and several small teams are working on creating new opportunities. These teams create offerings that need to land in the business units and become actual projects carried out by EBO employees and BU employees. It is most likely that some of these created projects will be more promising than others. This can be due to several reasons: the Dutch market conditions, people working on an EBO, the degree of novelty etc. It is most likely that IBM NL cannot pursue every created opportunity. Therefore it seems wise that

strategic choices about EBO's will also be made on a local level. The author understood that IBM NL has a considerable amount of freedom to reorganize the organization (shuffle resources), and that, for instance, the amount of freedom to hire people is much smaller. This leaves room for an active approach towards the local market and leads to choices in promising developments as:

- Which promising developments do we choose to support as they might create new revenue for IBM NL?
- Which resources do we provide them with?
- Do they fit in our current business model?
- Do we support or reject the opportunity?

The business units within IBM NL thrive upon different business models. Therefore, it is most likely that for each business unit different opportunities are interesting. Every business unit most likely has a certain vision how they want to compete, and this is translated into strategic goals and hard targets.

These strategic choices need to be made and need a problem owner. My suggestion here is as follows. IBM NL direction team has called two new entities into life: the innovation and the technical council consisting of the best technical professionals within IBM NL. The councils are present within IBM NL to create the needed margins for innovation. Then second, key managers like BU managers and the country manager are needed. Thus, strategic choices about EBO's will be made by a committee consisting of members of these two councils together with key managers, like BU manager and the country managers. They can decide on directions how to refresh or add options to business portfolio and adjust business unit structures (human resources, capacity, areas etc) to deal with the chosen direction. This initiative can think over the lines of business and choose directions that are best for IBM NL.

Off course, most strategic decisions about EBO's are made outside IBM NL. EBO management in the region manages EBO's and this has several advantages, e.g. intra EBO knowledge exchange, exchange of best practices. But it is dangerous to see EBO as a separate organization inside IBM. EBO's aim at creating new opportunities that eventually have to be carried out by the 'normal' IBM organization and as a result strong cooperation is needed. Therefore an active approach of IBM NL towards EBO's is needed. On the other hand EBO employees must show their added value, so this is a two way street. Bottom up, EBO employees must sell themselves and their activities to the organization. Their added value must be made visible. Top down, key individuals should make a vision for IBM NL that guides for making strategic choices concerning EBO's and provide focus. An example is to make Linux a growth market for IBM NL and then reserve resources for it. This process must be dynamic meaning that opportunities have to be evaluated. If an opportunity will not turn out to be successful then it should be stopped and other opportunities should be given a chance.

It is my believe, that these measures provide ideas for initial steps that can be taken to counter the inhibitors as presented in Chapter 7. I am well aware that this Chapter mainly provides a direction and not a detailed implementation plan. But I am sure that it will provide some food for thoughts. Off course, I do not expect every one to fully agree with me and if so, please feel free to contact me[i] and share thoughts as this will only contribute to IBM NL's success.

Active approach towards EBO's within the current EBO constraints and link EBO's to one BU

The third option is to link EBO's directly to the BU's as is presented in Figure 9-3. This solution has overlap with both solution 1 and 2. The first set of measures is the same as in solution 1 as is the second set.

What changes, is that within this solution, EBO's are directly linked to one BU. This is presumably the BU for which the EBO is most interesting. This choice of which EBO to link to which BU can be decided by the same board as in solution 2. Strategic choices within an EBO are made on a BU level. The BU manager also manages and has responsibility for the EBO employees. Within this option, it is possible to link innovation budget of BU's to EBO activities under direct management of the BU manager. In this way, EBO innovation is designed more end-to-end as an EBO is directly linked to the business and resources can be linked to EBO's on a local level.

A disadvantage is that there will be fewer options for cross BU EBO opportunities as an EBO is bound to a BU. On the other hand, the main advantage is that a strong link between EBO's and BU can be created. Important in this option is that there will be EBO employees within a BU with different measurement systems, different horizons and different goals and methods working along side normal quarterly driven employees. This might lead to misunderstanding of normal BU employees against EBO employees. This process must be guided and controlled. On the other hand, this is an issue that is present is all solutions. Another aspect is that, due to the close link that is made between EBO and the BU, there will be less room for 'experimenting' for business development. This all depends on the set up and management EBO innovation.

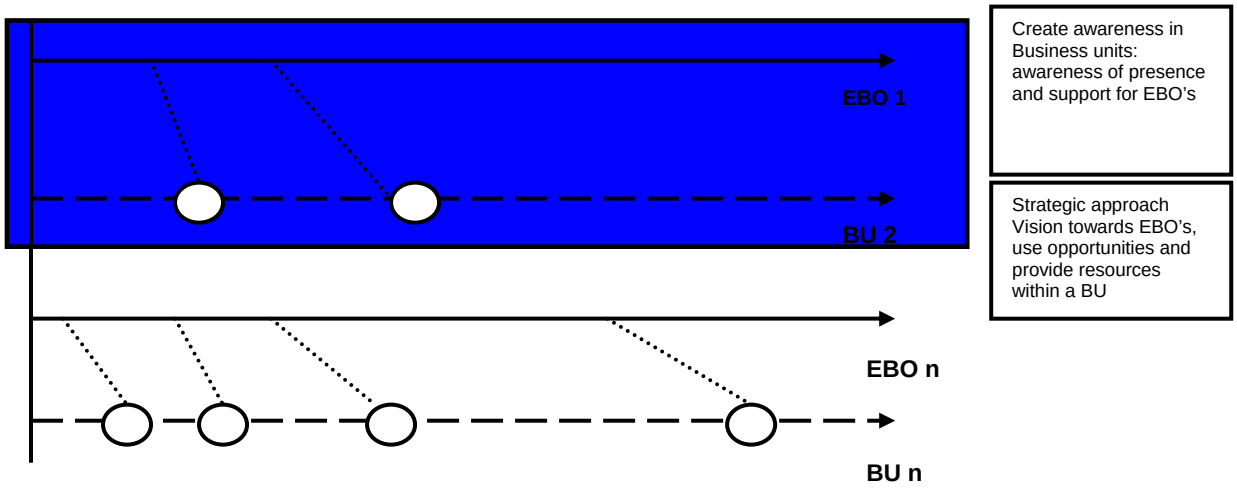

Figure 9-3 Link an EBO to a BU

9.3 Discussion

During my study of literature I found the following quote of Jolly (1997): *"To gain from the possibilities new technologies offer is not to constrain their development, but rather to get the rest of the organization to learn new skills too. Understanding new customers, distribution channels, and promotion techniques appears to be more difficult than mastering new technologies."* This is something that applies to EBO innovation.

