Master Thesis Business Administration
F.C.R Lamers

Click today, lead tomorrow

Organizing exploration at fast growing internet technology organizations

Master thesis Business Administration

Click today, lead tomorrow

The organization of exploration at fast growing internet technology organizations

F.C.R. Lamers, BSc
0069582

Universiteit Twente
Supervisor: Dr. Ir. K. Visscher
Second supervisor: Dr. D. Faems
External Supervisor: Drs. E Metselaar

8-1-2009
Concept version 3

The title of this research, " Click today, lead tomorrow", is originally a slogan that is used by M4N in their promotional brochures.

Summary

The goal of this research is to get understanding of the organization of exploration in fast growing organizations operating in the internet technology industry. The research question: *"How are fast growing organizations, operating in the internet technology industry, engaged in exploration and how do they organize this?"* is inspired by the situation at M4N. M4N is a fast growing organization that develops internet technology. They acknowledged that the fast growth has put some pressure on its explorative activities. The causes of the problems they described can also be found in the combination of various theories on the balance between exploration and exploitation, and organizational growth. During the growth phase, the organization gets more complex. A common response is to introduce more structure, and formalize and professionalize tasks and functions, often resulting in a loss of flexibility (Kazanjian, 1988). This will benefit the exploitative capacities, but may hamper exploration. Too much engagement in exploitation can result in a disordered balance between exploration and exploitation, which is called the success trap (Levinthal & March, 1993). However, for organizations in high velocity markets, exploration is an important capability for survival. A problematic situation arises where internal forces go against environmental requirements. Therefore, the question was raised how fast growing organizations in high technology markets handle that situation. The goal of this research is to understand how these organizations behave in the field of exploration during the changing circumstances as result of the growth.

To get an insight into how these organizations are engaged in exploration and into how they organize it, multiple case studies were conducted. Data collection was done by means of a questionnaire that collected quantitative data about the presence of exploration. Interviews were arranged to get understanding on how organizations explore, and how growth has affected this. Seven organizations that experienced extremely fast growth were selected.

The results showed that continuous development is important for all organizations, but most concentrate on improvements in existing products instead of on explorative projects. Varying strategies towards exploration were found, which were indicated by the strategy types of Miles and Snow (1978). Because of the heterogeneity of the internet technology industry, market conditions in various subcategories vary, which is an important factor affecting the engagement in exploration. Four organizations were categorized as "prospector". For these organizations, experimenting with new opportunities was part of the core business. Although the velocity of the market is an important factor affecting the strategy, the ambitions of the management and the employees play a major part as well. One organization has chosen an explorative strategy since it is necessary to be explorative to survive in the market. In the other three organizations, exploration was important rather because of their ambitions than necessary conditions. Defenders, analyzers and a reactor were recognized as well. In addition, the structure and presence of external partnerships varied among the cases, which can be related to the varying strategy types and organizational size. In highly explorative organizations it was found that their structure is aligned with this strategy, and a specific team or unit is completely directed towards exploration. Since development requires dedication and concentration, separation of daily practice benefits exploration. At smaller organizations, resources are limited and the organization is still manageable without strict separation of activities. In organizations in which exploration is not part of the core business, it is also less present in the organizational structure. It is not necessary to create a structure in which both exploration and exploitation get full attention and are optimized. During periods in which exploration becomes more important, temporary teams are founded to explore, without affecting the daily business of the standard operation. However, a complete lack of structure or task for exploration, unclear strategy or limited fit between strategy and structure, results in the loss of overview when the organization grows, which affects the explorative intensity negatively. Despite the strategic and structural differences, a common denominator is found as well. Internet technology is an intangible product, created on computers. This has the result that no detailed plans or strict processes need to be drawn. Instead of a sequential process, it is iterative; experimentation by trial and error plays a major part. Based on the feedback and new knowledge, the product is shaped and changed during the whole process. Growth does not really change this; and, therefore, a certain flexibility and openness for creativity is always present. It was also found that the presence of external relationships in order to explore was quite limited. Only two highly explorative organizations were really active with external partners for explorative purposes.

The most important conclusion of this study is that the possible negative effects of organizational growth can be prevented when the organization has a clear strategy, and introduces more structure into the organization when complexity increases. In the case of clearly defined strategies, the creation of structure, task specialization and functional differentiation contributes to exploration, contrary to the assumption that an increase of structural elements as specialization would hamper engagement in explorative activities as was suggested in the theory of Levinthal and March (1993). Generally, organizations prefer a form of separation. Larger organizations with explorative strategies prefer structural ambidexterity, since it optimizes both exploration and exploitation. When the organization is small and resources and employees are limited, contextual ambidexterity tends to be present. When the size of the organization increases, more structural ambidexterity is introduced since there are enough resources to do so, and also because the complexity requires a mechanism to ensure control when both exploration and exploitation are performed. Organizations that are less engaged in exploration mostly perform exploration through temporary projects, for which a separate team is formed.

Another important finding is that the presumed importance and benefits of external collaborations are mostly undervalued by the organizations. The research also shows that collaborations for explorative projects are limited. Only organizations which regard experimentation and engaging in new opportunities as the core value see the benefit of external collaborations and tie up with them. Most partnerships are established with clients and suppliers for more exploitative objectives, confirming the findings of the research of Faems et al (2005) in which is stated that explorative and exploitative projects require different kinds of partnerships depending on the capabilities and the interest of that partner.

One of the recommendations, therefore, is that fast growing high technology originations should focus more on the possibilities of such collaborations. Now it is more or less ignored, but it should have more attention. Organizations have to seriously consider the possibilities, instead of only focusing on the organizational costs and the efforts that need to be made. Fast growing organizations in high technology markets characterized by iterative processes and organic structures may be advised that professionalization and separated structure is beneficial, without losing the creative atmosphere and the explorative vibe in the organization.

Samenvatting

Het doel van dit onderzoek is inzicht te krijgen over de organisatie van exploratie in snel groeiende bedrijven die actief zijn in de internet technologie. De onderzoeksvraag: " Hoe zijn snelgroeiende bedrijven die opereren in de internettechnologie industrie, betrokken in exploratie en hoe organiseren zij dit? , is geïnspireerd op de situatie bij M4N. M4N is een dergelijke snel groeiende organisatie die internet technologie ontwikkeld en erkent dat de snelle groei als gevolg heeft dat de exploratie activiteiten onder druk komen te staan. De oorzaken van de problemen die zij aangaven kan ook worden gevonden door gebruik van diverse theorieën over de balans tussen exploratie en exploitatie en groei van organisaties. Tijdens de groei fase wordt een organisatie complexer. Een gebruikelijke reactie is het invoeren van meer structuur en om taken en functies the professionaliseren en formaliseren, wat als gevolg heeft dat de organisatie minder flexibel wordt. (Kazanjian, 1988). De exploitatieve activiteiten profiteren hiervan, maar het kan exploratie juist verhinderen. Wanneer er te veel exploitatie wordt gedaan kan er zelfs een verstoorde balans tussen exploratie en exploitatie ontstaan. Dit wordt ook wel de" succes trap" genoemd (Levinthal & March, 1993). Voor organisaties die een snelle markt opereren is exploratie een belangrijke activiteit om te overleven. Er ontstaat dus een tegenstrijdige situatie waarin de interne veranderingen tegenstrijdig zijn met de eisen die de markt stelt. Hierdoor is de vraag ontstaan hoe snelgroeiende bedrijven in " high tech" markten omgaan met deze situatie. Het doel van dit onderzoek is om inzicht te krijgen in hoe deze organisaties zich gedragen op het gebied van exploratie gedurende een periode van veranderende omstandigheden als gevolg van de groei.

Om een inzicht te krijgen in hoe deze organisaties met exploratie bezig zijn en in hoe zij dit organiseren, zijn een multiple case studies uitgevoerd. De data verzameling is gedaan door middel van vragenlijsten die kwalitatieve data verzamelen, en interviews die kwalitatieve data genereren. van. De interviews zijn geschikt om beter inzicht te krijgen in hoe organisaties exploreren, en hoe de groei dit heeft beïnvloed. Zeven organisaties die extreem snelle groei hebben ervaren zijn geselecteerd aan de hand van de Deloitte Fast 50.

De resultaten laten zien dat continue ontwikkeling belangrijk is voor alle organisaties, maar dat dit voornamelijk verbeteringen aan bestaande producten betreft in plaats van exploratieve projecten. Verschillende strategieën op het gebied van exploratie zijn gevonden, die zijn aangeduid door middel van de strategie types van Miles en Snow (1978). Door de heterogeniteit van de internet technologie sector, zijn er verschillende marktomstandigheden aanwezig in de diverse sub sectoren wat een belangrijke rol speelt bij de betrokkenheid in exploratie. Vier organisaties werden gekwalificeerd als prospector. Voor deze organisaties is het experimenteren met nieuwe mogelijkheden een van de kernzaken van de organisatie. Hoewel de snelheid van de markt een belangrijke rol speelt bij de te vormen strategie zijn de ambities van het management en medewerkers ook van groot belang. Eén organisatie had gekozen voor een exploratieve strategie, omdat deze nodig is om te overleven in de markt. Bij de drie andere organisaties komt exploratie meer voort uit ambities dan dat het een noodzakelijke voorwaarde is. Naast de prospectos werden er ook een defender, analyzer en een reactor gevonden. Daarnaast varieerden de structuur van de organisatie en de mate van samenwerking met externe partijen tussen de cases, wat kan worden gerelateerd aan de verschillende strategie types en grootte van de organisatie. Bij sterk exploratieve organisaties werd gevonden dat hun structuur is afgestemd op deze strategie, en dat een speciaal team of onderdeel van de organisatie is gericht op exploratieve activiteiten. Aangezien voor ontwikkeling concentratie en toewijding vereist is, is afscheiding van de dagelijkse praktijk voordelig voor exploratie. Bij kleinere organisaties zijn de middelen beperkter en is de organisatie nog beheersbaar zonder strikte scheiding van activiteiten. Bij organisaties waarbij exploratie geen onderdeel is van de kernactiviteiten is het ook minder vertegenwoordigd in de structuur van de organisatie. Het is niet nodig om een structuur te vormen waarin zowel exploratie en exploitatie volle aandacht krijgen en worden geoptimaliseerd. Gedurende periodes waarin exploraties een grotere rol gaat spelen, worden tijdelijke teams gevormd die zich bezighouden met exploratie, zonder dat deze invloed heeft op de dagelijkse werkzaamheden. Echter, een zeer beperkte structuur of taak voor exploratie, onduidelijke strategie, of beperkte afstemming tussen strategie en structuur heeft als gevolg dat bij verlies van overzicht wanneer de organisatie groeit, de intensiteit van exploratie negatief wordt beïnvloed.

Ondanks de strategische en structurele verschillen, is ook een belangrijke overeenkomst gevonden. Internettechnologie is een ontastbaar product, dat wordt gemaakt door middel van computers. Dit heeft als gevolg dat er geen gedetailleerde plannen of strikte processen gemaakt hoeven te worden. In plaats van een sequentieel proces is het een iteratief proces; experimentactie door middel van " trial en error" speelt een grote rol. Op basis van feedback en nieuwe kennis word het product gedurende het gehele proces gevormd en aangepast. De groei van de organisatie heeft hier nauwelijks invloed op, waardoor een zekere flexibiliteit en openheid voor creativiteit aanwezig blijft. Daarnaast werd gevonden dat de aanwezigheid van externe samenwerkingsverbanden behoorlijk beperkt is. Slechts twee sterk exploratieve organisaties in dit onderzoek zijn actief op het gebied van externe partners voor exploratieve doeleinden.
De belangrijkste conclusies van dit onderzoek zijn dat de mogelijke negatieve effecten van groei kunnen worden voorkomen wanneer de organisatie een duidelijke strategie heeft en juist wel enige structuur die daar op aan sluit weet aan te brengen. In het geval van duidelijke geformuleerde strategieën, draagt de verwezenlijking van structuur, specialisatie van taken en functionele differentiatie bij aan exploratie. Dit is tegenstrijdig met de veronderstelling dat het de toename van structuur en professionaliteit exploratieve activiteiten zouden belemmeren zoals in de theorie van Levinthal en March werd voorgesteld (1993). Over het algemeen, verkiezen de organisaties een vorm van scheiding van exploratie en exploitatie. De grotere organisaties met exploratieve strategieën geven de voorkeur aan *structural ambidexterity,* aangezien dit voor zowel exploratie als exploitatie optimaliseert. Wanneer de organisatie klein is, en middelen en werknemers beperkt zijn, is er vooral *contextual ambidexterity* gekozen. Wanneer de grootte van de organisatie toe neemt, wordt meer structurele scheiding geïntroduceerd aangezien de middelen aanwezig om zijn dit te doen, en de toegenomen complexiteit een mechanisme vereist om controle over de aanwezigheid van zowel exploratie als exploitatie te verzekeren. De organisaties waarbij exploratie een kleine rol speelt organiseren dit aan de hand van tijdelijke projecten, waarvoor een afzonderlijk team wordt gevormd. Daarnaast wordt het veronderstelde belang en de voordelen van externe samenwerkingsverbanden met betrekking tot exploratie door de organisaties voornamelijk onderwaardeert. Het onderzoek toont aan dat het aangaan van samenwerkingsverbanden voor exploratieve projecten beperkt is. Slechts de organisaties die waarbij exploratie een van de belangrijkste waarden van de organisatie is en het in aangaan van nieuwe mogelijkheden als centraal element wordt beschouwd, zien de voordelen en gaan dergelijke verbanden aan. De meeste samenwerkingsverbanden die aanwezig zijn die met leveranciers and klanten en worden gebruikt voor exploitatieve doelstellingen. Dit bevestigd de bevindingen uit het onderzoek van Faems et al (2005) waarin wordt verklaard dat de exploratieve en exploitatieve projecten verschillende soorten samenwerkingsverbanden vereisen afhankelijk van de mogelijkheden en de belangen van die partner.
Een van de aanbevelingen is daarom dat deze snelgroeiende "high tech" bedrijven zich meer moeten richten op de mogelijkheden van dergelijke samenwerkingsverbanden. Nu worden deze min of meer genegeerd, terwijl ze juist meer aandacht vereisen. Organisaties moeten serieus overwegen wat de mogelijkheden zijn, en niet enkel kijken naar de organisatiekosten en inspanningen die het vereist. Aan snelgroeiende "high tech" bedrijven kan ook worden geadviseerd dat professionalisatie en een gescheiden structuur juist voordelig is, zonder daarbij de creatieve sfeer en exploratieve "vibe" te verliezen.

Preface

In front of you, you find the Master Thesis that is the result of a research the organization of exploration in fast growing organizations that develop internet technology. With this project, I will complete my Master Business Administration at the University of Twente.
Although I never had much interest in ICT organizations, or internet technology in particular I started an internship at M4N, an organizational that develops and exploits its own online software system. Pretty fast I experienced the interesting characteristics this industry has for a research project in innovation management. Because of my activities in the organizations, I learned how these organizations work, what really helped me to get a better perspective on the research. Besides the things I learned in the scope of this research was the participating I a "real" organization was a welcome experience after 5 years business administration in theory. Although it did delay the date that I write this considerably, I think it has contributed to my research in the end.
One of the findings that this kind of organizations have an informal atmosphere, little hierarchy and much flexibility is something that I can testify. I've had a great time and everybody supported me very well. Therefore, I would like to thank M4N, for the fun, possibilities, flexibility and help they offered to realize this research. Special thanks go to Edwin Metselaar, who shared his ideas and helped to increase the readability of this report.
The process of this research is much like the development process the organizations of this study apply: iterative, by trial and error, and with several moments of feedback. Therefore, I would like to thank my supervisors Dr. Ir. K. Visscher and Dr D. Faems. Their advice ideas inspired me when I lost focus.
At last I would like to thank my friends and family for their mental support (and chocolate) when I needed it.

Fleur Lamers,

Amsterdam

February, 2009

Index

1. Introduction

Innovation is important for individual organizations as well as for the entire economy of a country since it creates new possibilities, growth potential and employment (WRR, 2008; O'Reagan & Sims, 2008). Fast growing technology organizations can contribute to the growth of the economy by their innovative capacity (WRR 2008; Ministerie van Economische zaken, 2004). Their innovation performance is, therefore, of major importance (O'Reagan &Sims, 2008). However, research (WRR 2008; Ministerie van Economische zaken, 2004) showed that the innovation capacity of these organizations in the Netherlands is below average compared to that in other European countries.

In order to perform an internship at M4N, an affiliate marketing organization that develops its own online software, the problems the organization faced in relation to innovation were discussed, in order to find a topic of research that would contribute to the improvement of the existing situation by increasing knowledge. In a conversation with the members of the board of M4N, they acknowledged that the fast growth of the organization hampered the engagement in innovative activities. A tension between short term requirements and long term ambitions is present. Growth forced them to put priorities on daily activities, at the cost of time and money that can be spent on research and development of new technology. An abundant body of literature describes this phenomenon as the paradox situation that organizations face; the balance between exploration and exploitation. Although several theoretic views together can be used for understanding the causes of this problematic situation, less knowledge is available on how fast growing organization in high tech environments handle this problems. In order to generate knowledge on this topic was chosen to extend the single case study of M4N with multiple cases of organizations operating under the same conditions of fast growth in a high technology market.
The existing literature points out that for successful innovation; both exploration and exploitation are needed. Exploration refers to exploring new ideas for future business and can be captured in terms like search, variation, risk taking experimentation, play, flexibility, discovery and innovation (March, 1991, p. 71). However, for exploration, money and resources are needed. Besides that, it makes no sense to look forward if the organization is not capable of surviving in the short term. Besides exploration, an organization has to exploit its current products in existing markets. This is called exploitation and it concerns refinement, choice, production, efficiency, implementation and execution and is directed towards the present business (March, 1991, p. 71). The organization has to balance both activities by engaging in sufficient exploitation to ensure current viability and at the same time, devoting enough energy to exploration to ensure its future viability (Levinthal & March, 1993, p. 105). Both kinds of activities need resources and resource constraints force the managers to make a tradeoff between putting resources in either exploitation or exploration. Besides that, exploration and exploitation rely on different organizational routines and capabilities (Lewin, Long, &Carroll, 1999; Benner & Tushman, 2003; Ireland &Webb, 2007) that make it easier to specialize in one or the other (Greve, 2007, p. 945). During the development of an organization, exploration might decline as the need for exploitation becomes stronger. In the beginning, the organization focuses its attention mainly on technological issues and on the exploration of the product and market. In the case of a small and non-complex organization, structure, processes and formal plans are not of major importance. Nevertheless, when the organizational size and sales increase, the first steps towards building an organizational task structure are taken. When the number of people and functions involved increase, financial and administrative functions will become more important. The organization has to focus on staying efficient to remain a vital player in the market (Kazanjian, 1988). More formalized structures are necessary to control the increasing complexity of the organization (Kazanjian, 1988). The organization has to professionalize in the field of formalities, procedures and processes and routinization becomes more important. Because of the increase in demand, the focus is on control of the situation and responding to current demands. This will benefit exploitation but suppress exploration. Especially during extremely fast growth, the organization might experience problems in balancing exploration and exploitation. Organizational success can even result in the so-called success trap (Levinthal & March, 1993). In the case of technology development, successful exploitation of existing knowledge can result in a decrease of incentive to explore further possibilities and an organization might even lose its ability to explore (Greve, 2007). Successful exploitation and routine development leads to an increase in efficiency of exploitative activities, making

them more favorable in the short term compared to the uncertain and long term benefits of exploration. Exploration and development will eventually lack support.
Organizations which are operating in high technology markets, have a strong need for exploration to stay competitive (Danneels, 2002). Especially in emerging markets that are highly technology driven, the ability to respond to the changing environment is necessary. Organizations have to continuously focus on the development of new knowledge in order to introduce new products or technologies since life cycles are short (O'Reagan &Sims, 2008). Too much focus on existing knowledge can even create a disadvantage since past situations are overgeneralized (Eisenhardt & Martin, 2000, p 1111). If an organization wants to stay competitive, it has to explore continuously in order not to end up in a phase of decline. Organizations that are not able to adjust to their environment are confronted with a lower likelihood of survival in highly innovative environments (Audretsch, 1995). For organizations growth can, therefore, negatively affect the performance of the organization. The development of the internal organization, which is the result of the growth, pushes the organization towards exploitation, while the environmental characteristics require exploration in order to keep growing. On the other hand, other theory (Sine et al, 2006; Stinchcombe 1965) explains that young ventures in turbulent environments can be too organic. More structured organizations will outperform those with limited role formalization, functional specialization and administrative intensity (Sine et al, 2006).

This research aims at gaining more understanding on how these fast growing organizations in the high technology markets handle the organization of exploration. In the available literature, much attention is given to how exploration should be organized. However, the opinions vary considerably (Westerman et al, 2006; Siggelkow & Levinthal 2003). Since new knowledge is likely to emerge from small communities and practices, young and small organizations have an advantageous setting for exploration. However, when the organization grows this setting changes and various departments and groups emerge. Therefore, communication is needed; the self-organizing string quartet becomes an orchestra, with separate sections (Brown & Duguid, 2001). The organization of these sections can be designed in many different ways: from an integrated structure towards highly separated units. Too much structure might limit the flexibility and creativity because of which, as some argue, exploration should be separated from the structures and processes of daily business (Christensen, 1997; Rice et al, 2000; Foster and Kaplan, 2001). Others argue that the use of existing resources is limited when exploration is performed by distinct external units (Brown & Eisenhardt 1997; Iansiti, 1997). A solution that has the elements of separation of processes, as well as the sharing of knowledge and resources, is the ambidextrous organization. Processes, culture and management style are differentiated, but both units operate in the same organization (Tushman and O'Reilly, 1996). In addition to the various means through which knowledge and ideas are generated and developed *within* the organization, there is another option, namely, to collaborate with parties *outside* the organization. The model of open innovation is based on the idea that not only the ideas from within the organization should be used, ideas and innovations from other parties can be used as well. This increases the possibilities and sources of innovation, and organizations can share the investments and risks involved with exploration (Chesbrough, 2004). Another option is that exploration is not officially organized at all, but that employees organize it individually, sometimes even without the official authorization of the management (Augsdorfer, 2005).
The study is directed towards the explorative activities of fast growing organizations in the internet technology industry. During the conversation with the members of the board of M4N it became evident that the specific circumstances of this kind of organizations are interesting for research on the field of exploration. The development of a intangible product and its short life cycles has implications for innovation and development-related activities. Thereby, research concerning the development of that technology by organizations is rather untouched in organizational literature. Internet technology is often the topic of research in the context of the effects of such new technologies on existing organizations. It concerns the business possibilities through the *use of* internet, trade conducted *over* the internet and operating on "virtual markets" (Amit & Zott, 2001). Recent studies only have begun to explore more flexible models of development characterized as used in internet technology organizations (MacCormack et al, 2001). At last, the growing importance of this sector therefore requires better understanding of these issues.

1.1 Problem definition

This introduction and short examination of literature leads to the main problem:
On the one hand, exploration is an important activity in high technology organizations. On the other hand, the fast growth that is common in these high technology organizations is likely to decrease exploration. The decrease of exploration can affect the performance of the organization negatively in the long term.

1.2 Research objective

The goal of this research is to acquire knowledge about the organization of exploration in fast growing organizations operating in the internet technology industry. Since the growth phase is characterized by an increase in formalization and professionalization as a result of increasing complexity, explorative capabilities often decrease and the focus shifts to more exploitation. Especially for organizations operating in a high technology industry, exploration is essential for growth, and may therefore experience problems because of the fast growth. The research is an empirical study that examines how these fast growing internet technology organizations are engaged in exploration. The second step is to get an understanding about how exploration is organized in these organizations. The result of this research is a description of the presence and organization of exploration in fast growing organizations.

1.3 Research questions

Based on the preceding problem statement and research goal, the following central question is formulated:

"How are fast growing organizations, operating in the internet technology industry, engaged in exploration and how do they organize this?"

For answering this question, some sub questions are to be answered first.

In literature, we find the generally accepted notion that exploration is a necessary condition to survive in the longer term, especially for organizations operating in high technology markets. The first question considers if exploration is part of the organizational strategy and if they put necessary resources to it. These considerations have put forward the following sub question:

1. To what extent is exploration part of the organizational strategy and are resources allocated towards exploration?

The following questions assess how organizations organize exploration if they do explore. Since there are various possibilities and since the goal is to generate knowledge, questions are broadly defined.

2. How is exploration organized internally?

3. How is exploration organized externally?

Since literature remarks that fast growth will suppress exploration and that exploitation is favored during that period, the next question considers the effects of growth on exploration.

4. In which way does growth affect the amount of exploration that is performed and how exploration is organized?

1.4 Research approach

This research aims at understanding a real life situation without control of behavior. Therefore, multiple case studies are conducted. Case studies are carried out to get an understanding of the dynamics in real life situations (Eisenhardt, 1989, p. 534). They are used to answer questions about why and how something occurs, when the research focuses on contemporary events, and no controls of behavioral events are necessary (Yin, 2003). For the generation of data to answer the research questions, quantitative and qualitative methods are used. The first research question particularly considers how much exploration is present. A questionnaire is used to get quantitative data concerning the financial and human resources invested in exploration. In addition, the number and sort of external relationships are part of the questionnaire, which will be used for answering question 3.
Since the goal is to get more knowledge about the organization of exploration, quantitative data will not be sufficient to answer the other research questions. Interviews are used to get more knowledge about the organization of exploration, and about why it has been chosen to do it that way. The internal organization concerns the strategy and allocation of resources, the organizational structure concerning exploration, and the process and activities that are executed. To answer research question 3 properly, the underlying rationale of the choice concerning external relationships is addressed in the interview as well. The motive for this research was based on the situation at M4N and the theoretical confirmation that was found for this situation in which the amount and organization of exploration is affected as a result of the fast growth. Therefore, the interview will also be used to answer question 4 and assesses how growth affects these organizations. The interviews are held with the CEO and CTO/ R&D manager since they have influence on the shaping of the strategic decisions, and are to a large extent responsible for the amount allocated for exploration and the organization of exploration.
The data is gathered from seven organizations originating from the Deloitte Fast 50 of 2007. These high technology organizations are selected because they have experienced extremely fast growth and are, therefore, likely to face problems of a high pressure on the organization because of increasing complexity in a relatively short time span. This will contribute to the validity of the research. More about the research design can be found in chapter 3.

1.5 Overview of chapters

After the introduction to research, the study is structured as follows. First, an overview of literature concerning the main topics of this research is given in chapter 2. This theoretical framework provides the rationale behind the purpose of the research and a foundation for data gathering. Then the methodology of this research is explained in chapter 3, which includes further explanation of the research design, the sample, data collection, and how the analysis is performed. After that, chapter 4 and contains the results of the interview and questionnaire in the within case analysis. Chapter 5 continues with the cross case analysis, in which differences and communalities are analyzed and explained. This leads to the discussion and conclusion in chapter 6.

2. Theoretical framework

In this chapter, an overview of the theory that will be used in this research is given. The construction of the framework is done to create a prior view of the general constructs underlying this research and their relationships (Miles & Huberman, 1994).

2.1 Innovation, exploration and exploitation

The introduction already showed that innovation is of major importance. On macro level, innovation by organizations is an important factor stimulating economic growth. On micro level, innovation is important for organizations to survive. Innovation is often used to address a new, or change to, a product, organizational process, organization or market. To realize these outputs, input and development are needed; therefore, innovation can also be used to address a process or activity (WRR, 2008). It is a sequence of activities involving acquisition, transfer and utilization of information (Burns & Stalker, 1961 in Abernathy and Clark, 1985). Since this research aims at focusing on the operation of an organization, these innovative processes and activities form the main subject of research.
The innovative process incorporates explorative and exploitative activities (Yalcinkaya, Calantone & Griffith, 2006). In the available literature (Greve, 2007; Yalcinkaya, Calantone & Griffith, 2007; March, 1991; Levinthal & March, 1993) the concept of exploration is described through a few returning characteristics that concern the generation of new knowledge for the development of new technologies and products which could eventually lead to sources of competitive advantage. The key purpose of exploration is creating new streams of knowledge as the source of new or different technologies and, subsequently, of new products and sources of competitive advantage (Ireland& Webb, 2007, p. 54). Explorative activities build on new knowledge, and are possible even on new markets and customers. The success of exploration is, therefore, dependent on the ability of the organizations to acquire new and diverse knowledge and, subsequently, to integrate it with existing knowledge (March, 1991). Exploration can be explained as the set of organizational characteristics or activities undertaken in order to search for new knowledge and possibilities that can be applied to the development of new technologies, products, processes or organizational changes. March (1991) describes exploration by using certain key words: search, variation, risk taking, experimentation, play, flexibility, discovery and innovation (p. 71). Since exploration concerns the experimentation with new alternatives, returns are uncertain, distant, and often negative. Exploitation is defined as “the refinement and extension of existing competencies, technologies, and paradigms exhibiting returns that are positive, proximate, and predictable” (March, 1991, p. 85). Exploitation, therefore, stresses “the use and development of things already known” (Levinthal and March, 1993). Exploitation is described by using terms such as refinement, choice, production efficiency, implementation and execution and contributes to the current business (March, 1991, p. 71).

2.2 The balance between exploration and exploitation

Both exploration and exploitation are fundamental activities for organizations and other adaptive systems (Siggelkow & Levinthal, 2003). Maintaining the balance between exploration and exploitation is necessary for firm survival and prosperity (March 1991, p. 71) since too little attention to either exploration or exploitation reduces firm performance (Levinthal & March, 1993). The organization has to balance both activities to engage in sufficient exploitation to ensure current viability and at the same time, devote enough energy to exploration to ensure its future viability (Levinthal & March, 1993, p. 105).
The exploitation of existing products realizes financial assets that can contribute to the possible development of future products. Current sales enable the exploration of future opportunities and in that way exploitation facilitates exploration. It is also pointed out that exploitation is a necessary, but not sufficient, condition for exploration, and that exploration is the base of future exploitation (X). Too much emphasis on exploration at the cost of exploitation may use up all their resources without giving any current benefits whereas in the case of excessive exploitation the organization will face problems in the longer term because it will not be able to anticipate to changes and opportunities in the environment.

In fast changing environments, the ability to respond to the environment is necessary to survive. In high technology industries competitive advantage is gained by the continuous introduction of new possibilities because of short product life cycles succession technology (Brown & Eisenhardt, 1995). A search for new technologies is, therefore, needed to survive in the market, which stresses the importance of exploration. In high-tech Industries, the balance between exploration and exploitation causes a dilemma, since exploration of a new technology puts pressure on the resources for developing new products with a known technology (Lee & Ryu, 2002, p 298). Since exploration and exploitation compete for a limited pool of resources, managers are left with a choice of supporting one over the other (March 1991). Besides the tradeoff between the allocation of resources, exploration and exploitation rely on different organizational routines and capabilities (Lewin et al, 1999, Benner & Tushman, 2003; Ireland &Webb, 2007). Issues such as structure, culture and operations are of importance as well.

2.2.1 Strategy

Organizations can be distinguished on the basis of the extent to which they engage in explorative activities as part of their strategy. Some organizations focus on stability, efficiency and the improvement of existing products while others have a strong drive to search for new possibilities, enter new fields and be ahead of competition through technological development (Miles & Snow, 1978). This indicates what kind of innovative strategy they perform, and whether they are more engaged in exploration or exploitation. The strategy provides grounds on which resources are acquired, altered and shed, and how they are integrated and combined to generate new value-creating strategies. Organizational behavior is partially dependent on the organizational strategy. The balance between exploration and exploitation is, therefore, dependent on the strategy of an organization. When competition is intense, firms will have to adapt accordingly (Auh & Menguc, 2005). The strategy has to "fit" with the environment. In high technology industries, the pace of new developments is often rapid. Therefore, exploration should be explicitly valued in the strategy of an organization. Strategy in high-velocity markets needs to support the creation of unpredictable advantages through timing and loosely structured organization (Eisenhardt & Martin, 2000). Focus has to be on opportunities.

Miles & Snow (1978) developed a typology that relates a unique strategic focus to a market that is chosen by an organization. Each type has a configuration of technology, structure and processes that is consistent with its market strategy (Miles et al, 1978, p. 550). The typology addresses how the adaptive systems of the organization can be typified and how they interact with their environments. Prospectors are organizations that value exploration highly (Auh & Menguc, 2005). They search for market opportunities and regularly experiment with potential responses to emerging environmental trends. Therefore, they are often the creators of change and uncertainty to which the competitors must respond (Miles & Snow 1978). The prime capability of prospectors is the exploration of new product and market opportunities by scanning environmental conditions, trends and events (Miles et al, 1978). The search for new ventures goes beyond the current scope, and the organization has to search for a wide range of environmental conditions. The opposite strategy is the one of a defender, which focuses on stability and produces only a limited set of products in a narrow segment of the market (Miles et al, 1978, p 550). They tend to ignore trends and developments outside their domains and grow by market penetration and limited product development. Investments are directed towards efficient production. Defenders are associated with exploitation since they focus on improving their efficiency by refining existing capabilities and resources (Auh & Menguc, 2005). Analyzers have the characteristics of both prospectors and defenders; they protect existing markets while capitalizing on emerging and potentially profitable markets (Auh & Menguc, 2005) in order to minimize risk and maximize the opportunity for profit (Miles et al, 1978, p 552). They engage in new products or markets when the success of them is already shown, and try to follow prospectors as quickly as possible. A "residual" strategy type is the reactor, who exhibits a pattern of adjustments to the environment that is both inconsistent and unstable (Miles et al 1978). It lacks response mechanisms resulting in inappropriate responses to environmental changes.

2.2.2 Allocation of resources

Resources can be assessed as the first step in the value chain and the driver of capabilities (O'Regan & Sims, 2008). Based on the distribution of resources it can be inferred if, what, and how much is invested in either exploration or exploration. Throughout the organization, resources have to be available that can be used for the generation and experimentation and development of new ideas (Schoonhoven & Jelinek, 1990). For high technology organizations, the most important asset for technology development is human capital. Since exploration is largely dependent on the creative ideas of people, employees and their knowledge are a very important resource for the entire organization. An organization that wants to be competitive on product innovation needs to put resources towards explorative activities continuously (Grant, 1991 in O'Regan & Sims, 2008).The resource system should nurture new ideas and continuously raise and solve problems (Kanter, 1983; in Dougherty & Hardy, 1996). This means that the amount of resources allocated to exploration is not dependent merely on the availability of slack, but should be deliberately distributed to exploration (Dougherty & Hardy, 1996). Resource systems and facilities should be designed in such a way that the development of new products could be included directly (Clark & Wheelwright, 1992 in Dougherty & Hardy, 1996). This means people have to be available with a high variation and large number of different occupational specialties (Kimberly & Evanisko, 1981). A set of different perspectives permits a better understanding of new technical processes, encouraging their adoption. According to Dewar et al (1990) leads a large number of specialists to that technical ideas are more easily understood, and the likelihood of new procedures being developed for implementing those increases.

2.3 Threats to exploration in fast growing technology organizations.

During the development of a high technology organization, the will to engage in exploration might come under pressure. The development of a high technology organization, especially in the field of internet technology, is often characterized by fast growth. Delmar et al (2003) discuss how firms grow, and put a specific focus on fast or high growers. Fast growth is mainly found in young, small entrepreneurial firms that experience growth by an increase in employees and are operating in knowledge intensive industries (Delmar et al, 2003). The report of the Ministry of Economic Affairs (Ministerie van Economische Zaken, 2004) showed that 30% of the technology organizations are fast growers.
The internet technology industry is a still emerging market which really took off in 1996. Although internet was commercially exploited from 1990 after some institutional reforms and technical changes, the sector became characterized by rapid growth in 1996 and many new ventures were established to exploit its potential (Sine et al, 2006). These internet organizations are able to grow very fast because of the limited entry barriers and the new technology underlying the sector that is adaptable to many existing industries and activities (Sine et al, 2006).
Many studies are done on the development and growth of organizations. Life cycle models give an indication of similarities in development patterns, coinciding characteristics and problems an organization faces. The study of Kazanjian (1998) focuses on the growth of technology- based new ventures that experience natural/organic growth in a market without demand conditions that are limiting and where the initial growth is based on a single product-technology base (pp. 261-262). It focuses on organizations that experience extraordinary growth in an emerging industry. The research shows that when complexity increases and organizations introduce more formal procedures to control the situation, the ability and will to explore seems to decrease. Because of the fast pace of the growth, the organization is busy with control of the existing situation so that the longer term plans are not considered yet. Especially for extremely fast growers, this might hamper exploration, since they have to deal with a lot of changes in a short time span (Ministerie van Economische zaken, 2004). Too much control can stifle creativity (Moores & Yuen et al, 2001, p 353).

2.3.1 Organizational development

In smaller organizations, exploration and exploitation are easier to combine (WRR, 2008). There the distance, physical and mental, between departments and employees is small, and communication lines are short. Informally, ideas are shared and discussed among employees. For problems or questions, you can easily walk to a colleague in the next room and think of a solution. When the size of an organization increases, problems of coordination and communication magnify, and new functions emerge. The management level hierarchy increases and jobs get more interrelated (Greiner, 1972). The priorities of an organizations change and an increase of employees and sales tend to change the problems an organization has, which affects the balance between exploration and exploitation over time. During the growth phase, the organization is transforms from a small, young, dynamic firm towards a mature organization characterized by more bureaucracy, procedures, formal systems and structures. In the beginning, the organizations are managed ad hoc; but in a larger organization, this is not possible anymore. The situational changes are met with a more complex organizational structure, mechanisms for information processing and change of decision-making style (Miller& Friesen, 1984, p 1163-1164). Decision making gets decentralized since it is impossible for the owner to keep informed of all the various aspects of the organization. The increase in people and sales leads to an increase in the complexity of the administrative task and functional specialization will emerge. By performing routines, more certain and short term results are generated. The outcome of research and development activities is often uncertain and the results are shown more remote in time. The uncertainty of results, organizational processes and the time lag between activities create a risk. In exploitative activities, this risk is limited and secures a constant cash flow in the short term. This might dominate the priorities compared to exploration, where the effects are experienced only in the longer term. Repetition of existing activities becomes more likely than performing new ones (Levinthal & March, 1981). The routinization leads to productivity advantages and efficiency. When this happens, exploitation will be favored over explorative activities since outcomes are known and the process is performed by a routine that gets more efficient because of learning effects. This emphasis on routine development and refinement benefits exploitation at the cost of exploration (Beckman, 2006). The organization becomes more efficient, but less flexible. Another possibility is that explorative activities might not fit with the existing strategy, which can be a reason for the management to abandon the innovation, especially managers who try to avoid risk and favor short term results and the certainty of exploitation. The growth leads to a push towards the refinement of existing practices, and a focus on efficiency and the capitalization of the current success, which means the strategy will be more directed towards exploitation and resources are allocated to existing products and processes. The introduction of structure, routines and refinement in existing practices will contribute to successful exploitation but may hamper exploration (Benner &Tushman, 2003). At the end, organizations experience the irony of seeing a major solution in one moment become a major problem at a later date (Greiner, 1972, p. 401-402). The responses of an organization to control the increasing complexity in the growth phase by rationalization may seem a solution for the moment, but, in the future, these actions may even work against the organization. Each phase is, at the same time, both the effect of the previous phase and a cause for the next phase (Greiner, 1972, p. 402). The specific characteristics of the growth phase make older organizations more bureaucratic and less innovative (Miller and Friesen 1984, p. 1177).

2.3.2 Success trap

Developing a new product of technology becomes less attractive when the organization is succeeding with a current product. They end up into a vicious circle of successful exploitation that leads to more exploitation and less exploration that might result in a success trap (Levinthal& March, 1993). The success trap that results from organizational learning creates a focus on the core capabilities and current practices, leading to core rigidities (Leonard-Barton, 1995). This focus on exploitation creates organizational myopia and competency traps. Experience with a product, service or process enables the refinement of the product and process, which can lead to more success and efficiency. Results become more certain and predictable based on past experiences as well. A process will become more efficient and organizational routines will stabilize. The focus is on the existing product, customers and markets and the

risk exists to choose for the safe and ‘easy” way. The need for exploration becomes less interesting to managers. The increase in competence as an exploitative activity increases the likelihood of rewards for engaging that activity, thereby further increasing the competence and its likelihood (Argyris and Schön, 1978; David, 1985 in March, 1989). Once an organization has invested in a product, market and customer base, it is difficult to put new resources in an entirely new project with uncertain outcomes, instead of in the current customers with large and well known margins (Henderson, 2006). This “captures” the organization. Often, organizations are totally focused on their existing customer base. Existing strategies may blind the organization to invest in radical new products, processes and emerging markets because they may not meet the needs of existing customers at first sight. Because of the will of the managers to hold on to current strategies, exploration is not favored and the development of a completely new product will be rejected (Dougherty, 2002). Companies are “trained” to identify and answer customer needs, and to base investment and allocation decisions on the probable success of new products on this existing customer base. However, customer needs change and are sometimes hard to predict. Organizations that fail to take a chance create a risk by letting the opportunity slip and, as a result, a product or technology may be introduced by competitors. Only focusing on existing customers and current products can, therefore, be dangerous and may hamper innovation. As regards stability, the organizations may become locked into narrow positions that may ultimately increase their vulnerability (Utterback, 1990). Although the focus on exploitation may seem attractive in the short term, it causes problems for the future and may even lead to self destruction for the organization in the longer term (Benner & Tushman, 2003; March, 1989).
According to Utterback (1990), it is no wonder that most radical innovations occur within new entrants attempting to break into an established set of competitors, rather than within firms whose capital and resources are tied up in the existing technology. Organizational theory suggests that incumbent firms fail in the face of radical innovation because they fall prey to inertia and complacency (Henderson, 1993). However, literature also suggests that larger and more mature firms benefit from the presence of a larger amount of financial assets, and are, therefore, better able to reduce risk involved in exploration. Larger organizations also have a larger pool of employees with different skills, knowledge and capabilities to engage in innovative activities, since more knowledge is present (Damanpour, 1992).

2.4 The organization of exploration

Abernathy and Clark (1985) emphasize that competitive advantage based on product innovation is based on the fundamental internal reality of the organization; a product or innovation is an outward manifestation of internal capabilities. Product innovation is, therefore, the result of the competencies and the capacity of the organization to influence the existing resources, skills and knowledge (Abernathy and Clark, 1984). They assume that the presence of these inputs can have various results depending on their combined use, organization, system and procedures. This means that for successful exploration some internal characteristics have to be present. Two areas were addressed: on the one hand, innovation has to be a meaningful component of the organization’s strategy, and, on the other hand, it has to make resources available for the development of new products. To develop an organization with the capacity for sustained innovation, collaborative structures and processes that enable the absorption of new knowledge and which adapt to change, have to be present. (Dougherty & Hardy, 1996, p. 1122).

2.4.1 Internal organization of exploration

An important factor for the success of exploration is structural mechanism (Schoonhoven & Jelinek, 1990). The organizational structure can contribute by constructing an organization that is flexible enough to adapt to new situations in the market and the technological domain (Volberda, 1996). This means the capacity to recognize the value of new external knowledge and anticipate on it. Organizational structure can be used to strengthen exploration (Hedberg et al 1976 in Levinthal &March, 1993). In literature (Siggelkow & Levinthal, 2003; Miles et al, 1978; Sine et al, 2006) many linkages between strategy and the organizational structure are given. A structure should “fit” with the organizational strategy (Siggelkow &

Levinthal, 2003). Since exploration and exploitation expose characteristics of an opposite nature (Van Looy et al, 2005), and require different organization, it makes sense that organizations that are highly engaged in exploration have a different structure compared to more exploitative organizations.
In technology-based organizations, a widely diverse knowledge base is needed for innovation (Greve, 2006). Because of escalating complexity and uncertainty, the organizational process has to be able to handle a flow of constant information and process it (Westerman et al, 2003). For exploration, organic structures are favored. An organic structure is characterized by decentralization, low formalization, dynamic behavior, learning, and flexibility in structures and processes (Burns & Stalker, 1961). The emphasis is on horizontal coordination, instead of vertical coordination. Because of this, organizations are better in anticipating and adapting to dynamic environments. In flattened hierarchies, information and knowledge can flow throughout the organization. By combining different knowledge fields, thought worlds are broken down and different kinds of knowledge can complement each other (Eisenhardt & Martin, 2000). The structure should also incorporate mechanisms for external communication with links outside the organization to gain real time and up to date information. Openness of the organization should enable employees to participate. When lower levels participate in decisions (Hage and Aiken, 1970) it will facilitate the circulation of information, exposing decision makers to new technological innovations. By increasing the likelihood of acquiring and integrating knowledge by individuals, the number of opportunities that find their path is increased, which enhances the effectiveness of a firm's explorative behavior (Ireland & Webb, 2007).
Although organic structures that stress freedom and flexibility are beneficial, some routines and structures are essential (Sine et a, 2006, Ireland &Webb, 2007). By setting structures and routines, points of focus and some confidence in uncertain situations are created. This can include boundary conditions and indications of priorities. In fast industries, routines need simply to prevent a lock- in based on past experiences. Circumstances and situations may vary considerably in fast industries and the use of past experience may, therefore, be inappropriate in a completely new situation. Because of the fast market pace, decisions have to be made quickly which can be enabled by procedures and rules, to follow through on problems and bring issues to the ongoing agenda (Jelinek & Schoonhoven, 1990; Eisenhardt & Martin, 2000). Too much standardization decreases the freedom but a certain degree of standardization is needed in later stages of the development process to efficiently use resources when exploring (Ireland & Webb, 2007). Formalization concerns the degree to which the firm has prepared codified and written instructions about how procedures are to be followed (Ireland & Webb, 2007). As was the case with standardization, too much formalization can stifle the organization and might hamper creativity and exploration, but some prescriptive manners for decision making can be used as a guide to reduce the amount of financial and human capital that will be wasted. Exploitation is associated with mechanistic structures, which incorporate tightly coupled systems, path dependence, routinization, control and bureaucracy, and stable markets and technologies (Brown and Eisenhardt, 1998). Because of these differences, a mechanism of coordination needs to be present in which exploration is not suppressed by exploitation as a result of the development of the organization.
It is widely accepted that exploration benefits from an organic structure, while exploitation is associated with a structure that is more mechanistic (Auh & Menguc, 2005). However, the opinion about how to combine those varies. Researchers have different views on which organizational design is beneficial for explorative activities and how it should be combined with exploitative activities (Westerman et al& Iansiti, 2006; Siggelkow & Levinthal, 2003). The degree to which it is integrated into the existing organization is a common point of discussion. Some authors (Christensen, 1997; Rice et al, 2000, Foster and Kaplan, 2001) underline the importance of external alliances, while another group of authors believes in the internal power of the organization (Brown & Eisenhardt, 1997; Iansiti, 1997). In many cases, the structural design is hardly ever purely autonomous or integrated (Westerman et al, 2006, p 236).

Structural separation

Separation comes into existence when the exploratory unit is placed outside the existing organizational design. When the innovation unit is strictly separated, it has as little interdependency as possible, which means, the unit is free to respond to uncertainties and can engage in rapid variations. The downside is

that the unit can't profit from valuable interdependencies or knowledge (Westerman et al, 2006). A known method for exploration outside the organization is corporate venturing. An existing firm invests in a new venture, which is used to stimulate growth and increase to the potential opportunities generated by radical innovation (Maine, 2008, p. 359). This new entity is free of the constraints a developed organization has when it tends to favor exploitation over exploration. Two forms of corporate venturing can be found: internal and external. An internal venture is fully owned by the existing organization, but processes, goals and culture are completely separate. An external corporate venture is a new entity; it is the direct investment of an existing organization into a venture or an indirect investment as part of an externally managed corporate venture organization (Miles & Covin, 2002).
Christensen & Raynor (2003) emphasize the importance of strict separation and argue that spin offs are a way to accomplish this. A spin-off is a new organizational entity formed by a split from a larger one. A division or part of an organization becomes an independent business but the parent organization still has a share in this separated entity. The new venture is placed outside the mother firm, since it enters a new domain or focuses on a product or technology that strongly deviates from the existing business. The initial idea may have originated from the main organization but execution takes place in a separate organization, managed by at least some employees of the main organization (Dahlstrand, 1997). The spin-off is partially owned by the parent, but independently managed. Since the main organization has a share in the spin off, it still has some control. The degree of control the parent company has over the spin off depends on the circumstances and choices of the specific organization (Ito, 1995).
Tushman and O'Reilly (1996) crystallize the phenomenon of the ambidextrous organization. This is an organizational model that emphasizes the two different kinds of strategies in one organization.
This kind of organization has the capability to explore and exploit at the same time. Incremental innovation and radical innovation are executed simultaneously next to each other and the emphasis on both kind of activities is relatively equal (He & Wong, 2004). Ambidexterity can be performed in two manners. The most common form is structural ambidexterity, which means that exploration and exploitation are performed in a strictly separated. The organization has two autonomous innovating units that are strategically integrated through a senior executive vision. Structural ambidextrous organizations separate their new exploratory units from their traditional exploitative ones, having different processes, structures and cultures at the same time (O'Reilly & Tushman, 2004, p. 75). Tight links between and across the units are maintained on executive level by an integrated senior team. The structure of ambidextrous organizations allows cross-fertilization among units while preventing cross contamination (O'Reilly & Tushman, 2004, p. 77). The tight coordination at the managerial level enables the units to share important resources. Organizational separation by distinctive processes, structures, and cultures ensures that the explorative unit is not overwhelmed by the forces of daily activities and that the established units are shielded from the distractions of launching new businesses but focus on refining their operations, improving their products, and serving their current customers (O'Reilly & Tushman, 2004, p. 77). The quality of the linking senior team is crucial in an ambidextrous organization. Managers need to understand the difference between both units and have to be sensitive to the needs of different kinds of business. When a lack of these linkages exists the separation can lead to isolation, and ideas that are generated by one unit aren't accepted by the other (Birkinshaw &Gibson, 2004). The other form of ambidexterity is explained in the next paragraph.

Structural integration

Integration is chosen when an organization wants to optimize for interdependencies between units. The exploration unit is linked to many existing units. Because of these linkages, integration mechanisms are necessary. This reduces the freedom and variation options. The advantage is that the innovative unit can make use of existing resources which can contribute to the process (Westerman et al, 2006)
Project teams are completely integrated to the regular management and organizational structure. It is a unit within the existing organization that is put together for a specific explorative project. Multi disciplinary or cross functional teams are groups operating in the established organization but outside the existing management hierarchy (O'Reilly & Tushman, 2004, p. 76). They are mostly based on members of different functional areas (Chen, 2007). Because of this, their knowledge is complementary to each other,

which is likely to bring extraordinary outcomes. In addition to the functional team structure, Clark and Wheelwright (1992) also describe lightweight teams, heavyweight teams and autonomous teams. The lightweight project team resembles the functional team but every functional department has a representative or 'liaison' in a coordinating committee. The head of that committee is the lightweight manager, mostly a junior or middle level person who is not part of one of the functional departments (Clark & Wheelwright, 1992, p. 12). The heavyweight team is coordinated by a senior manager who has a high position in the organization and has more expertise and experience compared to lightweight managers. A heavyweight manager, who has full control over the team and resources that are allocated to the team, also coordinate the autonomous team, or tiger team. The individuals from the different functional areas are separated from their functional areas and formally assigned, dedicated and co-located to the project team (Clark & Wheelwright, 1992, p. 13). Although the name of this team might be confusing, this unit operates separate from the existing functional departments, but is part of the formal existing organization.
The integrated version of ambidexterity is called contextual ambidexterity. It is defined as the collective orientation of the employees towards the simultaneous pursuit of alignment and adaptability. Ambidexterity is manifested in the behaviors and of individuals and by unwritten routines (Birkinshaw & Gibson, 2004, p. 50); employees make their own decisions whether to spend time on exploration or exploitation. No specific structure is present that separates exploration and exploitation, but relies on ambidextrous individuals that;

- take initiative and are alert to opportunities beyond the confines of their own job,
- are cooperative and seek out opportunities to combine their efforts with others,
- are always looking to build new linkages,
- are multitaskers that are comfortable with wearing more than one hat. (Birkinshaw & Gibson, 2004, p. 49)

Systems and structures need to be flexible in order to give employees the opportunity to make their own decisions. For the management, it is important to create the context in which ambidextrous individuals act, and pay attention to the human side of the organization. (Birkinshaw &Gibson, 2004).

A common issue of innovative projects is that explorative innovations are too much deviant from the existing strategy, current knowledge base and maybe even its current market. This is a sufficient reason for the management to reject explorative ideas and focus on exploitation since this is more in line with the outlined strategy the organization has. However, motivated employees might pursue the explorative activities themselves secretly, without the knowledge of the management. This "bootlegging" can even imply that employees invest organizational resources without the knowledge of the management. Although bootlegging is unofficial, in this case it may be very beneficial to the organization (Augsdorfer, 2005).

Time

Besides organizational structure, the timing of innovative projects is a method to manage both exploration and exploitation as well. Exploration and exploitation can be performed at the same time as suggested in paragraphs above, but periods of exploration and exploration can be interchanged as well. While the success trap argues that exploration decreases as a result of chaos, the punctuated equilibrium model emphasizes that an organization can focus on inertia build ups over time until the degree of misfit between an organization and its environment provokes a crisis (Cyert and March, 1963; Romanelli and Tushman 1994). Periods of exploitation are interrupted by short periods of exploration. These explorative periods occur unpredictably; punctuated equilibriums are not smooth trajectories towards pre-set ends (Gersick, 1991, P. 12).

Processes & Systems

An important characteristic of an organization in a highly innovative environment is that is has adaptive systems to respond to changes in the environment (Dougherty & Hardy, 1996; Eisenhardt & Tabrizi, 1995; Levinthal &March, 1993). Eisenhardt and Tabrizi (1995) explain two possible adaptive systems that vary with market dynamism (Eisenhardt & Martin, 2000). In moderately dynamic markets, dynamic capabilities resemble the traditional conception of routines. They are detailed, analytic, stable processes with predictable outcomes (Eisenhardt & Martin, 2000, pp. 1105). The process relies on existing knowledge and the development considers linear execution of activities (Eisenhardt & Tabrizi, 1995). In high-velocity markets systems and processes are simple, highly experiential and are fragile processes with unpredictable outcomes (Eisenhardt & Martin, 2000, p 1105; Eisenhardt & Tabrizi, 1995). To be as adaptive, they rely on quickly created new knowledge by iterative execution (Eisenhardt & Tabrizi, 1995).

2.4.2 Exploration by external relationships

Although internal characteristics of the organization are important for successful innovation, authors emphasize the need for open innovation nowadays. According to Chesbrough (2003), product development based on internal R&D becomes obsolete in many industries. Strategic alliances can be used to overcome the tensions between the differences of explorative and exploitative activities (Brown and Eisenhardt, 1997). Inter - organizational collaboration creates many new possibilities that can supplement internal innovation capabilities. A study of Beam et al (2003) showed that, especially in high technology industries, alliances form a locus of innovation (Faems & Looy, 2003, p. 5). A narrow focus may prevent the organization from spotting new possibilities for successful product development (Tidd, 1995, p. 307). External collaborations have the advantage that organizations with insufficient capabilities or knowledge about something can obtain them from outside (Cattani, 2005). These innovative capabilities can be improved by collaboration with existing suppliers and customers, potential lead users, universities and research institutes and competitors. Especially for small organizations, alliances are important because of their limited resources. Moreover, when an innovation is strongly deviating from existing knowledge, strategies and processes, information from outside the organization might become necessary. By creating alliances, organizations can obtain necessary knowledge and technology. Besides the contribution of strategic alliances to the knowledge base it also allows an organization to share (financial) risk and resources for exploration.

Two types of relationships can be distinguished: vertical relationships, for example with client and suppliers, and horizontal relationships with competitors and organizations that can offer complementary knowledge (Tidd, 1995, p 316). In the research of Faems et al (2005) it is argued that the different strategic collaborations have different effects on the innovative strategy. As both exploitation and exploration are different forms of innovation, the nature and goal of a strategic collaboration can, therefore, vary as well. Exploitative collaborations are used to improve existing organizational practices and leverage existing skills. Explorative collaboration is used to create new knowledge and competences by joint learning and experimentation (Faems et al, 2005, pp. 240-241). These different kinds of innovation projects demand different linkages. Since explorative activities require substantial R&D, collaborations with clients and suppliers are less effective for exploration (Tidd, 1995; Christensen & Overdorf, 2000).

The presence of (long term) collaboration agreements also indicates that the strategy of an organization supports long term position strategies and does focus on the future and product development (Hagedoorn, 1993).

Coordination mechanisms

For R&D collaboration between organizations, coordination mechanisms are needed. Different partnerships can be undertaken, depending on the strategic intent of the partnership (Hagedoorn, 2002).

Once a popular kind of collaboration is the joint venture. This is a partnership between two or more organizations that pool a portion of their resources within a common legal organization in which decision making and activities are shared (Kogut, 1988). Risk, capabilities and revenues of the new venture are shared among the participating organizations. Since the Joint venture is a semi- structure, which is separated from the existing organizations, it enables organizations to go beyond the scope of the original organization. However, joint ventures incorporate high organizational costs and are likely to fail (Kogut, 1988). Besides providing the advantage of sharing knowledge, this also creates a risk. Therefore, the Joint venture has lost popularity and new collaborations have emerged. The research of Hagedoorn (2002) has shown that non-equity, contractual forms of R&D partnerships have become more important. These kinds of collaborations are more project-based in contrast to a continuous form of collaboration like a joint venture. This kind of agreements include the sharing of technology and R&D, resources, and the investment costs, but have a limited time-horizon and create smaller dependency, what makes the step to engage such as collaboration easier.

2.5 Conclusion theoretical framework

The framework has selected several fundamental concepts for this research. First of all, it was assessed that an organization has to perform both exploration as well as exploitation in order to stay competitive. Because of resource constraints and their fundamental differences, the management of both is difficult and requires that management has to make a tradeoff between both (March, 1991, Levinthal & March, 1993). Since this research is focused on fast growing organizations, attempt was made to choose the literature pertaining to the development of the organization, and the growth phase in particular. It was found that during the growth phase, when the complexity of the organization increases, exploitation may be favored over exploration. Life cycle theories show that for the better control of the growing organization, more structure, defined processes and formalization are introduced (Kazanjian, 1988). These activities are directed towards creating a more efficient organization, in which routines become more important, and flexibility might decline. The effects of growth may stifle the organization, and reduce flexibility and creativity which hamper exploration. Besides that, exploitation results in assured, short term results, while the profits from exploration are uncertain and are more remote in time. Because of its direct benefits, the organization gets triggered to engage even more in exploitation. This situation, in which exploitation is favored over exploration, is called the success trap (Levinthal& March, 1993). Especially small and young organizations with uncertain cash flows and return on investments can get tempted to choose exploitation over exploration. This short term vision can be self destructive (Benner & Tushman, 2003; March, 1989).
For high technology organizations operating in high velocity markets, adaptability to their environment is of major importance (Eisenhardt & Martin, 2000). In fast markets organizations need to have a strategy in which the search for new market opportunities is central. Because of their knowledge intensive character, a diverse knowledge base is the most important asset for explorative activities and time for exploration should be cleared as we find in the literature (Dewar et al, 1990; Kimberly and Evanisko, 1981). In order to study the organization of exploration, a thorough review of available literature was made. An overview of how exploration can be part of the organizational strategy is provided. It was found that many different forms are present. Integrated solutions consider different team structures, but more separated structures are also available, of which ambidexterity is well known (Tushman & O'Reilly, 1996).
In the literature, it has been argued that external partnerships are an important source of knowledge generation and development for small organizations, beside internal organizational setups, since they have limited resources and knowledge. Studies on open innovation models (Chesbrough, 2003) show that internal R&D gets obsolete, and collaboration with external partners creates a new knowledge base, and new possibilities. However, not every partnership seems to be suitable for explorative purposes (Faems et al, 2005) since the origin of explorative innovation projects requires knowledge, and dedication that can't be offered by every organization or person.

3. Methodology

In chapter 1.4 a short introduction on the research approach was given. In this chapter a more detailed description of the research method is presented. At first, the chosen research design is described. After that, the data collection methods are shown and that is followed by a description of the sample selection. The 4th paragraph gives an overview of the operationalization of concepts from the literature framework, which are used for creation of the questionnaire and interview. At last is explained how the data is further processed and analyzed.

3.1 Research design

The aim of this research is to obtain knowledge about the presence and organization of exploration at fast growing organizations which are engaged in developing internet technology. This is done through case studies. Case studies are used to get a detailed contextual analysis of a limited number of events or conditions and their relationships. It is a research method used to examine contemporary real-life situations and provide the basis for the application of ideas and extension of methods (Eisenhardt, 1989). This is done by studying a single case or a small number of cases intensively. The goal is to understand why certain characteristics of effects do occur, or do not occur (Meredith, 1998, p. 442) and this knowledge is used for developing new theories or for exploration and description of unfamiliar situations (McCutcheon& Meredith 1996*;* Yin, 1989).

The main criticism against case studies addresses the small number of cases that involves limited reliability or generalizability of findings. The position of the researcher in case studies is another problem because the intense and continuous exposure to the study of the cases could bias the findings. However, the possibility to get more knowledge about a specific phenomenon makes case studies very suitable for more explorative studies (Yin, 1981) such as this one. The validity and reliability of this research is secured by the:
- Use of multiple respondents
- Use of multiple cases
- Use of multiple data sources
- Selection of extreme cases
- Selection of respondents
- This is explained further in the next section.

A key strength of the case study method is the possibility of using multiple sources and techniques in the data gathering process. Since the aim is to generate knowledge, several sources can be used to acquire it. The methods used for acquiring and analyzing data are based on the research questions. This data can be qualitative, which is mostly the case, but the use of quantitative data or a combination of both is possible as well (Yin, 1981).

3.2 Data collection

In this research, both qualitative data and quantitative data is used. Both types of data have benefits that can contribute to this research and can create synergy (Eisenhardt, 1989). Qualitative data is useful for understanding the rationale or the theory underlying the relationships revealed in the quantitative data (Jick, 1979 in: Eisenhardt, 1989, p 538). Qualitative data is used to explain quantitative findings and the construction of theory that is based on those findings (Meredith, 1998). Eisenhardt (1989) uses a reference to Mintzberg (1979, p. 587) to explain the importance of using both kinds of data:

"For while systematic data create the foundation for our theories, it is the anecdotal data that enables to do the building. Theory building seems to require rich description, the richness

that comes from anecdote. We uncover all kinds of relationships in our hard data, but it is only through the use of this soft data that we are able to explain them."

The use of several data sources, called triangulation, also leads to more reliable results (Eisenhardt, 1989; Meredith). As people are poor processors of information, conclusions are often drawn too easily. Several data sources have been designed to counter this (Voss et al, 2002).
The main question pertains to the generation of knowledge regarding the presence of exploration and how this is organized by fast growing organization in the internet technology industry. In available literature it is remarked that the amount of exploration can vary because of the consideration managers need to make between exploration. Also, many possible business models for the organization of exploration are given. Both qualitative and quantitative data benefits this research because it can be utilized to get an idea about how much an organization does or does not invest in exploration, and how the exploration is organized. In the attempt to define the engagement in exploration, quantitative data helps to identify how much exploration is present. Quantitative data is preferred since it provides concrete information regarding time and money invested in exploration and the number of partnerships that are present. Quantitative data makes it possible to compare the various cases on the basis of the resources they allocate to exploration. A qualitative approach was chosen due to the lack of prior research on exploration in internet technology developing organizations since qualitative data is useful for understanding the how and why of the various situations. Qualitative data is, therefore, used to gain knowledge on which choices organizations make concerning investments and organization of exploration, and why these choices are made. The purpose is to discover the underlying rationale (Babbie, 2004).

3.2.1 Questionnaire

The main objective of using the questionnaire is to get an impression of the presence of exploration before the interview is held. The results of the questionnaire can be used to classify the organizations on the basis of the level of exploration. They are not used for any statistical analyses because the number of cases is too small; the purpose is to get an understanding of the specific cases, and to facilitate a comparison on the level of exploration. Another reason for using the questionnaire is a practical consideration. Questions regarding the percentage of employees working on exploration or the amount of turnover spent on explorative innovation might require some search or thinking on the part of the respondent. If they are given a questionnaire they can fill in, they have time to gather correct data, or ask other people if necessary. When such questions are asked during an interview, lack of knowledge could result in incorrect or unsure answers instead of accurate answers. Consequently, the use of the questionnaire contributes to the reliability of the data.
The questionnaire was sent to the organization when the appointment for the meeting was made. However, only two organizations filled in the questionnaire in advance of the interview. Therefore, during the interview, the questions contained in the questionnaire needed to be asked, and the complete questionnaire was filled in afterwards. In one case (Login Consultants) the respondents never filled in the questionnaire, and, therefore, no exact amounts about exploration are present. The questionnaire of another case (Dialogue Company) was filled in by the CEO of one of the business units. The data reflects the situation in that specific business unit alone, instead of in the complete case. Such data is not representative, and, therefore, not used in this research.

The composition and justification of the questionnaire and interview can be found in paragraph 3.4. The complete protocol can be found in appendix 8.1

3.2.2 Interview

Interviews are an essential source of information in case studies (Yin, 1984; Voss et al, 2002). Since case studies often address human or social affairs, research should be reported and interpreted through the eyes of a specific, well informed respondent who can give information on that affair (Yin, 1984, p. 92).

The face-to-face interviews are held in a semi structured manner. For the structure of the interview, a funnel model is used (Voss et al, 2002, p. 205). In the beginning, questions are open- ended to tempt the respondent to give an overall picture of exploration in the organization and the response gives points for further questioning about the reasons for certain choices. As the interview progresses the questions become more specific and detailed (Voss et al, 2002, p. 205). An open-ended interview protocol allows to us explore areas that come to light during the interview (McCutcheon& Meredith, 1993). Depending on how detailed the respondent's answers to the open questions are, more specific questions are asked to get more detailed information about that topic. The protocol (Appendix 8.2.5) is used as a basis for the interview, and serves as a checklist to make sure all subjects have been covered (Voss et al, 2002, p. 205). How this protocol is drawn up can be found in chapter 3.4.

Pilot

In order to create a valid interview protocol a pilot study is conducted. After analyzing the pilot study, the interview is adjusted. The pilot study in this case showed that the questions result in the validation of the problem statement but that the knowledge that is generated on the organization of exploration is limited. Therefore, the structure of the interview was changed by introducing the main categories of the organization of exploration as central elements (see 3.4). With sub questions, answers that are more detailed can be obtained. The design was changed by putting more open-ended questions at the beginning and more detailed and specific question at the end. Some questions were removed since overlapping from different questions was likely. Other questions were altered to make them more clear or precise. A more detailed description of the pilot study can be found in appendix 8.2.3.

The interviews

The expectation was that the questionnaire would be filled in before the interview was held, so that the data of the questionnaire could be utilized in the interview to get explanations on remarkable findings. However, in some cases, as the questionnaire was not filled in advance, or it was filled in by some other respondent, questions regarding the money and the time spent by employees on exploration had to be asked during the interview. In some cases, the interviews were held the same day because of efficiency advantages (Login Consultants, Hotels.nl) while in the other cases (Dialogue Company, Hippo, M4N) , more than a week elapsed between the two interviews, as result of the availability of the respondents. Because of this interval between the interviews, the first interview was already transcribed and reviewed by the time the second interview was held. As a result of this, gaps in the information or vague answers could be addressed, and the areas for clarification for the next interview could be selected.
In two cases (WebArchitects and Ocom) only one interview was held, instead of two, because of the inability to interview the right respondent within the time frame. Therefore, additional information was sought. One interview was found with the CEO of Ocom about the development of the organization that was held on 7 July 2008, which is during the period of data collection of this research. In the case of WebArchitects, the respondent had worked for only 7 months in the organization. Since he was the only respondent representing this case, the results of WebArchitects have only limited reliability and should be interpreted carefully. At Dialogue Company, one of the respondents is active as the CEO of Dialogue Company and Mail media, while the other respondent holds a position in the board of Tripolis. Due to this, different views were given. One interview was focused on Dialogue Company, the mother organization that is listed in the Deloitte Fast 50. The second interview was held within Tripolis, the daughter organization that is most involved with technology development.

3.2.3 Respondents

In order to understand the thought processes underlying major decisions made in the field of exploration, it is essential to incorporate the perspectives of senior business and R&D executives (Saberwahl, 2001).

Managerial perceptions are used for this study since they shape, to a significant degree, the strategic behavior of the organization. The CEO has a position in which he has the primary responsibility of setting strategic directions and plans for the organization, as well as the responsibility for guiding actions that will realize those plans (Gioia &Chittipeddi, 1991, p. 434). He is involved with the choices concerning structure, strategy and allocation of resources and investment decisions which all relate to exploration. Therefore, he is able to explain the thought behind the choices that are made concerning investments and the organization of exploration. This study examines relatively young and small organizations in which the CEO is mostly the founder of the organization. This means that the respondent has experienced the development of the organization and is capable of answering questions related to the growth and changes of the organization, which contribute to the validity.

A way to test the answers obtained during the interview is to choose respondents who have different perspectives (Yin, 1984). Therefore, interviews are held with the CEO and CTO/R&D manager of the organization since they have a different roles and responsibilities in the strategic management of the organization. The CTO/ R&D manager is chosen since this person is more involved with the processes, activities and the organization of product development and has an important function in exploration. The practice of using multiple respondents also increases the reliability of the research.
At the start of the interview, some introductory questions are asked to verify the position and tasks of the respondent. This is done to check whether the respondent is able to give valid answers. The respondent is asked how long his experience in the organizations is. A respondent who has worked for only a short time period hasn't enough experience about organizational development and, therefore less capable of drawing a full and realistic image of the effects of growth.
The questionnaire was sent to both the CTO and CEO in the same email, with a request that either of them would fill the file out. Since the questions concern actual numbers and percentages instead of perceptions as in an interview, it shouldn't matter who fills it out. Besides that, no control can be exerted on who fills out the questionnaire. It is possible that neither the CEO nor the CTO knows the precise data, and so they may forward the questionnaire to one or more persons in the organization who can give the answers. This actually contributes to the accuracy of the data.

3.3 Sample Design

Since only very little is known about this specific topic, it was decided to conduct the research by choosing multiple cases. This provides a better understanding of the different aspects concerning the organization of exploration. The use of a single case would reduce the possibilities for knowledge generation and generalization. In studies with a large N, random sampling is often used. When a sample consists of a large enough number of independent random draws, the selected cases are likely to be fairly representative of the overall population on any given variable (Seawright & Gerring, 2008). In the case of a small N, random sampling may result in too much variance. This makes random sampling unreliable and endangers the generalizability. Therefore, the cases of this research are reselected based on theoretical sampling. This means they have been chosen to fulfill theoretical categories and can be used as polar types (Eisenhardt 1989, p. 537). Case selection and case analysis are, therefore, intertwined to a much greater extent in case study research than in large-N cross-case analysis (Seawright & Gerring, 2008). Selection of the cases is, therefore, very important to draw valid conclusions, since the grounds for the selection give direction to the research.

3.3.1 Sample selection

Selection of the cases is aligned with the goal of this research formulated from the research objective and problem definition of chapter 1, resulting in two prior conditions:
- The organization has to experience must show fast growth
- The organization operates in the internet technology industry

Product development and life cycles may vary considerably between industries (Niosi, 2005). This implies that organizations are subject to different industry- effects on growth and have comparable life cycle patterns and development processes. By selecting organizations from one industry, the exploration-behavior can be compared among the various organizations within the same industry. Otherwise, it would be difficult to compare the organizations and draw valid conclusion from such a small sample.
There are various reasons for focusing on this category of organizations. The first reason is the conflicting conditions under which these organizations operate. Fast growth often results in increasing complexity and new management and development issues, which could decrease exploration. In High technology industries, exploration is of special importance for firm survival, and a decrease in it could cause serious problems. Since research by Delmar and others (2003) showed that fast growing organizations can mainly be found in knowledge intensive, high technology industries, organizations that have both characteristics are interesting for research.
One of the most visible industries under these conditions is the ICT industry. It is an important growth industry where business start-up and innovation are pronounced (Beardsell and Henderson, 1999). Because of this, it is a dynamic market in which continuous technology development is needed. The ICT sector encloses a broad range of organizations, but focus of this research is on internet technology development. This is a relatively young industry that contains many young entrepreneurial organizations that have grown quickly because of relative recent emerge and increasing importance of the market.
Another reason is that this research could contribute to the body of literature about organizations that develop internet technology. Much is written on the effects of this "new" technology and its possibilities for existing organizations. Less research has been done on organizations that develop this technology. Since internet technology is still a growing industry and getting increasingly important, more knowledge about this sort of organizations is desirable. At last, these organizations have an important role in the stimulation of economic growth. Innovation becomes more and more important for the growth of the national economy and these organizations have the capability to facilitate this growth. Threats that reduce this innovative capability may have negative effects on the economy (Ministerie van Economische Zaken, 2004; WRR 2008)

3.3.2 Extreme cases

An important consideration during the selection of the organizations is that they must have experienced fast growth. It is assumed that in the case of organizations that experience extremely fast growth, the pressure on the organization and the consequent rapid increase of complexity force the organization even more to focus on exploitation, and it tends to decrease exploration.
The goal of theoretical sampling is to choose cases which are likely to replicate or extend the emergent theory (Eisenhardt, 1989).Extreme cases highlight factors that exist beyond normal cases (Cameron, 1998). When theoretical sampling is used for selecting the participating case studies, extremes or polar types can be used to discover categories, properties and interrelationships that will extend the theory (Meredith, 1998, p. 450). Because of the exploratory nature of this research, and on account of the goal of generating knowledge on exploration behavior of fast growing internet technology organizations, extreme cases are preferred. Although literature suggests possible outcomes, the search for commonalities and differences among this specific category of organizations is the core of this research. Therefore, the selection of the cases has been designed in such a way as to ensure the presence of extreme conditions, which increases the construct validity. Given the limited number of cases, it makes sense to choose cases such as extreme situations and polar types in which the process of interest is "transparently" observable (Pettigrew 1988). Selection of the cases is done by means of the Deloitte Technology Fast 50 of 2007. This

is a selection of the 50 fastest growing technology firms of a country. The Technology Fast 50 focuses on young organizations that experience extreme growth (http://www.fast50.nl/page/rising-star). The Fast 50 classification is based on the growth percentage of the company's operating revenues during the five year period 2002 – 2006. An organization that aspires to be part of the Deloitte Fast 50 has to satisfy four basic criteria:

Be a technology company, defined as follows:

1. Develops proprietary technology that contributes to a significant portion of the company's operating revenues (using other companies' technology in a unique way does not qualify) or manufactures a technology-related product or devotes a high percentage of effort to research and development of technology
2. Have base-year (in 2001) operating revenues of at least € 50,000
3. Have been in business for a minimum of five years
4. Be headquartered within the Netherlands - subsidiaries or divisions are not eligible unless they have some public ownership and are separately traded.

(http://www.deloitte.com/dtt/section_node/0,1042,sid%253D33609,00.html- 15 January 2008)

Any organization can register for participation. A jury examines whether the organization satisfies all the criteria. After that, the list of the 50 fastest growth organizations is drawn based on the growth percentage of the company's operating revenues in the five year period 2002 – 2006.
Since the Deloitte Fast 50 consists of technology organizations in general, a selection is made for a sample of organizations which are involved in developing internet technology. This selection of 30 organizations is based on the description of the participating organizations published in an article on the Technology Fast 50 in FEM Business (FEM Business, 29 September 2007, pp. 30-38) and on the official websites of the individual organizations.
The growth rate was not part of the selection criteria, because the percentage is not a valid measure to really asses if one organization grows faster than the other does. The higher the turnover is, the harder it becomes to maintain a high relative growth rate. For a smaller and younger organization it is relatively easy to experience a major relative increase of turnover compared to older and bigger organizations. Relative turnover increase is used as an indicator for growth in the five year period, 2002 till 2006. The position only indicates the growth rate during that given period and so, if another time frame was chosen, the picture could be totally different. For example, many organizations enter the list on a high position the first year and drop down the list the next year and will disappear eventually. For this research it is not relevant what the growth rate was during that given period; the only relevant fact is that they recently experienced a phase of extreme fast growth.

3.3.3 Response

From the 30 organizations that were contacted, 7 participated. One organization was willing to participate, but was cancelled by me because of the direct competition with M4N, the organization of my internship. Another organization also was willing to participate but the respondents who were available didn't fit the requirements. In the case of 5 organizations, it was not possible to get response or contact the potential respondents within the time frame. The remaining 16 organizations were not able or willing to participate because of:

- Lack of time : 14
- No willingness for participation in research in general (within the same industry): 2

Case	Profile	Employees in 2007
Hotels.nl	Online hotel bookings engine	37
Login Consultants	Consulting on IT architecture access, virtualization and deployment solutions	120
Dialogue company	Invests in organizations on the field of dialogue marketing	unknown
WebArchitects	Development of e-business solutions as web shop software	25
M4N	Affiliate marketing network that connect advertisers and website publishers by their own of online software system	35
Hippo	Open source solutions for content management and optimization of information management	36
Ocom	Internet services that enable individuals and businesses to establish, maintain and evolve an online presence	39

Table 1. Cases: Participating Organizations

3.4 Operationalization

The aim of this chapter is to explain how the interview and questionnaire are designed in order to give answers to the research question. Based on the conclusion drawn from the literature framework, subjects for the interview and questionnaire were formulated.

The scope of this research is to asses if, and how fast, growing organizations developing internet technology explore. As has been stated before, exploration is performed to generate new knowledge or new technology, in order to create new products (Ireland& Webb, 2007, p. 54). For successful exploration an organization needs to have a set of organizational characteristics in order to search for or acquire new knowledge and possibilities that can be applied to the development of new technologies, products, processes or organizational changes.
This has led to the following research question:

"How are fast growing organizations, operating in the internet technology industry, engaged with exploration and how do they organize this?"

This question incorporates two types of questions:
- If the organization explores, and how much.
- How this is organized.