As we reach the end of this report, we know more about the current situation of EBO innovation within IBM NL. Several facilitators and inhibitors have been identified as well as proposed measures to counter the inhibitors. Within this thesis, I will not make a hard choice and put forward a claim which solution is preferable. As stated, these proposed measures provide food for thought and it is up to people within IBM NL dealing with EBO innovation to make the decisions on what to do.

What I want to do is use this section to provide some personal thoughts on EBO innovation. To do so, I present a small discussion, using my personal voice, with some thoughts and suggestions, how I as a hypothetical employee of IBM look upon EBO innovation within IBM NL. Within this section I will take various roles and various responsibilities. This section uses the findings of this study, described in the earlier sections and Chapters. Thus my views are influenced by my study on innovation literature and the interviews I held with the IBM employees and my personal preferences.

Within the previous section, three solutions were presented. In my eyes solutions1 by itself is insufficient for a 'company' like IBM NL. I think that IBM NL should define its ambitions concerning EBO innovation. If IBM NL decides just to let it go and not want to take an active approach towards EBO's then the real link between the business and EBO's is hard to make. And this is the real issue in my eyes: balancing between protection of business development and making the link with the current business. I believe that this is only works if there is focus, willingness and resources.

EBO's are surrounded with more uncertainty. This is business development and it has more uncertainty, but this is not fundamental research in which nothing is known. EBO's are promising developments and should be given a chance. The awareness and willingness seem to be present in every individual. Off course there might be some differences in opinion how to approach this, but if people like a BU manager, a country manager, and key technical people within IBM see that this is important then there should be a way to improve EBO innovation.

During my time in IBM I got an email of Sam Palminaso, IBM Chairman and Chief Executive Officer, announcing the Second Quarter results in which the following quote was present: *"The world's leading innovator must never stop working to transform its clients or to reinvent itself -- finding ways to make every aspect of IBM better, easier and more efficient."*

During my thesis I asked myself: If you read this as an IBM EBO employee how can you contribute to this? Well this seems quite obvious. If you do your job well, you contribute to business development. But suppose I was a BU manager, constantly pushed to come up with good results at the end of the coming quarter. Well then this is somewhat more difficult. Off course I understand that I need new offerings within three years, but what I need even more is good results at the end of the quarter. And the same is true for a normal BU employee. What I want to make clear is that there is no right and wrong in this case. This is a dilemma that will keep playing and both aspects, business development as day-to-day operations are important and IBM NL needs to find its own balance given the constraints it has a local office of IBM.

9.4 Future research steps

This study has been explorative and has explored the current situation on EBO innovation within IBM NL. All the conclusions in this study are based upon the interviews conducted for this study. This study can function as a foundation for follow up studies in which hard hypotheses can be formulated. In my view, research can be (and must be) performed on the following topics (the number between the brackets refers to the hypothesis):

- Strategy *[1]*
  In my eyes is a strategic approach important. The current situation seems to be that there is a vision on a corporate level. A clear division has been made in which funds and resources are reserved for EBO innovation. The division is blurrier within IBM NL as there are no real own resources within IBM NL for EBO's

reserved. In between are geographical levels like, like regions, in which EBO management is placed and also decisions are made. The current funding model (reservations on a corporate level) seems to break by the geographical structure, as there are no clear reservations on a local level. And this seems to lead to more hard measurement thinking and operational thinking on a local country level. This set up also might give to little incentives for IBM NL management to take a real active approach towards EBO's. Strategy on a local level can help improve EBO innovation. This can be further explored in ways of: what are the exact constraints as a local office? Can IBM NL influence the choice of EBO's that will be addressed in IBM NL? Can IBM NL gain more freedom to provide and direct resources and make own reservations for EBO innovation?

- Culture *[2]*
  One of the conclusions in this study addressed culture and more specific awareness and support for EBO innovation. This was based upon the experiences of employees that came forward in the interviews. The not-invented-here syndrome might play a role within EBO innovation. The psychological resistance of embracing technical solutions and services might play a role here. A more detailed study will be necessary to gain a thorough and detailed picture on culture, in which for instance also BU employees will be interviewed. Questions that can be addressed: What is the exact role of culture? How can the current culture be described? How can we influence culture?

- Organization of EBO employees *[3, 4, 7]*
  This topic addresses organizational arrangements for EBO employees. How should EBO employees be organized within IBM NL? In a team, close to a BU? How is current EBO implementation in a more detailed way working: management, training, selection of employees and measurement EBO employees. For instance, is the execution of the current measurement system working as it is intended to be? Or can it be improved? Another topic is: How to market EBO innovation in the organisation?

- A sponsor within IBM NL for EBO innovation *[4]*
  I think that it is important that there is an owner of the EBO problems and challenges within IBM NL. This vehicle or person can act as someone who supports EBO innovation and helps giving it a face. Solutions Questions that can be addressed are: Who is the best person for this job? How should this be structured and which responsibilities and tasks should he or she have?

- Optimisation of the cooperation between EBO teams and BU teams *[5, 6]*
  Optimising the cooperation between EBO teams and BU teams is essential as this is the point where the link between the EBO and the business is made. On one hand, it is interesting to know how to prepare normal BU employees for contribution of business development in aspects like sharing ideas, but also in executing projects.

- The relation between EBO management and IBM NL *[8]*
  EBO management controls the EBO process but it is the local organization in which the EBO employees work and EBO projects have to land. Sounds were heard that the EBO infrastructure is seen as an overlay organisation. I think that that the success of EBO innovation increases if EBO management and IBM NL management work closely together. Research topics are: communication (why are certain choices made), collaboration (how can we help each other) and tuning (arrangement of headcount, location in the

organization to create perfect conditions) all aiming for optimising EBO innovation. For instance, a topic might be: how much margin, as a percentage of the BU revenues, can we give to BU managers for innovation.

- A similar study within different countries *[1-8]*
  In my eyes, it is wise to perform a similar study within different countries where EBO's are also introduced. This can contribute to learn from each other and make EBO innovation more successful.

Notes

[i] The author can be reached for questions, discussions or just to share some thoughts at ianplugge@hotmail.com

References

Afuah, A., *Innovation Management: Strategies, Implementation and Profits*. Oxford Univ. Press, 1998.

Baarda, B.D., *Basisboek methoden en technieken*. Wolters-Noordhoff B.V., 2001.

Christensen, C.M., *The innovator's dilemma, when new technologies cause great firms to fail.* Boston, Harvard Business School Press, 2000.

Christensen, C.M. & M.E. Raynor, *The innovator's solution, creating and sustaining successful growth.* Harvard Business School Press, 2003.

Christiansen, J.A., *Competitive Innovation Management*. New York, St. Martin's Press, 2000.

Dosi, G., C. Freeman, R. Nelson, R. Silverberg and L Soete, *Technical Change and Economic Theory.* London: Printer, 1988.

Drucker, P.F., *Innovation and entrepreneurship*. Harper and Row. Publisher, Inc., 1985.