3.4.1 Questionnaire

The questionnaire is used to answer the first part of the question: *if* the organization explores, and how much. Quantitative measures are used to indicate how much of the resources is spent on exploration and what all external relationships are present. Exploration can address both input and output of innovative processes. This research particularly aims at studying what an organization does and is therefore mostly directed towards input measures. The questions are based on questions of the Community Innovation Survey (CIS) and Patterns in New Product Development survey. The CIS is conducted by EU member states that allows the monitoring of Europe's progress in the area of innovation (http://www.berr.gov.uk/dius/innovation/innovation-statistics/cis/page10957.html 1-2-2009). The Patterns in New product Development survey is an European research project aimed at developing knowledge in the new product development area, by describing, exploring and analyzing the organization of the innovation journey (http://www.patterns-in-npd.com/ 1-2-2009)

An important indicator for measuring the input towards exploration is by looking at the resources that are allocated towards exploration. In this research it is very important to assess exploration as an integral element of the organization.Therefore, it analyses all measures related to the overall organization compared with exploitation. Absolute measures of resources that are allocated towards exploration would not be useful in this research because it will not reveal the “value” or share exploration has in the organization. Measuring the R&D expenditure is a common method to measure how much is invested in innovation (David et al, 2001; Hurley and Hult, 1998 in O’ Regan & Sims, 2008). By measuring the percentage of turnover that is invested in R&D, the cases can be compared on the basis of their willingness to invest in innovation. For this research it is important to explore how much of these R&D investments are directed towards explorative projects and how much towards exploitative innovation projects. Percentages are used instead of absolute numbers since the level of investments may vary on the basis of the core business. Although only one industry is studied, this research aims at examining the share of investments in exploration to asses if one organization is relatively more involved in exploration than another. Here, the organizational size also plays an important role. Since fast growth can result in a sudden increase of sales and/or employees in a short time (Hanks et al 1994) the size can vary considerably among fast growers. Since small organizations often have limited financial resources compared to bigger organizations relative measures are preferred.
Another important resource measure is the allocation of employees to exploration. High technology can be characterized as knowledge intensive, which implies that human capital is a core asset (Milkovich et al., 1991). Exploration in this industry is, therefore, highly dependent on human activities. In order to get a complete image of the amount of time that is reserved for exploration is important to know:
- The number of the employees who are working on R&D project;
- and whether they perform explorative or exploitative projects

Explorative and exploitative activities don’t necessarily have to be separated. Therefore, another option is that employees perform both exploitation and exploration activities. This also indicates *how* exploration is organized since it discloses whether activities are separated or not. However, it makes it impossible to measure accurately how much is spent on either exploration or exploitation. Another indicator for the engagement in exploration is the presence of (long term) collaboration agreements (Hagedoorn, 1993). Fast growing organizations in high technology industries are often small and young; they often lack a wide and deep knowledge base (Sine et al, 2006). When sufficient or specific knowledge isn’t present within the organization, a possibility is to gain it from outside the organization (Tidd, 1995; Cattani, 2005). Especially in high technology industries, external partnerships create possibilities for innovation (Chesbrough, 2004). Different kinds of partners can be used: suppliers, customers, potential lead users, universities and research organizations, competitors, and organizations operating in entirely different industries or consultancy agencies. Since exploration and exploitation are totally different activities (Lewin et al, 1999; Benner & Tushman, 2003; Ireland &Webb, 2007), explorative and exploitative collaborations rely on different kind of partners (Faems et al, 2005). In addition to the amount of partnerships, one should also examine what kind of partners are used, and if the partnerships are used for explorative or exploitative projects.
Although input measures fit the research goal of this study best, some output measures are used as well. The extent to which new products realize sales compared to non-modified product indicates how important exploration is for the organization and whether it is engaged with exploration (O’Regan & Sims 2008). The assumption is that the high level of turnover realized by new products is related to more engagement in exploration). Also, is important to examine the balance between innovative projects, how much is explorative and how much exploitative. The number and origin of the innovative projects can be used to make a comparison among the cases and can be utilized to indicate whether an organization is involved with innovation at all, and more importantly, if it concerns exploration.

3.4.2 Interview

The goal of the interview is to explain the results of the questionnaire and understand the rationale behind the realization of these amounts. Another goal is to gain knowledge on how internet technology organizations organize exploration in the context of fast growth.
In order to assess how firms organize exploration, a mapping of the organizations is made based on the following recognized categories that relate to the organization of exploration. These were the main categories that were found in the theoretical framework as well:

- Strategy towards exploration
- Allocation of resources towards exploration
- Organizational structure
- Activities and processes
- External relationships
- Changes as a result of fast growth

Organizations can be distinguished on the basis of the extent to which they engage in explorative activities. Knowledge about the organizational strategy helps us to understand what kind of innovative activities the organizations perform and whether they are focused on the improvement of existing products or the development of new products. The strategy is an important factor affecting the allocation of resources towards exploration; an organization that focuses on product development and renewal will be more likely to spend time and money on exploration, compared to organizations that focus on stability and improvement. Therefore, the resources allocated towards exploration are an important indicator for the balance between exploration and exploitation. In the questionnaire, the investments in exploration were shown by the percentage of turnover spent on explorative projects and the number of employees working on exploration. The interview is used to retrieve the underlying reason for the balance between exploitation and exploration and to get a better understanding of the rationale of investment decisions as were collected by the questionnaire. The strategy types of Miles and Snow (1978) are used to indicate how exploration is represented in the organizational strategy. These types are originally based on the strategy an organization follows for relating its chosen market and the configuration of technology, structure and process that is consistent with its market strategy (Miles et al, 1978, p. 550). However, in this research the types are explicitly used to indicate the extent to which the organization is directed towards exploration; whether the strategy is more directed towards exploration or exploitation. Organizations that focus on stability, efficiency and the improvement of existing products are called defenders. The opposite type is the prospector, which has a strong drive to search for new possibilities, enters new fields and is ahead of competition through technological development (Miles and Snow, 1978). Analyzers represent a combination of elements of the prospector as well as the defender; they move towards new products or markets but only after their viability has been demonstrated. The product domain and the target market is fairly stable (Miles et al, 1978, p. 555). Organizations that have no clear strategy towards exploration, which failed to shape the organizational structure and processes that fit with the strategy, or in which an old strategy-structure relationship is maintained despite the change of conditions and circumstances, are called reactors (Miles et al, 1978, p. 558).
In the literature that was reviewed many linkages between strategy and the organizational structure are given (Siggelkow & Levinthal 2003, Miles et al, 1978; Sine, 2006). A structure should “fit” with the organizational strategy. It is assessed that a structure is chosen to in accordance with the activities it performs. It creates the foundations for activities, processes and mechanisms. The structure, therefore, provides the foundation of the organization of exploration. Since exploration and exploitation expose characteristics of an opposite nature (Van Looy et al, 2005) and require different organizations, it follows that organizations that are highly engaged in exploration have a different structure compared to more exploitative organizations. However, the means of combining those varies. Many organizational structures can be characterized by the extent to which exploration is integrated into the main structure or on the basis of whether it is separated by quasi or semi structures. The goal here is to get more understanding on which structures are present to perform both exploration and exploitation, and why organizations go for a specific structure to organize their explorative activities.

While the strategy and structure provide the context in which exploration takes place, this research also aims at understanding how exploration is performed on operational level: what are the employees actually doing, and how are those activities shaped into processes? It is widely accepted that exploration benefits from an organic structure, while exploitation is associated with a structure that is more mechanistic (Miles et al, 1978). However, too much “freedom” and lack of mechanisms may have disadvantages for exploration as well, specifically for small organizations (Sine et al, 2006). Therefore, the interview tries to retrieve information about what activities are present, and how these are managed. Besides the internal organization, the literature stresses the importance of external relationships for the category of organizations in this research. For exploration, they are highly dependent on knowledge. In the case of small and young organizations, this knowledge base can be limited and the external partner can give access to new knowledge they don’t possess. In the questionnaire it was already assessed which relations are present and how much. It was also examined whether external relationships in general were used for explorative or exploitative projects. The interview goes on to examine why collaboration is chosen, and what partnerships are specifically used for explorative purposes since research showed (Faems et al 2005) that the contribution specific partners can give to exploration varies. This can be related to the structure and strategy, since the origin and intensity of the partnerships has consequences for the organizational structure. Besides that, the presence of intensive partnerships indicates that exploration is an important part of the strategy.

This research focuses specifically on fast growers since the reviewed literature suggests that growth can lead to a decrease in exploration as a result of increasing complexity and the focus on exploitation. A common response of an organization is that they will become more mechanistic by an increase of formalization and specialization. But on the other hand, Sine et al (2006) suggest that this could contribute to exploration. Therefore, it will be assessed if the quantity of explorative innovative projects has decreased or increased and whether the organization of exploration has changed over time.

3.5 Data analysis

This paragraph explains how the results from the questionnaire and interview are processed and analyzed to answer the research question. First, it explains how the individual cases are analyzed. Then it will look at how the cross case analysis is performed.

3.5.1 Within case analysis

Within case analysis incorporates detailed write ups of each specific case. The goal is to get familiar with the case as a standalone entity in order to indentify the unique patterns of each case, before generalization across cases is assessed (Eisenhardt, 1989). Miles and Huberman (1994) appoint three elements of data analysis: data reduction, data display and conclusion drawing & verification**.**

1. Data reduction

Central to case study research is the coding of the observations and the data collected in the field (Voss et al, 2002). It is important to reduce the data into categories (Miles & Huberman, 1994). The data of the questionnaire doesn’t need further reduction, but can directly be reproduced in an overview (Appendix 8.3). In contrast, the abundant data collected through the interviews needs to be reduced to extract the relevant information that is relevant for the research.
First, the data of the interview was transcribed, based on the notes and the recorded interviews. The first few interviews were extensively drawn up, by typing the complete interview from the recorded version. After two cases, only the parts that could contribute to the research were selected and key words and sentences were used, instead of a complete rewriting of the recorded interview. After that, the data was structured by categories, and descriptions of the most important issues of each category were drawn:

-Strategy & allocation of resources:
- -What is the current strategy?
- -Why is this strategy chosen?
- -Why, or why not are resources allocated towards exploration

-Structure:
- -What is the organizational structure?
- -Why is this structure chosen?

-Activities and processes:
- -What specific processes or activities for exploration are present?
- -Why are these processes or activities chosen?

-External partners:
- -What kind of partnerships are present for exploration
- -Why are these partnerships chosen?

-Growth:
- -What effects had growth on the amount of exploration; has is increased or decreased?
- -How has growth affected the organization of exploration?

2. Data display

The data display concerns the visual format in which the data is presented. Information should be presented systematically in order to draw valid conclusions (Miles & Huberman, 1994, p. 91).
In this research, the following displays are present:

- An overview of the results of the questionnaires (Table 14, Appendix 8.3)
- Analysis by description (Chapter 4)
- Case level meta matrix (Table 13, chapter 5)
- Exploration intensity (Figure 1- 7, chapter 5)

Analysis by description

The first step is the transcribing of the interviews. This unstructured body of information is not suitable for data analysis. Therefore, the text is first structured, and the usable information is filtered out to create structured case descriptions.
First, the introduction tells something about the organization. It describes the core product, and the development of the organization. After that, the data of the questionnaire is displayed in a table, which creates an overview of the presence of exploration to create familiarity with the case (Eisenhardt, 1989).The analysis continues with the description of the selected subjects: the strategy regarding exploration and allocation of resources towards exploration, organizational structure, processes and activities, external relationships and the effects of growth on exploration (see data reduction and 3.4 Operationalization). Statements of the respondents are used to expose the findings. The statements are translated from Dutch into English. This could result in a bias, because certain expressions can't be literally translated and substitutes aren't always present. To reduce misinterpretations, the Dutch statements are added as in appendix 8.6. The case description ends with a conclusion. Further explanation on how the conclusion is realized can be found below, within "3. Drawing conclusion and verification".

Case level Meta matrix

This chart is used to assemble the data from the description is a standard format and includes all relevant concepts (Miles & Huberman, 1994, p. 178). This is input for the cross case analysis in which the analysis is done on conceptual level.

Concept	Represents	Based on	Possible outcome
Exploration Strategy	Strategic direction of exploration	Typology of Miles and Snow (1978)	Prospector, Defender, Analyzer, Reactor
Organizational structure	Overall organizational structure	All possible structure types	e.g Functional, divisional, team based, matrix
Exploration Structure	Specific structural elements for exploration	All types presented in theory	e.g Structural Ambidexterity, contextual ambidexterity, Spin off, Joint venture, external alliances, Heavyweight teams, Lightweight teams, autonomous teams
Development process	Characterization of the product development process	Eisenhardt and Tabrizi (1995)	Iterative or sequential
Exploration intensity	The presence of exploration over time	Cyert and March, 1963, Romanelli and Tushman, 1994	Constant, disruptive, Punctuated equilibrium
External partners	The presence of external partners	Comparison with other cases of the sample	Limited, moderate, high
Size	Relative size	Comparison with other cases of the sample	Small, moderate, large
Product	The origin of the product/ service		Tangible or intangible

Table 2. Measurements Case level Meta matrix

- The strategy types of Miles and Snow (1978) are specifically used to express the exploration strategy
- The organizational size is a relative measure, based on the different sizes of the sample. These were 37, 120, 25, 35, 36 ,and 39 employees. The categorization is drawn as follows: 25 is small, 35- 39 medium and 120 as large. Dialogue Company did not provide the number of employees, but based on the number of employees as communicated on the individual websites of the units is this organization categorized as large.

Exploration Intensity

Since the intensity of exploration can vary over time as a result of growth, strategy or as a reaction against unexpected circumstances, charts are drawn that show the intensity of exploration over time from each case. The charts display the overall intensity of exploration over time, based on the description of the past and possible extrapolations into the future. No data is available concerning the degree of the presence of exploration over the years. The graphs are only one approach to represent the intensity of exploration.

The aim is to show how the degree of exploration varies and changes over time in the different cases and thereby clarifies the descriptions of the strategies and effects of growth in chapter 5.

3. Drawing conclusion and verification

After the creation of the descriptions of the cases, further analysis is done leading to the case conclusion. Besides the categories that were selected for the interview based on the theoretical framework, important issues that came up in the interviews are used as well. The conclusion was made by relating the results to the concepts of the literature framework that resulted in an overview of the Case level meta matrix (Table 13, p. 73). The combination of the two overviews, of both the questionnaire and the interview, is used to look for explanation and causality (Voss et al 2002, p 213).
The case analysis was sent to the organization for verification. When feedback was given, the cases were revised based on the comments. The main comments were in relation to the description of the organization and regarding the explanation of the processes and activities.

3.5.2 Cross case analysis

After the individual analysis of the cases, all topics are outlined in a table which gives an overview of all cases together in the case level meta matrix (Table 13 p. 78). This is used to make the key steps of the research: the systematic search for cross case patterns (Voss et al, 2002, p. 214) which go beyond each individual case's context and increase the generalizability of the observations (Eisenhardt, 1989). Comparing and analyzing the different cases together leads to the finding of an explanation, or to pin down the conditions under which that finding occurs (Miles & Huberman, 1994).
In order to find the patterns, differences, and reasons for specific behavior of organizations, the data is analyzed by several techniques. In the within case analysis, the findings were related to the major concepts of the theoretical framework. In the cross case analysis, existing theory is used to explain the differences and commonalities between the cases. An important source of the cross case analysis is the use of existing literature. Through *analytic generalization* (Yin, 1984) more general explanations can be made. In order to gain knowledge, what might lead to the creation of new theory, existing theories need to be reviewed by asking what is similar, what is different and why. Especially, the findings that conflict with existing literature need to be addressed. Similar findings can be used to strengthen underlying similarities (Voss et al, 2002, p. 216-217). By *across category clustering* (Miles and Huberman, 1994), the analytic categories of the case level meta matrix are taken apart. To be more conceptual, case identification of data is dropped (Miles & Huberman) and theoretical concepts are used in order to draw conclusions. *Within category sorting* is used for looking for sets of concepts as strategy-structure, size-structure, strategy-external relationships and so on. The effects of growth on exploration are identified by *Summed indices* (Miles & Huberman, pp. 194). The dimensions are based on the interviews and are grouped by changes that had, according to the respondents, a positive effect on exploration, with an increase of exploration, or a negative effect, that is, a decrease of exploration. The organizations are ordered by the most engagement in explorative on top, and with the least below. The results are shown in appendix 7.6. More exploration does not always have a positive effect. Too much exploration compared to exploitation may result in the failure trap, in which resources "dry up" by too much investing in experimentation without gaining any significant result from them (Levinthal & March 1993). In this research, results already showed that an increase of exploration does not result in a disordered balance of exploitation and exploration. At last, a *causal network* is created displaying the most important independent and dependent variables of the study, and the relation between them (Miles & Huberman, 1994). In this research, variables are not clearly defined since the goal was the generation of knowledge and exploring relations. This technique is applied by relating the categories strategy and allocation of resources, structure, processes and activities and external partners (Appendix. 8.4)

4. Within Case analysis

In this chapter, all individual cases are analyzed. First, a short introduction to the organization is given in which the core business and important characteristics of the organization are described. After that, the results of the questionnaire show the intensity of exploration by amounts invested in explorative activities, compared to exploitation, and how much the organizational results are generated by new or improved products. The analysis continues by describing and explaining the characteristics, behavior and choices of the organization on the core topic of this research. Quotes from the interviews are used to substantiate the findings. After that, a conclusion is drawn, in which literature is used to pinpoint characteristic results, which facilitate further analysis on cross case level.

4.1 Case 1: Hotels.nl

Introduction

Two persons founded hotels.nl in 2001. When they bought the domain Hotels.nl, they decided to build their own hotel bookings engine. This bookings engine is a software system that enables hotels to connect their system to the system of Hotels.nl. This has resulted in a database of 1200 hotels that can be booked online. In the beginning, the site was only available in English. In 2003, the website was also translated into Dutch and a call centre was introduced for Dutch customers. In those days, the organization had six employees. In 2007, the 1000^{th} hotel was introduced and the number of employees grew to 37.

Results questionnaire	
Percentage annual sales from:	
Breakthrough products	0%
Improvements	0%
Non Modified	100%
% turnover spend on R&D	1%
% of the R&D budget on:	
Explorative innovation	100%
Exploitative innovation	0%

Number on FTE's 2007	18*
Number employees headcount 2007	37
Number of Employees on R&D 2007	-
R&D activities employees:	
Only exploration	100%
Only exploitation	0%
Both Exploitation and exploration:	0%

Number of R&D projects 2007	1
Type of R&D projects:	
Explorative	0%
Exploitative	100%

Table 3. Results questionnaire Hotels.nl

The numbers clearly show that all attention was being given to the existing product. A development project was started in 2007, which did not contribute to the annual sales of 2007, but does affect the investments in exploration.

Strategy and the allocation of resources

Hotels.nl has a strategy that is directed towards improvement of the existing product. The ultimate aim is to be the best in what they currently do. Innovation is therefore incremental.

"We want to focus. We know where we are good at. People say that we can do more, but we are not finished with what we do now. Certainly, in the short period we do not intend to offer other services such as flights, car rental and the like. You would expect it however, but no, with what we do now we still have a lot to improve". (1, CEO Hotels.nl)

"We don't want to expand with establishments abroad and things like that. We think we're too late for that as well". (2, CEO Hotels.nl)

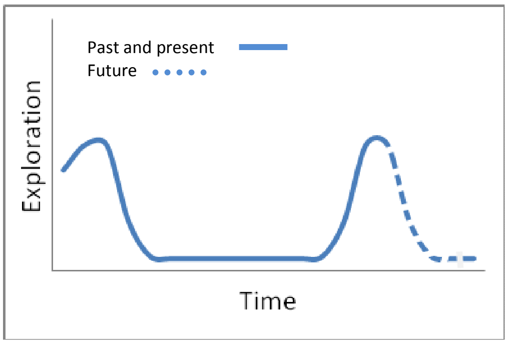

Figure 1. Intensity of exploration over time Hotels.nl

In online hotel bookings industry, technology mostly relies on incremental changes. In the beginning, *Hotels.nl* was the market leader but as the number of competitors has increased, the need to diversify has become stronger. Since exploration never had a priority, important developments were not monitored. Although *Hotels.nl* was able to keep up a little, to really stay competitive, a lot of time and energy needs to be invested in the development of new technology. A possible choice is to replace the complete system. Strategy is to focus on exploitation, and when it is really necessary invest in a major explorative project for a period, and then to discontinue that.

*"We have short communication lines, and don't have a culture in which meetings are of major importance. We're like this: we have a problem and we want to solve that right away. That's why we don't want the organization to grow much by employees". (*3, CEO Hotels.nl)

The organization of exploration

Since exploration is of minor importance, it is not really embedded in the organization. It is intangibly present in the organization, depending on the initiatives and ideas of the employees. However, since the strategy doesn't focus on the development of really new things, no structural element in the organization is present. Because of the freedom and flexibility, people can experiment with their own ideas but within the framework of the current hotel bookings engine.
For the development of the entire new system, a large number of developers were needed. Since capable developers are scarce in the Netherlands, the organization had to search abroad looking for possibilities. By coincidence, they found capable people in Peru. One of the employees from the Netherlands now leads the complete development team of 16 developers, who are fully dedicated to the development of the new system. The decision to choose a separate unit for development is mainly due to the lack of resources in the Netherlands. The department is focusing entirely on development, and is held separate from the establishment in the Netherlands. The Dutch manager who leads the Peruvian department visits the Netherlands occasionally for an update, but communication is not structured. In future, the development team situated in Peru will be used for support and maintenance of the system when development of the new system is finished. In addition, their capabilities and knowledge can be combined with the experience of *Hotels.nl* for new concepts. However, this will be executed without affecting Hotels.nl as an organization.
Decisions are made in a very ad hoc manner. Only bi-weekly meetings are held with the leaders of every department and the management team for discussing problems and issues. Also, new ideas are presented and decisions about whether to implement them or not are taken. Some ideas that incorporate only minor adjustments can be implemented immediately and aren't discussed in a meeting because the changes are relatively small and easy to implement. In case more drastic changes are suggested, approval by the meeting is necessary. Even big decisions are made in a relatively easy manner.

"But in the beginning, this was never our intention. It wasn't a well considered choice. It was decided in 5 minutes". (4, CEO Hotels.nl)

The decision to build the new system was made abruptly, and the way to execute this was found accidentally.
For larger projects, employees work in small teams. These are mostly short term projects, which can be fixed in one or two days. A real planning is not present; it is more of a to-do list that needs to be completed.

Communication is mostly informal, because of the limited number of people involved; employees of different departments know each other and can, therefore, easily share information. Ideas or wishes for improvements are discussed on the work floor. Most of the communication is incidental and ad hoc. Questions or requests are emailed or directly discussed. An open culture in which everybody shares ideas is desired. People are stimulated to share their ideas, and have the freedom to do so. The goal is to create a culture in which employees look for developments. A dedicated task is not present:

"That is the atmosphere we want to create, that employees collect information from the internet, look what competitors do. Collect as much knowledge as possible. Everybody is free to come with ideas, but nobody is intensively working on it, it's not a dedicated task". (5, CEO Hotels.nl)

External relations

The organization has various kinds of relationships with external parties. The most important partners are the hotels that connect themselves to the system of *Hotels.nl*, by which they are integrated in the database, and, through them, the business of *Hotels.nl* increases. However, this relationship has more of an exploitative character. However, only a few of these partners were involved in the development of the new system. Since the number of 1200 partners was too large to coordinate, only a few major partners were selected. Since the hotels are the ones that need to use the software system, the new system is based on their input:

"They have to work with; we do it practically for them". (6, CEO Hotels.nl)

Other external partnerships are concerned with supportive services such as hosting the server for the system and they don't have an explorative character.

External relations	
Customers	
Suppliers	1-2
Competitors	
Consulting agencies	
Universities & Higher	
Public or private	
Type of partnerships	
Explorative innovation	100%
Exploitative	0%

Table 4. Results questionnaire part 2 Hotels.nl

The effects of growth on exploration

In the beginning growth didn't have much effect on the organization since bookings were made online, which didn't demand much human activity, and the maintenance of the system needed only a little support.

"In the first few years we could grow without affecting the organization". (7, CEO Hotels.nl)

Then came the moment when the organization started growing,

"The growth had been particularly aimed at the telephone reservations and service. Technology was in fact running behind time. We were more concerned with process of the customer request, and reservations. We try to catch up with now by the complete development department in Peru. We have grown rapidly and this is a problem we faced because of that. But we're catching-up". (8, CEO Hotels.nl)

Because of this growth focus, the number of employees increased has and that resulted in some changes:

"I came here during the fast growth period. The organization hasn't changed very much. It is a little bit more structured, like the separation of several departments and one reference point for that department. That wasn't the case but works much better. But that's about it. It is still very flexible and relaxed". (9, Manager Development Hotels.nl)

During the first 3 or 4 years there was a lack of developers and major investments in technology that resulted in a system that was old fashioned. At that moment, the possibility of chaos was certainly present. The position of *Hotels.nl* in comparison to that of its competitors was deteriorating since the others offered more possibilities and features. If the system wasn't rebuilt, it would have had negative influence on the turnover. Therefore, focus is now on the development of a system that is meant for future possibilities, and can be extended by new features.

"At one point, we we're only fixing bugs, and then the time arises when you have to make a major decision and take a big step". (10, CEO Hotels.nl)

The growth did affect the strategy, which in the end, affects the explorative activities:

"*In the beginning we were very frightened that we would grow too rapidly and that it would result in a loss of overview. Therefore, we have chosen consciously for a certain growth strategy, in which we focus on hotels only and not aim to market new services. We want to crystallize this first".* (11, CEO Hotels.nl)

Conclusion

The strategy of Hotels.nl is to maintain the focus on their core business, offering an online bookings engine for the Netherlands and Belgium and improve that product. This innovation strategy can be classified as a defender strategy, since they have chosen to focus on a limited range of products in one specific market segment. Improvement of this product is chosen as a strategy to increase the market share. However, the structural characteristics of defenders do not relate to Hotels.nl. Defenders are characterized by a formalized and hierarchical structure to enhance internal efficiencies (Child, 1997). Hotels.nl has an organic structure, little hierarchy is present, communication lines are short, and decision making is decentralized. Ideas are shared and can be executed fast and the atmosphere is informal. This is possible since the organization is still quite small. The organization has specifically chosen to stay a small organization, and does not want to expand further, since it prefers this style of working. Besides their belief that much improvement on the product is still possible, their wish to stay a small organization is partly the cause of choosing this defender strategy. Otherwise, the organization would grow too much in their opinion and the organization would have to change too much. This strategy seems to result in the effects growth usually has on the organization. A loss of overview was about to occur and a chaotic situation was likely to happen. The growth has blinded the organization to the need for technology development. The growth pushed the organization to focus on other elements of the organization, which needed to be handled directly. Because technology was up and running, nobody considered that it would be outdated at a future date. Since no real "owner' of any process for exploration was present, technology developments was lacking. After a long period of exploitation, exploration was needed in order to prevent the organization from further decline of market share. This example shows resemblances with the theories of Sine et al (2006), who state that an organization can be too organic as well. Lack of any structure and processes might result in a loss of overview when the organization becomes larger. The manager of the developments admitted that the introduction of the functional structure and the appointment of a coordinator/manager for each department have improved the situation in the organization. Since the strategy focuses on improvement, exploitation is the core process, and explorative activities are not performed. At the point where explorative activities need to be performed to prevent the loss of market share, exploration is sort of "activated". This flow of exploration can be described by the punctuated equilibrium: after long periods of incremental changes, the stage is reached when incremental innovations fall short and an explosion of explorative innovation is activated. When such a period of exploration arises at Hotels.nl, exploitation does not decrease as a result of that. A new, temporary unit is established that focuses on exploration. For this unit new employees are attracted. This unit is kept separate so that they can focus completely on development, and the existing organization is not affected by the explorative project. When the project is finished, the employees of this team will be working on exploitative activities.

4.2 Case 2: Login Consultants

Introduction

Login Consultants was founded in 2002 and started with two people. Now, Login Consultants has 120 employees in four countries. It is a consulting company in the field of IT infrastructure for access, virtualization and deployment solutions. They developed their own framework, “Solution 4*”* which is a collection of strategies, best-practices and a highly standardized scripting framework which augments and raises the value of existing deployment and management products
(http://www.loginconsultants.com/index.php?option=com_content&task=view&id=92&Itemid=143).

Login Consultants focuses on the improvement of the IT infrastructure of organizations. This incorporates improvements to existing systems, and the communication between systems and applications in an organization. The scripts and software layer they offer aren’t fundamentally new technology. At Login Consultants, they describe their innovations as evolution since they offer an integration, which is based on smart concepts that can overcome problems in applications. The software scripts they develop improve the working of applications and are developed to overcome inconsistencies and problems in these applications. What they do is improving existing technology of others such as VM ware and Microsoft, with a new concept. The solutions they deliver are smart concepts that result from out of the box thinking, and applying new ideas. Consultants have to search for and try new possibilities, and the activity can, therefore, be characterized as exploration. In this way, exploration is an ongoing activity on a small scale.

Strategy and allocation of resources

In the beginning, *Login Consultants* was a consultancy agency whose core business was delivering the best consultants at billable hours to their customers. Exploration was done during free time. Business hours were mainly “used’ to make money from the customers.

The development of technological concepts was applied to existing customers but wasn’t commercialized to a product which can be sold on bigger scales in the market. Bit these little activities were very important. Without the developments, which have been executed formally and informally, Login Consultants would not have grown to its current size.

“If we had not done this, Login consultants wouldn’t become what it is now. If we hadn’t performed the innovation we have done up till now, informal and formal, we would never be what we have become. It is really important for us. If you want to denominate one sounder for growth, innovation is it”. (1, CTO Login Consultants)

During the years, the focus of the organization has shifted. In recent years the desire to invest more in exploration has increased:

“ In the beginning, when we had only 2, 10 or 50 employees we had one driver, who was making Billable hours at the customer. All innovation was done in our own time. All at our label, but in free time. At business hours, we were working at clients to make money. That has changed. Now, 5 years from the start we really have the nerve to invest in innovation”. (2, CTO Login Consultants)

To stay competitive in this field of the market, product and knowledge development is essential, according to the CTO of Login Consultants. To grow further, innovation will be the most important activity:

"Innovation, developing new products and knowledge development is very important. It will become more and more important, it is even crucial in the position of our market". (3, CTO Login Consultants)

Login Consultants has specifically chosen to focus more on innovation in the future to ensure further growth:

"With exclusively consultancy, the growth of the past few years will not be reached". (4, CEO Login Consultants)

Without innovation, Login Consultants would be the same as its competitors: an organization that delivers only consultancy. In order to gain competitive advantage, they have the ambition to offer more:

*"Look, we can survive without innovation, but that would mean that we become a different kind of organization, it will be all about billable hours, then we would become nothing more than a meat factory".(*5, CTO Login Consultants)

Only consultancy as the single service wouldn't be enough to grow and expand in the future as *Login Consultants* did in the past. This would mean that the current growth would not be reached in the future. Since the ambition is further expansion, another strategy is adapted. In order to realize further growth it was decided to market the concepts that are generated by consultants on a larger scale. By entering a new market, new growth potential is created:

"Consultancy is too one-sided for us. And there is the risk that we don't grow as fast as we want. And at the same time, we just have the ambition to make money with all our ideas. We see the possibility is there". (6, CTO Login Consultants)

This will be done by commercializing the products the consultants now only apply in a small scale at customers. Because execution will now be done by a separate software department, these products can be exploited on a bigger scale, which means a new way of generating turnover:

"We are an innovative club of people, with different innovative products we've developed, to do something with that . . . For a year we're looking at product development and a way to put this on the market to secure the growth for the following years". (7, CTO Login Consultants)

Besides the introduction of the new unit, other strategic choices were made to enable further growth. In the past, innovation was only oriented towards technology. With the current strategy and position, innovation on the "soft" side becomes more important. This incorporates the development of strategies and methodologies that clients can apply--management tools-- instead of software applications.

Although steps are taken to expand the explorative capacity, the organization faces a major barrier that prevents growth to reach the proportions they would actually want:

"The never ending problem is that as a consultancy agency, our most important source of income is posting, the time our consultants spend at our customer brings money. If 10 consultants are having trainings during one week, and 1 consultant is normally worth 1000 Euros a day, a week of training will cost us 50.000 Euros . . . " (8, CTO Login Consultants)

"An investment that is made for innovation does hurt turnover directly. We are just very small". (9, CTO Login Consultants)

Although they have chosen to professionalize innovative activities to secure growth, consulting as core business limits the growth by innovation because of preferences of spending resources:

"In the longer term this has a result that we can't grow that much. Our growth is limited ultimately. But it is just speculation. But we would never innovate in a way that it does cost 20% of our turnover. Because this is just our commercial interest". (10, CTO Login Consultants)

"The fact that we can't innovate as much as we want has to do with the lack of resources. We still are a consultancy organization, and that means it is important that everyone is spending hours at clients". (11, CEO Login Consultants)

This shows that *Login Consultants* is aware that investments are needed, but they are constrained to do so because of other priorities they set. Because short term results are important for them, longer term investments are put aside. They are aware that their current choices limit the organization in the longer term, but see no other choice. Short term turnover is still valued over longer term investments:

"It would be optimal if we would invest more than we do now. It does cost a lot of money, but I think that in the longer term it would be profitable. But we are very much driven by turnover. Thus short term goals are favored over choices like that". (12, CTO Login Consultants)

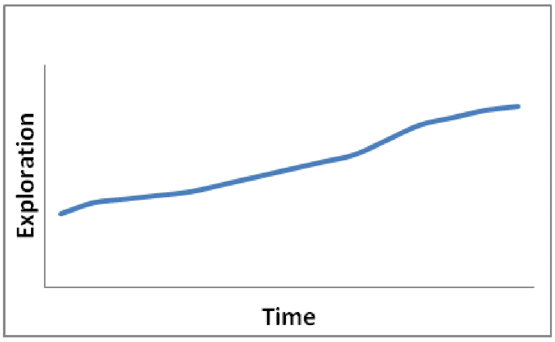

Figure 2. Intensity of exploration over time Login Consultants

CTO of Login Consultants also states that too little is really invested in training and development. Again, the problem of allocating to this plays a major part:

"If we are critical, we would like to invest more in knowledge development, training and the like. We do have quite some workshops in the evening but you can ask only a certain amount of the free time of a consultant". (13, CTO Login Consultants)

The organization of exploration

In the last five years *Login Consultants* has grown as a consultancy organization that delivers smart concept for the problems of the systems of clients. Since the focus was on increase of the billable hours of consultants, no real structure for exploration or product development was present:

"When I'm really honest, and tell you the truth, then I have to tell you that as a consultancy organization we grew very fast, which automatically means that structure is limited. If I have to describe it I would say that our approach is that employees get time and space, and that relatively little structure is present. We don't have many large scale projects, we work with small teams and when someone has an idea that is assessed as good and important, then concrete time will be appointed to spend time on innovation. The only thing we really do is saying: you have that much time to develop something". (14, CTO Login Consultants)

Limited structure is chosen for the flexibility it offers. Ideas can be developed quickly, since no process that needs to be followed with forms and systems will take time.
Actual processes, plans or activities for exploration are not present yet for the consultants. Some exploration is done in free time and employees do experiment at home. A big part of exploration is informal, results of the individual activities of employees, and doesn't need much stimulation or similar mechanisms.

"Ideas grow on trees at the organization ". (15, CTO Login Consultants)

Especially in the beginning, a lot of innovation was made outside operating hours:

"*But because we're relatively small, we don't have any concrete . . . it's not super structured yet . . . How it works in practice . . . , it is all about the consultants who walk into problems, opportunities or ideas in practice. They are experimenting at home with things or try something in a project.".* (16, CTO Login Consultants)

"People are aware and do it naturally. It's not in their task description". (17, CTO Login Consultants)

Some time is planned in which consultants can show their activities and concepts. Every month a technical meeting is organized in which consultants share experiences by giving structured presentations to each other. Besides daily practice, two systems are used for knowledge sharing and generation. A source to share information is by Share Point, a kind of intranet, but this is more used for sharing practical information. The online forum is used for generating information from outside. This forum has 7000 registered visitors who post their ideas, problems and tools they develop. Courses and training activities are sometimes planned in the evenings and weekends to overcome the problem that turnover is missed when consultants spend billable business hours on innovation. They are limited since it is impossible to ask consultants to invest all their private time in training.
Although a limited structure is a well considered choice, they realize that though it has the advantage of flexibility and freedom, it might have disadvantages as well:

"Management needs to be more conscious about innovation. Ideas are present, but not everything is picked up well enough by the management. Because innovation is more or less based on culture it is now dependent on ideas that make it to the surface. More structure could improve this situation. With the special development, department this is partly done". (18, CTO Login Consultants)

The introduction of ideas is done by consultants who are mostly inspired by their daily activities. Because of this, Login Consultants is completely dependent on individuals. In the beginning, this was not structured at all:

"In the past it was like: how nice, he developed something, how nice, spontaneous and kind. Now it is more targeted at it". (19, CEO Login Consultants)

To ensure that this source of exploration stays, it is more structured and managed now.

"Just for the last one and a half years we have put this into some structure. We have developed a program for High potentials. These selected high potentials (HIPO) are more or less forced to develop, because they are rewarded for it, because we know they can. It is also supported by a different payment structure and management". (20, CEO Login Consultants)

Still, exploration is not really a dedicated task among consultants; it is in fact a way in which more capable people are selected and stimulated.

"*It is not that those people are working all day by sitting and thinking: let's develop something now".* (21, CEO Login Consultants)

Login Consultants has built a strong culture by selecting employees who are dedicated, focused on problem solving and have a natural drive to think out of the box. To guarantee the innovative culture that is present, the people they employ are very important. Only persons who fit in a certain profile are suitable for the organization:

" If we were an organization with a 9 till 5 mentality , only working for money, like exactly checking in at 9 and leaving precisely at 5, because our income is dependent on the billable hours at the client . . . If we don't have, the feeling that they want to get more out of it . . . nothing will happen. They need to have the drive to find a solution when a problem is detected. Like I said, it is really part of our culture". (22, CTO Login Consultants)

It can be stated that from every employee, an attitude towards exploration is needed, and expected. The dedication employees have is also shown by the free time they have to invest in the organization. It is normal that business activities and training are planned outside normal working hours. It was also shown that al lot of explorative activities are done at home:

"So growth has been aimed at personalities, on a certain type of person who thinks out of the box, who wants to solve things. Who wants to innovate, which is not common in our industry? So we ask just that little bit more". (23, CTO Login Consultants)

In the management team, people are responsible for product development. The CTO plays an important role in the management and execution of explorative projects. He is responsible for the technological strategy and is involved in the decision whether to invest in an innovative project or not. Some other people are also responsible for product development. They spot innovative ideas and stimulate development. To perform exploration on a bigger scale, a separate entity for development and commercialization of concepts has been founded recently.

The software developing department, which will be a separate private entity, will judge the concepts consultants deliver. It analyses the attainability and the possibilities of a concept and decides whether to make it a commercial product. This "department" alone will be responsible for the execution of development and commercialization. Idea generation is done by consultants since they are in touch with practical issues and experience the present needs. When they have a proven concept, it will be handed down formally to the software entity.

This structure creates a clear separation between the generation of ideas and concepts and the further development. This structure is chosen since at Login Consultants they believe that structure hampers idea generation. Execution of a proven concept need to be structured and organized, but for the preceding steps freedom and flexibility is needed. This is done by giving consultants freedom to develop their own concept based on their experience in their daily work and allocate the processes and activities of development and marketing to the software department. This means that idea generation and execution are strictly separated. Idea generation and creativity is stimulated by culture, and development is put into a structure:

"Structure is killing innovation. For real innovation structure is killing. What you have to do is this: innovation, the generation of new ideas, shouldn't be structured, but what is really important is execution. This means actually keeping the idea and making sure it will be marketed, that has to be structured. If you are able to keep that separation, and that is what we do by letting consultancy as it is, thus innovating by means of culture, and on the other side, the execution and marketing , because what is an idea worth if it isn't a commercial success . . . So what we want to do, and this is really important, in maintaining the innovative, ad hoc culture for the consulting department and structuring the development department. The creative part doesn't have to be structured, that has to be in your veins, part of the culture. And execution should be structured to get a certain power with it". (24, CTO Login Consultants)

Another reason for the separation of the various processes at *Login Consultants* between the consultancy organization and the label under which the software development department will operate is that Login Consultants want to maintain its reputation as an independent organization. Otherwise clients could get the impression that consultancy is used to sell their own products, and want to push the clients to sell only their products.

For the development of the new kind of products, the “soft innovation”, the development of strategies and methodologies where clients can apply a new approach is needed. In the field of business development, as it is called, the first steps are taken now. This will need more attention in the future since the innovations of the past were usually technology driven. Therefore, this “soft” innovation will need more support and attention from the management. Technological innovation is in the veins of the organization and part of the culture. To stimulate this soft innovation, internal marketing is needed:

“Changes in culture are made by doing. Some people have to take a lead in it and the organization really has to be structurally prioritized. Changes don’t happen with one presentation or hanging a poster on the information board. We are not that kind of organization. It is very important that people understands what happens and why. If employees don’t understand why things change, it is never going to happen. By prioritizing on this soft innovation and dedicating people to it we want to create the support of the consultants. We are aware that this will take some time and needs some changes in culture ”. (25, CTO Login Consultants)

To enable exploration a shareholder buy-out was done as well. The previous investors’ goal was making as much money as possible in a short time. There was no possibility to experiment and invest in innovative projects. At the selection of new investor it has been taken into account what their eagerness to invest in innovation was. This also shows that the strategy for the future is really focused on more exploration.

External relations

No formal external relationships are used for the development of new tools and software:

“Innovation comes from inside”. (26, CEO Login Consultants)

The technology that is developed is applied to customers but the customer is not involved in the development itself. Login doesn’t really experience the need to cooperate with other parties for innovation:

“I think in practice there is no need to do it . . . Well, that’s not completely true actually, by means of time and resources we would want to, but the stakes are that much different . . . If you really want to cooperate on exploration we are talking about intellectual property, and cooperation on this field is really difficult. This has to be done in a legal body, which incorporates that you have to take many steps to collaborate. That’s not practical, and every party has its own focus in the market”. (30, CTO Login Consultants)

According to them, interests would be too different and practical issues would be extensive. Another reason for this lack of external partners for exploration is the nature of the market they operate in. They operate is such a specific niche that all the people in this market are familiar because of their network, personal relationships and the online forum. There is no need to contact others for real explorative activities. By the online forum some ideas are picked up:

“It’s like an open source construction, things are shared. What are problems and challenges of the things you have developed? That means we pick up ideas form people outside the organization, and put it in our organization. Because they developed a tool. We try to optimize the use on knowledge from others”. (27, CEO Login Consultants)

For exploitation, outsourcing can be an option in the future. *Login Consultants* has little capacity to really develop concepts. Login Consultants has only one application developer, since these specialists are very scarce in the Netherlands. If something needs to be developed quickly, outsourcing is an option. Contacts are already made with organizations in Eastern European countries that could deliver quick help when software development is needed.

The effects of growth on exploration

Complexity has increased, which makes management more difficult, but is hasn't directly influenced exploration:

"*Complexity because of growth is not really an issue. So far, you become a different kind of organization because of the growth . . . Since the binding of the employees with the organization is different now. When we were small, we were a small family and everyone knew each other, that situation has gone. Now people come in that I've never seen and they don't know me of course. That means a different way ensuring you keep your employees and at the same time you have to realize that the wastage of the last years of 1% can be endured. That will become 10 % and still you're doing quite a good job . . . that is a limitation. Not directly for innovation. Those are people who get special attention within the organization and will be escorted to the next level*". (28 CEO Login Consultants)

Since more people are available who can also be earmarked for exploration, exploration has increased. In the beginning, only one person was responsible. Now more people are involved:

"It has become more, because the volume of the organization has grown, and attracted a certain type of people; the innovation is not only my job anymore". (29, CTO Login Consultants)

However, since the number of employees has increased and culture changes because the binding decreases, steps are taken to put more structure into exploration. An example is the HIPO program that directly stimulates employees to engage in explorative activities. Moreover, more (financial) resources are present to spend on exploration. Also, experience has confirmed that innovation is important.

"The necessity has become clearer. We really experienced that in the last 5 years we have grown as a consultancy organization. The things we came up with became bigger. Because we didn't structure it, we are not a structured organization in that field, we really faced some limitations. To give an example, when you have implemented an innovation for a client, it needs maintenance and support and things like that. We've made some concrete steps already and it means that innovation becomes more important. The value of innovation is better understood and we have the guts to invest more. But underlying processes are organized better. As an organization, we will . . . not that we transform form an unstructured, ad hoc organization to a very structured organization. It will take small steps in the overall process. So when you come back in 5 years, and we're still successful, we are probably much more structured, and much more structure is implemented". (30, CTO Login Consultants)

Conclusion

The organization is originally an IT consultancy organization in the field of virtualization technology. This means technology is custom made, and based on the specific situation of the client. Technology development on a large scale, to exploit the market, was not the core business. Consultants developed new applications for clients and that was all. The main goal was making billable hours for the clients. Therefore, exploration wasn't organized professionally. A mechanism of contextual ambidexterity was present. They believe that creativity shouldn't be structured and that the atmosphere is of much importance in order to successfully develop new technology. Creativity is present in the organizational culture. A context is shaped in which highly skilled employees have the freedom and ability to make their own choices and pursue activities. This resembles with the concept of contextual ambidexterity as described by Birkinshaw and Gibson (2004) what refers to the collective orientation of the employees and personal pursuit towards adaptability. They place a high demand on its employees. People have to be ambitious and critical, show initiative and need to have a high degree of commitment. A nine till 5 mentality doesn't fit with the organization. People are motivated and driven to explore new possibilities. In the beginning, exploration was mainly done outside normal operating hours since business hours had

to be spent for the paying customer. This shows that much dedication to explore was already present and the emphasis it has in the organizational culture indicates a prospector strategy. When the organization grew and resources became available, this was formally chosen as the strategic direction and the structure was changed in order to improve the process. This shows that organizational size is an important dimension that affects the level of exploration. The increase in resources as a result of growth can be a stimulus or the reason to engage more in exploration. They realize that with consultancy on its own, the major growth rate of the last years won't be realized. Therefore, the strategy has shifted, and exploration will become more important and official investments will be made. When the number of employees increased at Login Consultants, more people were appointed for exploration. As a result of this, exploration has increased. Birkinshaw and Gibson (2004) also explain that contextual ambidexterity and structural ambidexterity is often combined. This is also the case at Login Consultants. Since exploration became more important, and the organization became more complex, it was chosen to create a new unit that could focus on the development and marketing of the technology. Since ideas result from practice by the consultants, the mechanism of contextual ambidexterity is maintained. They believe that creativity shouldn't be structured and idea generation requires flexibility and freedom. This is already present in the "traditional organization". The "new unit" has an exploitative character that performs actual large scale development and marketing but no idea generation or experimentation. This shows exploration and exploitation are separated; a form of structural ambidexterity is introduced.
They have decided to make use of all the technological knowledge that is present in the traditional consultancy organization, without loading them with the exploitative activities that are needed to develop technology on a large scale. This shows that when exploration becomes more of a part of the strategy, its organization is professionalized by changing the organizational structure.
The way ambidexterity is organized at Login Consultants slightly differs from the description given in literature. O'Reilly & Tushman (2004) describe structural ambidexterity by the strict separation between exploration and exploitation by introducing a new, separate exploratory unit next to their traditional exploitative ones, having different processes, structures and cultures at the same time. At Login Consultants, the "traditional unit" performs mostly exploration by means of contextual ambidexterity. And the "new separate entity" focuses on exploitation, and has more structured by fixed processes to create efficiency.
External relationships for exploration are not present. Collaboration of exploration would involve official formal relationships, which incorporate high organizational costs (Kogut, 1988). They don't really experience a need to conduct such an intensive form of collaboration. They more or less acknowledge that this incorporates too much energy, and is, therefore, not practical. The organizational costs are too high, and the possible potential is not recognized.

4.3 Case 3: WebArchitects

Introduction

WebArchitects develops web shops, interactive marketing campaigns and integration possibilities, for customers, which are active in various markets. Their main product is Right Click, an online software package that organizations can use to improve the performance of their web shop or control their purchase and sales channels.
By the use of a browser, clients can maintain their web shops. The software is present in the data centre of WebArchitects, which means it doesn't run on the servers or computers of the clients. That gives the possibility to add new features. The big advantage is that every time a new version of Right Click is launched, clients can quickly and easily upgrade their version and profit from the new developments. Clients pay a monthly fee for using the software, and for service and support. This creates a steady turnover that is easy to predict. The product, web shop software by a browser, and the business model of WebArchitects, were relatively new concepts in its market. The use of a browser to develop a web shop was uncommon since clients normally had to sign a one year contract, instead of monthly fees. WebArchitects is still a relatively small organization, with only 26 employees, of which six are active in Moldavia.

The presence of exploration

Results questionnaire	
Percentage annual sales from:	
Breakthrough products	40%
Improvements	40%
Non Modified	20%
% turnover spend on R&D	15%
% of the R&D budget on:	
Explorative innovation	35%
Exploitative innovation	65%

Number on FTE's 2007	22
Number employees headcount 2007	25
Number of Employees on R&D 2007	7
R&D activities employees:	
Only exploration	30%
Only exploitation	60%
Both Exploitation and exploration:	10%

Number of R&D projects 2007	5
Type of R&D projects:	
Explorative	35%
Exploitative	65%

Table 5. Results questionnaire WebArchitects

Only 20 % of the turnover is realized through products that don't incorporate any development, which means a large share of the turnover is realized by products that involve development. The results show that exploration is an important activity, but exploitative projects are favored, since more time and money is spent on it.

Strategy and the allocation of resources

Because of the market they are operating in, technological development is a continuous process to improve the ease of use, and the possibilities of the software. Development never stops. This incorporates small improvements to existing applications, but also the introduction of radically new elements.

"Innovation and moving with the times, is on the top of our list. When you have an outdated web shop, say with old TL-lights and old lino, and a client doesn't enter a shop. Being modern, with a modern interface, thus really moving along with the time. So we are really stimulated to do new things". (1)

Exploration is done in various fields. One of them is product development, which means new concepts and applications for the Right Click software. The organization also focuses on exploration of new markets with the existing product, and tries to expand outside the Netherlands. This incorporates new business partners abroad, new distributors, and probably an own establishment abroad, and the search for new markets abroad.
At WebArchitects, they are aware of the organizational problems that can result because of the growth. By attracting a manager who has a lot of experience in a similar situation, they try to prevent them from happening and prepare the organization for further growth.

"The classical trap which can occur is that, what you see, that is what you have to prevent, is making your best sales man the sales manager. When you do that, you lose an excellent sales channel, which could lead to a decrease of sales. And the same with developers, if you put your best developer as a manager of the lab . . . well it is possible, some persons can do that as well, but when your lead developer becomes a manager, the quality of your product could decrease. For traps like that we have to be careful". (2)

One of the focus points is to professionalize the organization to secure well managed growth:

"What you see at growing companies, at rapidly growing companies, is that they have very good ideas in the field of products, they can build splendid things, but the moment you want to grow a step farther than say 20 or 26 people, then you must professionalize. At the sales for example, you will have to work with budgets, and make forecasts. To continue and keep control you must start doing things like that". (3)

More structure and a more professional organization will also result from crystallizing tasks and responsibilities:

"And to put responsibility to people, and judge them on it. With a little group then it's like . . . well, you see each other also on your birthday party for example, and then you don't want to be that strict. If you work together for a few years it is difficult to point people on their responsibilities". (4)

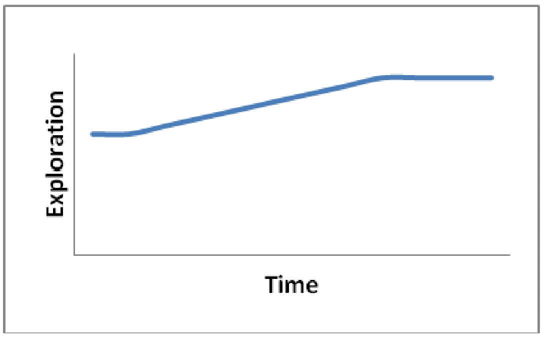

Figure 3. Intensity of exploration over time WebArchitects

The goal is a more structured and professionalized organization, but preserving the atmosphere the organization has:

"On the one side you have to formalize and make plans, even if you can perform only 3 ideas of the six that are present. Yes, we are limited in resources and time. You have to make choices. But you don't have to crush creativity to say: good idea, but we don't have time. You have to find a balance between both". (5)

"What you see at small organizations is the atmosphere, the team spirit, to put the shoulders to the wheel together. Little politics and job protection compared to what you see at larger organizations. You have to try to keep that as long as you can. But on the other side make a step towards more professionalization". (6)

The organization of exploration

The organization has a functional structure. The most important departments for exploration are Webdev, and R&D. The sales consultants have contact with the client and communicate the wishes to the Webdev department, which build the web shops from the elements that are made by the R&D department. The activities of innovative projects are separated; only 10 % is working on both exploration and exploitation.
Decision making is still much centralized, by the CEO and founder Jeroen van der Geest. Especially in the field of the new concepts, he decides whether to implement this to the existing system or not. In the future, this will be more decentralized.

"One of the steps of the professionalization is that decision making about certain things have to be decentralized. But at this moment we have a size that it isn't yet a problem". (7)

Special budgets are not yet present. All costs are not yet separated into the different departments. Therefore, it is not very clear which investments will really pay off in the future. The professionalization they are executing now will incorporate the structuring of the finance as well as creating a better image of what the returns on investments in the developments are.

Most ideas come from the CEO. Also, a weekly meeting is held with all employees on Mondays in which ideas are discussed. These can result in brainstorm sessions in which everybody participates. Because of the open and informal atmosphere ideas and discussion about exploration aren't structured. Another

important moment is the daily lunch, which is held in one big room, where everybody prepares and eats lunch. Sometimes these moments are used for casual small talk, but they can also result in brainstorming and discussion on ideas.
The whole process is an iterative process, based on trial and error, in which various moments of feedback by employees and customers are integrated. When an idea is proposed, this is discussed with the web developers who start experimenting and building a prototype. This is discussed internally and with customers by sales consultants. Based on this feedback, adjustments are made, and if it is assessed that it wasn't such a good idea after all, further development is stopped. The opinion of the organization is very clear on this:

"It goes pretty informal, which has the result that we can make very quick steps. It's not that we write thick reports on it. It's just this: if we have a nice idea we make it, and build prototypes, and then we'll see if it is picked up by the market. There is a certain thought behind it, and sort of a process, but it's just not a real formal plan". (8)

"*Because you have a prototype, something that flounders as I call it, you can show things. In an early stage, you have a check whether you are heading in the right direction, or that is useless. We don't have the intention to develop something in total, in which every functionality is present and show it at the end. No, at the moment it flounders you can get feedback already".* (9)

The main problem the organization faces is the employment of the right people. Since web developers are scarce, and, therefore, expensive, it was decided to look for a development team abroad. This has resulted in a division of six persons in Moldavia. This was done mainly because of the expenses, since it can't afford yet to hire the best web developers in the Netherlands since they are too expensive. To connect the two offices to some extent a webcam is placed on both locations. Because of the distance, they feel that it is more difficult to manage.

External relations	
Customers	6-10
Suppliers	
Competitors	
Consulting agencies	
Universities & Higher education	
Public or private research institutes	
Type of partnerships	
Explorative innovation	60%
Exploitative Innovation	40%

Table 6. Results questionnaire part 2 Webarchitects

External partners

Except for the relations with clients who are involved in the exploration process, other external parties are not used directly. It can happen that a client hires another organization for the graphic elements of the web shop. As WebArchitects is the architect, the other hired organization would be the interior designer, or stylist. Sometimes the client brings WebArchitects in contact with such an organization so they can synchronize the wishes and the development of "inside" and "outside".

The effects of growth on exploration

A direct result is that because of the growth, the implementation of new elements takes more time. In the beginning, the customer base was much smaller, and that made it easy to implement new programs to all clients. Now the number of clients has increased and it takes more time before it is all up and running for all clients. The number of ideas and their developments hasn't decreased, but the time for which a new feature is available for clients is longer.

The hope is that the professionalization will improve internal processes and will ensure that growth will not affect exploration in the long term. WebArchitects wants to do this in a pragmatic way. For example, Instead of using complex CRM systems that take a lot of time to learn and are expensive, excel sheets are used. Because of this, the organization reaps its fruits of the professionalization directly:

"My motto is to be pragmatic, practical and don't making things more difficult than they are, but put some structure in it. By doing that, a step of professionalization doesn't have to hamper the organization, on the contrary; the organization will perform even better". (10)

Conclusion

At WebArchitects, exploration is an important element of the organization since new products and applications for their products are of major importance to stay competitive. Besides technological development, the organization is exploring new markets in and outside the Netherlands and can, therefore, be typified as a prospector.
The structure is functional, in which each functional area has its own activities in the development process. Functional differentiation is introduced in an early stage of the organization, which makes responsibilities and tasks clearer. Since WebArchitects is still relatively small, processes are informal and not very organized. Ideas are discussed at lunch or at another desk in the next room. Because of this informal atmosphere and openness, knowledge is shared and different thought worlds can complement each other, what benefits exploration (Eisenhardt & Martin, 2000). The sales consultants communicate with clients about technological development because of which external linkages are realized, that can keep the product up to date (Hage and Aiken, 1970).
The intangible characteristics of their product create a development process that is based on trial and error, in which constant feedback is of major importance. Although responsibilities and tasks are clear, on the administrative level, exploration and exploitation are both quite unstructured. For example, no budgets are present and it is not clear how investments pay off. Since the organization is still quite small, this hasn't been a problem yet. However, to be sure that growth won't affect the organization negatively, a special manager is attracted to take the lead during the growth process and prevent the organization from falling into traps fast growing organizations often do fall into. This shows that the organization wants to grow and tries to take itself to the next level by professionalizing tasks and responsibilities. They have explicitly chosen to formalize tasks more. The organization is aware of the possible effects of growth and, since it anticipates possible problems, falling into a success trap is not likely. They believe that by professionalization and a little more structure the organization will benefit, and will also contribute to explorative activities. Because the customer base has increased, the implementation of new products takes a little longer, but exploration itself hasn't decreased and the overall process is not hampered. Their professional approach from the start has resulted in some routines and structure which contribute to exploration without stifling the organization (Ireland & web 2007; Sine et al, 2006).

4.4 Case 4: Hippo

Introduction

Hippo was founded in 1999 by Tjeerd Brenninkmeijer en Jeroen Verberg. In 2001, Arje Cahn joined the organization for strengthening the technical side. Hippo has 3 products, content management software (CMS), Compound Document Management (CDM) and Hippo Portal. Their main product is the open source content management software (CMS). Offering open source CMS systems is a relatively unique concept that delivers possibilities for organizations such as publishers that have an enormous amount of data and information which couldn't be stored efficiently in the past. With the arrival of the internet, the founders saw the possibilities internet could offer to enable the linking, sharing and management of information.
Hippo believes in open source software and open standards. This means that everybody has access to the source code of the software and is able to modify this to his or her own wishes. Open standards are internationally accepted protocols (technical specifications) that guarantee that data can be interchanged between, and with other ICT systems. The software can be downloaded freely on the website of Hippo. Instead of making profits on licensing of the software, Hippo realizes its turnover from the support and service licenses it has with its customers. Growth has mainly increased in the last 3 years. In the

beginning, it was difficult. People were unfamiliar with content management, unfamiliar with open source and people didn't know Hippo; so it went slowly. However, during the last 3 years the organization grew fast and has opened an office in the USA as well. Just recently, the 7th version of the CMS software was launched, which utilized a lot of investments and resulted in a completely new system based on new technology.
Hippo is a major player in the open source and open standards community. They are members of The Apache Software Foundation (ASF) together with organizations such as IBM and Sun Microsystems that support Apache software projects. One of these projects is the Apache HTTP Server on which 70 % of all websites are working on. It is very unique that such a small organization is a player in this community in which only 10 organizations are present. This community also is a major player in the development of open standards, which are used worldwide.

The presence of exploration

Results questionnaire	
Percentage annual sales from:	
Breakthrough products	20%
Improvements	20%
Non Modified	40%
% turnover spend on R&D	15%
% of the R&D budget on:	
Explorative innovation	50%
Exploitative innovation	50%

Number on FTE's 2007	30
Number employees headcount 2007	35
Number of Employees on R&D 2007	10
R&D activities employees:	
Only exploration	20%
Only exploitation	-
Both Exploitation and exploration:	80%

Number of R&D projects 2007	6
Type of R&D projects:	
Explorative	50%
Exploitative	50%

Table 7. Results questionnaire Hippo

Strategy and allocation of resources

The decision to offer an open source product has considerable effects on the strategy and allocation of resources. Their strategy aims at the creation of new knowledge, by the sharing of knowledge. Since the software is open source and free to download, everybody is able to adjust the product and experiment further. Hippo doesn't even know who is using their products since a service or support license isn't obligatory and everybody is able to download it without any registration. Everybody has access to the basics of the products; elements can be used, adjusted and applied into new situations. Knowledge is spread automatically since everybody has direct access to it. This has the result that the product is sometimes used in markets and in ways they had never thought of. That creates new possibilities and new kinds of customers.

Offering open source software indirectly means that the product is subject to constant development and change. Product development and innovation are, therefore, core elements of Hippo:

"We innovate, we develop software, that's what we do constantly". (1, CFO Hippo)

Because of the open source character, sales is a bottom–up process, quality and value adding components are of major importance. Clients have full access to the software already and can try it before they make an investment in a support a service fee. In order to acquire clients, the software and its possibilities have to trigger clients to use it, and sign service and support contracts. Clients come to Hippo themselves.

"That means that software needs to be very good, because we can't make promises with sleazy sales stories, and when they buy a license that you're finished. So product innovation is essential". (2, CFO Hippo)

There is a constant urge to improve the product they offer by new possibilities that add value for their customers to make it attractive for them. The main conviction is that because of the quality and knowledge they deliver clients will come to Hippo themselves.

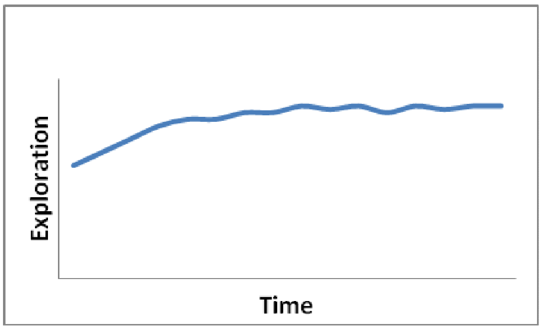

Figure 4. Intensity of exploration over time Hippo

Their business model, based on providing free software and the support, training and service to that software, creates an urge for those services to earn money. When new technology is developed, clients need training on how to use it, update it and so on. The return on the investment needs to be gained by the service and support packs that result out of new products. A new version of the product has to offer benefits to the customer; every time technology gets updated. The client needs the services again. The organization is aware of the rationale for its business growth:

"The main process is fixing issues, by keeping developing on the existing product; that is what we sell, otherwise we can't do business. With the product itself, we don't earn anything. At another organization you get, say 1000 Euros at every sale. But we only sell because of the things we do, also based on older versions. Therefore, development is needed because that is what we sell ". (3, CFO Hippo)

The decisions taken for such a business model and strategy indicate that they are internally driven to consciously develop technology that improves the product regardless of the need for renewal:

"We think about the next step, we want to prevent the situation that we're only busy with polishing existing elements that don't add something of vital importance. We look at what's missing, what our clients use and what they need, what they might need in the future, and what is happening in the world ". (4, CTO Hippo)

"At Hippo, it originates from a kind of personal pursuit to create something that is even better". (5, CTO Hippo)

Since exploration is an important part of the strategy, a capacity to explore is created, and resources are allocated towards exploration:

"Money can be spent only once; you make an investment because you expect that it brings in more in the future. We want to invest, because we believe in what we do, and so we make that investment. Otherwise, we do nothing more than a service provider does: It becomes like, you ask, we deliver. That is what we're paid for, but innovation is then more or less out of the question . . . Luckily we have the capacity to do this (refers to experimenting) . . . ". (6, CFO Hippo)

Open source has as an advantage that investing in the generation of knowledge is limited, because of the feedback they get from all over the world. Marketing costs are limited since Hippo is approached by new clients instead of those brought through extensive marketing campaigns:

" . . . What we can do because we're open source, we can make people enthusiastic about what we do, and see if we can involve them, and if they could give feedback on research we do. And off course we use everything that is available in the open source community". (7, CTO Hippo)

The organization of exploration

Exploration has a very open character because the product is based on open sources. In the internet, everybody can add or change elements, which can be the input for Hippo. Therefore, innovation is an interactive process, and a network activity.

Because external relationships are connected with the processes and activities in a high degree, exploration is a network activity. They share their knowledge and make use of external knowledge constantly:

"What is unique at Hippo is that it is a much more interactive process, between us, our clients and the rest of the world, and that's because it's open source.
That has effect on worldwide decisions, well in our field . . .
not for the crisis in the middle east". (8, CFO Hippo)

Hippo also shares information about processes, such as notes, reports of meetings and other relevant information, on the internet. The sharing of this knowledge can also lead to new ideas and possibilities:

External relations	
Customers	6-10
Suppliers	
Competitors	> 25
Consulting agencies	
Universities & Higher education	1-2
Public or private research institutes	
Type of partnerships	
Explorative innovation	50%
Exploitative Innovation	50%

Table 8. Results questionnaire part 2 Hippo

. . . make up new ideas, and show that to the world, and then wait for what feedback we get. That last step is very important. It's sort of a confirmation, but in our view, it's a way to bring innovations together as well. If we keep it for ourselves, keep it internal, it's not possible that new ideas result out of the original idea". (9, CTO Hippo)

Ideas circulate in the community. What seems to be unusable at one moment can be applied in another situation by someone else. Experimentation with the software is an ongoing process, performed by people inside and outside the organization. The company describes it on their website:

"Open source software grows organic; bad ideas die, good ideas carry on growing and are reused in other projects. From a worldwide basis, these concepts are introduced by many developers. They carry the common care for an ongoing quality control and couples strict requirement on the interchangeable-driven software. This is reached by formulation of internationally accepted standards, or open standards . . . Software becomes better by the success of previous projects and the expertise of developers and users worldwide. The quality development of open source software is especially floated by the wishes of the end-user". (http://www.onehippo.com/nl/opensource, open-source, 8-10-2008)

In general, Hippo has an open culture in which exploration is enabled. People are free to experiment and can flourish in the field of creativity:

"If you have an environment in which people have the feeling that their ideas are used, they will (introduce ideas). That's a very important source of inspiration". (10, CTO Hippo)

"Actually everybody does . . . well . . . is kind of a playground over here. We create what we like to create". (11, CTO Hippo)

It is very important that Hippo is open for experimenting, and it is accepted that time is sometimes spent on things which come out differently than planned, which makes them not useable for the moment:

"Generally, someone tells his idea if he already made it. That happens often, and that's fine. Then time will be made free to really develop it ". (12, CTO Hippo)

They see that, for their way of working, “mistakes” are made and that something can be learned by them. Errors are not directly assessed as a waste of time; and they aren’t thrown away. Since everything is shared on the internet, someone else might use the test for something else which makes it valuable in the future.

The exploration process is iterative and open. In general, it is like this: Someone has an idea and makes a concept. This is discussed in a meeting, some tests are done, it is discussed internally and with clients and, when a Go is given by the management, it will be developed.
The number of meetings, brainstorm sessions, moments of feedback and concepts depends on the size of a project. A distinction can be made between small projects, which incorporate the daily practice, and larger projects, as the launch of a new version, which can take more than a year.

For the smaller projects, interaction is the core process for exploration. Based on feedback from clients, developments in the open source community and ideas from people, concepts are developed. Especially, the client plays an important role. Depending on the extent to which they participate, clients are in many cases partners as well.

“We do have a roadmap for every product and share this with our clients. That’s the whole idea of open innovation”. (13, CFO Hippo)

A large project is more based at internal ideas, compared to smaller projects that can be suggested by clients.

“*The real creativity, the pioneering ideas, don’t come from those parties (the clients), but only things they already know or understand”.* (14, CFO Hippo)

“With radical innovation it is difficult, because you’re working with concepts people can’t imagine. Then you’re more internally driven . . . They (the clients) are busy with their own processes. In cases like that it’s more testing it in practice. And then start working with it and see if it is a success. So it has a higher risk”. (15, CFO Hippo)

The development of a new version of the product is, therefore, brainstormed on what clients could need, and what needs to be added to make the new version better and more valuable than the preceding one. At a point when several ideas can be linked and a patterns of ideas exists, it is discussed whether this could be the input for a next version. The process is described clearly in these words:

“The CTO recognizes certain trends in the market, both technical and functional. The commercial department recognizes elements which are necessary and which competitors have or don’t have. We try to match that. Then a team, which is a small group, will develop that idea. Then it will be presented to the management, and based on that a “Go” will be given”. (16, CTO Hippo)

A basic plan for development is formed in brainstorm sessions. This plan is a broad conception of the goals they want to reach. It is more an idea of what the end version should look like, instead of a detailed plan. With these plans, a prototype is made. Trial and error is an important way of finding out what works well and how the new applications should work.

“ It’s not that we draw up the complete plan. It’s not that we say: this is what we’re going to make; if someone pushes on this button that will happen. If you would work like this, then you will know in advance what the result will be, although in practice that’s mostly disappointing, but the disadvantage is that when you discover new possibilities gradually, you can’t anticipate on it. For that reason, we keep it open. We draw some basic ideas about what we want to reach, things we could use, try some things and make a few pilots and have a look if the concept is technically right at all”. (17, CTO Hippo)

This process is partly born out of the business model. Clients don't pay a fee in advance for the use of their software, but income is based on services provided. Consequently, it takes longer to earn back the investments that are made. Since their services aren't obligatory when using the software, the income is uncertain as it depends on what clients need. Constant feedback is used to asses if the products will be profitable in the long term:

"We have to do a bit of development, and then we take a look, how can we market this, what's the use of it for people? Which service do we have to sell? And then we go back, and develop further. It's an iterative process". (18, CTO Hippo)

For larger projects, which incorporate extensive software development, a team is almost completely engaged on that project:

"Radical innovation takes a lot of time and attention. It's not possible that those people also provide service to clients in between. We have people on the floor above who need to think a lot, and need a large span of concentration". (19, CTO Hippo)

"On a certain level we have a quite fixed team for development. For special elements you put special people together, who can give input on a detailed level. You introduce specialists. We have one core team which continuously . . . a software development team that is working on that". (20, CFO Hippo)

To create an environment in which people are driven to search for new ideas, and like to experiment, the competences of the employees are important:

"*Every employee needs to have experience with clients, projects and software development. When you're making software, it's really important that you know who your clients are. If you're only working with software in an abstract way, then you'll get a beautiful engine, but the car would miss its steering gear. You will need that. So we try to maintain some diversity, so that it will circulate . . . If people are just being smart on their own, then the ideas are not passed on to others, and at the end, you have to do it together".* (21, CTO Hippo)

Selection of the right people is very important. Besides technical capabilities, communication skills are very important as well. These people are very hard to find:

"The labor market it's just much too tight, easy as that". (22, CTO Hippo)

For this reason Hippo looks for possible employees abroad, who will later be located at the office in the Netherlands.

The effects of growth on exploration

Hippo has experienced an increase of complexity because of its growth. The steps which have been taken to handle this complexity have resulted in a decrease of flexibility. However, real problems or pressure on the organization haven't been experienced so far. The lack of flexibility is understood by the company:

"It certainly becomes more complicated. You have to create processes you hadn't have before . . . we now have between 40 and 50 people. A complete new intermediate layer is created. As original management your span of control is limited, that changes, and makes it less flexible ". (23, CTO Hippo)

The increasing number, size and importance of clients seem to reduce the flexibility and has its effects on exploration:

"We have our clients on whom we spend our time; we're working on large clients and large projects. This has the result that it becomes impossible to spend time on a new idea for a new feature that day. Instead of that, the release is in one month, instead of tomorrow". (24, CTO Hippo)

However, the increase of employees has resulted in more specialization of employees. In the beginning everyone knew and did everything; now tasks are more specific and crystallized. In addition, the developers are more separated and can, therefore, focus on development:

"Yes, roles become clear and more and more crystallized, which is pleasant. In the beginning, everyone did everything, but actually you can't do any development then. But the people who were dedicated to development went really fast. That was a very important development. Now people are specialized on development ". (25, CTO Hippo)

Besides the crystallization of roles, there are processes sharpened as well. The exploration processes as they are structured now were present in the past, but to a lesser degree. Main processes were already present, but they became clearer when they happened on a bigger scale.

Conclusion

Hippo has, because of its process and business model, a strong focus on exploration. Their "product" is freely accessible, and earnings result in service contracts. By exploration, new products or features can be offered for which clients need support and training, which is what they sell eventually. The organization is, therefore, highly technology driven, and development is more or less a hobby. People are constantly working on creating new possibilities, which indicates a prospector strategy. The open and highly ambitious atmosphere supports the sharing of knowledge (Ireland & Webb, 2007; Hage and Aiken, 1970). This process is part of the whole organization, everybody is involved, and the organizational atmosphere and characters of the employees indicates contextual ambidexterity since a context is created for highly driven employees that experiment on their own, and are looking for new ideas and possibilities. Difference can be made between small projects, which are continuous improvement projects and are part of daily business, and larger, more extensive processes that are more explorative. The development process of the small, exploitative projects as well as the big, explorative projects are iterative, steps of development, discussion and testing follow up continuously. In the case of the larger projects, more moments of feedback are planned. The development process of an explorative project is performed by a dedicated team. The daily practice would distract them too much and, therefore, a separate team is chosen that is completely focused on the development of that project. This team structure resembles the characteristics of an autonomous team structure, as described by Clark and Wheelwhright (1992). This dedicated team is located separate from the functional structure and is led by a "heavyweight" senior manager. The seniority in the field of technology development plays a major role at Hippo. The team operates on its own, concentrated on that project, away from the daily operation. It is free to follow its own practices and procedures.
Because of their intangible products, open source codes and their position in the open standards community, external relations are of exceptional importance. They are continuously interacting with their environment, and share their own knowledge online. In this case, it is clearly illustrated that the use of partners in the innovation process depends on the origin of the projects (Faems et al, 2005). For exploitative projects, the process is very interactive, and suppliers and clients are closely involved in the whole process. In the case of the explorative projects, as the respondents state, clients and suppliers are less suited since they often lack the knowledge and ambition to strengthen the project. Since exploration mostly concerns completely new fields, the capabilities of suppliers and clients don't fit the context of the project. Although different partners may contribute to explorative projects (Faems et al, 2005), exploration at Hippo is more internally driven. Through brainstorm sessions in which various ideas come together, a project plan is created for a longer term. Since employees interact that much in the open source and apache community, a lot of knowledge is already present, and official external relationships aren't necessary.

The autonomous team was founded when resources allowed dedicating people to it. This shows that an increase of size certainly has positive influence on exploration. The growing number of clients and their values has resulted in some loss of flexibility, because these clients take a lot of time, and expect full service when they need it. Therefore, the specific team was created in order to make sure that exploration would not suffer on account of this. They explicitly anticipated on the changed circumstances of the organization, and professionalized the structure to ensure that explorative activities would not be hampered. This shows that the exploration doesn't have to decrease as a result of growth, but that the organization of it has to be adjusted. Since exploration is the core value of the organization, and the organization's atmosphere and goals are that much directed towards exploration, any decrease of exploration is very unlikely.

4.5 Case 5: Dialogue Company

Introduction

Dialogue Company is the holding organization that invests in Dialogue marketing organizations. The organization is based on two major projects that were completely new concepts in the market. As the umbrella organization, Dialogue Company is addressed with strategic issues such as whether to invest in a new concept or not. Their main aim is searching for new possibilities and trying to find new opportunities in the market of Dialogue marketing.

Currently seven organizations are managed under Dialogue Company. Each organization has its own specialty:

- Mailmedia: Building, exploitation and analysis of email marketing
- Tripolis: Dialogue marketing software development and integration
- Accept Email: Invoice payment by email
- Yeshello: Email marketing developed for SME's
- Ematters: Digital direct marketing services
- Your leads: Online Lead Generation
- The People's Valley: Support of marketing and communication goals

The origins of the different daughter organizations vary. Some are based on new concepts that are generated in one of the organizations, and are put into a new unit, but mergers are done to expand the portfolio as well. Collaborations between the organizations are also performed. Applications, knowledge and information are shared among these six organizations but are independently managed. For example, Accept Email has a license agreement with Tripolis for the use of their technology and database for the sending of digital invoices.

The presence of exploration

80 % of the innovative projects are explorative. Only 20% of the activities are exploitative at Dialogue Company. Within the units, focus is on exploitation. At Tripolis, 70% of the activities are exploitative, only 30% are explorative.

Strategy and allocation of resources

Exploration is very important for the Dialogue Company. The core activity of the organization concerns creating new possibilities in the market.

"Innovation is the core value of the organization".
(1, CEO Dialogue Company)

"We are continuously looking at the interest of our customers and what do we have to be more innovative". (2, CEO Dialogue Company)

The market in which they operate is very fast, and is, therefore, of major importance.

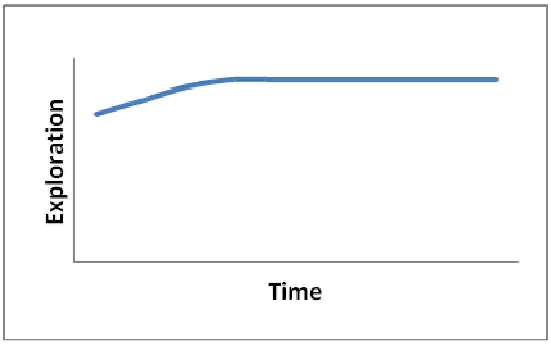

Figure 5. Intensity of exploration over time Dialogue Company

"If you don't innovate . . . You shouldn't stay put. As a new media organization, you have to be focused on new developments continuously". (3, CEO Dialogue Company)

The organization of exploration

At Dialogue Company a clear vision about how exploration should be performed is present. As stated above, Dialogue Company is the holding organization under which 7 organizations operate. These 7 organizations all have their own specific focus on the field of Dialogue Marketing and are founded as a result of a new concept:

"We see a new change in the market, and then, we found a new organization". (4, CEO Dialogue Company)

When a new concept is developed, which covers a new element of dialogue marketing, a new organization is established. The explorative activities are performed by Dialogue Company, while the actual operation, exploitation, is performed within the subunits. This means exploration and exploitation are clearly separated. Dialogue Company focuses more on fundamentally new things, by strategically looking at the possibilities in the field of dialogue marketing. Improvements in the concepts are done by the seven different organizations which focus on one product or service each. If an idea crops up within this organization, it will be taken over by the Dialogue Company, which will coordinate further development, which eventually leads to a completely new organization:

"We are mainly working on fundamentally new things. Improving existing ideas is much more part of the operation of the organizations". (5, CEO Dialogue Company)

Exploitation is the core activity of the independent sub-units. In the beginning, a new organization may still experience explorative activities, but eventually, their core focus will become exploitation. The following comment expresses the outlook of the company:

"We have invested a lot, we now want to focus on how much we can earn back". (6, CEO Tripolis)

This separation is based on the conception that every project has to be profitable and has to be able to survive on its own; otherwise, the concept is simply not good enough, and not worthy to invest in:

"New projects stay independent. We don't integrate it in the existing entity. We believe that every company we have, should have its own legitimacy. If you integrate it in another organization then the

profits of that specific organization are hard to track, therefore it should have its independent reason of existence. It has to survive on its own". (7, CEO Dialogue Company)

Another reason that is chosen to put every concept I a new entity is that this has as a result that people are completely dedicated to the project, what will benefit its results compared to projects that are performed besides exploitation or other explorative projects.