Freeman, C., The Economics of industrial innovation, 2nd edn. London, Frances Pinter, 1982.

Hamel, G., *Leading the Revolution*. Boston, Harvard Business School Press, 2000.

Jolly, V.K., *Commercialising new Technologies, Getting from mind to market.* Boston, Harvard Business School Press, 1997.

Leonard-Barton, D., *Wellsprings of knowledge, Building and Sustaining sources of innovation*. Boston, Harvard Business School Press, 1995.

Marshall, A., Principles of Economics, Philadelphia: Porcupine Press, 1994, 248-250.

Mohr , J., *Marketing of High-Technology Products and innovations*. New Jersey: Prentice-Hall Inc., 2001.

Prahalad, C.K. & G. Hamel, *Competing for the future.* Boston, Harvard Business School Press, 1994.

Rosenberg, N., *Inside the black box.* Cambridge, Cambridge University Press, 1982.

Rothwell, R., *Industrial Innovation: Success, Strategy, Trend.* In: Dodgson, M. & R. Rothwell, *The handbook of industrial innovation.* Aldershot: Edward, Elgar Publishing Limited, 1994.

Schumpeter, J. A., Essays of J.A. Schumpeter, Cambridge, MA: Addison Wesley Press, Inc., 1951, 248-250.

Sheth, J.N. & S. Ram, *Bringing innovations to the market, how to break corporate and customer barriers.* New York, John Wiley & Sons, Inc., 1987.

Tidd, J., J. Bessant & K. Pavitt, *Managing Innovation; Integrating technological, market and organizational change.* Chichester, John Wiley & Sons Ltd, 2001 (second edition).

Tushman, M.L. & C.A. O'Reilly III, *Winning through innovation; A practical guide to leading organizational change and renewal*. Boston, Harvard Business School Press, 1997.

Zegveld, M.A., Competing with dual innovation strategies. A framework to analyse the balance between operational value creation and the development of resources. The Hague, Werk-Veld bv, 2000.

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Glossary

Emerging Business Opportunity

An Emerging Business Opportunity (EBO) is a potential growth area for IBM for which IBM's EBO board has decided that it is worthwhile to make investments in meant for discovering and developing a market. An EBO is managed by a system that provides room for discovery and development aiming at adoption by IBM's lines of business located in different countries in which IBM is active.

EBO employees

Employees who work on EBO's and are funded by the EBO organization.

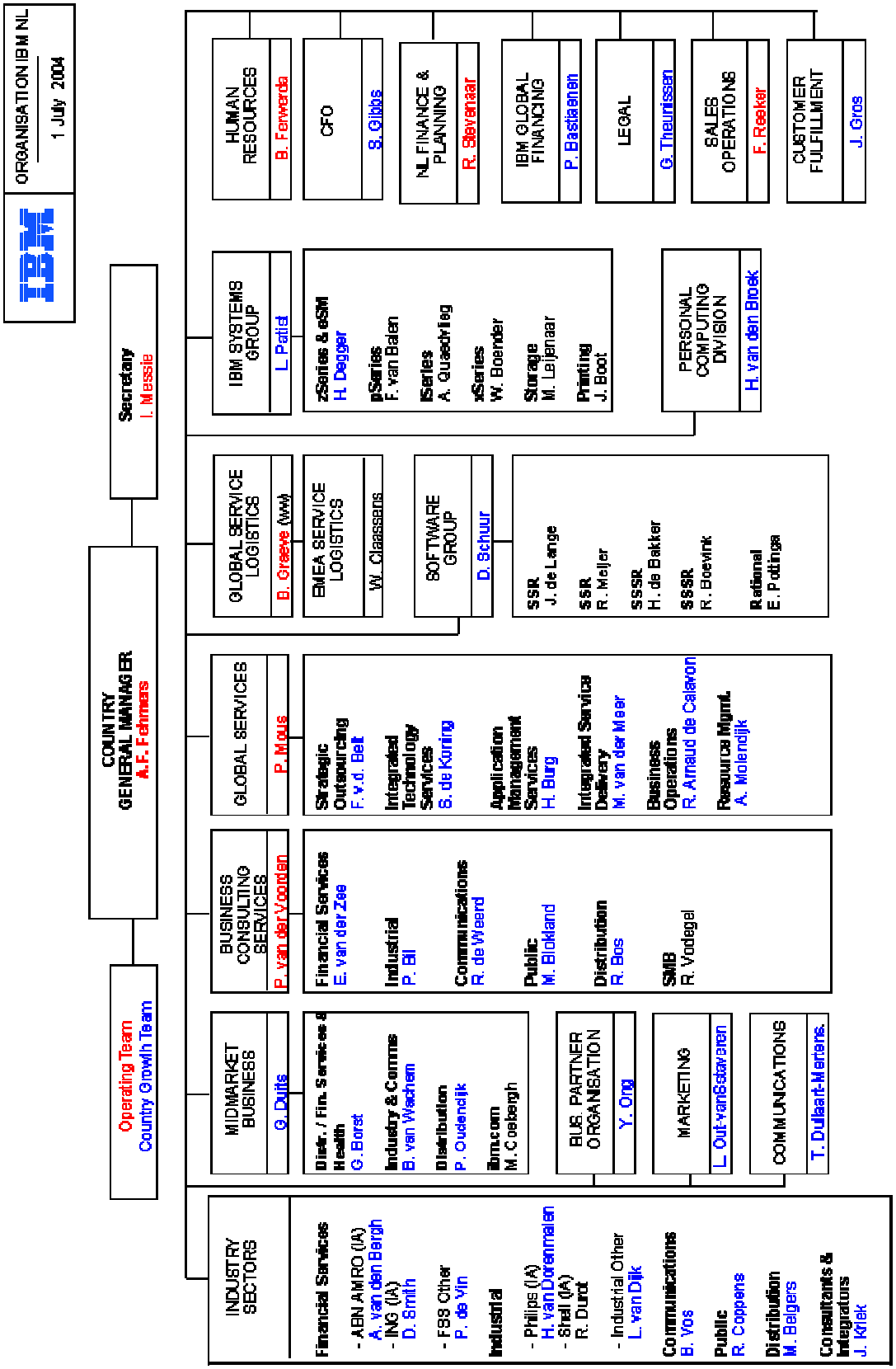
EBO Innovation

EBO innovation is the formal process within IBM associated with renewal of what IBM offers for current or new customers within the context of EBO's. Innovation in this way is seen as the activities within IBM associated with creating new growth markets with new products, services or combinations of them derived from an EBO. EBO innovation within IBM NL begins from the moment an EBO starts within IBM NL and ends when the EBO either has become business as usual within the IBM NL business units or did not succeed and the EBO has been stopped. The part of EBO innovation that takes place within IBM NL is defined as EBO implementation.

Abbreviations

AMS	:	Application Management Services
BaU	:	Business as Usual
BDE	:	Business Development Executive
BU	:	Business Unit
CTO	:	Chief Technology Officer
DM	:	Digital Media
EBO	:	Emerging Business Opportunity
EMEA	:	Europe, Middle East and Africa
IBM	:	International Business Machines
IBM NL	:	International Business Machines Netherlands
IGS	:	IBM Global Services
IT	:	Information Technology
ITS	:	Integrated Technology Services
LS	:	Life Sciences

I. Organigram IBM NL



II. Overview Interviewees

Name		Description	Date Interview	Hypothesis
1.	Bol, E D.	Life Sciences Sales Representative. Worked for 3 ½ years on the EBO Life Sciences	July 19, 2004	1,2,3,4,5,6,8
2.	Driel Van, J.	IBM Advocate & Paradoxiologist, Country Technical Leader. CTO Digital Media EBO for IBM EMEA, vice chairman of the technology council	July 16, 2004	1,2,4,7
3.	Fehmers, A.F.	Country General Manager	July 13, 2004	1,2,4
4.	Gans, M.	Manager Telecoverage Sector. Worked for 4 years on the EBO Life Sciences	July 22, 2004	2,3,4,5,6,7,8
5.	Havers, B.	Wireless EBO	July 26, 2004	1,2,3,4,5,7,8
6.	Hengeveld, E.	Wireless e-business. Works on the EBO Wireless	July 8, 2004	2,3,4,5,6,7,8
7.	Janssen, E.M.	Digital Media Sales Specialist. Works on the EBO Digital Media	July 20, 2004	2,3,4,5,6,7,8
8.	Koning, S. de	Executive Integrated Technology Services	August 5, 2004	1,2,4
9.	Marques, A. J. L.	Mergers and Acquisitions	August 3, 2004	1
10.	Pieters, J S.	E&C and A&A Manager SMB North Region, Manager four EBO's region north	July 16, 2004	2,3,5,7,8
11	Pordon, P.	Wireless EBO	August 13, 2004	*Information*
12	Post, J.A.	Senior consulting IT specialist. Chair Technology Council	July 12, 2004	1,2,4
13	Reuver, A.J.	Government Programs	July 12, 2004	1,2
14	Smit, G E.	Executive IT Architect. Officially in consultants and integrators cluster, Member of the IT architecture board, Member of Grid community, Vice chairman of the technology council, works on the Grid EBO	July 14, 2004	1,2,3,4,5,6,8
15.	Wilbrink, T Y.	Business Development, IGS EMEA. Emerging Business Opportunities	July 13, 2004; July 22, 2004	*Information*

III. Overview Interviews

Name:	Elmer Bol
Verified:	Yes
Function:	Life Sciences Sales Representative
Description:	Responsible for introducing the Life Sciences EBO in the Netherlands
Date:	July 19, 2004
Hypotheses:	1,2,3,4,5,6,8

Summary

The Life sciences EBO

The LS EBO has existed for 3 ½ years (2001-2004). Elmer has worked for 2 ½ years on the LS EBO (2002-2004). R&D has an important role within the Life Sciences industry. LS R&D is characterized by long life cycles. Opportunities arise for IBM, if these lifecycles can be made shorter. The LS EBO compromised different solution areas: High performance information infrastructures (networks, grid); Knowledge management (middleware, software, partners and alliances); Clinical try-outs (e-solutions test-patient trajectory); and Information Based Medicine (towards medicines, find solutions from a database for certain symptoms) is now a new EBO.

IBM reserved clear funds for the EBO LS on a corporate level. These were used for activities like: development of LS skills and deployment of marketing activities. These investments were necessary to make the first steps in the LS industry. EBO's are about business development. The LS EBO is sales but with a different measurement structure. (Bonus related instead of normal sales measurement), revenues of projects are taken into account in which they contributed. EBO sales trajectories are longer then normal sales projects.

Inhibitors

The region funds Elmer. But he reports locally and Elmer takes one headcount (Headcount is an FTE position) within the BU GSMB, while he does not always directly contribute to the Business Unit. Hence, his place in BU does not align with role and function, this following pattern comes into life:

- Not all his activities contribute directly to this BU, e.g. some activities are sector related, and hence direct added value for BU GSMB is not always present. His place could also be taken to someone who contributes directly (on a short term) to the BU.
- Thus, less recognition for and attention to his contribution is present in BU;
- This leads to that Elmer must 'fight' a lot within the organization and so the time spend internally is as big as time spend on business development. However this is an issue general Sales experience as well.
- And this leads to personal frustration. His IBM NL manager judges him while the region has no direct decision power on his judgment. No clarity about promotion, salary, troubles with headcount position, not really being part of a team and recognition.

Hence, IBM is quarterly driven. This in combination with the current organizational structure of EBO employees within normal BU's is not optimal for EBO projects. The LS EBO is located in the GSMB BU, which is pure sales BU, and fast sales have priority. This leads to little room for EBO sales because the BU manager won't make his target. Hence, this setup leaves little room for strategic relationship development though revenue is often large from EBO projects.

Solutions

- IBM NL needs to have a clear vision towards EBO; a view that they want to act in this market.
- Creation of a (virtual) EBO team that has the possibilities to perform strategic projects. This team can have the following characteristics. The generic aspect of this team is that all the members are involved in creating new markets. It has its own headcount. A specific location in the building. From an innovation perspective is this important, because it gives innovation a face as well as the EBO's itself. This team could report to the country manager or the highest sales manager. An EBO team within IBM NL would also align with the worldwide EBO structure. Worldwide has the EBO a separate structure within IBM, but no separate organizational unit on a local level. A good place in the organization could also be under the highest sales manager.

Name:	Jack van Driel
Verified:	Yes
Function:	IBM Advocate & Paradoxiologist, Country Technical Leader
Description:	Used to be CTO for the Digital Media EBO for EMEA
Date:	July 16, 2004
Hypotheses:	1,2,4,7

Innovation and EBO's

Invention is coming up with something totally new. Innovation is to make something that exists better by using for instance inventions (either of IBM or of a third party). The trend is that IT is becoming more and more a commodity business. This leads to outsourcing and standardization. On the other hand, IT is becoming very important to innovate within other industries (e.g. car industry, medicines).

IBM has patent leadership for 11 years now. Application of inventions by IBM is not optimal. A small part of research is used to innovate and mainly with a focus to innovate within the existing businesses because people resist to change. Proctor and Gamble developed the EBO structure, and IBM has adopted it. EBO's are new product-service/market combinations. In short, IBM reserves money for EBO projects, scans the market and the own company for new trends and ideas that might become important and then anticipate to these. EBO's must contribute to IBM's double-digit growth ambition; hence they have to create value.