At last, the different organizational requirements of exploitation and exploitation are a reason to separate both activities. By separation, the optimal conditions for each activity can be created, what benefits as the success of both. At Dialogue Company, a real process for exploration is absent; no activities or formal procedures are present for this:

We don't force it in the organization by a functional instrument that we implement, no. No forms no box for ideas, empathically not". (8, CEO Dialogue Company)

Most ideas arise within the existing organizations. If someone has a new idea, he discusses that with his manager. If he is convinced that it's a good idea, he discusses with several people who can be involved:

"If someone has an idea, we reflect on whether it is attainable. We don't do any market research, but we just start. By trial and error, we find out if something works or not. It's very pragmatic". (9, CEO Dialogue Company)

After that, the people and the time available for the concept are assigned. Market research is not done; a concept is developed by experimentation:

"It's an iterative and casual process; very purposeful . . . We keep it very unrestrained, the process, that's what we do". (10, CEO Dialogue Company)

Freedom is the key to creativity:

"My experience is that it doesn't work (refers to formal processes and activities). If there is something that does not work at all it is forced creativity. Creativity comes out of work floor. You encounter much more if you are simply busy. That's the way we think of innovation". (11, CEO Dialogue Company)

In the past, a little more structure was present, but this failed to work and, therefore, it was chosen to quit that way of working:

"It was more structured, during one and a half years we had a monthly meeting, an afternoon was reserved for that, like the Google –model, but it appeared that this was not successful. People were busy with their current projects which were nevertheless favored. That makes sense, because that's what they are judged on. From that view, you don't have to impose it, but stimulate by keeping in dialogue with those people". (12, CEO Dialogue Company)

Now, exploration is just part of the daily job and there is no aim to specifically head for it. To ensure that exploration is performed the selection of people is very important:

'The people are very important . . . Innovation is present in the people". (13, CEO Dialogue Company)

"Most employees are aware that it's (exploration) is needed, and do it by themselves". (14, CEO Tripolis)

While flexibility and openness are core characteristics of Dialogue Company, within the units a development towards more standards, procedures and more fixed processes is experienced:

"Now we focus on stability, creating procedures, and the administrative burden will increase. But it will give certainty and clarity . . . focus is now an exploitation of products that have been developed the last years, increase on the side of development is not the core focus anymore, but on the commercial tasks". (15, CEO Tripolis)

At Tripolis, more structure is present; a certain method is present and more detailed plans are drawn for projects. Also, meetings are held daily and weekly.

External relationships

Besides the knowledge, they develop by means of selection of people who are able to recognize opportunities they also use external channels for exploration too. From organizations that can offer complementary knowledge and technology from completely different industries, new concepts are created, as for instance, in the case of Accept Email, which is a joint venture with an organization that specializes in online payments. These kinds of partnerships are chosen because they offer knowledge which is not available in the organization. One of the other organizations is also a joint venture.

Some relationships with universities are present as well. One manager of the board is also teaching at a University, and the organization always employs some interns for the young inflow and for the new and fresh views they have:

"You are stuck in your own operation, they have a fresh look on the organization from outside". (16, CEO Dialogue Company)

Outsourcing is also applied on issues that don't deliver competitive advantage. This is mainly done for the development of software, which needs to be done quickly and they don't have the capacity for it.

At Tripolis, clients and suppliers are involved mainly in the development process. This collaboration is different compared to the partnerships of Dialogue Company, which are more strategic. The external relations Tripolis has are aimed at the improvement and development of the existing product. The company has clear perceptions about their roles:

"With clients and suppliers we do have them (collaborations). They think along and are involved with testing". (17, CEO Tripolis)

"They use it in practice the complete day. In our case they are the end-users, if they cannot work with it properly it will harm us at the end" .(18, CEO Tripolis)

The effects of growth on exploration

Because of the structure of the Dialogue Company, where every concept is managed by an independent unit, the main organization doesn't grow extensively.

"The cell division mechanism which we have actually, means it still goes well/ every idea gets differentiated. This means that you don't get the problem of a big organization. So I don't forecast any problems in the future if 'm honest. When innovation was performed within the organizations then the organization would become very large. Then you have separate divisions together and you should institutionalize it". (19, CEO Dialogue Company)

Growth has never resulted in a push towards more exploitation:

"No, no, that would be fundamentally wrong. " (20, CEO Dialogue Company)

Dialogue Company itself hasn't experienced a push to exploitation because of the growth. Exploration has become more:

"In the beginning the cash flow is really important, and then it is important to make money. Only relatively fast, when the cash flow gets positive, you know you have to innovate, and develop further, from that point it becomes standard in the organization . . . But we're continuously busy with innovation". (21, CEO Dialogue Company).

Within the operational organizations at Tripolis, increase of complexity and other growth effects are experienced:

"We've had a period when we grew very very fast. We wanted that partly to speed up the developments and therefore obtained more people. Then managing becomes more difficult. The more people you have the more complex your process becomes. In the field of the organization as well as in the field of development. A moment comes in my experience, then you reach a level where attracting more people doesn't make sense anymore; it doesn't speed up the process anymore. If you look purely at development projects it is possible, but this incorporated major changes. Development teams need to get separated and a new layer of communication is needed. We chose not to do so". (22, CEO Tripolis)

Conclusion

It is very clear that this organization is really engaged in exploration and that a well considered structure is present to optimize exploration. The organization is very much a prospector; it is constantly searching and experimenting with new markets and technologies. This strategy is translated into a structure in which exploration is central and can be recognized as corporate venturing, since the organization constantly invests in new internal and semi-external ventures to create new potential opportunities (Maine, 2008, p. 359). The new ventures stay part of a larger holding. Dialogue Company is the mother organization that also manages the linkages between the units. Sort of a divisional structure can, therefore, be recognized as well. Normally, a divisional structure is introduced by an older, mature organization, as a reaction to increasing complexity (Bake & Cullen, 1993, p. 1257), but Dialogue has chosen this structure very early in its life cycle to carry out its explorative strategy. Extensive cross-divisional communication is maintained and controlled by the mother organization because of which linkages are strong, and knowledge can circulate in order to create new possibilities sand collaborations. Since the mother organization is very organic, and focused on exploration, the structure is not a stifling one, but creates possibilities.
The mother company is completely dedicated towards explorative activities. They are convinced that creativity shouldn't be forced or structured and is, therefore, separated from exploitative activities, resulting in structural ambidexterity. They have such a strong belief in their innovative concepts that they think they should be able to survive on their own, and have their own legitimacy. Another important consideration is that for the success of an explorative concept, it needs dedication.
They follow the logic of Tushman and O'Reilly (1996, p 25) that by keeping units small and autonomous, employees feel a sense of ownership and are responsible for the results. This encourages a culture of autonomy and risk taking that could not exist in a large, centralized organization (Tushman & O'Reilly, 1996, p 25). People are very much driven to discover new possibilities. Because of this, real processes for exploration aren't needed, and they are replaced with an organic structure within Dialogue Company. The operational subdivisions also have mechanistic characteristics as fixed procedures and more planned activities.
Dialogue Company really invests in long term relationships that are formalized in legal bodies. It attracts organizations that can deliver complementing knowledge. Alliances are used to create concepts of a completely new level, deviating from the current business of Dialogue Company itself, but which are completely new at industry level or even in the world. This also confirms that exploration is the main goal of the organization and is worth the organizational costs. Within the subunits, partnerships are used to improve exploitative activities. Clients and suppliers are involved in the development process to improve

the existing product. This shows that because of the different origins of exploration and exploitation, different types of partnerships are used, which coincide with the studies of Faems et al, (2005).
Since their strategy is directed towards exploration, necessary structure is created in which constant exploration is pursued. This structure ensures that Dialogue Company, the mother division itself, doesn't experience organizational growth, or increase of complexity because of increasing numbers of employees. Exploration has only increased in the first months after the cash flow became positive. The situation of Tripolis shows that within the subunits, complexity does increase, since the individual units aim to develop into efficient organizations. New people were attracted to stimulate the development and sales of the product, resulting is an increase of organizational size. Processes became more complex in the field of organization as well as on the side of development. Because exploitation is separated in new units, this growth doesn't affect explorative activities.

4.6 Case 6: M4N

Introduction

M4N stands for Multichannel, Media, Marketing, and Management Network and it is the company name as well as the name for the main product/service of the organization. The organization was founded in 1999 by two brothers. Since they spent their youth in South Africa, they named the organization Mbuyu, which is Swahili for Baobab tree. This tree is considered as a place for trade because of the shadow it provides on the African savannahs. At that time Mbuyu was the first affiliate marketing network that was founded in the Netherlands. An affiliate marketing network is an intermediary between online advertisers and owners of websites, called affiliates. These affiliates generate sales for these advertisers through their website. Advertisers pay these affiliates based on performance; a reward is given only for realized sales. This way, the advertiser profits from a higher number of visitors, whereas the affiliate receives a merit for putting the advertisement on his website. M4N is the name for the software system that makes tracking of clicks and sales possible. When the name of the system became more known, the organization changed the company name in 2006 from Mbuyu into M4N. Besides the software experts, M4N has a team of account managers who support advertisers and affiliates to increase the sales.

The presence of exploration

Results questionnaire	
Percentage annual sales from:	
Breakthrough products	20%
Improvements	20%
Non Modified	40%
% turnover spend on R&D	30%
% of the R&D budget on:	
Explorative innovation	10%
Exploitative innovation	90%

Number on FTE's 2007	25
Number employees headcount 2007	35
Number of Employees on R&D 2007	2
R&D activities employees:	
Only exploration	30%
Only exploitation	60%
Both Exploitation and exploration:	10%

Number of R&D projects 2007	N.A
Type of R&D projects:	
Explorative	20%
Exploitative	80%

Table 9. Results questionnaire M4N

Strategy and the allocation of resources

The affiliate program became very successful which resulted in a strong growth for the organization. Since 2002, when the M4N system was launched, the turnover has grown about 5 – 15 % monthly. The number of employees has doubled last year. The ambition is to grow further by doubling the gross profit. Exploration was assessed as important to create new possibilities to realize this increase. However, because of other priorities that resulted in the growth, the strategy changed drastically:

" The turnover we make has to be increased first. That creates a paradoxical situation, a kind of split. First, exploiting to explore. But that's the story of the chicken and the egg". (1, CEO M4N)

This has affected the level of exploration, which is not part of the core activities anymore.

"10 -15 % is working on exploration, and even that's in the details. The business model isn't put into question anymore. On the one side that's a deliberate choice, because we lack technical capacity to expand. And secondly, if you really want to explore, you have to contact investors to take that step. As organization you need to have a certain maturity, we are not ready yet". (2, CEO M4N)

The current focus is on stabilization of the organization and technology, and the improvement of the system.

"We are in the phase momentarily . . . that the product which we have is rather known, the basic idea is clear, those basic ideas we're optimizing now. I consider that no longer as innovative". (3, CTO M4N)

"The goal is to get better, instead of developing new things. If many creative things will be developed, the effort will be spending on that". (4, CEO M4N)

This implies that creative programs and development are put on a longer term plan.

"*Main reason is the problem of the risk it brings. When you do something new, it has 90% chance that it doesn't work. We have tried it so many times that I know how much risk it brings in. So I can spend my time better on something of which I know it doesn't have a risk and that directly leads to a result. Although that result might be less. Thus the spin of is less, but more certain*". (5, CTO M4N)

Ideas are present, but further development is not executed.

"We have such a list with concepts which are made up already, the idea generation is not an issue . . . We have too many ideas momentarily, in which we would like to invest time, but haven't been executed yet. We have such a load of ideas that all are viable, and are important and could be charged. We have so many, we don't have the time to start with them because we don't know where to start". (6, CTO M4N)

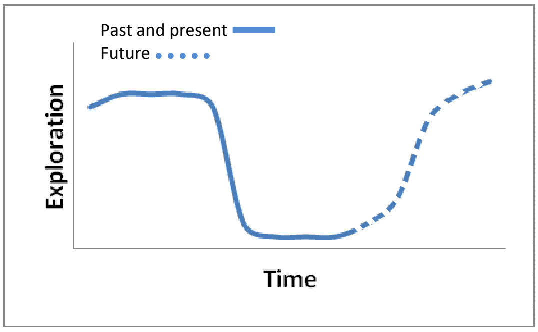

Figure 6. Intensity of exploration over time M4N

This period of stabilization is used to reconsider the strategy:

"You need to know where you're going. If you don't know where you're going, you can innovate, but is has not structure, and you're not aware of what you're heading for and why that innovation was needed. I Hope we have a strategy that gives us a reason for existence because it's an inherently good business model". (7, CTO M4N)

"In the market, several parties can operate, but within that market you need to have a Unique Selling Point why people would use your system . . . you have to make a decision, which people do we want to reach and what is the most efficient way to do this, different from the others. Otherwise, it would be a lot of supermarkets but you need to have reason to go to that one supermarket. And that's what we're working on now . . . To do so we have to continue because you only get better when you keep optimizing. This means other processes have to be stopped". (8, CTO M4N)

The current focus on the existing product and business model implies that concepts that deviate too much from the existing systems are avoided:

"Arjan recently had an idea to implement banners in games, that's nice, it's a good idea, a fantastic concept. Basically, we could start tomorrow. But that would mean he have to change our business model, and everything we do and adjust it. For now, such an idea differs too much from our existing systems. That means it isn't something you will start tomorrow". (9, CTO M4N)

Although major concepts which influence the existing organization are out of question, some exploration is performed:

'That doesn't mean that in the meanwhile, you don't take a look on other things, or improve or adjust. To get a new view on it again". (10, CTO M4N)

"That's a project that we want to do, and on which we're working on. In that way we are innovative, only, it takes much longer". (11, CTO M4N)

The focus on exploitation is now favored since the organization wants to improve the foundation of the organization as well as the technology for the future. In the long term, exploration is needed to survive in the market:

"That's inevitable. After 1,5 year you're out of the market. Let me put it like this: the Lada kept on driving for a very long time, but at one point, they just couldn't get along. You can continue producing that car, but hey, it's originating out of the prehistory, nobody will buy that thing anymore". (12, CTO M4N)

"Exploration is needed. I'm convinced that if you want to continue the growth the organization is experiencing, you have no other option. It's unavoidable. This business model can't be applied abroad, so you have no other choice. The market for this product is too small in the Netherlands . . . So it's a must, otherwise you will be taken over or you have to merge. In our case, it's a must to survive". (13, CEO M4N)

The organization of exploration

M4N has two departments that are involved in technology development. The first is the technology department itself, which is concerned with the architecture and processes of the major software system, the product M4N. Another department called product development is active with the "light" technology, features and special applications that are part of M4N. Since exploitation is favored temporarily, time, resources, structure and activities for exploration are limited for employees:

"It's limited because of the targets and objectives; this makes it more effective, but less creative and explorative". (14, CEO M4N)

"No mechanisms are present; we are not working on it because it is not the objective. It is the objective to improve, instead of new developments. The development of creative things will take energy, whereas we want to aim that at other things". (15, CEO M4N)

Explorative activities that are done are kept apart from the existing business.

This is done because on the work floor, focus needs to be on improvement; otherwise, it would distract employees from the current business.

"If you are too much focusing on other things, the complete focus of the organization disappears. It's better to keep it apart from the organization a little. When you're rowing a boat and someone puts up a sail, everybody watches what happens. While if one person goes to another boat and puts the sail up on that one, tries if it works and then implements it on the other boat". (16, CEO M4N)

In the past, a spin off resulted out of M4N, because the project was assessed as too much deviating from the strategy on which they wanted to hold on. Separation would benefit both.

"If the sailing boat is working, it will sail in its own direction. Only one person can enter the sailing boat so do you have to put the sail on the rowing boat? Or do all rowers have to go to a sailing boat? But how do you teach rowers how to sail? There is chance that rowers have to row against the wind when they're in the sailing boat.M4N had the choice to become an affiliate themselves. We didn't do this, that's how No Search has come into existence. This was a well considered choice. You have to think about it, do rowers want to sail? And can they do it? ". (17, CEO M4N)

For the little exploration that is still performed internally, an informal process is present now. The idea is that exploration should be an open and flexible process. If someone has an idea, normally this is expressed in the lobby and it is conveyed through the group, and it is then assessed for its commercial value. When it has value, then it's a concept. Ideas that take a large amount of time are discussed with the CEO if they have commercial value and if they are worth to spend time on them for development.

"A new idea always has to do with time". (18, CTO M4N)

"If it takes more than x hours, I have to discuss it, I can't just add a new feature". (19, CTO M4N)

The technology departments have an informal task division, where everyone has his or her own specialty. One person, the CTO, makes the major decisions. One developer has an important role: he has built the software system from scratch and has the ability to examine if a new concept can be integrated, and how much time it will cost. Based on his estimation of the needed time and attainability, a choice is made whether to continue. Since this person is leaving M4N, this will be a major loss:

"It depends on the people you have and if they are able to perform such an innovation. That's why it's a pity that one developer is leaving. He is able to prop such an innovation, since he is able to think as the end-user. That's quite a unique talent. As a technician, your ambition is to get the technology right, that's a nice goal, but the most important is what it provides the customer". (20, CTO M4N)

External relations	
Customers	6-10
Suppliers	11-25
Competitors	
Consulting agencies	1-2
Universities & Higher education	3-5
Public or private research institutes	
Type of partnerships	
Explorative innovation	20%
Exploitative Innovation	80%

Table 10. Results questionnaire part 2 M4N

External relations

Technological development of the M4N software system is performed in-house, but for business development external relationships are favored.

M4N believes in separation of exploitation and exploration. Certainly now, exploitation is of major importance, and daily business should not be affected by new and creative ideas. The most favored way is to perform exploration with external parties. But there may be contrasting opinions:

" . . . It would be wishful to make a project out if it with an external organization, so it would have no effect on our existing processes". (21, CTO M4N)

"By joint ventures we are looking step by step at how to shape new ideas. By collaboration with others, we take a look at the possibilities outside the organization, instead of radically changing M4N. That's the strategy at the moment. If something happens that can improve the business model drastically, then we will pull it towards the organization and actually do something with it". (22, CEO M4N)

However, since the focus is on exploitation, these kinds of partnerships are seldom present since they would take too much time and attention:

"It's very difficult to get that right, if I hire someone to do something for me that's no problem. I can tell him: this is what you have to do. But when you collaborate, the one and the other do a part. And when am I working for myself and when for the other? And what is return on it. That's difficult, because software sometimes has no returns the next day, but takes 3 or 6 months. This means working on an hour rate and that's very expensive". (23, CTO M4N)

"Momentarily we have business partners we're already working with, where we see opportunities, if you bundle your powers. Starting something new together". (24, CEO M4N)

New knowledge is also acquired by the large number of interns that are hired. Students with various backgrounds are present in several projects that support the development of the organization and can give a fresh look on the product and the organization.

The effects of growth on exploration

The growth has affected the complete operation and strategy of the organization, which has resulted in a decrease of exploration.

"*It has decreased substantially. The process of doing new things has considerably come down at thing we already did. ".* (25, CTO M4N)

In the beginning, exploration was a core value, which now has decreased. However, it will increase when the stabilization is realized:

"If I look back at the beginning of the business model, we had time for it. At a certain moment, finance is a major issue, you're tight up by financial means. If you have to earn money, you have no other choice. You make a lot of turnover to expand the organization, others to invest. In the beginning, 1.5 to 2 years are explorative, followed by a phase of exploitation and then a period of exploration again". (26, CEO M4N)

In the past, processes for exploration were, therefore, present, in contrast to the current situation in which all energy is directed at exploitation.

"We had a plan, we actually had a complete project overview. But that has died a little. We had several project phases, birth, child, puberty. This means testing, applying it to a customer, and eventually to more customers". (27, CEO M4N)

The increasing complexity that resulted from the fast growth couldn't be managed well; that resulted in chaos. This chaos is to be reduced before further development can be continued:

"The growth has resulted in a mess; we didn't clean up, not fast enough. We should have cleaned up earlier, and then we could have grown much harder temporarily. That's the bottom line actually". (28, CTO M4N)

How this has happened is also explained:

"It slips in. It has to do with the fact that when you're growing, you want to do a lot, you want to develop. But you haven't cleaned up on your previous developments; they haven't been administrated yet . . . because it's a waste of time". (29, CTO M4N)

If the administration was kept more up to date, the organization could have focused on more growth temporarily, according to the respondents. However, it is also explained that although it might create chaos and pressure on the organization, it also has an advantage:

"Sometimes you have to start cleaning when it's needed, now it has become an urgent matter, and then you spend the right time on it. If you don't have a deadline, you can clean endlessly . . . you really need a deadline before the mess should be cleaned up, and then continue with another project. And then you start cleaning again, but clean in a different way". (30, CTO M4N)

The risk of getting stuck in the exploitation is not present according the CTO of M4N, since the vision for longer term developments is present:

"I think I know I have a vision for the next 3 years. I had a period in which I didn't know what I was doing in 3 years. Because I thought, we wouldn't last in the existing situation. But now I know that whatever happens, we still can work for 3 years with the same idea, much more innovation and improvement can be done. The world will not be at our back, since they have the same problems we have ". (31, CTO M4N)

Because of the growth and increasing complexity, the structure at the technology department improved. In the beginning, ideas weren't even written down, now they have to be, because too many concepts are present to perform at one time so they have to be logged for the future. In the past, a new feature was just built. Now ideas are written down and employees of the commercial department that actually use the software are more involved, to give feedback and advice. Also, the processes within the organization become clearer, as also the commercial value and the impact developments have on the organization.

"We are in a phase in which more structure has been put in the creation of new things, and a little more structure is shown, for example, commercial stuff that has been taken into account in the decisions you make, because it has a major impact on another part the organization". (32, CTO M4N)

Conclusion

Originally, the organization had a prospector strategy, in which exploration was of major importance. However, the strategy was unclear and not well performed; the structure and processes did not change or get professionalized when the organization grew. The old way of working was not adequate to attain the goals that were set. Mechanisms that worked when the organization was small failed in the larger context. The strategy was stated, but not really used as a guideline for behavior, what resembles the reactor strategy, as described by Miles et al (1978, p. 557). All possible criteria for being characterized as reactor are present: no clear strategy towards exploration, failure to shape the organizational structure and processes that fit with the strategy, and the maintenance of the old strategy-structure relationship despite the change of conditions and circumstances. Currently, the strategy is directed towards stabilization, and improvement of the existing system and processes in the organization. Exploration is limited. They have chosen to optimize the foundation of the technology as well as the organization, to perform more exploration in the future. Their priority is to create stability and certainty, since the financial situation forces them to focus on organizational issues first. After that, more exploration and

further growth will become important again. To create the condition for successful and continuous innovation in the long run, exploitation is favored temporarily.
Since exploration is not part of the central activities of M4N on a temporary basis, no specific structure or processes are present for exploration. In the past, a certain trajectory for a new project was present but this has been diluted. Now they are working on the creation of the circumstances in which exploration can be performed in the future. Separated from daily business, some explorative opportunities with external parties have been analyzed. This is done without affecting the daily routine to ensure that it will not distract too much from the current activities. In the past, when fewer employees worked at M4N, everybody did everything, and knew about everything. In a small group, ideas and problems were shared. The increasing complexity and change has resulted in a problematic situation. Based on the theory of Sine et al (2006), it can be concluded that the organization stayed too organic. The growth resulted in a loss of overview since no structure or mechanisms were present or introduced to control the increased complexity. The growth blinded the organization to administrative and technological issues. The organization did not professionalize enough, to keep control. Role ambiguity and limited task specialization, functional differentiation, and administrative intensity have caused the current situation. Some structure is present through the contribution of separate functional departments and some task descriptions, but it is too limited. In addition, coordination among the departments is limited. The loss of overview resulted in a gap between technicians and clients. A commercial department now has contacts with clients, and technicians are less aware of how clients use the system and what is needed or should be improved. External relationships are not used intensively, since they require too much time and effort, and don't contribute to current goals. Technology development is an in-house activity; external relationships are considered only for business opportunities. Since exploitation is the core activity now, the success trap, as described by March and Levinthal (1993) could eventually affect the organization. The positive results of the current exploitative period can lead to more engagement in exploitation. Certainly, when no mechanisms, routines or structure are aimed at exploration, the ambition to be more explorative might fade.

4.7 Case 7: Ocom

Introduction

Ocom is an internet services organization which is the holding company that owns three daughter organizations: EvoSwitch, Lease Web and FiberRing. The two founders started Lease Web in 1997 with only one server. Now, LeaseWeb is one of the biggest hosting providers in the world, which enables the safe distribution of content over the internet (http://www.LeaseWeb.com/nl/about-us). They have grown to a position in the top 30 of the biggest hosting providers worldwide and are still growing.
When the number of servers increased, the chance came to them to start their own data centre and EvoSwitch was founded. A Data center is a storage facility for the housing of systems, in this case, web servers. A datacenter needs to have redundant or backup power supplies, data communications connections, environmental controls and security devices. EvoSwitch is the first Carbon-neutral datacenter in the Netherlands, which has no CO^2 emission. By innovative concepts, the data centre is very efficient energy wise, which means high cost savings since less energy is needed for cooling and infrastructure (http://www.EvoSwitch.com/en/about-EvoSwitch/). The building of their own datacenter was quite a challenge, since they had little knowledge about datacenters besides the experiences they had with Lease Web being a client of various other datacenters. However, they used the knowledge that was present and were, therefore, able to build one of the most innovative data centers at that moment. It was important to optimize the energy usage of the datacenter, which reduces the operating costs drastically. Because of this, they are able to reduce the price of their products while the quality is even better. The third and smallest division is FiberRing. FiberRing is a provider of optical solutions. It has constructed dense local fiber optic network that connects to the national fiber optic infrastructure. This permits customers to bring a fiber optic connection directly to the end user (http://www.FiberRing.nl/). Since Fiber Ring is a relatively small and stable business unit, it was not part of the interview. The brand of Ocom was launched for marketing reasons rather than as part of the internal organization. The 3

organizations are operating in different fields and, therefore, require a different brand, and different organization. However, the three organizations are connected because they're part of one supply chain. By vertical integration, the elements are each other's customer. LeaseWeb is a client of EvoSwitch while FiberRing takes care of the network connections of Lease Web. However, the combination of these organizations operating in these three fields is uncommon.

The presence of exploration

Results questionnaire	
Percentage annual sales from:	
Breakthrough products	15%
Improvements	10%
Non Modified	75%
% turnover spend on R&D	10%
% of the R&D budget on:	
Explorative innovation	N.A
Exploitative innovation	N.A

Number on FTE's 2007	35
Number employees headcount 2007	39
Number of Employees on R&D 2007	3
R&D activities employees:	
Only exploration	15%
Only exploitation	60%
Both Exploitation and exploration:	15%

Number of R&D projects 2007	5
Type of R&D projects:	
Explorative	30%
Exploitative	70%

Table 11. Results questionnaire Ocom

Strategy and allocation of resources

Technological development is important, but the pace of the markets is relatively slow, compared to other organizations related to the internet industry. Hosting as well as data centers don't compete on new developments. Organizations that have higher price rates, and which don't offer the same quality services, are still in business. Reputation and branding is important. The company has clear picture about innovations:

"Often it's because of the convenience, it's not necessary to innovate to attract clients. Others simply don't; dare to stick one's neck out, it incorporates experimentation. Particularly established organizations don't dare to. It stops them eventually". (1, Innovation Director)

"At the time we started, we were the most innovative datacenter. But existing datacenters still don't work the way we do, so it's very progressive". (2, Innovation Director)

Vertical integration is used as an innovation strategy:

"Strategically we have chosen to control the entire chain". (3, Innovation Director)

'We are part of the whole chain, so we have influence on the complete process, and that's a big advantage". (4, Innovation Director)

This offers competitive advantage since you're not dependent on external parties and you can optimize for the complete chain, resulting in energy saving which decreases the costs.

"What we do is impossible for small organizations. We purchase in such high amounts, we have that much purchase power, which means you can get reasonable prices. At the end, we can rent servers for a price a competitor can't even buy it for. That's an advantage, if you can manage that the service, like resignation is automated and things like that, then you're quite innovative compared to competitors ". (5, Innovation Director)

The decision to build their own data centre resulted from the limitation of growth Lease Web experienced because of dependencies on external data centers. When they found an existing datacenter that wasn't operating and went bankrupt before it was started, they decided to take it over.

"Normally, you don't see them together (data centers and hosting organizations), only in the last years did large hosting organizations say: we don't want to be dependent on others, but do it ourselves. But that doesn't have to mean it will be a success. You really have to know what to do. It's not like 1 and one is two ". (6, Innovation Director)

Since the three business units operate in different markets under different conditions, exploration varies considerably. The lifespan and investments of the products are different and, therefore, each division has its own innovation projects. At LeaseWeb, innovation is performed on a small scale and is mostly incremental. Projects are concerned with the efficiency of existing processes, increase of scalability, improving their services and extending the range.

"We will continue to improve the quality and expand the size of our hosting network". (CEO)

Growth is realized by expansion of their capacity and improvement of the products they offer:

"Growth is primarily due to our policy of reinvesting our earnings in the expansion and improvement of our Cisco-based hosting network". (CEO)

Since the market of customers is quite saturated, growth has to be realized through an existing pool of clients. As their clients grow, they have to have the capacity to meet that demand:

"The scalability is also important for corporate hosting. Since we maintain twice the network capacity that our clients use in bandwidth, our clients are always assured that they can continue to grow. Enterprise clients also view our large inventories of equipment and components as a plus in terms of scalability". (CEO)

Innovation is also undertaken in the services they offer. One example is showing the energy usage of the servers to clients.

"That's quite innovative; I've never seen that as a client of a datacenter". (7, Innovation Director)

Also, the servers they buy from their major suppliers like Dell, HP and Cisco are examined on their capacity, usage and possibilities. Only servers that satisfy their high requirements are offered to their clients. A service like that is rather innovative in the industry. Although they don't really develop new technology themselves, they are offering innovative services to their customers.

At LeaseWeb, innovation is a constant flow of incremental innovations. At EvoSwitch, the building of a new datacenter is a large, extensive and expensive project that requires more exploration. The building of a data centre requires major investments, which are quite uncertain about future returns, and subject to loss of capital because of issues related to occupancy. When the centre is built, it has to be set up completely, with big investments in a complicated infrastructure. However, filling the datacenter can take two years or even more while the technological lifespan passes through. The returns on investments are uncertain and remote in time.

Once the data centre is built, the innovation level is more or less quite stable for a period. Because it incorporates the technology of the complete building, changes or new technologies can't easily be implemented. Since this is a complex physical product, innovations take major investments and a larger time span. They are the physical representation of the origin of the internet, which incorporates technological real estate

"We call ourselves a little bit disrespectfully the plumbers of the internet. Many people often state that the internet is just hot air, but when you walk around the datacenter, you can see how physical it really is. Everything you see on the internet has a place". (8, Innovation Director)

Because of this, a constant urge for exploration is not necessary. However, Ocom is driven to offer the best and newest possibilities. They are open to experimentation.
The first example is the founding of EvoSwitch:

"At the start of the development of the data centre, we had limited knowledge about it. We only had experience as a user, as hosting organizations. So we had to develop a lot of knowledge by ourselves. But we could make use of existing knowledge". (9, Innovation Director)

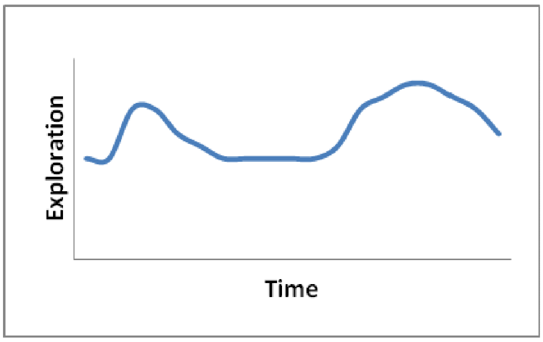

Figure 7. Intensity of exploration over time Ocom

Another important and progressive value at Ocom is environmental sustainability. The thought of energy savings is two sided; besides the benefit for the environment, reduction in energy costs is of tremendous advantage to both LeaseWeb and Ocom , because the organizations need a lot of power for the cooling the servers need.

"Energy consumption is now the biggest expense in data centers and, from a social perspective as well, it only seems logical for us to reduce our energy consumption. Lease Web has recognized this need and is therefore building its own data centers with completely green and energy-efficient designs". (CEO)

Lease Web already was quite innovative in the field of energy usage, but for EvoSwitch this is one of their core competences. Energy has become more and more expensive. Although h prices seem to be dropping because of the financial crisis, it is EvoSwitch's belief that in the long term energy will be expensive. Optimization of energy usage will, therefore, create a major cost saving. Certainly, since the percentage of the energy use becomes a relatively big part of the expenses compared to the purchase price, searching for new possibilities to save energy reduces the costs considerably and makes it able to compete with lower cost prices for clients.

"We are particularly working on the possibilities to make optimal use of the facets of mother nature". (10, Innovation Director)

The organization of exploration

Ocom has a divisional business structure. The management of the operational activities is mainly settled by the board of the division. The board of the Business Unit is responsible for the financial results.
The executive board of Ocom deals with issues that are related to the strategy and the coordinating policy as well as important decisions in the field of finance and investments. The members of the executive board are active at the 3 daughter organizations. Compared to the competitors, the boards is still close to the market and are involved with daily operations.
Since the business units operate in different markets they require different kinds of management and have completely different investment patterns. Therefore, the operation is completely separated. Each division innovates in its own field with different processes. At EvoSwitch, projects incorporate the

preparation of the existing, empty halls. From empty halls they have to design to facilitate the best conditions for the servers, which can be called technological real estate. These projects incorporate a long time span and specific knowledge, which is generated by the use of external specialists. A special project leader from EvoSwitch is appointed to organize this project. The board of Ocom is also part of the team. The process involves meetings and brainstorm sessions to find the best way to design the halls. Also many calculations are made concerning air flows and ways to save energy. The next step concerns the planning of the actual phase of construction. Since it is a complex process involving major steps, which require major investments, planning and coordination is needed. EvoSwitch is building in phases to keep investments close to the occupancy rate of the datacenter. Phase three of the construction plan will commence once phase two reaches a certain occupancy percentage.
At LeaseWeb, incremental innovations and efficiency projects are performed, which are part of daily business. No specific structural elements are present:

"We are constantly working on it. We want to do as much as possible with the least number of people. Especially manual processes which are not necessary are filtered". (11, Innovation Director)

"*We are currently in the process of substantially expanding our Support Department in order to reduce response times and increase our support availability. Approximately 70 per cent of our clients are based in countries outside the Netherlands, such as the United States, the United Kingdom, Germany, Spain, France, Turkey, Denmark, Poland and Russia. This means that we need to have sufficient support staff available due to the time differences. In addition, more clients increasingly have 24/7 business models with 24/7 service and therefore also expect Lease Web to provide 24/7 support*". (CEO)

External relations

For the building of the data centre, specialists are attracted with special knowledge in the field of cooling systems, building technology and air control. These specialists are especially used during the development process of a new hall. For day to day operation of the datacenter little to no external parties are used for exploration.

External relations	
Customers	1-2
Suppliers	1-2
Competitors	
Consulting agencies	
Universities & Higher education	
Public or private research institutes	1-2
type of partnerships:	
Explorative innovation	40%
Exploitative Innovation	60%

Table 12. Results questionnaire part 2 Ocom

The effects of growth on exploration

Because of the rapid increase, the organization has changed. A new layer of management is added and support and sales have become more important, which require a new kind of employees and management.

"Growth has gone very fast and that does incorporate a new layer of management, time and attention. This creates pressure on projects, not only innovation" . (12, Innovation Director)

However, this hasn't resulted in a decrease of exploration.

"EvoSwitch doesn't suffer because of the growth, investments were high, so much attention is given to it". (Innovation Director, 13)

Conclusion

The market in which Ocom operates concerns mainly the back-end and connection concerning internet services. For the products they deliver, tangible resources and space are core elements. Products have a relatively long life span and are not subject to extremely fast changes in which constant technology development is needed. For example, clients don't change the location of their servers continuously, which means the market is quite stable. Product innovations as well as process innovations are mostly incremental. However, by vertical integration, Ocom has innovated their business model that offers a competitive advantage. Ocom's strategy has different characteristics. First of all it shows some elements of a defender since extensive technological efficiency is gained by vertical integration and market penetration is applied by creating scale advantages (Miles et al, 1978, p. 550). This does fit with their market, which is quite stable and not much dependent on constant development of radically new products. However, in general, Ocom is directed towards out of the box development. They have been the first to implement new technological possibilities and deliver exceptional services that go beyond the scope of their competitors. Compared to their competitors, both LeaseWeb and EvoSwitch are innovative and progressive. They are open for experimentation and focus on possibilities of reducing the energy use. This does relate more to a prospector strategy. The combination of both resembles an analyzer strategy, in which both are combined. Although the focus on exploration is present, they are more focused on exploitative innovation. Therefore, no real structure or processes are present that focus on exploration. The equilibrium model can be found. Although exploitation is favored in general, explorative revolutions (Gersick, 1991) do occur too. Besides the constant flow of exploitation, explosions of major explorative projects occur. At EvoSwitch, major explorative projects are performed when a new datacenter is opened. For these projects, a project team is established. In this team, the presence of external specialists is necessary, since they add value with their specific technical knowledge. Since explorative projects are temporary and have a different origin, the knowledge base for that is not present at Ocom. Whenever an explorative project is started, the team is founded by external specialists who have the knowledge that is needed for that project.

The growth has resulted in a change of the organization. More structure has been provided by the introduction of a new hierarchical layer. The changes take time and attention, which is usually spent on the normal activities. However, since explorative projects are carried out by a separate team and have much priority because the investments allocated to them they haven't been decreasing.

5. Cross case analysis

Now that we are familiar with the individual cases, the cross case analysis is performed to generate patterns, differences, and reasons for the specific behavior of organizations. In table 13, a case level meta matrix is shown, which gives an overview of the findings of the individual cases.

5.1 Strategy and allocation of resources towards exploration

The results showed varying strategies towards exploration. A prospector strategy was found in four of the seven organizations. For Dialogue Company, Hippo and Login Consultants, exploring new technology is part of the internal drive of the organization. Exploration itself was a goal, instead of merely being a means to reach a goal such as growth or expansion. WebArchitects can also be classified as a prospector but their ambition level is different. This organization follows an exploratory strategy since it is the only strategy to survive in this market. In the three other cases it was found that they really want to be prospectors, because experimentation with technology is just what they want to do. These four organizations have the same categorization and have fundamentally the same strategy, but their explorative ambitions are different. Hotels.nl has the least explorative ambitions, since their goal is to improve the existing product as much as possible, and focus more on the one market they operate in. Despite this defender strategy, exploration can't be fully ignored, since the market conditions require technology development. However, the market is not that fast that continuous exploration is really needed to survive. The exploration intensity varies over time. Only when it is really needed are explorative projects performed temporarily. At Ocom, this temporary equilibrium model can be recognized as well. The markets in which Ocom operates are also relatively slow and not much subject to constant technology development either. This organization is classified as an analyzer. M4N was classified as a reactor, since their strategy failed to reach the goals that were set, and no fit between strategy and structure that aligned with the changing conditions was present. For survival in the longer term, exploration will eventually be needed. Their ambition is to explore more, but in order to do so, internal conditions have to change first. Although they do value exploration, a phase of exploitation is needed to get back on track.