Experiences with EBO's

Jack was CTO for the EBO digital media Europe (EMEA level, full time). Goal for the EBO was to find out if the EBO was marketable. This included activities like: active search for (new) customers, partners, and application of technologies. Hence, the focus was on creating new business models. The successful projects would become business as usual after three successful implementations within EMEA by transferring the intellectual capital to the normal organization.

Inhibitors

No vertical division of funds (reservation of funds for EBO's on all levels), this leads to:

- From an idealistic vision on a corporate level towards operational execution and measurement systems on local levels. The current funding model (reservations on a corporate level) breaks by the geographical structure. Money/resources now have to be derived from the business units without that there is compensation for the BU. Hence, there are no real own resources within IBM NL for EBO's reserved. All the margins within a business unit 'disappear' back to IBM, and there is no reservation possible for EBO's within a country. This leads more hard measurement thinking (revenue, only choosing promising EBO's) on EMEA and regional level to pure operational thinking on a local country level.
- Up staffing (make a small team big) takes place between the corporate level and the local country office level. This cuts the overall budget for EBO's, and leaves fewer funds for implementing EBO's on a local level.

Solutions

- The EBO process should be designed End-End. Meaning that, there should be real margin for tryouts to pursue real new markets on a local country level because that is where you are really close to your customer. Hence, reservations for creative hours must be made on all levels, where now the reservations are only made on corporate level and this is distributed top-down. There should be agreed margins on every level which leads to compensation for 'creative' hours so that managers on all levels can provide real room without being 'punished'.
- People with an EBO aligning vision (who have a long term vision) should be placed in the right positions.
- Bottom up approach initiatives like the technical council. Thinks over the lines of business and introduces a more strategic approach towards EBO's on a local level.
- There must be a process, description how the EBO process works but don't make it to formal as this leads to things up staffing

Name:	Bart Fehmers
Verified:	No
Function:	Country General Manager
Date:	July 19, 2004
Hypotheses:	1, 2, 4

Innovation and culture

Innovation is the successful introduction of something new. Within IBM is innovation seen as process. Innovation is not only about research and inventions, but also about the application of the invention. For IBM lies innovation on the crossing of what is technological possible and what from a business and financial need is necessary. IBM is technology minded, but a roll out of technology only happens when there is a hard measurable advantage. Innovation is process of trial and error and does not necessarily have to be a success. Innovation leads to new markets and can lead to disproportional value creation. Innovation comes back on different levels: company, country, and the world.

The west-European culture does not allow one to fail, whereas in the US and Eastern Europe failure is more accepted because at least you tried. This is an inhibitor for innovation, as innovation is a creative process in which trial and error plays an important role. You need to search for the right option and this takes time.

The society is specializing. This leads to an era where more complex business models are formed in which for instance partnerships are becoming more important.

IBM NL has no formal innovation strategy. Mr. Fehmers explains that this agenda cannot be determined on the Dutch level.

EBO's

IBM has currently about 17 EBO's. EBO's are examples of specific areas where fusion of specialisms takes place and IBM is convinced that those areas might create added value for IBM. EBO's are about creating new markets and are the innovation delivery room for IBM. EBO's aim at making a leap forward; this also means that you can fall hard. No management of EBO's in the Netherlands, EBO's are controlled worldwide in worldwide lines. Budgets are made and decided on worldwide level.

IBM is both an informal company and a very strict managed company. IBM made a distinction between three-business horizons. Businesses in horizon three have special measurement systems, no absurd expectations, and room to develop. Successful businesses move from horizon to 3 to 2 to 1 and become business as usual.

The IBM organization has an informal part that allows people to search for and discover new things. This informal part is not managed. There is a large group in the organization who deals with day-to-day operations, and a small group who is searching for new things. This group needs to get a stage to develop their ideas and this is present in the informal circuit.

Vision on change

IT technology is getting a disruptive character. Three main steps of development in humanity: (1) people being able to talk: people teach each other things; (2) people start making books: store information, learn of generations before you, build upon each other's ideas; and (3) real time transparent information exchange enabled by the Internet. An era of disruptive change is now at the beginning. To keep up with this accelerating acceleration IBM anticipates to needs, e.g. autonomic computing. IT industry has task to set standards to become an enabler for economic growth, IBM has leading role in this. This transparency also has a shadow side, which society and companies will have to learn to deal with.

Name:	Martijn Gans
Verified:	No
Function:	Life Sciences Sales Representative
Description:	Responsible for introducing the Life Sciences EBO in the Netherlands (currently Manager Telecoverage Sector
Date:	July 22, 2004
Hypotheses:	2, 3, 4, 5, 6, 8

EBO's and the Life Sciences EBO

Martijn started with the EBO Life Sciences (LS) within the Netherlands in 2001. He came out of the club Netgen, which pursued new markets for IBM within the Internet sector. He worked on the LS EBO for 3 ½ years. The EBO was started after the IBM NL director sent around an email that this market had to be explored. Martijn was in the beginning the 'spin in a web' for the LS EBO initiative in IBM NL. Goal of the EBO was to create new initiatives for new LS customers. There were clear investments for the EBO on a corporate level for things like importing knowledge, people, creating proofs of concepts and pilot projects that would help create a market.

EBO's are important for creating growth for IBM. EBO's have the following characteristics: An EBO needs extra attention (investments, time, people and knowledge) compared to normal sales projects, you need specific people for dealing with EBO's (persistent, have the ability to deal with freedom, entrepreneurial).

EBO approach

Martijn approached the LS market as an ecosystem; take all the involved actors into account. Main activities of Martijn during his time on the LS EBO were the following. First, exploring the LS market: get a picture what this market is doing (R&D and productions of medicines, special foods), finding out which actors (companies, universities, venture capitalists) are present in the market, obtain information about the LS market from IBM US and IBM EMEA, define IBM's role and possibilities within this industry (optimize business process with IBM's product portfolio of services, hardware and software).

Second, prepare IBM NL for the LS market. Martijn had support of his manager and top management. On the other hand was there often the issue, how much time do you get to develop a market. Martijn mentions that IBM is strongly quarterly driven and that it is important that there should be some believe that there is revenue to be made. Some segments within the EBO Life Sciences became soon BaU (horizon 1 projects). On the other hand were there also parts (Information based Medicine, horizon 3) for which clearly a market had to be developed. The location of the opportunity was not always clear within IBM in every BU. This costs time because different people had to be convinced that it was worthwhile to pursue an opportunity. Martijn had a sales target which he was able to meet. This target increased year after year. When an opportunity was discovered, the aligning account manager was found and together they would pursue the opportunity.

Facilitators for EBO implementation within IBM NL

There was support of management, both top management as well as his daily manager. Part of the LS EBO was soon business as usual. This lead to revenue and results could be created fast and hence, targets could be met. It was possible to fly in LS knowledge experts from outside the country who could talk with potential new partners. An EBO needs people with the right skills, like persistent, have the ability to deal with freedom, entrepreneurial.

Inhibitors for EBO implementation within IBM NL

The EBO's have no real face in the organization; difficult to see who's working with them and who you should approach for opportunities. What Martijn missed was that his market concerned different kind of BU's. Everyone has his own interest. Martijn thinks it is important to give Life Sciences a place in the organization and someone who sponsors this. There should be a problem owner. The LS EBO opportunities could not always really be placed in the organization. They were relevant for different BU's (industry, services, hardware, software, GSMB etc.). The Quarterly result driven culture within IBM NL, leads to focus on real short time results.

Name:	Bram Havers
Verified:	Yes
Function:	Wireless EBO
Date:	July 27, 2004
Hypotheses:	1, 2, 3, 4, 5, 7, 8

Wireless EBO

Four people work for the wireless EBO within IBM NL: Bram Havers (BU AMS) and Peter Pordon (both in services), Hans Taal, Erik Hengeveld (Both in sales). The EBO is directed on a regional level (region North) meaning that Bram has an English manager. EBO Management funds his activities and needs (tough his declarations go through his IBM NL manager).

Bram found the way of working as it was in the Wireless EBO not satisfactory between Bram and Peter vs. Hans and Erik. No real collaboration due to: no clear division of roles, different attitude towards approaching customers, and too much product focus instead of customer approach. Current way of working is better: better division of roles (still not completely satisfactory mainly due to personal reasons and the way of working). Bram also has since a while more contact with his colleagues in England which works as a facilitator as both the quality and capacity of his network increased to deal with problems and questions. He gets more involved in projects; this gave his job (results and job satisfaction) a boost.

Bram has a relative hard utilization target. His manager in England understands that it is not always possible to achieve this target, due to reasons like: small team in Netherlands, small focus possibility that you miss opportunities. Bram has had contact with Thijs Janssen, both were interested in setting up a RFID knowledge centre. Worth mentioning is that they found out that they were both working on an EBO after a while.

Facilitators

- The circumstances (more uncertainty leads to resistance) of the EBO process require certain skills in people: self discipline, strong, ability to convince people
- A good measurement system that takes the EBO situation into account (see also inhibitors)
- Face-to-face contact with his EBO colleagues in England. Within IBM there is only a small team.
- Flexible approach within a certain context: innovative projects surrounded with uncertainty, need room to manoeuvre, knows hot to deal with frustrations and hence a flexible approach.
- A manager who trusts his activities and provides his room

Inhibitors

- EBO's have no real face in the organization leading to that
    - EBO's are not well known in the organization. E.g., if an employee realizes 'this is something new, but I do not know what to do with. So let's give it to an EBO'. This mechanism is not in place yet.
    - Bram does not really have an EBO feeling;
    - Bram currently has not a real team feeling;

  ⇨ Leading to a level of job satisfaction that could be better.
- Small team in the Netherlands gives little room to set up the ideal team.
- Missing of clear lines and direct management: amount of freedom can be too big, leading to too much experimentation. Focus is important, especially within a small team as is operating in the Netherlands.

Suggestions

- Give EBO's a face by making an EBO team with a location, arrange face-to-face contact:
    - Meetings, sametime, drink coffee together, share experiences,
    - Arrange learning sessions, like: how to approach customers. The generic aspect is the introduction of something news.
- Place a real manager for the all the EBO's in the Netherlands who gives direction in a certain areas.
- Provides an entry point for IBM employees if they have on the edge ideas

Name:	Erik Hengeveld
Verified:	Yes
Function:	Wireless e-business
Description:	Responsible for introducing the Wireless EBO in the Netherlands
Date:	July 8, 2004
Hypotheses:	2, 3, 4, 5, 6, 7, 8

Wireless EBO

The Wireless EBO is four years old and it is the oldest and first EBO within IBM NL. Four people work for the wireless EBO within IBM NL: Erik Hengeveld (BU communication sector, headcount is arranged with special arrangement), Hans Taal and 2 employees in services: Bram Havers and Peter Pordon. The EBO is directed on a regional level (region North) meaning that Erik has an English manager. EBO management funds Erik's activities. All the decisions for the EBO Wireless are made on EMEA level; nothing is decided on the country level. The EBO started small; focus on few technologies and applications (Telco's and mobile office). Currently many application areas, as the EBO has a matrix structure. Axis 1 is divided into technological areas, like: consumer entertainment, e-business smart devices, and mobile office. Axis 2 is divided in industries, like retail, public, and travel. Business models are thought of in the field delineated by these axes. Important is that this structure is dynamic, the direction of the markets for which business models are created changes every year. 40 people are working on the EBO on a regional level, and are controlled on a regional level. Guido Bartels (Vice President Pervasive / Wireless e-business EMEA) is responsible for the matrix structure. Knowledge transfer and control for the EBO Wireless takes place on a regional level.

The approach towards the EBO used by Erik is as follows. Erik creates or envisions business models. This includes searching for customer value, partners, customers, technologies etc and combining these into a valuable proposition. The EBO persons are not allowed to make tenders, they have to find someone in a business unit to do that. Second then comes the phase of a multidisciplinary team to implement promising business models. This team can be cross Business Unit. Erik has the freedom to come up with Dutch specific solutions. Different measures are used to judge the EBO compared to normal (sales) measures. Erik is accounted for the amount of revenue in which the wireless EBO played a role (like ideas or technologies included in IBM NL projects). There is constantly a very active search towards potential customers and partners that can contribute to forming a successful business model.

Facilitators

- Erik gave two recommendations: (1) you need people who can think outside of the box meaning people can step outside normal sales patterns and (2) people who can handle disappointments because a lot of effort will not lead directly to result. Erik hints that you need two kinds of people: runners (enthusiastic sales, gogo-attitude) and people who check the technical reality: multidisciplinary teams.
- Knowledge transfer/ knowledge steering is on European level and seems to work very well, especially intra EBO.

Inhibitors

IBM's management can be sceptic towards Erik's activities. The reason is that no direct value is visible from his activities. Explanation Erik: innovative projects => low result often in the beginning of the project and often no direct profits for BU. IBM management is focused on quarterly results and most of the projects are first of a kind and difficult to oversee the potential long term business for the different units within the IBM brands and clusters.

Suggestions

- Erik argues that it would be handy if some functions would be cross EBO, like PR and marketing. The generic aspect is dealing with introducing new things.
- Erik would also take a European approach towards EBO's.

Name:	Thijs Janssen
Verified:	Yes
Function:	Digital Media Sales Specialist
Description:	Responsible for introducing the Digital Media Solutions in the Netherlands
Date:	July 20, 2004
Hypotheses:	2, 3, 4, 5, 6, 7, 8

Thijs is currently working on the Digital Media (DM) EBO. Thijs started, after entering IBM, on the Life Sciences EBO (together with Elmer Bol). Thijs chose for the Life Sciences EBO because the EBO way of working appealed to him. He found out that Life Science customers did not appeal to him. The Digital Media solutions appealed much more because he has a personal interest in Digital media. He created his own EBO position for the Digital Media EBO in IBM NL. Thijs reports locally to the GSMB BU but he has the freedom to act on an IBM NL company wide level. His role can exist due to the long term vision of his managers.