Overall can be stated that for organizations that operate in the internet technology industry, technology development is always necessary and it is, therefore, present, even for defenders. When an organization wants to maintain or improve its position in a highly technology driven market, exploration is a necessary condition. As shown above, the extent to which exploration is present does vary. An important factor affecting this is the market in which they operate and the ambitions they have. Internet technology is a very heterogeneous market with many subcategories in which the pace of product innovations differs. In fast markets, which are subject to continuous change, exploration is a driver of the organizational strategy, since the legitimacy of the organization is dependent on it. Prospectors were found in these markets. In the more stable markets all types were found: prospectors, a defender, an analyzer and a reactor. In the organizations that choose to focus on the improvement of their core product in a specific set of market conditions, exploration doesn't have the highest strategic value. In markets in which the succession of products is slower, the need for exploration to survive is less because of which the strategy of the organization might differ. Besides the market is the strategy is largely dependent on the objectives of an organization. Three categories can be found: organizations that explicitly value exploration in their strategy independent of the market they operate in, organizations that have a strategy towards exploration since it is a necessary activity, and organizations that only explore when it is needed, and in which it is not part of the core activities of the organization.

	Hotels.nl	Hippo	WebArchitects	M4N	Dialogue Company	Ocom	Login Consultants
Exploration Strategy	Defender	Prospector	Prospector	Reactor	Prospector	Analyzer	Prospector
Organizational structure	Functional	Functional	Functional	Functional	Divisional + corporate venturing	Divisional	
Exploration Structure	Temporary separated teams	Separation by autonomous teams	Contextual Ambidexterity, no specific element	No specific elements present	Structural ambidexterity	Divisional business structure	Structural ambidexterity
Development process	Flexible, iterative	Flexible, iterative	Flexible, iterative	Flexible, iterative	Flexible, iterative	Planned, sequential	Flexible, iterative
Exploration intensity	Punctuated Equilibrium	Constant	Constant	Disruptive	Constant	Punctuated Equilibrium	Constant
External partners	limited, mostly exploitative	Network, open innovation, explorative innovation internally driven	Temporary use of external experts	Limited	Very important, extensive formal relationships present. Use of clients and suppliers for incremental innovation in subunits	very important, temporary use of external knowledge that is not present internal	Limited
Size	Moderate	Moderate	Small	Moderate	Large	Moderate	Large
Product	Intangible	Intangible	Intangible	Intangible	Intangible	Internet services offered by physical capacity	Intangible

Table 13. Case level meta matrix

The strategy types of Miles and Snow (1978) are satisfactory models to represent the fundamental strategy towards exploration but fall short to express the engagement in exploration, as is was asked in the research question, since the rationale behind the strategy is not included. As was shown, not all prospectors are equally engaged in exploration. Besides that, the types were incompetent when the strategy and structure were linked. The main reason for this is that the organizations taken up in this research operate under conditions completely different from the conditions and development processes of the organizations on which the typology is based, which will be explained in the next paragraph.

The knowledge intensive character of the organizations has as the result that exploration in this kind of organizations mostly relies on people and their knowledge and capabilities, since they are the ones who generate the ideas, and also perform the actual development as well; they represent the "production capacity." Allocation of resources, therefore, involves mainly the dedication of the time of the employees. When the number of employees increases, more people can be directed towards exploration and the knowledge base increases which, in turn, benefits exploration (Dewar et al 1990). However, at organizations such as Ocom, M4N and Hotels.nl, in which exploration is (temporarily) of minor importance, the new resources resulting from the growth are not directed towards exploration. More about the allocation of people towards exploration can be found in the next section.

5.2 Organization of exploration: structure and processes

This research confirms that young organizations or new ventures, in emergent and high technology industries, are likely to have an organic structure as stated by Sine et al (2006). It was shown that all cases of this research had organic structures, although the strategies varied considerably. Moreover, even though all organizations were organic, the organizational structure and mechanisms differed significantly. In the case of Hotels.nl, M4N, Ocom and WebArchitects, no central structural element was present constantly. At Hotels.nl and Ocom, temporary exploratory teams are used since exploration is not a constant activity for them. WebArchitects is still very small, with only 26 employees of whom 6 are located abroad. Because of this, a complex structure is yet to come. Contextual ambidexterity is present, and since the created task structure is clear, it is easy to discern who does what in the development process. At M4N, exploration is temporarily of minor importance, because of which no mechanisms or structural elements for exploration are present. In the case of Hippo, Logon Consultants and Dialogue Company, the structure is designed in order to support exploration, and specific elements are created. At Hippo, an autonomous team is assigned to the development process. At Dialogue Company, which has a divisional structure, the mother organization is the exploratory unit, while the daughter organizations are mainly exploitative. Every new concept is put into a new organization, since they believe that every idea should be able to survive on its own and needs full dedication. Login Consultants' exploratory activities were always directed towards e specific case of the organization they were working on. To create more growth, exploration will now serve to create product on a larger scale, which requires professionalization of the process. Since exploration relies on the knowledge and activities of the consultants, a specific unit is founded that is responsible for the actual development and marketing of the proven concepts the consultants deliver.

Theory suggests that, in order to be adaptive and flexible, organic structures are beneficial (Burns& Stalker, 1961). However, the results also show that structure, functional specialization and role formalization, which were resulted because of the growth, contributed towards exploration. In the case of Hippo and Webarchitects, it has been found that growth has increased exploration since tasks become more crystallized while at the beginning there was relatively little role for formalization and functional completeness was lacking. The main reason was that development, which incorporates programming by developers, requires concentration and dedication. When the organization grows and the number of employees increases, more task specialization and functional differentiation will ensure that employees can get dedicated to exploration. When people are specifically assigned to explorative activities, the use of their knowledge and capabilities is optimized.

The sample of this research resembles the objects studied by Sine et al (2006, p. 121). They describe that young internet organizations initially lack formalized roles and routines, and are flexible and innovative since they are founded as reactions on opportunities in a changing environment. They state that, for these young organizations, designing an organizational architecture is a fundamental task, and find support for the theory stated by Stinchcombe (1965). He argues that a lack of structure is a disadvantage for young organizations. Most theories emphasize that specialization would increase organizational costs and decrease flexibility. The exploitative activities that benefit the increased efficiency of the organization can even result in the success trap as argued by Levinthal and March (1993). The findings of this research support the findings of Sine et al (2006), based on the theory of Thompson (1966), who argued that the structure can be too organic as well, especially in younger and smaller organizations. They suggest that young organizations in emerging sectors benefit from functional specialization since it allows people to focus on specific activities and to accumulate task related knowledge and thus enhances information processing capabilities. M4N is a good example that confirms this, since their unclear strategy and lack of structure resulted in a loss of overview when the organization grew, which has hampered explorative activities and further growth. On the contrary, Webarchitects is aware of the possible effects organizational growth can have and anticipate on it by professionalization and formalization, since they believe this will benefit them. As shown in the case of M4N as well as Hotels.nl, when nobody feels responsible for explorative activities, or when it is not assigned as a task, technology development can get more or less ignored, resulting in the continuation of old-fashioned technology or even in administrative and organizational problems. When roles and tasks are not defined, ambiguity can be the result (Sine et al, 2006). It is especially so when an organization is growing and changing and, as a result, people get confused about who does what. The change towards more professionalization of the organization and the official inclusion of exploration in the organization can be a major factor where the success trap as described by March & Levinthal (1993) is likely to occur. The organizations that didn't choose to put explicit structure in, and allocate time to, exploration have experienced the most problems as a result of their growth. In the case of M4N, which neither created some separated unit nor created specialized functions, explorative activity decreased considerably, while organizations such as Login Consultants, Dialogue Company and Hippo have "created" a structure in which explorative activities are guaranteed and flourish. A structure in which exploration and exploitation are separated is favored, since explorative activities need dedication and can't be done well with distraction of daily issues. The organizations experience that because of the difference between exploitation and exploration, it is beneficial to separate them so that both can be optimized (Lewin et al, 1999; Benner & Tushman, 2003; Ireland &Webb, 2007). However, depending on the organizational size and strategy, the degree of separation might be different. In small organizations, separation of departments is actually present, but contextual ambidexterity mostly outlines the balance between exploration and exploitation. In smaller organizations, it is easier to switch between exploration and exploitation because communication is easier and all employees are more involved in the complete process. When organizations grow and become larger, this method seems no longer satisfying, and organizations choose more structural ambidexterity. At Hippo, a special team was founded when the number of employees increased, and at Login Consultants, a complete, new entity was introduced. The bigger an organization gets, the stronger will be the need to clearly define both exploration and exploitation. Formal separation between the two can be used when exploration is one of the core activities of the organization. Because of its importance, preference is given to an organizational structure in which exploration can be performed optimally, without distraction of daily business or putting this into danger. When exploration is not an ongoing activity, multidisciplinary project teams are used that focus on exploration because of which the exploitative activities are not suppressed. Thus, the more the strategy is directed towards continuous exploration, the more professionally organized it becomes. Another possibility is to separate exploitation and exploration by choosing a punctuated equilibrium model, and periods of each or another interchange. In a phase of exploration, a special a temporary team is founded.

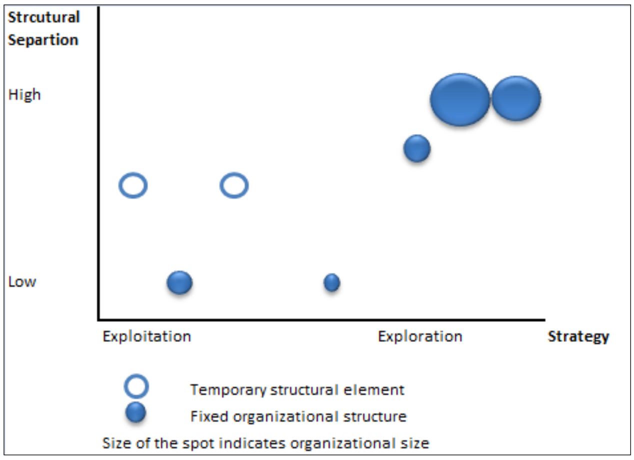

Figure 8. Structural separation

Although size, strategy and structural design may vary, processes are quite the same in all organizations. During the individual analysis of the cases an important common denominator was found. The characteristics of the Internet technology industry are of major importance for the development process and the structure of these organizations. All organizations except Ocom develop intangible or non physical products (WRR, 2008). The origin of the product has a major impact on the development process. Since it considers an intangible product, it is possible to create a more evolutionary (Tushman and O'Reilly 1997), or flexible (MacCormack et al, 2001) development process. Development is done by programming on computers. It is easy to experiment, since the only resource which needs to be allocated is the time of the employees. Also, different scenarios can be tested and compared without waste of materials. The products are relatively easy to adjust and are adjusted by changing the source code. No formal processes are present since the general consensus is that creativity can't be enforced. Ideas result out of practice and experience. No intense plans are made in advance, but a general description is drawn about what the product might look like. Development is a constant learning process, which is performed by trial and error. The period in between is relatively open and unplanned. The common chain of activities is as follows: an idea arises; this is discussed with a manager, or employees. Sometimes a raw version of a concept is already made. Then time is allowed to create a working concept out of it. Then it is decided whether it is attainable and must be continued. That is generally followed by a period of trial and error. Constant mock ups are made and feedback is generated from within or from outside the organization. Depending on the complexity, intensity, or size of a project, the number of meetings and moments of feedback varies. Based on the feedback, further development steps are planned. During the development process new information can be integrated into the design. The informal and open atmosphere at the organizations stimulates the circulation of knowledge through which new opportunities arise (Ireland & Webb, 2007). During the development process, this knowledge can be implemented right away. Because of the nature of the product, people are not restrained by business hours or availability of physical resources and production capacity. If you have a computer, you can work and develop. If you have an idea in the middle of the night, you can simply create a concept and show it the next morning. This provides the possibility to explore and experiment on your own. Employees don't need resources and a production capacity but can simply do it during their working day or even at home on their computer. By selecting people who can handle this freedom, who have the capacity to develop ideas on their own, and who are characterized by ambition and curiosity, the ingredients for a strong explorative force are present. When employees have the freedom to experiment, it is commonly observed that instead of discussing an idea they directly present a concept. This means that selection of the right people is important; but because of the scarcity of capable people in this sector, this can be a problem. Also because of the reliance on tacit knowledge, the departure of an employee might result in the immediate loss of that knowledge and that may seriously affect exploration in the future. In the one exceptional case of Ocom, in which their product is physical, the process was also different. This was much more detailed and a plan was drawn in advance, since the ability to carry through changes is hardly impossible. The development process is sequential, in which one step is followed by the other. Detailed plans are followed, without the possibility of making adjustments during the development process.

Important is that the theory about the success trap and adaptability of organizations is mostly based on samples of mature organizations (Sine et al, 2006) such as the categorization as the one of Burns and Stalker (1961) about organic versus mechanistic structures, and the strategy types of Miles and Snow (1978). These mature organizations were mechanistic or operating in stable markets, and, therefore, not flexible, because it was argued that organic process and more flexibility would improve the adaptability. However, organizations of this sample have a very organic nature. The major reason for this is the flexible development process that is preferred in this industry, and what does not change as the organization grows. The presumption that organizations become mechanistic and need to become more organic and flexible is outdated. On contrary, the opposite is true for these organizations; more structure would benefit. Creating structural elements for exploration and increasing the formalization of tasks and roles contribute to exploration for fast growers in high tech environments.

5.3 Organization of exploration: External relations

In literature the need for alliances in product development is emphasized. Especially for high technology (Beam, 2007; Faems & Looy 2003; Chesbrough, 2003) and small organizations with limited knowledge capacity compared to larger organizations, this would be beneficial (Cattani 2005). However, in the organizations of this research, external relations for exploration are rather limited. Only at Dialogue Company and to a less degree in Hippo and WebArchitects are explorative partnerships conducted. In the other organizations external relationships are quite common but such collaborations are particularly used for exploitation. Suppliers and customers are used for feedback, or as input for small adjustments. Because they are the end-users, their feedback is used to optimize the product or service. Since the nature of the product enables one to show and share mock ups or screenshots, it is easy to involve a client or a customer. For exploration these parties are not suitable; suppliers and clients have their own business interests and are not dedicated, involved or don't have the knowledge for explorative purposes. At Dialogue Company this is shown clearly, since the collaborations of Tripolis, one of the exploitative daughter units, particularly collaborated with clients and suppliers, while at the mother company, partnerships are present with organizations in different markets. This aligns with the research of Faems et al (2005) in which it is argued that exploration and exploitation rely on different kinds of partnerships. Explorative projects need more time, dedication, specific knowledge and background information. Because of this, explorative collaborations involve parties that are willing to spend time and money in an intensive relationship which might need to be legally registered. This implies organizational costs and effort which, apparently, organizations are not willing to make. An organization has to comprehend the value such an intensive collaboration could have and what new possibilities it creates. Only organizations that are really engaged in exploration are willing to spend time and efforts to go into the possibilities of explorative collaborations. This supports the finding that the presence of long term partnerships indicates the fact that exploration is a substantial part of the organizational activities (Hagedoorn, 1993). The possibilities of external relationships aren't noticed always. In most cases, explorative projects are, therefore, mostly organized internally.

5.4 Effects of growth on exploration

The main rationale underlying this research was that because of the fast growth, the organization would experience a push towards exploitation, what eventually could end up in the success trap. The preceding sections already showed that this is not the case; instead of a decrease in explorative activities as a result of the organizational changes the growth enforces, exploration increased. That the organization gets more professional and more formalized is true, but instead of negatively affecting exploration, it does benefit exploration as was shown in the case of Hippo, WebArchitects and Login Consultants. However, growth can affect the organization negatively and hamper exploration. The cases of Hotels.nl and M4N showed that the extent to which growth affects exploration seems to be dependent on the organizational strategy and structure. When exploration is not clearly organized by structure or culture, the chance that growth is limited because of a lack of exploration is present. It needs to be "anchored" somewhere in the organization; otherwise the effect of growth might easily rule over exploration. This resembles the study of Dougherty and Hardy (1996), which shows that organization wide characteristics facilitate product innovation; otherwise it becomes a vulnerable and fragile activity (Dougherty & Hardy 1996). They again confirm that strategic and structural characteristics and mechanisms are needed to successfully explore. When organizations don't do that, it will eventually affect the growth of the organization. Even when further expansion of the organization isn't pursued, exploration should not be ignored since competition would get too much ahead of business, ultimately leading to a loss of business. Dialogue Company has the least effects of growth, either positive or negative. Because of their structure which combines elements of corporate venturing, a divisional structure and structural ambidexterity, complexity in the explorative units does not increase, and, consequently, it has no chance of affecting it. The exploitative units do experience this increase of complexity, which leads to the creation of more efficient exploitative units. Is has best of both worlds. The organizations with the most negative effects of growth are also the ones that lacked structure or strategy to facilitate exploration.

5.5 Overall patterns

Based on the strategy, effects of growth and the organizational structure, three patterns of the intensity of exploration over time can be recognized. Figure 9 shows the exploration intensity pattern based on the theory on the success trap and organizational development, in which it is assumed that because of the increasing complexity and organizational response, exploration would decrease. Figure 10 shows a punctuated equilibrium model in which the organizations focuses on exploitation, and exploration is only performed when needed. This punctuated equilibrium model can be associated with a structure of temporary exploration teams. Figure 11 shows a pattern of an organization that values exploration highly. Since it is an explicit part of their strategy and structure is aligned with this strategy, exploration increases as a result of growth since the professionalization and separation lead to dedication to explorative activities. This is a model of explicit separation. The last figure in line shows a limited structure model in which the organization has the ambition to explore, but in which the strategy and structure were maintained despite the changes of the growth. The failing strategy and mismatch between strategy and structure results in a temporary focus to create a foundation and mechanisms for future exploration.

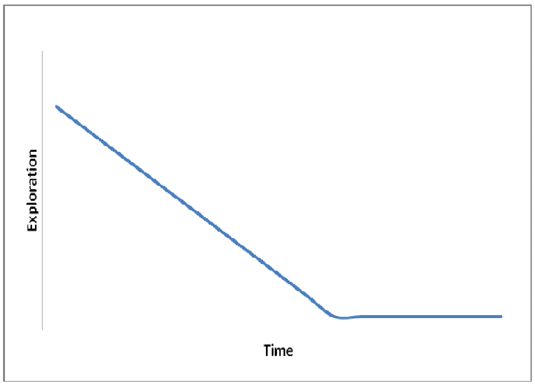

Figure. 9 Theory based model

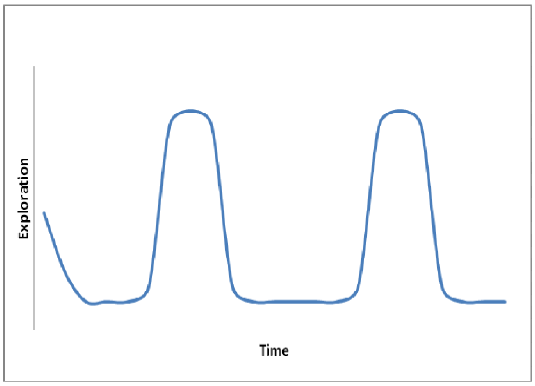

Figure. 10 Punctuated equilibrium model

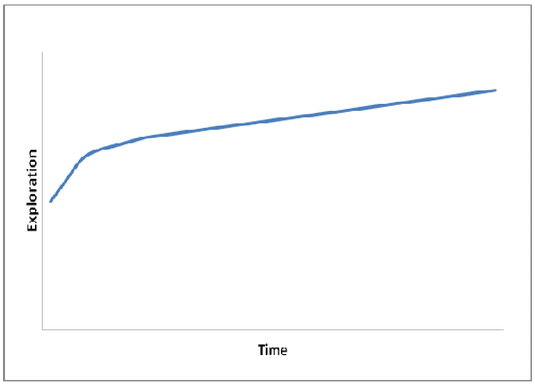

Figure. 11 Explicit separation model

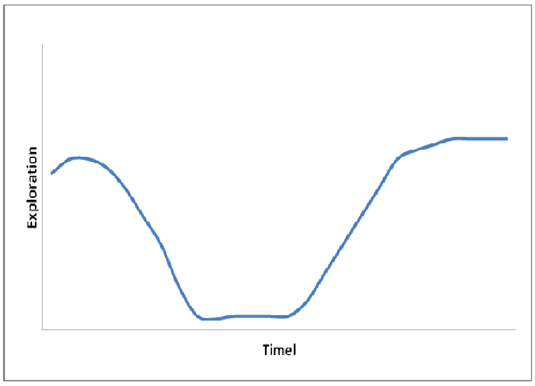

Figure. 12 Limited structure model

6. Conclusion and discussion

6.1 Conclusion

As defined in the first chapter, the goal of this research is to acquire knowledge about the organization of exploration at fast growing organizations operating in a high technology industry. In this case, it is the internet technology industry. The assessment was that exploration might decrease as a result of growth since formalization, professionalization and decentralization become more important (Kazanjian, 1988). According to theory, this could hamper exploration (Levinthal & March, 1993). Since organizations operating in high technology industries rely on technology development, the effects of growth might damage organizational success. Besides the consequences it has for individual organizations, it might strike the economy since economic growth is largely dependent on innovation performed by high technology organizations. Therefore, the following question was drawn:

"How are fast growing organizations, operating in the internet technology industry, engaged in exploration and how do they organize this?"

In the case of high technology organizations, technology development is an important activity and part of the daily operations. However, a major part of the innovation activities of these organizations deal with incremental innovations. The search for complete new technologies and the development of radical innovations can vary from "only when really necessary" to the status of a core value of the organization. Although this research is focused on a specific category of organizations developing internet technology, much heterogeneity exists among them, which influences their explorative activities. Within this category, many different industries can be found, with different market conditions. In a market with a high pace of technology development, the necessity to explore is much more present. In relatively "slower" markets, organizations have other priorities. Consequently, they are less engaged in exploration, and organizational characteristics are not optimized for exploration. It was found that the ambition levels also vary considerably. The strategy types of Miles and Snow (1978) were used to indicate the engagement in exploration, and they show that besides the expected prospectors, also defenders, reactors and analyzers can be found. As far as the first part of the question is concerned, fast growing organizations, operating in the internet technology industry, do indeed engage in exploration. However, the degree of exploration varies significantly depending on the market conditions and the ambitions of the organization.

Organization of exploration

When exploration is an important part of the organizational strategy, exploration is mostly embedded in the organizational structure. Similar to O'Reilly and Tushman (2004), it was found that organizations in particular formed, separate exploratory units aside from their traditional exploitative ones. Since explorative activities require focus and a large span of concentration, they need to be separated from exploitative activities. Different designs of this separation can be found, depending on how much the organization is engaged in exploration, the organizational size and the continuity of exploration projects. In the case of a punctuated equilibrium model, when only relatively short periods of exploration are present and exploitation is most important, temporary teams are used. These teams operate separate from the normal structure and don't affect daily operations. When exploration is an elementary component of the strategy, a so called prospector, the organizational size and professionalization are important factors related to the degree of separation. In the research of Damanpour (1992), it was demonstrated that both small as well as larger organizations have advantages as well as disadvantages regarding innovation. In this research, both are shown as well. Small organizations profit from their flexibility and their informal structure that stimulates knowledge sharing. It was also found that larger organizations benefit from the increased number of employees and financial resources. In smaller organizations, the exploratory function is more integrated, and contextual ambidexterity (Birkinshaw &Gibson, 2004) is present. Because of the limited number of people and functions, it is still manageable. When the organization grows, and the number of human and financial resources increases, structural ambidexterity is introduced. The increase of employees stimulates the emergence of functions and tasks which can be assigned to one or the other. Financial resources are also present to support this. Because of that, a complete unit or division can be dedicated to exploration. Autonomy or separation of these units is important since the development process requires freedom for creativity and dedication and concentration on development activities.

Clear management during the growth phase is very important. In the theoretical framework it was found that growth often leads to formalization and standardization, leading to a decrease of flexibility and a focus on efficiency. However, these organizations are very organic; formalization and standardization of the complete organization is quite limited and not much affected by growth. Only the overall structure is more formalized and task specialization and functional differentiation do occur as a result of the increasing complexity. This does contribute to exploration since the depth and width of present knowledge increases. As Sine et al (2006) suggested, for relatively small and young organizations such as in this sample, more specialization and formalization of functions and tasks contribute significantly to explorative activities. If the organization doesn't adjust when it grows, it is even more likely that the success trap will occur. Too little structure and a lack of clear plans towards the future might result in a chaos, which affects the priorities of the organization. The results also demonstrate that when systems or the structure for exploration is lacking, the organization might focus too much on exploitation, leading to a success trap (Levinthal & March 1993). A clearly defined structure in which exploration is separated from exploration seems beneficial for this kind of organizations. Therefore, the moment in which and the degree to which the organizational structure is optimized for explorative purposes is an important factor affecting the exploration intensity over time. Professionalization of the structure early in the organizational life cycle stimulates, and contributes to, an increase in exploration. When the organization waits too long, and if the structure does not adjust as the organizations grows, it is more likely to hamper exploration.

As said above, this kind of organizations maintains a flexible, open culture, and an informal atmosphere in which creativity is highly valued. Because of the organic structure, information is able to flow through and becomes available to all functions (Dougherty & Hardy 1996). The main reason for this is that the development process is relatively unplanned because the intangible origin of the product allows much flexibility. Since idea generation often results out of practice, this is not only performed by a dedicated team but is "common thought". It can be argued that a degree of contextual ambidexterity is always present, in spite of the function or task of a person or unit. The informal atmosphere in this kind of organizations stimulates the flow of knowledge and idea generation at any time. Once the idea is conceptualized, the dedicated department or team takes over. Within the explorative units, actual systems of processes and activities for exploration are limited. Although the structure might separate exploration and exploitation in order that they don't hamper each other, within the explorative unit or division no actual processes of activities are planned. This working method is possible because of the characteristics of the products they make. They are based on programming and scripting language and data that is stored on computers. This enables them to carry out changes constantly and experiment extensively and makes detailed planning of activities superfluous. Ideas are often gained through experiences and through the problems faced during daily work. After discussion among the employees and the management, time is allocated to create a concept. The further development process is iterative. The product is designed by trial and error, in which employees give feedback or suppliers or customers are involved. Development is a learning process in which experimentation pays a big part. In addition to the nature of the product there is the pool of employees and the organizational culture which are of major importance. In these organizations, often people are present who have the personal ambition to unfold new possibilities and experiment with technology. It is common that exploration is performed on own initiative, or outside operating hours. Quite often, a concept is created without the management or others being aware that someone was working on it. The nature of the product and the "production process" more or less facilitate this possibility. For exploration, the organizations evaluated in this study mostly rely on the culture and capabilities of employees by means of the open and informal processes. This creates a vulnerable position because of the reliance on tacit knowledge. Also, capable employees who perfectly fit the requirements of these organizations are scarce. It confirms the finding of Dougherty and Hardy (1996) that exploration in a lot of organizations is dependent on individuals. The opposite of their findings is true as well, since they also stress that many organizations lack systems or organization

wide characteristics that can contribute to exploration. My argument is that organizations mostly want to institutionalize exploration within the organization when they asses exploration as an important part of their strategy, but that within this exploratory unit, it is the freedom and the culture that stimulate exploration instead of processes. This is in opposition to the typology of Miles and Snow (1978) since they assume that defenders would benefit from a mechanistic structure, and organic structures would only contribute to prospectors. This study shows that in this industry, this cannot be acknowledged.
The explorative activities in the field of external collaborations are quite limited. In general, organizations lack the incentive to invest in horizontal external collaborations that can contribute to exploration. The drawbacks of intensive external relations for exploration outweigh the possible opportunities it offers. Only when exploration is part of the core business, will far-reaching and intensive relationships be engaged, and the efforts it costs are favored over the drawbacks. Vertical relationships with clients and suppliers are common in these organizations, but these collaborations are focused on the improvement of the product through existing knowledge and do not offer new knowledge that can contribute to exploration. Most partnerships consider exploitative collaborations (Faems et al, 2005). Based on this, it can be concluded that these organizations are not much engaged in external explorative activities. Because of this, organizations may miss the possibilities that the external partnerships might offer based on the assumption that partnerships especially for the organizations of this study might contribute to exploration (Beam et al, 2003; Faems & Looy, 2003; Cattani, 2005).

6.2 Recommendations

At the end it can be stated that exploration is present in fast growing organizations developing internet technology. The structure is likely to contribute to exploration and the responses of organizations to anticipate on their fast growth mostly contribute towards exploration, instead of hampering it. Therefore, for organizations that operate in high technology markets and experience fast growth, it would be beneficial to add this exploratory element to the structure as it is changing anyway, and the momentum to implement this is present. By creating a specific, separate element at that point, the chance of falling into the success trap is reduced, and benefits for the future are secured. From Dialogue Company, in particular, it can be learned that strict separation from the start contributes. Specifically to M4N, which is currently in a phase of reconsidering their strategy and structure it can be advised that strategy should be more clear and structure and processes more crystallized and professionalized. Although Hotels.nl has a defender strategy and does not focus on exploration, it would be beneficial to appoint at least one person for monitoring developments in the market carefully, in order to prevent too much loss to competitors, as was the case now. The results showed that explorative partnerships were rather limited. Only organizations with strong explorative strategies have partnerships for explorative purposes. In literature it is emphasized that external partnerships offer great potential. Since these relationships require a lot of time and effort, an organization must be impelled by a strong sense of determination in order to avail of it. It can be recommended that these organizations should take more profound interest in the possibilities of collaborations, instead of only looking at the costs and efforts it takes.

6.3 Limitations and further research

This chapter presents a reflection on the research. It addresses all important issues concerning the limitations of the research, which need to be taken into consideration.
The interview as well as the data from the questionnaire represents information collected at only one moment in time. Since the cases concern extremely fast growers, the cases are subject to constant change. In addition, the fast markets in which high technology organizations operate change constantly. The specific setting of that moment might have affected the answers that were given that moment while a month later the situations changed and internal as well as external circumstances would have shown different results. The dynamic of the market and the organizations was noticed during the internship at M4N. In a few months, the strategy shifted, and the goals had to be adjusted. Since this was the only organization that was observed during a longer period of time, it was not included in this research.

However, this organization demonstrates the fact that in order to really understand the presence and organization of exploration in these organizations, longitudinal measurements would certainly give better understanding. This could specifically be used in order to generate more knowledge on the structural changes of these organizations and their benefits in the future. This research showed that the organizational structure is a very important element affecting the intensity of exploration over time. Although structural separation was found in most organizations, the implementation varied among the cases. Also, their iterative and flexible development process has its effects on the structure, because of which new types of structures come into existence. Further research can be directed towards these innovative structures.

The research of Sine et al (2006) had been used to found the statements regarding the positive effects growth could have on exploration. They also stress that the internet industry is a specific sector. They argue that this sector is such an extreme instance of environmental dynamism, turbulence, and uncertainty that it might be difficult to generalize any finding derived from it to other industries. Nevertheless, it also shows that, because of this unique character, further research on this sector is needed since findings of research conducted on other sectors can't be applied in the internet technology sector at all. This research showed that the characteristics of the core product have great influence on the structure, strategy and the external relationships of the organization. This study is only a first step in getting more understanding on product development and organization of exploration in this kind of organizations. More research is needed on order to get better understanding of the operation and structure of these kinds of organizations. In addition, the proposed relationships have to be taken into account. In this research, it was assumed that fast growth affects the amount and organization of exploration. However, the relationships might work opposite as well have a crucial role there. Since exploration is an important condition to survive and gain competitive advantage, successful exploration can be the cause of organizational growth as well. This could have its consequences on the effects growth has on exploration because when growth is realized by means of exploration, exploration is less likely to decline. As showed by the case of Hippo and Dialogue Company, exploration can be the driving force of the organization from the beginning and the conditions for a success trap may not really be present. The increase in competence at an activity increases the likelihood of rewards for engaging in that activity, thereby further increasing the competence and its likelihood (Argyris and Schön, 1978; David, 1985 in March, 1989). Instead of using this statement to explain the possibility of the success trap, it can also be applied in a contrasting situation. Particularly at these extreme cases, exploration can be a major factor in their success.

This research also shows some specific phenomena that could be interesting subject matter for further detailed research. An important factor in the organization of exploration is the organizational culture, in which a certain "drive" for exploration is present. The way interviewees spoke of their organizations and the image they drew showed a compassionate attitude towards experimentation and the search for something new. It was also noticed that the respondents as well as the employees seemed relatively young. Since average age in the organizations or the age of the respondents was not included in the questionnaire or interview, it is impossible to state that the age of employees is relatively low. However, during the interviews and during the visit of the organization it was noticed that the average age of the employees or respondents appeared to be low. In two interviews, both the respondents suggested that the ambitions and energy of young employees might contribute to exploration, relating age to exploration. It was also stated that they might be more open minded, compared to employees who are older, and, therefore, more willing to explore. A study among entrepreneurs in the internet technology (Colombo& Delmastro, 2001) highlights that Internet entrepreneurs generally are younger and less educated in technical fields compared to the founders in other ICT industries. Another interesting finding is that the founding of their organizations is quite often their first professional experience. This lack of organizational experience may affect the management of the organization. As was found, professionalization of exploration is an important step. It was found that the organization that lacked clear vision and management faced much more problems related to their fast growth than the "well managed" organizations. Poor management could result from the presence of inexperienced managers, especially under circumstances of fast growth in a dynamic environment.

An important finding was that external relationships regarding exploration are limited and organizations mostly rely exclusively on internal knowledge. In other research, the importance of open innovation and external relationships is emphasized, especially for relatively small organizations in knowledge intensive industries (Faems et al, 2005; Cattani, 2005; Chesbrough, 2003). Further research could focus on this lack of external relationships since findings do deviate from existing literature. Some interviewees indicated that external relationships wouldn't contribute or that it would not deliver the benefits they wanted, or even that it is not necessary. It was also pointed out that the founding and maintenance of such relationships costs too much energy and efforts. Further research can take up what possibilities are there to engage in external relationships for exploration and how the drawbacks can be overcome. An extreme case in its use of external relationships is Hippo. This case showed the circumstance in which an organization operates when its products have an "open source". The interactivity that is the result of this characteristic plays an important role in the innovation process as well as the business model. It surpasses known relationships in the case of the open source community; everybody is a user as well as a creator. In an article of Von Hippel and Von Krogh (2003), the basics of open source are explained and it is assessed that these organizations differ from traditional invest and reward – relationships in that they provide a different view on innovation incentives. Because of this, the concepts of organizing innovation need rethinking. More research towards open source software projects can lead to the understanding of these specific organizations. Such a research will also reveal if such an interactive way of knowledge sharing and development is applicable to other organizations too.

7. References

Abernathy, W. J., Clark, K.B , (1985), Innovation: Mapping the winds of creative destruction, *Research Policy*, Vol. 3, pp 3-22

Audretsch, D.B, 1995. *Innovation and Industry Evolution*, Cambridge: MIT Press

Almus, M. Nerlinger, E.A, (1991) Growth of New Technology-Based Firms: Which Factors Matter?, *Small Business Economics*, Vol. 13, pp. 141–154.

Amit. R, Zott, C., (2001,) Value creation in e-business, *Strategic Management Journal*, Volume 20, pp. 493 -520

Augsdorfer, P, (2005) Research Policy, Bootlegging and path dependency, *Research Policy*, Vol. 34, pp. 1-11

Auh, S. Menguc, B (2005), Balancing exploration and exploitation: The moderating role of competitive intensity, *Journal of Business Research,* Vol., 58, pp. 1652– 1661

Baker, D.D., Cullen, J.B, (1993), Administrative reorganization and configurational context: the contingent affects of age, size and change in size, *Academy of Management Journal*, Vol. 36, No, 6, pp. 1251-1277.

Benner, M.I , Tushman M.L, (2003), Exploitation, Exploration and Process Management: the Productivity Dilemma Revisited, *Academy of Management Review*, Vol. 28, No, 2, 238-256,

Birkinshaw, J. Gibson, C., (2004), Building Ambidexterity in an organization, M*IT Sloan management review,* Vol. 45, No. 4, pp. 47-55

Bower, J.L. and Christensen, C.M. (1995). Disruptive Technologies: Catching the Wave. *Harvard Business Review,* Vol. 73, No. 1, pp. 43–54

Brown, S.L. ,Eisenhardt, K.M. (1995). Product Development: Past Research, Present Findings, and Future Directions. *Academy of Management Review*, Vol. 20, No. 2, pp. 343–378.

Brown, S.L. , Eisenhardt, K.M. (1997). The Art of Continuous Change: Linking Complexity Theory and Time-Paced Evolution in Relentlessly Shifting Organizations, *Administrative Science Quarterly*, Vol. 42, No. 1, pp. 1–34.

Clark, K.B., Wheelwright, S.C.,(1992), Organizing and Leading " Heavyweight" Development Teams, *California Management Review*, Vol. 34, No. 3, pp. 9-28

Cattani, G., (2005) Preadaptation, Firm Heterogeneity, and Technological Performance: A Study on the Evolution of Fiber Optics, 1970–1995, *Organization Science*, Vol. 16, No.6, pp. 563–580,

Chen CJ, (2007), Information Technology, Organizational Structure, and New Product Development—The Mediating Effect of Cross-Functional Team Interaction, *IEEE Transactions on Engineering Management*, Vol. 54, No. 4 , pp. 687-698

Chesbrough, H.W, (2003), The Era of Open Innovation, *MIT Sloan Management Review*, Vol. 44, No. 3, pp. 35-41

Christensen, C.M., Overdorf, M., (2000), Meeting the Challenge of Disruptive Change, Harvard Business Review, Vol. 78, No. 2, pp. 66–76.