EBO's have about a 4 year lifecycle and are intended to create new markets, and extend knowledge of IBM within promising areas. Thijs' tasks can be categorized in three categories:

1. Inform the local organization about digital media. This consists mainly of helping sales in finding partners and solutions. They can use his network.
2. Inform and work for customers.
3. Seek and inform (potential) partners. This results for instance in deals coming in from partners.

His role is characterized by the fact that he deals with finding and creating new opportunities. Thijs mentions explicitly that he is not an inventor. His role is more about bringing new combinations of products/services/partners/customers into life, hence business development. And then make sure that successful projects are transferred to the normal organization and make these successful projects business as usual. Thijs has good contacts with the Digital Media team of the DM Lab within the IBM research centre in La Gaude France. Thijs needs to find the matching account manager of the customer to start up a deal when an opportunity is found, spotted or created. A two person team is then formed consisting of Thijs (Digital Media Expert) and the sales representative (Sales expert). The intensity of his role varies per project.

Thijs is locally (IBM NL) oriented, meaning that he lays out most contacts within the IBM NL organization. He contacts his colleagues in the region if certain knowledge is needed. He realizes clearly that there is a lot of knowledge within the world wide EBO structure. He keeps them informed about his progress. He reports his numbers on a quarterly basis and has a meeting with his region north colleague (Bhader Sing) every two weeks.

The DM EBO has a special measurement system compared to normal sales projects. As an account manager is responsible for what he does at a customer and is accounted for this, Thijs is also accounted for revenue created by opportunities in which digital media plays a role. This system has disadvantages because you have a protected position as it can give the impression that a person is only searching for revenue that someone else created to add to his target.

Name:	Simon de Koning
Verified:	Yes
Function:	Executive Integrated Technology Services
Date:	August 05, 2004
Hypotheses:	1, 2, 4

ITS

Simon is executive of the Integrated Technology Services (ITS) organization. The ITS organization deals with facets like: support for the customer's IT infrastructure and make sure the customer gets the maximum out of his IT investments. ITS deals with the whole trajectory from preliminary IT studies for customers to for instance a complete outsourcing deal. ITS also deals with traditional maintenance work and also provides the actual implementation. Simon concludes that it is important that he should know fast what is happening in the market and technological developments and how should he anticipate to this.

EBO's

Simon mentions explicitly that there is little steering of the EMEA services organization and that this leads to a low knowledge spread of good offerings throughout EMEA. The result is that all the offerings have to be created within IBM NL and that there is no synergy with other counties.

Simon moves to the EBO's and tells that they are a good initiative but that they are not connected to the market. There has never been someone of the EBO organization who contacted him, told Simon what he was doing and go together through the ITS portfolio of offerings and see if they can help each other. This leads to the feeling that EBO's are an overlay organization from which Simon gets the feeling that they just go through offerings of ITS and just count them for there target and hence, they do not have real added value. Simon mentions that he would welcome EBO people who have good ideas. Hence, a good chat about interesting offerings or ideas would be helpful.

On EMEA level are there offering leaders. Successful implemented solutions derived from EBO's should be mentioned to them so that these EMEA offering leaders can spread them through Europe, but the experience is that this does not seem to happen as no new offerings are offered. Simon has talked to the wireless people. He offered that they could report to him and that they could carry out promising projects. He got the reply that this is not supposed to be the case. Furthermore, is there no central coordination who talks to which customer which can lead to that a certain customer is approached twice by IBM NL with different solutions.

Remarks

- Simon prefers that the EBO employees would report to a high manager (e.g. the country manager). This manager can keep track of the EBO employees' record and created opportunities and that this person knows exactly what their added value is and can communicate this to others.
- IBM NL must seek its limits much more as there is more business to be made. E.g. Simon is convinced that IBM can make much more money around Linux. As stated, the link of the EBO with the business is missing. Simon is willing to reserve money for innovation, and some cases he is doing this already.
- An inhibitor seems to be the current reward system as this creates the image that EBO employees are merely searching opportunities created by someone else to add to their target. Simon indicates that if EBO employees are placed on his P&L account, he feels responsible immediately and will seek contact with them and keep track of their record. The same thing counts for the offering manager. Hence, Simon prefers to have the EBO people within his BU.

Name:	Tony Marques
Verified:	No
Function:	Mergers and Acquisitions
Date:	August 03, 2004
Hypotheses:	1

Innovation

Innovation is the application of something new by customers.

EBO's and culture

The process of renewing its business portfolio (capabilities, knowledge) should be natural present in a company. IBM (NL) needs to look sharp at both technical developments and societal developments (Laws, trends) and spot for opportunities and think about how they can use this for customers. All the IBM employees need a 'long term vision'. It is everyone's concern that the product/service portfolio is refreshed constantly because IBM will else eventually run out of business. This requires a long-term vision within every business unit. Tony gives the example that IBM's management teams should come together every once in while to discuss developments and how to anticipate and adjust the business structure to these developments. This will most likely require a change of the current culture as Tony believes that the current balance between operational value creation and resource /business development in currently in favour of operational value creation.

As the current EBO activities are given and several small teams are working on creating new opportunities. These EBO's need to land in the Business units, else wise there they will not keep on living. IBM NL cannot pursue every created opportunity. This requires that strategic choices about EBO's are also made on a local level. IBM NL has a considerable amount of freedom to reorganize the organization (shuffle resources), the amount of freedom to hire people, for instance is much smaller. But this leaves room for an active approach towards the local market.

This leads to choices in promising developments as:

- Which promising development do we choose?
- Which resources do we provide them with?
- Etc.

Innovation needs both a top down approach, and bottom up approach. This counts for several relations. First, there is the relation between IBM and IBM NL. IBM can set the major lines, which IBM NL will follow but IBM NL has to fill it in. Also within IBM NL must top management set guidelines for innovation and EBO employees need room to develop opportunities.

Name:	Jules Pieters
Verified:	Yes
Function:	E&C and A&A Manager SMB North Region
Description:	Responsible for sales of competitive new businesses, EBO’s are used to contribute to this
Date:	July 16, 2004
Hypotheses:	2, 3, 5, 7, 8

Innovation

Jules is responsible for four EBO's: Digital media, wireless, Linux and business process integration (BPI), for the region north. Jules deals with innovation from his own perspective, which is creating new markets in the small and medium business (SMB) market. The goal of innovation from his perspective is that innovation contributes to IBM's business; and innovation consists of seeking for new partners, new segments, and new technologies. Jules is aware that there are other aspects that influence innovation.