Christensen,C., Raynor, M., (2003). *The Innovator's Solution*, Boston: Harvard Business School Press,

Cohen, W.N, Levinthal, D.A, (1990), Absorptive Capacity: A New Perspective on Learning and Innovation*, Administrative Science Quarterly*, Vol. 35, No. 1, Special Issue: Technology, Organizations, and Innovation pp. 128-152

Colombo, M.G., Delmastro, M., (2001),Technology-Based Entrepreneurs: Does Internet Make a Difference?, *Small Business Economics*, Vol. 16, pp. 177–190,

Cyert R.M., March J.G.,(1963) *A Behavioral Theory of the Firm*, Englewood Cliffs: Prentice-Hall

Dahlstrand, A.L,(1997) , Growth and inventiveness in technology-based spin-off firms, *Research Policy*, Vol. 26, No. 3, pp. 331-344

Damanpour, F., (1992), Organizational Size and Innovation, *Organization Studies*, Vol. 13, No. 3, pp 375-402

Damanpour, F., (1991), Organizational Innovation: A Meta- Analysis of Effects of Determinants and Moderators, The Academy of Management Journal, Vol. 34, No. 3, pp. 555-590

Delmar, F. Davidsson, P., Gartner, W.B, (2003) Arriving at the high-growth firm, *Journal of Business Venturing*, Vol. 18, pp. 189-216

Deloitte Technology Fast 50 CEO survey, (2007) ,Met de klompen in de modder: Technologie Toppers van Nederlandse Bodem, Erasmus Strategic Renewal Centre, MW Roza, FAJ van den Bosch, H.W Volberda, 2008

Dougherty, D., S. Hardy, C., (1996) 'Organizing for innovation'. In Cleggs, (eds.), Handbook of organization studies, pp. 424–39. London: Sage Publications

Dewar R.D., Dutton, J.E, (1986) The Adoption of Radical and Incremental Innovations: An Empirical Analysis, *Management Science*, Vol. 32, No. 11, pp. 1422-1433

Eisenhardt, K.M, Building Theories form Case Study Research, *Academy of management review*, 1989, Vol. 14, no. 4, pp. 532-550

Eisenhardt, K.M, Martin, J.A (2000), Dynamic Capabilities; What are they? *Strategic Management Journal*, Vol. 21:, pp. 1105–1121

Eisenhardt, K.M., Tabrizi, B.N., (1995), , Accelerating Adaptive Processes: Product Innovation in the Global Computer Industry, *Administrative Science Quarterly,* Vol. 40, No. 1, pp. 84-110

Ersnt, H., (2002) , Success factors of new product development: a review of the empirical literature, *International journal of Management Reviews*, Vol. 4 , No 1, pp. 1-40

Faems, D, Looy, Van, B., Debackere, K., (2005), Interorganizational Collaboration and Innovation : Towards a Portfolio Approach , *Journal of Product Innovation Management*, Vol. 22, pp. 238-250

FEM Business, 29 September 2007, Fast 50 Klaar voor de sprong

Garner, J.L. , Nam, L. , Ottoo, R. E. (2002), Determinants of corporate growth opportunities of emerging firms, *Journal of Economics and Business*, Vol. 54 , pp. 73–93

Gersick, C.J.G, (1991), Revolutionary Change Theories: A Multilevel Exploration of the Punctuated Equilibrium Paradigm, *The Academy of Management Review*, Vol. 16, No. 1 pp. 10-36

Gibson, B. & Birkinshaw, J,(2004), The antecedents, consequences, and mediating role of organisational ambidexterity, *Academy of management journal*, Vol. 467, No. 2, pp. 209-226

Greiner, L.E, (1972) Evolution and Revolution as Organizations Grow: A company's past has clues for management that are critical to the future, *Familiy Business Review*, Vol. 10, no. 4, pp. 397-410

Greve, H.R, 2007, Exploration and exploitation in product innovation, *Industrial and corporate change*, Vol. 16, No 5, pp 945-975

Gioia, D. A., & Chittipeddi, K., (1991), Sensemaking and Sensegiving in Strategic Change Initiation *Strategic Management Journal*, Vol. 12, No. 6 pp. 433-448

Groen, A. (2005), Knowledge Intensive Entrepeneurship in networks: towards a Multi-level/multidimensional approach, *Journal of Enterprising Culture*, Vol. 13, No. 1, pp. 69-88

Hagedoorn, J., (2002), Inter-firm R&D partnerships: an overview of major trends and patterns since 1960, *Research policy*, Vol. 31, pp. 477–492

Hagedoorn, J.,(1993), Understanding the Rationale of Strategic Technology Partnering: Interorganizational Modes of Cooperation and Sectoral Differences, *Strategic Management Journal*, Vol. 14, No. 5, pp. 371-385

Hanks, S.H, Watson, C.J, Jansen, E, Chandler, G.N, (1993) Tightening the Life- Cycle Construct: A taxonomic Study of Growth Stage Configurations in High Technology Organizations, Entrepeneurship: *Theory and Practice*, Vol. 18, pp. 5- 30

He, Z.L , Wong, P.K, (2004), Exploration vs. Exploitation: An Empirical Test of the Ambidexterity Hypothesis, *Organizational Science*, Vol. 15, No. 4, pp. 481-494

Innovatie Vernieuwd, opening in viervoud, 2008, Wetenschappelijke Raad voor het Regeringsbeleid (WRR), Amsterdam: University Press, Den Haag/ Amsterdam

Ito, K., (1995). Japanese spin-offs: unexplored survival strategies, Strategic Management Journal , Vol. 16, pp. 431–446.

Iansiti, M., (1997, From technological potential to product performance: an empirical analysis, *Research Policy*, Vol. 26, pp. 345-365

Jansen, J.J.P, Bosch, Van Den, F.A.J,Volberda, H.W (2006), Exploratory Innovation, Exploitative Innovation, and Performance; Effects of Organizational Antecedents and Environmental Moderators, *Management Science*, Vol. 52, No 11, pp. 1661-1674

Jansen, J.JP, Van den Bosch, F.A.J Volberda H.W , (2005), Exploratory innovation, exploitative innovations, and ambidexterity: the impact of environmental and organizational antecedents, *Schmalenbach Business Review*, Vol. 57 ,pp. 351 – 363

Kogut, B., (1988), Joint Ventures: Theoretical and Empirical Perspectives, *Strategic Management Journal*, Vol. 9, No. 4, pp. 319-332

Kimberly J.R , Evanisko, M.J, (1981) Organizational innovation: the influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations. *Academy of Manage Journal*, Vol. 24, No. 4, pp. 689-713

Levinthal, D.A, March, J.G, (1993), The Myopia of learning, *Strategic Management Journal*, Vol. 14, pp 95-112

Lewin, A.Y. ,Long, C.P. , Carroll, T.N, (1999), The Coevolution of New Organizational Forms, *Organization science* ,Vol. 10, No. 5, pp. 535–550

Looy, Van B. , Martens, T., Debackere, K, (2005) Organizing for Continious Innovation: On the Sustainability of Ambidextrous Organizations, *Creativity and Innovation management*, Vol. 14 Number 3, pp. 208-221

March. J.G., (1991), Exploration and exploitation in organizational learning, *Organization Science*, Vol. 2 , No. 1, pp. 71-87

MacCormack, A., Verganti, R., Iansiti M, (2001) ,Developing Products on "Internet Time": The Anatomy of a Flexible Development Process, *Management Science*, Vol. 47, No. 1, January 2001 pp. 133–150

McCann, J.E,(1991), Patterns of growth, competitive technology and financial strategies in young ventures, *Journal of business venturing*, Vol. 6, pp. 189-208

Meredith, J. 1998, Building operations management theory through case and field research, *Journal of operations management*, Vol. 16, pp. 441-454

Moores, K., Yuen, S., (2001), Management accounting systems and organizational configuration: a life cycle perspective, *Accounting, Organizations and Society,* Vol. 26, pp. 351-389

Miles, M.P, Covin G.J,(2002), Exploring the Practice of Corporate Venturing: Some Common Forms and Their Organizational Implications, *Entrepeneurship: Theory and Practice*, Vol. 26, No. 3 , pp. 21-40

Milkovich, G.T., Gerhart, B., Hannon, J., (1991),. The effects of research and development intensity on managerial compensation in large organizations. *Journal of High Technology Management Research*, Vol. 2, pp. 133–145.

Snelle groeiers & Innovatie, Ministerie van Economische zaken, (2004)

Sine, W.D, Mitsuhashi, H., Kirsch, D.A., (2006), Revisiting Burns and Stalker: Formal Structure and new venture performance in emerging economic sectors, *Academy of Management Journal,* Vol. 49, No. 1, pp. 121–132.

Miles, J.A, & Rosenfeld , J.D, 1983 , The Effect of Voluntary Spin-off Announcements on Shareholder Wealth J, *The Journal of Finance*, Vol. 38, No. 5, pp. 1597-1606

Miles, M.B , Huberman, A.M, (1994) *Qualitative data analysis, an Expanded Sourcebook*, Beverly Hills, California: Sage Publications

Miller, D., and Friesen, P.H (1984), A Longitudinal Study of the Corporate Life Cycle, *Management Science,* Vol. 30, No. 10. , pp. 1161-1183.

Lee, J., Ryu, U. Y,, (2002) , Exploration, exploitation and adaptive rationality: the neo-Schumpeterian perspective, *Simulation Modelling Practice and Theory*, Vol. 10, pp. 297–320

Looy Van, B, Martens, T. , Debackere, K. (2005) Organizing continuous innovation: On the sustainability of Ambidextrous organizations, *Creativity and innovation management*, Vol. 14., No. 3, pp. 208-220

Niosi, J., (2003), Alliances are not enough explaining rapid growth in biotechnology firms, *Research policy*, Vol. 32, pp. 737-750

O'Regan, N., Martin A. Sims, M.A. (2008) Identifying high technology small firms: A sectoral analysis, *Technovation*, Vol. 28, pp. 408–423

O' Reilly, C.A , Tushman, M.L, (2004), The Ambidextrous organization, *Harvard Business Review*, Vol. 82, No. 4, pp. 74-81

Ortt, J.R. , Langly, D.J , Pals, N., (2007) , Exploring the market for breakthrough technologies, *Technological Forecasting & Social Change*, Vol. 74, pp. 1788-1804

Romanelli. E,. ,Tushman, M.L, (1994). Organizational transformation as punctuated equilibrium: An empirical test. *Academy of Management Journal, Vol.* 37, pp. 1141-1166

Sigh, N. Kundu, S. (2002), Explaining the Growth of E-Commerce Corporations (ECCs): An Extension and Application of the Eclectic Paradigm, *Journal of International Business Studies*, Vol. 33, No. 4. , pp. 679-697.

Sabherwal, R., Hirschheim, R. Goles, T., (2001) The Dynamics of Alignment: Insights from a Punctuated Equilibrium Model, *Organization Science*, Vol. 12, No. 2, pp. 179-197

Schoonhoven, C.B, Jelinek, M., The Innovation Marathon: Living in Turbulent Times, *Northern California Executive Review,* Vol. 4, No. 2

Seawright, J., Gerring, J. , (2008) Case Selection Techniques in Case Study Research: A Menu of Qualitative and Quantitative Options, *Political Research Quarterly*, Vol. 61, pp. 294-308

Siggelkow , N. & Levinthal, D.A , 2003, Temporarily Divide to Conquer: Centralized, Decentralized, and Reintegrated Organizational Approaches to Exploration and Exploitation, *Organization Science*, vol. 14, No. 6, pp. 650-669

Tidd. J., (1995) Development of Novel Products Trough Intraorganizational and Interorganizational Networks. The case of home automation, *Journal of product innovation management*, Vol. 12, pp. 307-322

Tassabehji, R. , Wallace, J.,Cornelius, N., (2007) E-technology and the emergent e-environment: Implications for organizational form and function, *Journal of High Technology Management* Research, Vol. 18, pp. 15–30

Tushman, M.L., C. A. O'Reilly. (1996), Ambidextrous organizations: Managing evolutionary and revolutionary change, *California Management Review*, Vol. 38, No. 4, pp. 8-30.

Wang, Z. (2007), Technological innovation and market turbulence: The dot-com experience, *Review of economic dynamincs*, Vol. 10, pp. 78-105

Verschuren & Doorewaard, (1999), *Designing a research project*, Utrecht: Lemma

Voss, C. , Tsikriktis, N., Frohlich, M., Case research in operations management, *International Journal of Operations & Production Management*, Vol. 22, No.2, pp. 195-219

Westerman, G. , Warren McFarlan, F. ,Iansiti, M., (2006) , Organization Design and Effectiveness over the Innovation Life Cycle, *Organization Science*, Vol. 17, No. 2, pp. 230–238,

Weerd-Nederhof De , P.C, Visscher, K, Altena' J, Fisscher, O.A.M (2008) Operational effectiveness and strategic flexibility: scales for performance assessment of new product development systems, I*nternational Journal of Technology Managemen*t, Vol. 44, No 3-4, pp. 354 - 372

Yalcinkaya, G. Calantone, R.J &Griffith, D.A, 2007, An Examination of Exploration and Exploitation Capabilities: Implications for Product Innovation and Market Performance , *Journal of International Marketing,* Vol. 15, No. 4, 2007, pp. 63–93

Yin, R.K, (2003), *Case study research: design and methods, Third edition, Applied Social Research Methods Series, Vol. 5*, Thousand Oaks, California, USA: Sage publications

Internet Sources :

http://www.hostreview.com
http://www.leaseweb.com/nl/about-us
http://www.m4n.nl
http://www.hotels.nl
http://www.dialoguecompany.nl
http://www.tripolis.com
http://www.webarchitects.nl/rightclick.cfm?id=1169961
http://www.loginconsultants.com/index.php
http://www.fast50.nl
http://www.fast50.nl/page/rising-star
http://www.deloitte.com/dtt/
http://www.onehippo.com/nl
http://www.berr.gov.uk/dius/innovation/innovation-statistics/cis/page10957.html
http://www.patterns-in-npd.com

8. Appendices

8.1 Questionnaire

This questionnaire will be used to get some basic information about he balance between exploration and exploitation of the cases.
The questionnaire will is filled in preceding to the interview and is used to get some insight which choices are made and how recourses are allocated. This gives an image about how much the organization spends on exploration. The interview is used to get more in-depth knowledge about the train of thought behind these choices and .

Question 1

Please distribute the percentages of your total annual sales (as filled in in question 6) originating from the following types of new products which have been introduced the last three years (the total sums up to 100%).
Breakthrough products ......%
Improvements to existing products ......%
Non modified products ......%

Question 2

a. How much R&D projects were executed in 2007 ?
...... projects Unknown

Question 3

How are R&D projects been divided concerning the following two types of innovation projects

	percentage
1. Explorative innovation projects; these are projects where the emphasis lies on activities such as fundamental research, experimenting and building first prototypes	......%
2. Exploitative innovation projects; these are projects where the emphasis lies on activities such as standardization, optimization, fine tuning and up-scaling	......%
	100 %

Question 4

a. Which percentage of the turnover was spend on R&D activities in 2007?
......% Unknown

Question 5

How is the budget divided over the two types of R&D projects?

	Percentage

1. Explorative innovation projects; these are projects where the emphasis lies on activities such as fundamental research, experimenting and building first prototypes	……%
2. Exploitative innovation projects; these are projects where the emphasis lies on activities such as standardization, optimization, fine tuning and up-scaling	……%
	100 %

Question 6

a. What was the number of FTE's in 2007:…….
b. What was the number of employees (headcount) 2007:…….

Question 7

a. How many employees performed R&D activities in 2007
…… % of the FTE's Unknown

Question 8

a. How are the activities of these R&D employees divided over the two types of innovation projects?

	Percentage
1. Only Explorative innovation projects; these are projects where the emphasis lies on activities such as fundamental research, experimenting and building first prototypes	……%
2. Only Exploitative innovation projects; these are projects where the emphasis lies on activities such as s , optimization, fine tuning and up-scaling	……%
3. Both exploration and exploitation projects	……%
	100 %

Question 9.

Indicate with how many of the partner mentioned below the organization has cooperated within the framework of innovation projects s in the last 3 years.

		Number of partners					
		0	1 - 2	3 - 5	6 - 10	11 - 25	> 25
Type Partner	Customers						
	Competitors						
	Consulting agencies						
	Suppliers						
	Universities of institutions for Higher education						
	Public or private research institutes						

	Other:........................						
	Other:........................						

Question 11.

Indicate these partnerships had been divided concerning the following two types of cooperation projects

	percentage
1. Explorative innovation projects; these are projects where the emphasis lies on activities such as fundamental research, experimenting and building first prototypes	……%
2. Exploitative innovation projects; these are projects where the emphasis lies on activities such as standardization, optimization, fine tuning and up-scaling	……%
	100 %

8.2 Interview

8.2.1 Interview version 1.0

This interview will be conducted in order to asses which choices a fast growing organization makes for the generation of new knowledge and technology development.
Before we start first some introductionary questions will be asked:

What is your position in the organization?
How long do you have this function?
What is your relation to exploration activities in the organization?

After the introductionary questions the following questions are focused on the choices and organization concerning exploration.

1. How is momentarily the balance between the development of new knowledge and technology compared to the exploitation, refinement and optimalization of existing practices? Can you describe why is chosen for this balance?
2. As fast growing organization your organization is continuously changing. Can you describe how this affects the organization of exploration?
- Allocation financial and human resources
- Organizational structure
3. How would you describe the freedom and ability of employees to explore en experiment with new ideas in the organization?
4. Can you describe existing activities like brain storm sessions, free time for employees for idea development? Why are these methods chosen?
5. Which processes for knowledge and technology development present, are they documented? Why is chosen for these processes?
6. How would you describe the knowledge infrastructure of the organization?
7. Is knowledge shared? How and why, by who?
8. Which channels are used for sharing?
9. How is the organizational structure arranged for exploration and why is chosen for is

structure?(Think about cross functional teams, R&D department, joint venture, spin offs

10. Why is exploration (not) integrated into the organizational structure?
11. In the questionnaire you answered to have ...... as external partners. Why is chosen to generate knowledge from outside the organization and why is chosen for these channels.
12. Besides these relationships with institutions how is knowledge generated by individual external linkages.
13. Which opportunities do employees have to develop and extend their knowledge by external events as seminars, courses, trade mission and such?
14. How often are such events addressed and why?
15. How is knowledge obtained from outside the organization, integrated into the organization?
16. How would you describe the performance of the exploration as it is organized currently?

- Bottlenecks?
- Specific elements: activities, processes, investments, structure, flow and generation of knowledge

17. Do you think more exploration is favorable? Why?
18. How do you think exploration can be improved?

If the preceding questionnaire shows that exploitation is strongly preferred over exploration the following questions could be asked;

19. The questionnaire showed that only little attention is given to exploration. Can you describe what are the reasons for this?
20. Could you think of this as a possible threat for the future?

- If no, why not?
- If yes, what could be done to overcome the possible problems? What is the reason this isn't done?

21. How do you see the share of exploration in the future and what should change to reach this.

8.2.2 Pilot interview

Respondent: Thomas Joosten
Position : CEO M4N
Date: 19-6-2008

This interview will be conducted in order to asses which choices a fast growing organization makes for the generation of new knowledge and technology development.
In this interview two concept a central:

Before we start first some introductionary questions will be asked:

1. Wat is uw positie binnen de organisatie?
Algemeen directeur

2. Hoe lang heeft u deze functie?
8 jaar

3. Welke relatie heeft u met exploratieve activiteiten binnen de organisatie
" Ik zou er heel veel mee te maken willen hebben, maar door de huidige groei van het bedrijf en het zorgen dat de centen verdiend worden, is er door de tijdsdruk is er geen ruimte meer voor. Het vindt meer binnen een afdeling plaats, iemand anders heeft deze rol op zich genomen. Ik ben in de zijlijnen hiermee bezig omdat ik dit heel interessant vindt, maar ik heb er niet genoeg tijd voor. "

4. Hoe is momenteel de balans tussen de ontwikkeling van kennis en technologie vergeleken met exploitatie, verfijning en optimalisatie van de huidige praktijk ? Kan u beschrijven waarom voor de balans is gekozen?

Hoeveel van het bedrijf is bezig met exploitatie en hoeveel met exploratie. Stilstaan bij de inhoud van de begrippen is belangrijk en heel duidelijk vragen.

" Vanuit M4N is het nu zo dat als ik er van een afstand van kijk, zijn we maar met 10 tot 15 % bezig met exploratie en dan is het ook zo in de details, het business model wordt niet meer ter discussie gesteld. Dat is een bewuste strategie omdat enerzijds missen we technische capaciteit om dingen te kunnen uitwerken. Ten tweede moet je voor je daarmee aan de slag gaat, echt met investeerders gaan praten om een stap te kunnen zetten. Daar moet je als bedrijf een maturity voor hebben. Zijn we nog niet rijp voor. 2e helft van het jaar gaan we daar echt mee aan de slag. Silicon Valley is daar een voorbeeld van (business reis georganiseerd door Deloitte) . Een operationeel manager wordt gezocht, zodat ik wat meer tijd vrij krijgt. Zo is er meer tijd om projecties te doen om voorwerk te doen om een grote stap te maken. Omdat ik zelf de oprichter ben van het bedrijf kijk ik er waarschijnlijk anders tegen aan. Mensen die er verder vanaf staan kijken er anders tegen aan. Dat blijft met interviews gevaarlijk, subjectiviteit. "

5. Als snel groeiende organisatie is uw organisatie onderhevig aan continue verandering en toenemende complexiteit. Kan u beschrijven hoe dit de organisatie van exploratie beïnvloed?

" Als ik terugkijk heb je in het begin van business model, dan heb je daar nog tijd voor. Op een bepaald moment, zeker financieel is een groot punt, word je gebonden door de financiele middelen. Als je je geld moet verdienen en er is geen andere keuze. Of je maakt heel veel winst om het bedrijf uit te breiden, anderen om te investeren. Beginfase 1,5 tot 2 jaar is het exploratief, dan fase van exploitatie en dan weer een fase van exploratie. "

6. Hoe zou u de vrijheid en mogelijkheid van medewerkers om te exploreren en experimenteren typeren?

" Bij ons is dit enerzijds beperkt is omdat je redelijk aan je targets en doelstellingen zit, waardoor het meer effectief wordt maar minder creatief en exploratief. We hebben nog niet zoiets als 1 dag in de week waarin je leuke dingen kan bedenken. Doordat we ruimte geven door eigen bedrijven en eigen dingen wel in die kant de mensen de kans geven om iets nieuws te denken. Happy Feed van Frank is wel een innovatie. "

7. Kunt u een beschrijving geven van de activiteiten die worden ingezet om kennis te ontwikkelen en ideeën te genereren zoals brainstorm sessions, een ideeën bus, "vrije tijd" voor werknemers e.d Waarom worden deze ingezet?

" Er zijn geen mechanismen, zijn we totaal niet mee bezig omdat het niet de doelstelling is. Het is de doelstelling om beter te worden, dan nieuwe dingen te ontwikkelingen. Als er veel creatieve dingen ontwikkeld worden gaat daar energie naar toe, terwijl we die juist op andere dingen willen richten."

8. Welke processen voor kennis en technologie ontwikkeling zijn aanwezig en waarom is voor deze processen gekozen?

" Die hadden we wel, een route, we hadden zelfs een heel projectoverzicht. Maar dat is een beetje gestorven. Je had een project dat zit in de idee ontwikkeling geboortefase. Geboorte, kindje, pubertijd. En wat er dan in die fase gebeurt. Testen, klant aanbrengen, meer klanten. SEL is hier een heel mooi voorbeeld van. Van 6 klanten naar M4N breed invoeren hebben we het gekilled. Mooi voorbeeld van hoe we hiermee om zijn gegaan. Heeft het nut? Max naar David naar Ruud. Dat zijn de fases wat SEL heeft doorlopen. "

10. Hoe zou u de kennis infrastructuur van uw organisatie willen typeren?
Wordt kennis gedeeld?
Welke kanalen worden hiervoor gebruikt?

“ Bij ons is er voor kennis deling geen systematische weldoordachte manier, omdat ik zelf geloof dat kennis in hoofden van mensen zit. Johan Cruijff heeft daar een mooie uitspraak over gedaan, een groot deel van kennis wordt opgedaan door dingen te doen. Ik kan een Wiki opzetten over het opzetten van een affiliate programma, die kun je lezen, maar als je dit daadwerkelijk hebt gedaan heb je er pas echt de kennis over, snap je hoe het werkt.”

11. Hoe is de organisatiestructuur ingericht met betrekking tot exploratie? Denka an about cross functional teams, R&D department, joint venture, spin offs

“ Op dit moment is het niet expliciet in de organisatie ingericht, behalve product development. Edwin doet meer de verfijning van de grote lijnen. Door middel van joint ventures langzamerhand gaan kijken om op die manier nieuwe ideeën vorm te geven. Door samenwerking met anderen die mogelijkheden buiten de organisatie te bekijken , in plaats van M4N radicaal te gaan veranderen. Dat is op dit moment de strategie. Als er iets voorkomt waarin het business model dermate kan verbeteren, dan zullen we het naar ons toetrekken en er daadwerkelijk iets mee gaan doen.”

12. Waarom is exploratie wel/niet geïntegreerd binnen de organisatie structuur?

“ Als je nu te veel met andere dingen bezig gaat zijn, gaat de focus van het hele bedrijf weg. Je kunt het beter een beetje van de organisatie weghouden. Je zit nu in een roeiboot, als een iemand een zeil opzet, gaat iedereen even kijken wat er gebeurt. Terwijl als degene het zeil op een andere boot probeert en dan kijken of het werkt, en het dan gemakkelijk kan implementeren op de roeiboot. “

13. In de questionnaire heft u geantwoord ...... als externe partners te hebben. Waarom is er gekozen kennis van buiten te organisatie te halen en waarom is voor deze kanalen gekozen?

“ Op dit moment zijn het business partners waar we al zaken mee doen, waar we opportunities in zien, als je de krachten bundelt. Gezamenlijk iets nieuws beginnen. Edwin doet dat wel, met investeringsmaatschappijen investeren we in concepten waar we potentie in zien. Recruitment is om het huidige team te versterken, niet gericht op exploratie. “

14. Hoe is naast deze relaties met externe instituten kennis vergaard door middel van individuele externe relaties.

“ Edwin hebben we bewust aangenomen om het bezig te houden met het veranderen van het business model in de toekomst.”

15. Welke mogelijkheden hebben medewerkers om zich te ontwikkelen en hun kennis te vergroten door middel van externe activiteiten zoal seminars, cursussen en dergelijke

16. Hoe word de kennis die van buiten de organisatie komt geïntegreerd in de organisatie?|

“ Als het zeilbootje werkt, gaat hij zijn eigen koers varen. Er kan maar een persoon in dat zeilbootje dus zeilbootje op de roeiboot zetten, of alle roeiers moeten naar de zeilboot. Maar hoe gaan de roeiers leren zeilen? De kans zit er in dat de roeiers tegen de wind in moeten gaan roeien als ze in de zeilboot zitten.
Bij M4N was er de keuze om zelf affiliate te worden. Dit hebben we niet gedaan, daarom is No-Search ontstaan. Dat is wel een bewuste keuze geweest.
Je moet er wel over nadenken, willen roeiers zeilen en kunnen ze dat?

In het boekje van Gerschner over IBM is dat mooi beschreven, die CEO heeft het bedrijf van 35000 mensen volledig leren zeilen. Weinig bedrijven is dat gelukt. Veel bedrijven worden overgenomen, gesaneerd en worden dan iets anders.
De grens tussen incrementele en radicale innovatie kan duidelijk worden aangegeven met de roei en zeilboot. "

17. Hoe zou de prestaties van de organisatie van exploratie zoals die nu plaats vindt beoordelen/beschrijven?
-Bottlenecks?
-Specific elements: activities, processes, investments, structure, flow and generation of knowledge

" Ik heb het idée dat het wel goed gaat, maar dat zou je ook aan Klaas (CTO) moeten vragen. We zijn op zoek naar een operationele manager, die niet voor innovatie staat. "

18. Bent u van mening dat meer exploratie eigenlijk gewenst is? Waarom?

" Exploratie is nodig. Ik ben er nu van overtuigd is dat je de groei van het bedrijf wilt doorzetten, dat je dan niet anders kan. Het is onhoudbaar. Je kan met dit model niet meer naar het buitenland, dus je kunt niet anders, de markt voor dit product is in Nederland te klein. Het aantal programmeurs dat nodig is kan alleen als er grotere marges worden gehaald en dat kan niet met het huidige model als software platform. Dus het is een must, mits je overgenomen wordt of fuseert. Een fusie zou niet kunnen gebeuren als er niet een business model verandering is. De Nederlandse markt is gewoon te klein voor affiliate marketing, of dergelijk software platform. Je zou je moeten gaan verbreden in SEO of in de technologie. Voor ons betreft is het een must om te overleven. Een tweede aspect is dat het hele gebeuren gaat veranderen en efficiënter wordt. Het kan zijn dat je overbodig wordt. Een grote speler als Google zou dit kunnen doen, die heeft de financiële slagkracht om markt anders in te richten waardoor je je business model radicaal moet omgooien om niet overbodig te worden. "

"Anders uitgelegd:
-Stel dat de wereld zo blijft zoals die nu blijft. Dan is het nog steeds een must om zo te exploreren . Grotere markt betekent sneller kosten terugverdienen.
- In grote markten heb je de financiële slagkracht om R&D uit te voeren, dat er kansen liggen om het systeem radicaler en efficiënter in te richten. Zo'n club kan zo hard groeien dat je daarmee overbodig wordt als partij. Vandaar ook onze ambitie om die nieuwe partij te worden. "

19. Hoe zou denkt u dat exploratie binnen de organisatie verbeterd kan worden?

" Winst die het bedrijf maakt moet vergroot worden. Daar zit je in een paradoxale situatie, een soort spagaat. Eerst exploiteren om te kunnen exploreren. Maarja, het is het verhaal van de Kip en het ei.
De mensen die het minst verdienen hebben het meest creatieve idee. Exploitatie leidt vaak tot nog meer exploitatie. Je weet niet waar dat afhankelijk van is. Het kan ook met de leeftijd van de ondernemers te maken hebben. Als je jonge mensen hebt is innovatie meer voor de hand liggend. Als je een jaar of 40 of 45 bent, ga je meer kijken wat voor leuke dingen je nog kunt doen, maar de creatiefste dingen bedenk je wanneer je tussen de 20 en 30 bent. Maar misschien si dat een verkeerde aanname.
Ook de markt speelt een rol. De farmaceutische markt is heel anders, dat kost heel veel investering voordat je daar terugverdiensten van ziet.
Cost of entry van M4N wordt hoger, maar relatief is het als je het vergelijkt met andere dingen is het heel laag. "

8.2.3 Analysis of the pilot

Based on the pilot interview the interview questions are analyzed to optimize the interview protocol. Important point of the analysis is if the answers really answer the questions. If not, questions may be unclear or too difficult. The overall questionnaire is analyzed in order to assess if the interview questions generate the information that is needed to answer the sub questions and main question of the research.

Overall

The interview in its current protocol shows clearly that the difficulties concerning organization of exploration is problematic for a fast growing organization. Questions are sufficient to confirm that the danger of a success trap is present.
However the topic of how originations organize their explorative activities are still underexposed.
Also questions are too much formulated, the responded is put into a direction, while more freedom could lead to more information.

Improvements:
get clear what is meant by exploitation or exploration. Make sure that is agreed upon the meaning of both concepts. By introducing a question on the types of innovation a point of reference is created. This can also be used to distract questions concerning the organization of exploration. By keeping asking further about what is chosen and why, more information can be generated.

More focus on how exploration is organized and why certain choices are made.

In the beginning questions could be more open instead giving a few examples of which they can pick.

- Introduce more structure by main questions and sub questions
- When is clear how exploration is organized more in depth questions concerning the effects of growth, and reflecting the effects of current behavior and look at the future

Specific questions

The introductionary questions are clear although question 3 might be vague. At this point is not clear what the respondent might understand the concept of exploration as it is meant in this research.

After the introductionary questions the following questions are focused on the choices and organization concerning exploration.

How is momentarily the balance between the development of new knowledge and technology compared to the exploitation, refinement and optimalization of existing practices? Can you describe why is chosen for this balance?

This question is quite unclear.

As fast growing organization your organization is continuously changing. Can you describe how this affects the organization of exploration?
Allocation financial and human resources
Organizational structure

This question is not asked properly and too early in the interview. Question is quite long what makes it too complex.

Can you describe existing activities like brain storm sessions, free time for employees for idea development? Why are these methods chosen?

Too much directed, release the examples and let the respondent describe more by asking a “how” question.

In the questionnaire you answered to have ...... as external partners. Why is chosen to generate knowledge from outside the organization and why is chosen for these channels.

Question is too complex, split up in short ,clear questions
Besides these relationships with institutions how is knowledge generated by individual external linkages.

Question is unclear, change presentation of question

8.2.4 Interview version 2.0

This version is drawn after adjustments based on pilot.

Interview

This interview will be conducted in order to asses which choices a fast growing organization makes for the generation of new knowledge and technology development.
Before we start first some introductionary questions will be asked:

1. What is your position in the organization?
2. How long do you have this function?
3. What is your relation to exploration activities in the organization.?

After the introductionary questions the following questions are focus on the choices and organization concerning exploration.

4. How is momentarily the balance between the development of new knowledge and technology compared to the exploitation, refinement and optimalization of existing practices? Can you describe why is chosen for this balance?
5. As fast growing organization your organization is continuously changing. Can you describe how this affects the organization of exploration?
6. How would you describe the freedom and ability of employees to explore en experiment with new ideas in the organization?
7. Can you describe existing activities like brain storm sessions, free time for employees for idea development? Why are these methods chosen?
8. Which processes for knowledge and technology development present, are they documented? Why is chosen for these processes?
9. How would you describe the knowledge infrastructure of the organization?
   - Is knowledge shared?
   - How and why, by who?
   - Which channels are used for sharing?
10. How is the organizational structure arranged for exploration and why is chosen for is structure?(Think about cross functional teams, R&D department, joint venture, spin offs
11. Why is exploration (not) integrated into the organizational structure?
12. In the questionnaire you answered to have ...... as external partners. Why is chosen to generate knowledge from outside the organization and why is chosen for these channels.

13. Besides these relationships with institutions how is knowledge generated by individual external linkages.
14. Which opportunities do employees have to develop and extend their knowledge by external events as seminars, courses, trade mission and such?
    - How often are such events addressed and why?
15. How is knowledge obtained from outside the organization, integrated into the organization?
16. How would you describe the performance of the exploration as it is organized currently?
    - Bottlenecks?
    - Specific elements: activities, processes, investments, structure, flow and generation of knowledge
17. Do you think more exploration is favorable? Why?
18. How do you think exploration can be improved?

If the preceding questionnaire shows that exploitation is strongly preferred over exploration the following questions could be asked;

The questionnaire showed that only little attention is given to exploration. Can you describe what are the reasons for this?

19. Could you think of this as a possible threat for the future?
    - If no, why not?
    - If yes, what could be done to overcome the possible problems? What is the reason this isn't done?
20. How do you see the share of exploration in the future and what should change to reach this.

8.2.5 Final version Interview

After adjustments based on pilot and analysis.

Interview

This interview will be conducted in order to asses which choices a fast growing organization makes for the generation of new knowledge and technology development.
Before we start, first some introductionary questions will be asked:

1.What is your position in the organization?
2.How long do you have this function?
3.Can you give a short description about your activities and responsibilities?

4.a What kind of innovative projects are executed momentarily?
4.b Would you asses those innovations as radically new products/ technologies or as improvements to existing products/technologies?
why?

5. How is momentarily the balance between explorative and exploitative innovations?
   - how has this proportion been realized?

6. How are explorative projects executed?

7. How is the organizational **structure** arranged for exploration?

presence of joint ventures
use of spin offs

presence of special team for exploration
which departments are involved with exploration
If strict separation of exploration and exploitation is present(ambidexterity)

7. b Why is chosen for this structure?
7. c Why is exploration (not) integrated into the organizational structure?

8.a Which kind of activities are present for exploration?
-brainstormsessions
-meetings
-experimentation
-“free time”
- how knowledge and ideas is shared and discussed
8.b Why is chosen for these activities?

9.a Which processes are present for these kind of projects?
- which specific steps are taken?
  - presence of milestones
  - moments of feedback
  - points of decision making
- are they documented?
9.b Why is the process designed like this?

Are employees explicit designated to focus on possibilities for exploration?
Do they perform only activities for explorative exploration?
How much time do employees spend on exploration.
In which degree is money invested on exploration.
Are constraints present to invest in exploration? Which? why?

10. a In the questionnaire you answered to have ...... as external partners. Can you describe the collaboration with these partners?
10.b Why is chosen of these partners?
10.c What is done with the outcome of these collaborations?
10.d How / is this integrated into the organization?

11.a How does the organizational growth affects the balance between exploitation and exploration?
-Does the growth hamper investments of money, time and resources to exploration?
-What are the main bottlenecks?
11. b What could be the possible effects of this?

12. How do you see the share and organization of exploration in the future?
-Do you think more exploration is favorable? Why?
-What should change to reach this?
-How will this be realized?

If the preceding questionnaire shows that exploitation is strongly preferred over exploration the following questions could be asked;

13. The questionnaire showed that only little attention is given to exploration. Can you describe what are the reasons for this?
14. Could you think of this as a possible threat for the future?
If no, why not?

8.3 Results questionnaire

Results questionaire	Hotels.nl	LC	DC	Hippo	WebArchitects	M4N	OCOM	*Tripolis
Question 1								
Percentage of annual sales from								
Breaktrouhg products	0%			20%	40%	10%	15%	30%
Improvements	0%			20%	40%	30%	10%	60%
Non Modified	100%			40%	20%	60%	75%	10%
Question 2								
Number of R&D projects 2007	1			6	5	unknown	5	2
Question3								
Type of R&D projects								
Explorative	0%			50%	35%	20%	30%	10%
Exploitative	100%			50%	65%	80%	70%	90%
Question 4								
% turnover spend on R&D	1%			15%	15%	30%	10%	30%*
Question 5								
% of the R&D budget on:								
Explorative innovation	100%			50%	35%	10%	*	10%
Exploitative innovation	0%			50%	65%	90%		90%
Question 6								
No. on FTE's 2007	18**			30	22	25	35	17
No. employees headcount 2007	37			35	25	35	39	17
Question 7								
Number of Employees on R&D 2007	-			10	6,6 (30% of FTE)	2	3	50%
Question 8								
R&D activities employees								
Only exploration	100%			20%	30%	30%	15%	20%
Only exploitation	0%			-	60%	60%	60%	70%
Both Exploitation and exploration:	0%			80%	10%	10%	15%	10%
Question 9								
External relations								
Customers				6-10	6-10	6-10	1-2	3-5
Suppliers	1-2					11-25	1-2	1-2
Competitors				> 25				
Consulting agencies						1-2		1-2
Universities & Higher education				1-2		3-5		
Public or private researchinstitutes							1-2	
Question 10								
type of partnerships								
Explorative innovation	100%			50%	60%	20%	40%	50%
Exploitative Innovation	0%			50%	40%	80%	60%	50%

Table 14. Results Questionnaire *Confidential ** Excluding employees Peru

8.4 Causal Network

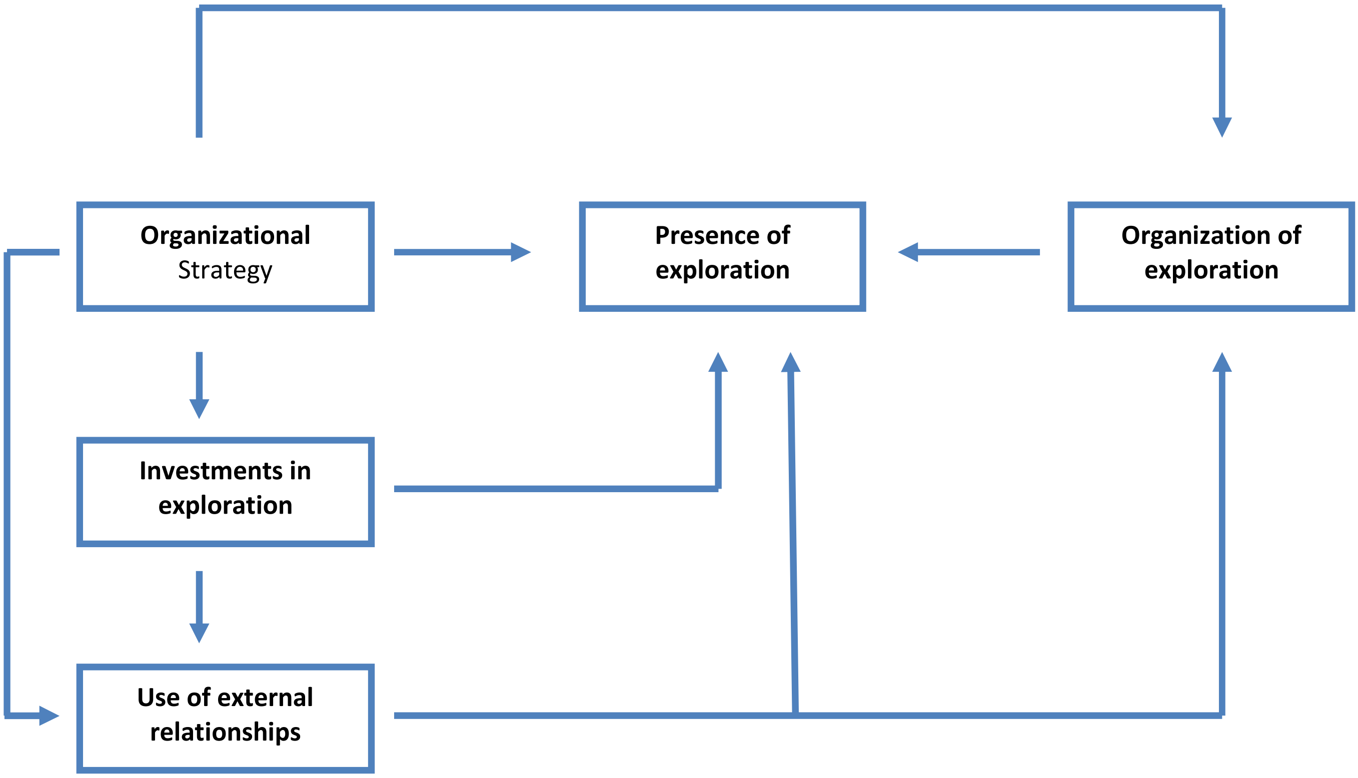

Figure. 13. Causal network

8.5 Effects of growth related towards exploration

Effects of growth related towards exploration								
	Contribute							Hamper
	Task specialization	Increase of internal knowledge	Increase financial resources	Professionalization	weight of clients	complexity	Push towards daily activities	blinded for longer term vision
Dialogue company			x					
Hippo	x	x			x			
Login consultants		x	x					
WebArchitects	x	x		x	x			
Ocom			x					
M4N	x	x				x	x	x
Hotels.nl	x					x	x	x

Table 15 Effects of growth related towards exploration

8.6 Quotes Dutch

8.6.1 Hotels.nl

1.“ We willen ons focussen. We weten waar we goed in zijn. Mensen zeggen wel dat we meer kunnen doen, maar we zijn nog lang niet klaar met waar beginnen zijn. Zeker op de korte termijn hebben we niet de intentie anderen dingen te gaan doen zoals vluchten aanbieden autoverhuur enzo. Dat zou je wel verwachten maar nee, daar gaan we niet mee bezig voorlopig.”