Approach towards EBO's

The goal of EBO's is creating new markets. Main choices about EBO's are made on a corporate level. The used approach for the SMB market (within region north) is as follows. First a selection has been made of EBO's that fit this market by an EMEA team (Digital media, wireless, Linux and business process integration (BPI)). The role of the local countries is to roll out the EBO's. Included activities are: inform and enable the local organization by giving information (e.g. e-learning). Sales/marketing activities (e.g. segmenting, campaigns) are used to approach customers. There is also an active search for potential partners, which is considered as very important. Intra EBO collaboration is present between countries and regions: copy best practices, projects etc.

Each EBO within region north has one Business Development Executive (BDE) who reports to Jules. All the BDE's are located in England (for each EBO one). The goal of the BDE is to commercialize the EBO on the market. This BDE works together with the local sales organization and has extensive knowledge of the EBO. The BDE is a specialist on the EBO and trains and supports sales people. The BDE is measured upon hard and soft measures. Hard measurement is the amount of revenue creation; soft measurement is creation of awareness, partnership creation and showing added value to the organization. Hard measures get more important during the lifecycle of the EBO.

Inhibitors

EBO's are projects that have a vision for the longer term. This has some consequences:

- The IBM Organization is sales driven. As the added value of an EBO is often invisible for people in the organization, might this result in little support within the organization for EBO projects.
- When a new opportunity is created, there are two persons involved: the BDE and the sales persons. The chance is often big that sales person claims success. All the preparations upfront (from the BDE) not visible, hard to make added value visible.
- Support of project, little knowledge in organization combined with people busy with their own activities results in little support for projects.

Jules supports the IBM approach. Important for the EBO process is enabling of IBM (inform own organization) and create business opportunities at customers. Need strong persons for BDE's: strong on content level, people who can handle the sales organization. Hence, this is often experienced 'heavy' person. They have to deal with the fact that added value is less visible and that they are confronted with non-understanding of their added-value.

Name:	John Post
Verified:	Yes
Function:	Chair Technical council
Date:	July 12, 2004
Hypotheses	1, 2, 4

Vision innovation

John sees innovation as applied inventions. Innovation is a method to reach goals, like: a better economy or a better market position. John gives examples within the framework: invention => standardization => infrastructure => creation of innovations. Important now is the internet. It is now in the phase in which infrastructure is created (standardization is taking place: TCP/IP, cable etc.). The age starting of innovation is now really starting. An example is grid computing.

Furthermore, John mentioned the Lisbon deal. The Netherlands must act. IBM NL wants to have a role in this field. IBM NL must have a role, hence be innovative.

EBO's

EBO's address the areas, from which IBM thinks, in which customers have a problem, hence problems IBM can solve. The intention of the EBO's is to capture these possible realities. The global EBO approach is good in his eyes, though inhibitors are present on a country level. An important inhibitor for innovation is the cost-driven structure within IBM NL (controlled by the region). It leaves little margins to explore new possibilities like addressed in EBOs. Current status of IBM NL is that they are mainly (sub) optimising on an operational level. For strategy and tactical thinking is no room.

Important in his view is that IBM NL uses the possibilities that EBO's offer. Fit the EBO's into the Dutch organizational structure, by placing them into the business units. Give people the responsibility in the business units to do something with EBOs beside their normal activities.

The innovation and technical council

IBM NL direction team has called two new entities into life. First, the Innovation council: deals with the innovation ambition of IBM NL; second, the Technical council: deals with capacity IBM NL for the vision of the council. The technical council is a virtual organization consisting of the best technical professionals of IBM NL. The councils are within IBM NL to create the margins for innovation. The current status is that they have no real management power yet.

EBO's don't go through council but John has influence. He can talk to people if something in his eyes is not correct, e.g. to the vice-president of the EBO's or to Bart Fehmers (Country Manager). He mentions explicitly that people often listen to him because people trust him then instead of him being the chair of the technical council. An example of an action the council can take is that John can declare a Cross Brand Opportunity Board (CBOB). In a CBOS are people from different business units brought together to pursue a project that is not interesting enough to pursue by the separate units.

Name:	Appie Reuver
Verified:	No
Function:	Government Programs
Date:	July 19, 2004
Hypotheses:	1, 2, 4

Innovation from a macro perspective

Technology is the basis for re-modularisation of business processes. A lot of business processes can be described clearly or are standardizing and are becoming commodity business. Re-modularisation leads to discussions within companies, about which (parts of) business processes does one do yourself, or does one outsourced. Hence, business processes will find new locations. This addresses not only reallocation of business processes towards low wage countries, but also around developed countries. This process is influenced by economies of scale and economies of law.

Only those processes that justify the higher costs, processes that create enough value, compared to other regions will be left over within the Netherlands. As a society we will have to find and create these processes, hence we have to innovate. A process that has the potential to create a lot of value is a process that is in the beginning of its life cycle and is not a commodity process yet.

The new value creation part is essential for staying competitive and this requires innovation. From a market point of view, processes that have value are those for which the customers are willing to pay for. Currently these projects seem primarily to be life style projects in which a complex system of combined value-adding processes is offered. These new projects often compromise different products and services that one company can not deliver. This counts for Business-to-Business contacts as well as to end user products.

The economy is layered into hierarchies: agriculture, industry/product, services and, a new layer, the experience economy. New value has to be created in the experience layer because this layer holds what people are willing to pay for. This requires a close relation between customers and producers. These products often need an innovative infrastructure. Hence, not only: good roads, or retail infrastructure but also for instance new payment structures and identification structures. Partnerships become more important to create new added value customer solutions.

The government has to play an active role in creating an innovative climate. Not only companies have to think about new ways of working together, but new policies are also needed in the public sector about privacy, hiring laws, education etc.

IBM and EBO's

20 % of GNP has to be filled in with new processes. Suppose that innovative projects are projects younger than 12 months because after that they already start commoditizing. IBM has to find new markets constantly, where the money of tomorrow can be earned. EBO's are new markets where IBM should compete. EBO's are managed along a formal strategic management process. An EBO is a set of technologies/ services that need to be turned into solutions. EBO's are no commodity products, EBO's are still in the phase of market creation. Most EBO-projects are development projects and include an active search for business partners, to build new ecosystems together with partners. Even within a global company like IBM, are resources scarce to make these EBO's a success. Therefore these resources are volatile over the countries. Hence, IBM NL has to compete for these resources with other country offices of IBM. Countries and customers deserve the innovations they deserve; hence customers and companies who dare to take risks. IBM NL needs to show to IBM that they need the resources to make a success. Hence, companies as IBM only act in those markets where the ROI is the largest. Currently is the culture within the Netherlands not enough prepared to renew, hence customer behaviour is an inhibitor.