2. “ We hebben geen zin overal kantoren te openen en dat soort dingen daar zijn we ook te laat mee vinden we zelf.”

3. “ Dat zijn korte lijntjes en we hebben geen vergadercultuur. We zijn zo: dit is het probleem en we willen meteen de koe bij de horens vatten. Daardoor willen ook niet graag dat de organisatie veel groter word dan nu qua mensen. “

4. “ Maar daar is dus in eerste instantie niet bewust voor gekozen. Het is ook heel makkelijk binnen 5 minuten beslist

5. “ Dat is wel een sfeer die we proberen te krijgen/ bijvoorbeeld om je heen kijken op internet, wat doen concurrenten. Zoveel mopgelijk informatie verzamelen binnen de organisatie. Iedereen is vrij om ideeën te spuwen. Er is niemand echt intensief mee bezig. Geen dedicated taak.”

6. “Zij moeten er mee werken en het gebruiken, we doen het eigenlijk voor hen.”

7. “ Dus we konden zeker de eerste jaren een bepaalde groei zonder dat het veel impact had op de organisatie.”

8.“ De groei was met name gericht op de boekingen via de telefoon en service. Contacten met hotels en een call center opzetten. Techniek liep eigenlijk een beetje achter. We waren meer bezig met verwerken van de klant aanvragen, verwerken van boekingen. Dat proberen we in te halen nu door de die complete afdeling in Peru. 16 mensen is gewoon heel veel. Straks word dat wel minder. We maken nu een inhaalslag. We zijn zo snel gegroeid dat we nu de problemen daarvan ondervinden zeg maar.”

9.“ Ik kwam ten tijde van de groeispurt. De organisatie is niet heel erg veranderd, het bleef heel flexibel en relaxt. Er zit wat mee structuur is, meer scheiding tussen de afdelingen. Dat was in het begin niet zo. In begin was iedere IT-er bijvoorbeeld aanspreek baar. Nu hebben we per afdeling 1 aanspreekpunt en die verdeeld het weer verder. Dat werkt een stuk beter. Dat is eigenlijk de grootste verandering die er is geweest. Het werkt heel prettig om zulke vrijheid te hebben”

10. “ Dat je bv. dubbel zoveel IT-ers om een klein beetje groei te realiseren. Terwijl het eerste jaar hadden we aan IT-ers genoeg. Op een gegeven moment denk je dat je aalleen maar bugs aan het fixen bent en pleisters aan het plakken bent en dan moet je een groet stap maken.”

11. “ We waren in het begin heel bang dat we te snel zouden groeien waardoor jee heel veel overzicht verliest. Dus we hebben bewust gekozen voor een bepaalde groei bepaalde focus, zoals we ons echt op hotles richten en niet op andere zaken. En dat we dat dan helemaal gaan uitkristalliseren zeg maar. ”

8.6.2 Login Consultants

1.”Als wij dit niet gedaan hadden, dan was login consultants niet wat het geweest was. Als we niet al die innovatie niet tot nu toe gedaan hadden, informeel en formeel, dan was login consultants nooit wat het nu geweest was. Het is verschrikkelijk belangrijk voor ons. Als je een peiler wil noemen dan in innovatie daar echt een van om te groeien. “

2.“ In het begin van login consultants toen er nog 2 , 10 ,50 man groot waren toen was er maar 1 driver , voor alle consultants, en dat was billable bij de klant zitten. Dus alle innovatie werd in eigen tijd gedaan. Wel met een logo, maar alle innovatie werd in eigen tijd gedaan. De zakelijke uren zaten we gewoon bij klanten geld te verdienen. Dat is wel veranderd. Je ziet ook nu dat we nu vijf jaar verder durven wij ook echt te investeren in innovatie.”

3. “ Vijf jaar geleden werden we ingehuurd als er een probleem was, een technisch probleem . Nu worden steeds vaker gevraagd om mee te denken over strategie van een bedrijf. Dat is een heel ander niveau. Als je op dat niveau wil meedraaien, en wil je je daarin blijven ontwikkelen, dan blijft innovatie, *nieuwe producten ontwikkelen en kennisontwikkeling blijft gewoon verschrikkelijk belangrijk. Ja, het wordt alleen maar belangrijker en het is zelf cruciaal in de positie van onze markt"*

4. *"Met alleen consultancy dan ga je niet groei van de afgelopen jaren laten zien"*
5. *" Kijk, we kunnen het ook zonder innovatie doen, maar dan worden we een ander bedrijf, dan worden we echt uurtje factuurtje, en dan zijn we gewoon een vleesfabriek om het zo maar te zeggen."*
6. *"Consultancy is voor ons te eenzijdig, en het risico voor ons te groot is dat we minder harder groeien dan dat we zouden willen. En tegelijkertijd hebben we gewoon de ambitie om van alle ideeën die we hebben om daar gewoon geld op te gaan verdienen."*
7. *"We zijn een hele innovatieve club om onze consultants van allerlei innovatieve tooling die door ons zelf ontwikkeld is daar moeten we dus wat mee om het bedrijf schaalbaarder te maken. Zonder afhankelijk te zijn van de mensen die binnen komen. Vandaar dat we sinds een jaar gezegd hebben kijken naar dat stukje productontwikkeling om te zorgen dat we dat in de markt kunnen zetten om uiteindelijk ook de groei voor de komende jaren te verzekeren."*
8. *" Het eeuwige probleem is, omdat voor het consultancy bedrijf de belangrijkste inkomstenstroom vis detachering , het feit dat je bij een klant zit en geld kunt verdienen, dus dat je consultants naar binnen haalt , als je 10 consultants hier een week lang traint dat is prettig dat we het zelf doen zodat we niemand anders hoeven te betalen maar een consultant levert gemiddeld 1000 per dag op , dus 5 maal 1000 maal 10 is 50.000 euro kost dat ons aan omzet om mensen hier een week lang te trainen. Dat willen we wel doen maar we zijn continu op zoek naar oplossingen daarbij we dan een dag op vrijdag en een dag op zaterdag, zodat we zo veel mogelijk delen in omzet verlies en een stukje eigen tijd."*
9. *"Laat ik het zo zeggen dat de investering die je doet in innovatie dat doet al heel snel pijn in je omzet en dergelijke. We zijn gewoon heel erg klein.*
10. *" Op lange termijn zorgt dit ervoor dat we niet zo hard kunnen groeien. Dat onze groei geremd is, uiteindelijk. Maar dat is giswerk. Je zal nooit 20% van je omzet mogen weg-innoveren. Omdat het gewoon commercieel belang is. "*
11. *"Het feit dat we niet zo veel kunnen innoveren als we willen wordt veroorzaakt door een gebrek aan middelen, de realiteit is dat we nu nog puur een consultancy bedrijf zijn , daarin is belangrijk dat iedereen zijn uren maakt bij klanten."*
12. *"Optimaal zou zijn dat we meer tijd zouden durven investeren dan dat we nu daadwerkelijk doen in de consultants. Het kost een hoop geld maar uiteindelijk denk ik op lange termijn dat dat ons heel erg in het voordeel zou werken alleen we zijn ook heel nadrukkelijk omzet gedreven. Dus de commerciële belangen, dus de korte termijn doelen zitten soms in de weg om dat soort keuzes te maken. " 13. " We investeren als we kritisch zijn , zouden we graag meer willen investeren in kennis en training en dergelijke. Want we doen ook best wel veel workshops enzo in de avond maar je kan maar zo veel vragen van een consultant."*
14. *"Als ik heel eerlijk ben , en eerlijk antwoord geef dan zijn we een consultancy bedrijf dat heel snel is gegroeid dat betekend automatisch eigenlijk dat structuur is heel beperkt. Je kan eigenlijk omschrijven dat onze approach is dat mensen de ruimte krijgen en dat er relatief weinig gestructureerd is er zijn ook geen grootschalige projecten , het is toch allemaal redelijk kleine teams wel zo is dat er echt als het idee goed is of belangrijk er geacht word dat er concreet tijd toegewezen wordt om innovatie te doen dus het enige wat we wel doen is is zeggen dat je zo veel tijd hebt om iets te ontwikkelen"*
15. *" de ideeën liggen voor het oprapen in de organisatie, dus soms zou je gewoon willen dat je een zak van een paar miljoen had , en dan gewoon... dat budget gebruiken zonder dat je commerciële resultaten van het consultancy bedrijf en het andere bedrijf er onder leidden"*
16. *"Mensen zijn vaak bewust van zichzelf. Dat er niet in hun takenlijst hoeft staan dat ze innovaties moeten doe".*
17. *" ik denk dat er op management niveau bewuster gekeken moet worden. Want nu is het zo dat innovatie komt bovendrijven. Is er een goed idee? Dan word dat gelanceerd? Ik denk niet dat we alle innovatie nog even goed oppakken .Maar dat valt wel mee want de echt belangrijke dingen komen wel bovendrijven. Omdat innovatie cultuurmatig bepaald grotendeels, het probleem is dit, het is cultuurmatig bepaald en daardoor hebben we het , het echt structuren zou het misschien beter maken."*

18. ”Dus was het voorheen meer zoiets van: hé wat leuk die heeft iets ontwikkeld, wat leuk, en spontaan en aardig, wordt daar nu meer op gestuurd.”
19. “Pas sinds de afgelopen 1,5 jaar hebben we ook daadwerkelijk een structuur voor neergelegd. Om ook zogenaamde hi-po programma’s te definiëren (high potentials. Waar in mensen dus ook min of meer gedwongen worden on te ontwikkelen, omdat ze daar voor beloond worden, omdat we weten dat ze het kunnen. Ook om met goede ideeën te komen, een andere beloningsstructuur, en andere manier van managen.”
20. ”Dat zijn niet mensen die niet de hele dag bezig zijn van ik ga even een idee bedenken en ontwikkelen.”
21. “Als wij een bedrijf waren dat een 9 tot 5 mentaliteit hadden , alleen voor het werk en voor het geld, hij checkt om half 9 in en om half 5 weer uit bij een klant, want onze inkomsten hebben wel met detachering te maken,wij moeten onze consultant moeten bij een klant werken. ALS we niet dat gevoel hebben dat ze er meer uit willen halen , zoals ik zie een probleem en wil het oplossen, dan gebeurd er ook niks, het si echt cultuurmatig bepaald.”
22. “Dus we hebben de groei heel erg gezicht op persoonlijkheden. Op een bepaald type persoon dat juist out of de box denkt, dat dingen wil oplossen. Die dus wil innoveren en wat niet gebruikelijk is in onze industrie. Dus we vragen net ff wat meer vaak. “
23. “ De grootste dooddoener van innovatie is structuur. Bij echte innovatie is structuur een dooddoener. Wat je moet doen is dat. Dat je innovatie, het echte nieuwe ideeën bedenken dat moet je niet te veel willen structureren, maar wat wel heel belangrijk is executie. Dus daadwerkelijk je idee behouden en ook zorgen dat het in de markt komt, dat je dat wel gestructureerd doet. Dus als je onderscheidt weet te houden, en dat doen we nu een beetje door consulting te laten wat het is , dus cultuurmatig heel erg met innovatie bezig zijn , maar aan de andere het stuk van executie en marketing en daadwerkelijk naar de markt gaan, wat is immers een leuk idee waard als het commercieel uiteindelijk niet succesvol is. Dan is het geen reet waard. Dan kan ik nog zo trots vertellen dat ik zoets moois heb verzonnen maar niemand zit er op de wachten, en niemand kapot het, want dat is het ultieme bewijs van wat het waard is, dan heeft het geen nut. Dus wat wij willen doen, en dat is ook echt heel erg belangrijk is dat we die cultuur van innovatie en ad hoc binnen de consulting organisatiewaarborgen, maar dat de structuur vooral binnen de sofware ontwikkelclub moet komen. Dan krijg je schaalbaarheid. Dus het echter creatieve kant aspect moet je niet structureren, dat moet in je veins zitten, dat moet cultuurmatig bepaald zijn. En executie moet je aan alle kanten structureren om daar bepaalde power in te krijgen. “
24. “ Cultuurmatige veranderingen doe je door het gewoon te doen. Wat we gaan doen dat er 1, personen er de lead in nemen , dus echt aan de bak gaan en structureel daar mee bezig zijn. En dus niet denken dat je er mee weg kan komen door 1 keer iets te presenteren. Maar er dus echt structureel mee bezig zijn en ook durven terugkomen naar dezelfde mensen die een maand daarvoor iets gepresenteerd hebben. Maar en continue mee bezig zijn. Dat kan je niet met een poster op gang voor elkaar krijgen, Daar zijn we al helemaal niet het bedrijf voor . Heel belangrijk is dat mensen betrokken zijn en ze begrijpen waarom , vooral de waarom vraag. Want een cultuurmatige verandering krijg je nooit voor elkaar als mensen niet de waarom vraag begrijpen, dat gaat nooit gebeuren .”
25. “Innovatie komt binnenuit bij ons vandaan.
26. “ Omdat ik denk de praktijk is dat er geen behoefte is om dit te doen. Dat is niet helemaal waar, soms zou je qua geld tijd en middelen wel willen maar de belangen zijn zo verschillende toch op een of andere manier dan zou je een joint venture moeten en dan bedrijfsmatig goed moeten op pakken. Zeker innovatie. Als je echt over innovatie spreekt spreek je over intellectual property. En als je daar echt ij gaat samenwerken, wordt dat toch echt heel erg lastig. Het is wat anders als je zegt: ik heb wat ontwikkeld, wil jij dat implementeren? Dat is makkelijk, maar dat is niet echt samenwerken aan ontwikkeling van de innovatie. Als je echt wil samenwerken aan innovatie dan zal je dat toch moeten vast leggen in een legal body dus al vanuit dat praktisch perspectief al , dat je veel verder moet gaan als je zal samenwerken in een innovatie project dan zal je automatisch al veel stappen moeten nemen om die IP op een goeie manier vast te leggen. Dus dat is niet praktisch. En het si zo dat ieder zijn eigen focus heeft in de markt.”
27. ”Die als een soort open source constructie alles met elkaar delen. Over wat zijn de problemen, wat zijn de uitdagingen in de zin van: ik heb iets ontwikkeld. Dat betekend ook dat wij een ideetjes oppikken van mensen die buiten het bedrijf komen. En die dat dan over onze website willen plaatsen. Omdat ze

een tooltje ontwikkeld hebben. Daarmee proberen we ook zo optimaal mogelijk gebruikt te maken van kennis van anderen.”

28. “Complexiteit door de groei speelt niet echt een rol . Je wordt in zoverre een ander type organisatie door de groei. Kijk , grote organisaties, grotere organisaties krijgen problemen met verloop van personeel. Daar krijgen wij nu ook last van. Puur omdat de binding van het personeel naar het bedrijf nu anders is. Toen wij heel klein waren we een kleine familie en iedereen kende elkaar, dat is nu natuurlijk veel minder. Er komen nu jongens binnen die ik nooit gezien heb en die kennen mij natuurlijk ook niet. Of de directie. Dus dat is een andere manier van zorgen dat je je mensen bij je houd en tegelijkertijd je realiseren dat het verloop dat we het afgelopen hadden van amper 1%, dat ga je3 niet volhouden. Dat gaat toch naar de 10% en dan doe je het al heel goed. Wat grotere, of vergelijkbare bedrijven zitten op de 15% verloop. Dat is toch een beperking. Voor innovatie niet zozeer. Dat zijn de mensen die bij ons specifieke aandacht krijgen binnen het bedrijf en dus mee worden genomen aan de hand om een volgens niveau te behalen. “
29. “ Het is meer geworden. Omdat het bedrijf in volume gegroeid is , en een bepaald type mensen hebben aangenomen, komt de innovatie niet meer alleen op mijn bord terecht . Dat lag het in het begin namelijk wel. Ik was in het begin de grote innovator. En dat ben ik al lang niet mee. Iedereen kijkt zo naar mij , heb je van de Kamp weer met z’n vage ideeën. Dus ik ben absoluut niet meer de enige.”
30. “ De noodzaak is heel duidelijk geworden. We hebben heel erg ervaren dat in het aanloop proces van de afgelopen 5,5 jaar zijn we gegroeid als consultancybedrijf. De dingen die we verzonnen worden wel steeds groter. Omdat we het niet gestructureerd deden, we zijn geen gestructureerd bedrijf wat dat betreft, dat je echt tegen limieten aanloopt. Om een voorbeeld te geven. Als je een innovatie hebt en je implementeert die bij een klant dan moet die ook onderhouden worden. Dat moet gesupport worden en dergelijke. Daar hebben we wel concrete stappen in maken. Daar hebben we al wel stappen in gemaakt dat betekend dat het , dat innovatie steeds belangrijker word ja. De waarde van innovatie bedgrijper we steeds meer en durven we meer in te investeren. Maar ook de onderliggende processen steeds beter oppakken. We zullen nu als consultancy bedrijf, login consultants als bedrijf, zal niet van en ene op de ander dag van een heel erg ongestructureerd, ad hoc bedrijf naar super gestructureerd gaan. Dat zal met kleine stapjes plaatsvinden in het hele precies. Dus als je over 5 jaar nog eens terug komt waarschijnlijk en we zijn nog steeds succesvol, dan zijn we veel gestructureerde en zal je zien dat er veel meer structuur in aangebracht is. “

8.6.3 WebArchitects

1. “ Innoveren en meegaan met je tijd staat bovenaan, op het moment dat je een verouderde winkel hebt, met tl-licht en oud zeil op de vloer, dan stapt een klant niet zo snel naar binnen. Modern zijn, de bediening moet modern zijn . dus je moet echt met je tijd mee gaan . dus we worden erg gestimuleerd om nieuwe dingen te gaan doen. “
2. “ De klassieke valkuilen waarom je terecht komt, bijvoorbeeld zie je, dat moet je vermeiden, is dat je je beste verkoper sales manager maakt , op dat moment verlies je dus een hele goede verkoopkracht en kan zomaar zij dat je verkoop daalt. hetzelfde geld voor ontwikkelaars. Als je je beste ontwikkelaar het lab laat leiden…het kan wel, sommige personen kunnen dat ook wel, maar als je lead developer opeens manager is, dan kan het zomaar zijn dat e kwaliteit van het product achteruit gaat. Op dat soort valkuilen moeten we gaan passen.”
3. “ Dat je ziet bij groeiende bedrijven, bij snel groeiende bedrijven, op zich, ze hebben heel goede ideeën op gebied van producten, ze kunnen prachtige dingen bouwen, maar op het moment dat je een stapje verder wil groeien dan 20 26 mensen zeg maar, dan moet je dingen gaan professionaliseren. Bij de sales bijvoorbeeld, dan moet je met budgetten gaan werken, gaan forecasten. Om grip te blijven houden moet je dat soort dingen gaan doen ja. “
4. “ Mijn lijfspreuk is: pragmatisch, praktisch, niet ingewikkelder maken dan nodig, maar wel een stukje structuur erin aanbrengen. Dan hoeft zo;n professionaliseringslag de organisatie niet te remmen, sterker nog dan beter van presteren.”

5 *" En verantwoordelijkheden ook bij mensen gaan neerleggen, en elkaar daar ook op afrekenen. Bij een klein clubje is het al snel: die zie je ook op de verjaardag en ik moet er niet te strikt tegen zijn. als je een aantal jaren met elkaar samenwerkt, is dat ook lastig elkaar op de verantwoordelijk te wijzen. "*

6 *" Aan de ene kant moet je wel een beetje gaan formaliseren en plannen, want als je 6 ideeën hebt en je kunt er misschien maar 3 doen. ja we zijn beperkt in resources en in tijd. Je moet welkeuzes maken. Maar je moet niet de creativiteit de kop in drukken… dat je zegt: leuk idee, maar we hebben geen tijd, daar moet je een balans tussen weten te vinden."*

7 *" Dat gaat redelijk informeel, wat wel als gevolg heft dat je heel snel slagen kan maken. Er worden niet eerst hele dikke rapporten geschreven. Hier is het gewoon, als we een leuk idee hebben doen we dat gewoon, we maken een prototype en we zien wel of het blijft plakken in de markt. Er zit op zich wel een idee achter, er zit een proces achtermaar ja het is niet echt een formeel plan."*

8 *" Door dat je iets van een prototype hebt, ietwat spartelt noem ik het dan maar, dank an je ook dingen laten zien. In een vroeg stadium heb je dan ja, een check of je de goede kant op gaat of dat het helemaal niks is. We hebben zeker niet de insteek dat we het helemaal ui ontwikkelen, tot de elke functionaliteit gedaan hebben en dan gaan we het laten zien. Nee op het moment dat het spartelt dan krijg je al snel wat feedback."*

9 *" Dat is een van de professionaliseringsslagen die je moet maken is dat je besluiten voor bepaalde dingen moet decentraliseren zeg maar. Maar op dit moment hebben we niet de grootte dat dat een probleem is."*

10. *" Wat je ziet bij kleine bedrijven is de sfeer, het teamgevoel, met z'n allen de schouders er onder. Weinig politiek geneuzel en job projecties wat je ook wel ziet. Dat moet je lang mogelijk proberen vast te houden. Maar aan de andere kant wel een stukje professionalisering slag door te voeren."*

8.6.4 Hippo

1. *" Wij innoveren, wij ontwikkelen software, dat doen we gewoon aan de lopende band"*
2. *Dat betekend wel dat die software heel erg goed moet zijn, omdat je niet met een gelikt verkoopverhaal dingen kan beloven en wanneer ze de licentie hebben afgenomen dat je dan klaar bent. Dus productinnovatie is essentieel*
3. *Hoofdproces zit hem ook in het fixen van issues , door ontwikkelen van bestaand product, dats i wat wij verkopen. dat gaat ook door anders is er geen business. Voor het product zelf verdien ik niks voor. Bij een ander bedrijf heb je een bestaand product en krijg je4 elke keer 1000 euro bij wijze van spreken voor vragen. Alleen wij verkopen juist doordat we iets doen, ook op de oudere versie van het product, moet gewoon ontwikkeling plaatsvinden want dat is wat we verkopen*
4. *" We gaan nadenken wat is de volgende stap. We willen voorkomen dat we allen maar dingen gaan lopen oppoetsen dat eigenlijk niks wezenlijks toevoegt. We hebben hel erg gekken wat er ontbreekt, wat onze klanten gebruiken en wat ze nodig hebben, wat ze in de toekomst nodig hebben en waar de wereld naar toe gaat."*
5. *" Bij ons komt dat toch voort uit een soort persoonlijk streven om iets te maken dat nog mooier is"*
6. *"Geld kan je maar een keer uitgeven, een investering doe je omdat je verwacht dat er later meer uit komt. Wij willen investeren, want wij geloven in wat we doen, en doen die investering dus ook. en anders word je een dienstverlener, en doe je gewoon: u vraagt, wij draaien, want daar word je ook voor betaald, maar dan kan je in innovatie ook wel op je buik schrijven in zekere zin. "*
7. *" Gelukkig hebben we de capaciteit om dit (experimenteren) te doen. Niet oneindig, we hebben geen 100 man zitten om alleen maar de hele tijd leuke dingen uit te proberen, dus dat kunnen we niet doen . maar wat we wel kunnen doen, omdat we open source zijn proberen aan de ene kant mensen te kunnen enthousiasmeren in wat wij doen, en kijken of we ze kunnen betrekken bij ons, die kunnen ons ook weer feedback geven op onderzoek wat we doen . en daarnaast gebruiken we natuurlijk alles wat in de open source wereld al bestaat."*
8. *"Wat bij ons uniek is, is dat het een veel interactiever proces is. tussen ons, onze klanten en de rest van de wereld, en dat komt door dat open source aspect. Dat heeft ook effect op wereldwijde beslissingen, in ons vakgebied dan... niet voor de crisis in het midden oosten"*

9. *" Iets nieuws verzinnen, en dat ook weer aan de wereld laten zien , en dan wachten wat er terugkomt. En die laatste stap vinden we ook heel belangrijk, en willen ook, aan ede nek kant is het een soort bevestiging….aan de andere kant is dat is onze ogen de manier om innovaties bij elkaar te brengen. Als we het voor ons zelf houden, concepten binnen houden, dan kan dat idee weer niet tot iets nieuws leiden. Dat gat twee kanten op, daar moet je in mee spelen."*
10. *"Als je een omgeving hebt waarin mensen ook het gevoel hebben dat wanneer ze met een nieuw idee komen, dat dat dan ook gebruikt kan worden, dan doen ze dat. Dat is voor ons een ontzettend belangrijke bron van inspiratie"*
11. *Eigenlijk doet iedereen hier aan… tja… het is ook beetje een soort speeltuin he. We maken wat we mooi vinden om te maken.*
12. *Over het algemeen verteld iemand het pas als die het al gemaakt heeft. dat is ook prima. Dat gebeurt ook heel vaak. Vervolgens ga je dan tijd vrij maken om er echt iets van te maken.*

13. *We hebben een roapdmap van het product an sich, die dalen we ook met onze klanten. Dat is het hele idee van open innovatie"*
14. *De echte creativiteit, de baanbrekende ideeën komen vaak niet van die partijen. Maar alleen iets wat ze al kennen of snappen.*
15. *Met radicale innovatie is dat lastig, omdat je dan concepten aan het bedenken bent die mensen zich niet kunnen voorstellen. Dan ben je intern gedreven, dat is dat grote project. Dat je in zekere zin wel het probleem zelf oplost. Op een totaal andere manier, en 10 andere problemen nog even meepakt. Dat krijg je niet uit een klant, of uit een partner. Die zijn bezig met hun eigen processen Dan is het meer toetsen in de praktijk. En dan er mee gaan werken en kijken of het aanslaat. Dus dat is wel meer high risk in zekere zin.*
16. *" De CTO herkend bepaalde trends in de markt, zowel technisch als functioneel vlak, en als commercie zie je bepaalde dingen die nodig zijn die concurrenten hebben of juist niet hebben. At probeer je over elkaar heen te leggen, dan gaat een team een soort idee uitwerken, dat is een klein groepje. Die presenteert het dan aan het MT, dan word daar een Go op gegeven."*
17. *" We hebben niet van tevoren het hele plan uitgewerkt. Het is niet zo dat we zeggen: dit is wat we gaan maken. Dat als iemand op dit knopje druk dan gebeurd er daar dat, ,.als je dat doet dan weet je van te voren wel precies wat je gaat krijgen, hoewel dat vaak ook nog tegenvalt, maar het nadeel is dat als je gaandeweg nieuwe mogelijkheden ontdekt, dan kun ja daar niet op inspelen .dus wat we gedaan hebben is juist heel open gelaten. Dit zijn een paar basis ideeën van waar we naartoe willen. Volgens mij zit daar iets waar we wat mee kunnen … laten we een paar dingetjes uit proberen een paar pilots draaien, kijken of het conceptueel überhaupt klopt technisch."*
18. *" Er zit natuurlijk wel een zekere grens aan We moeten een deel ontwikkeling gaan doen, en dan moeten we kijken, kunnen we dit vermarkten, hebben mensen hier wat aan? Welke dienstverlening moeten we dan verkopen dan gaan we weer teug, en gaan we weer door ontwikkelen. Het is een beetje een iteratief proces."*
19. *" Je moet wel als je radicale innovatie doet, dat kost heel veel tijd en aandacht. En dan kan je niet die mensen tussendoor service laten verlenen aan de klant. We hebben mensen hierboven van het development team die moeten heel hard nadenken en hebben een hele hoge concentration span nodig."*
20. *"Op zich is er wel een redelijk vast team voor ontwikkeling. Voor bepaalde onderdelen zoek je mensen bij elkaar, die meer op detail niveau komen. Specialisten hal je er dan bij. Er is een core team dat continue, een software developement team mee bezig. "*
21. *" Iedereen die hier werkt moet ervaring met klanten, projecten als software ontwikkeling. Het is belangrijk dat als je software maakt, dat je ook weet je gebruikers zijn. Als je dat alleen maar in abstracte termen met software ontwikkeling bezig bent dan krijg je een hele mooie motor, maar dan zit er nog geen stuur in je auto. En dat moet wel gebeuren. Dus we proberen ook wel om heel actief om die diversiteit erin te houden, dus dat rouleert."*
22. *" Die arbeidsmarkt is gewoon veel te krap, simpel"*
23. *" Het maakt het zeker ingewikkelder, je moet allerlei processen gaan inrichten die je daarvoor niet had. We zitten nu tussen de 40 en 50 man in. We hebben nu bijvoorbeeld een HR manager, dat hadden we*

vroeger natuurlijk niet. Je krijgt een hele tussenlaag in je organisatie. Je span of control is natuurlijk maar beperkt, als origineel management,"

24. *" Als organisatie heb je je klanten waarmee je bezig bent, Je bent bezig met grote klanten, en groet projecten. Dus dan zie je dat je niet meer met de dag, als je een nieuwe idee hebt voor een nieuwe feature of wat dan ook. Dat zit dan in de release over maand, in plaats van morgen. dat maakt niet ui . Dat is soms wennen. Het is soms wennen voor mensen in een organisatie die groeit, dat er überhaupt processen komen en dat daardoor dingen langer duren. Maar wel degelijker gebeuren. Dus dat."*
25. *" Ja, rollen worden steeds duidelijk en steeds meer ingekaderd, dat is wel prettig hoor. In het begin was iedereen vliegende keeper, dan kan je helemaal niet met ontwikkeling bezig zijn eigenlijk. Dat nu mensen specifiek met ontwikkeling bezig zijn is wel heel snel gegaan. Maar dat is wel een heel belangrijke ontwikkeling geweest. Ik denk wel dat belangrijk is dat je snel die slag maakt. En een tweede slag is dan het uitbouwen van het middle management om de dagelijkse gang van zaken in de hand te houden. Dat is iets waar we de afgelopen jaren heel hard aan getrokken hebben. Daar zitten we ook nog steeds midden in"*

8.6.5 Dialogue Company

1. *"Innovatie is de kernwaarde van het bedrijf zelfs."*
2. *"We zijn eigenlijk continue aan het bekeken, joh, waar zijn onze klanten mee bezig, wat hebben we zelf eigenlijk in huis om er innovatief in te kunnen zijn. "*
3. *"als je niet innoveert… je moet niet stilstaan . Nieuwe media bedrijven moeten eigenlijk continue volop op de bal zitten "*
4. *"Daar zien we dan een kans in de markt voor. Daar zetten we dan vervolgens een nieuw bedrijf mee op."*
5. *"We zijn voornamelijk bezig met fundamentele nieuwe dingen. Bestaande dingen beter maken zit veel mee in de operatie van de bedrijven .Bijvoorbeeld : Tripolis bedient de top van de markt op gebied van email marketing. Wij kijken : wat kunnen we doen met de midmarket , of wat kunnen we doen met een andere vorm daarmee."*
6. *" We hebben heel veel geïnvesteerd, we willen nu bezig om te zien hoeveel we daar uit kunnen terugverdienen."*

7 *".Het blijft zelfstandig, het is niet zo dat we het daarna gaan integreren. wij geloven dat ieder bedrijf dat we hebben zelfstandig bestaansrecht moet hebben en als je het dan weer laat incorporeren met een anders bedrijf dan zie je eigenlijk helemaal niet wat het heeft opgeleverd dus het moet zelfstandig gewoon bestaansrecht krijgen. Moet kunnen overleven ."*

8. *"We leggen het niet op als organisatie door een functioneel instrument daarvoor in het leven te roepen, nee. Geen formulieren, geen ideeënbus nee, heel nadrukkelijk niet."*
9. *"Nee, totaal niet, er schiet me een idee binnen, of iemand anders wat goed is en vervolgens gaan we gewoon nadenken; is dit idee haalbaar? We doen dan ook geen marktonderzoek en dan gaan we gewoon aan de slag. Met vallen en opstaan, komen we er eigenlijk achter of iets werkt of dat iets niet werkt, dat is heel pragmatisch."*
10. *" dat is een heel iteratief en vrijblijvend proces heel doelbewust. We laten het dus heel vrij, het proces, dat is wat we doen"*
11. *"Mijn ervaring is dat dat niet werkt. Als iets niet werkt dan is het wel verplicht creatief zijn. Creativiteit komt veel meer uit de vloer, en dat kom je veel meer tegen wanneer je gewoon bezig bent. Dus dat is echt gewoon de vorm waarop wij inderdaad innovatie zeg maar bedenken."*

12*"Dat hebben we gedaan, gedurende 1,5 hadden we zeg maar eens in de maand een middag voor hadden gereserveerd, heel google-achtig model. Maar dat blijk te niet succesvol te zijn .Dan bleek dat er toch allerlei lopende projecten waren waar ze druk mee waren en dat kreeg dan voorrang. Dat is ook logisch want dat daar worden die mensen natuurlijk op afgerekend. Dus dat moet je vanuit die optiek ook niet opleggen maar dat moet je juist stimuleren door met die mensen eigenlijk constant in gesprek te blijven. In dialoog te gaan. "*

13. *"Het is in de mensen aanwezig"*
14. *"De meeste zijn er wel van bewust dat het nodig is dus dat ze het uit zichzelf doen. Je ziet hoof*

development ziet het echt wel als zijn taak daar de helft van de tijd mee bezig te zijn"

15. *"Nu richten we ons op stabiliteit, procedures inrichten, we krijgen dan wel wat meer administratieve last binnen de organisatie. Maar dat geeft meer zekerheid en duidelijkheid. Ik denk dat wel dat er een tijd komt dat we een deel weer heel erg die vrijheid gaan geven. Maar dat is hier al wel heel lang geweest."*
16. *"Je zit toch eigenlijk vast in je eigen operatie. Dan is het goed om een frisse blik van buiten te hebben ."*
17. *"Met klanten en leveranciers juist wel. Ze denken mee en worden betrokken in het testen. Nu hebben we dat even op een lager pitje gezet omdat we nu een aantal dingen aan het afronden zijn, zoals ik net al zij. "*
18. *"Zij gebruiken het in de praktijk de hele dag. Het zijn in ons geval wel de eindgebruikers, als zij er niet goed mee kunnen werken dan betekend dat wij schade lijden."*
19. *"Het is het cel deling mechanisme wat we eigenlijk hebben, dan gaat het nog prima. ieder idee wat we hebben dat splitst zich af. Zo moet je het voorstellen . en dan heb je nooit dat probleem van een grote organisatie. Dus ik voorzie daar geen problemen mee in de toekomst eerlijk gezegd. Als de innovaties binnen het bedrijf gehouden zouden worden dan wordt dat bedrijf op een gegeven moment gewoon heel groot, dan krijg je verschillende afdelingen bij elkaar en dan moet je dat wel institutionaliseren*
20. *"Nee, nee, want dat zou fundamenteel verkeerd zijn"*
21. *"In die beginfase dan is die cashflow heel belangrijk wat andere woorden ga je eigenlijk zorgen dat je gewoon geld verdient . alleen redelijk snel, als je ziet dat de cash flow positief gaat draaien dan weet je ook dat je moet gaan innoveren, verder ontwikkelen . Vanaf dat moment wordt het eigenlijk standaard , we zijn continue bezig met innovatie.'*
22. *"We hebben periode gehad dat we heel erg hard groeide hoor , deels wilden we dat om ontwikkelingen te kunnen versnellen dus haalden we meer mensen aan boord. Dan word managen moeilijker. met hoe meer mensen je werkt hoe complexer je proces wordt. Zowel aan de organisatie kant maar ook aan de ontwikkel kant. Op een gegeven moment, dat in mijn ervaring, kom je op een level dat meer mensen inschakelen geen zin heeft, daarmee versnel je het proces niet. Als je puur kijkt naar ontwikkel projecten, dat kan wel, maar dan moet je het rigoureus omgooien. Dan ga je met ontwikkelteams die dan weer afgescheiden taken gaan krijgen en daar moet dan meer een communicatielaag overheen leggen. Daar hebben wij niet voor gekozen.*

8.6.6 M4N

1. *"Winst die het bedrijf maakt moet vergroot worden. Daar zit je in een paradoxale situatie, een soort spagaat. Eerst exploiteren om te kunnen exploreren. Maarja, het is het verhaal van de Kip en het ei. "*
2. *" 10 tot 15 % bezig met exploratie en dan is het ook zo in de details, het business model wordt niet meer ter discussie gesteld. Dat is een bewuste strategie omdat enerzijds missen we technische capaciteit om dingen te kunnen uitwerken. Ten tweede moet je voor je daarmee aan de slag gaat, echt met investeerders gaan praten om een stap te kunnen zetten. Daar moet je als bedrijf een maturity voor hebben. Zijn we nog niet rijp voor."*
3. *"Nou nee, in die zin dat we en de fase van het bedrijf waar we op dit moment zitten … dat het product dat we hebben vrij bekend is, de grote lijnen zijn duidelijk, in die grote lijnen zitten wij nu dingen te optimaliseren dus dan beschouw ik dat niet meer als innovatief"*
4. "Het is de doelstelling om beter te worden, dan nieuwe dingen te ontwikkelingen. Als er veel creatieve dingen ontwikkeld worden gaat daar de effort naar toe."
5. *"Hoofdreden is het risico probleem. Iets nieuws maken heeft 90 % kans dat het niet gaat werken. Dat hebben we zo vaak gedaan dat ik weet hoeveel risico oplevert . dus die tijd dan ik beter steken in iets waarvan ik weet dat het geen risico oplevert en dat het alleen een direct resultaat oplevert. Ook al is het resultaat vele malen lager .Dus de spin off is lager, maar zekerder, dat si het gevaar van grote bedrijven dat ze die zekerheid nog verder doorvoeren. "*
6. "*Er zijn al te veel ideeën die we al weten, waar we tijd in zouden willen stoppen maar die niet tot uitvoer komen. We hebben al een dergelijk stapel ideeën die allemaal levensvatbaar zijn en waar we*

een gewicht aan gehangen worden en waar een prijskaartje aan gehangen kan worden. Dat zijn er zo veel, dat we daar niet eens aan toe komen om ze uit de kast te pakken omdat we door de bomen het bos al niet meer zien. "

7. *"Ergens moet je weten waar je heen wil, als je dat niet weet, dan innoveer je misschien wel in allerlei dingetje, maar dan zit er geen structuur in, en dan zie je niet waar je heen gaat wat voor innovatie je nou nodig hebt. … ik hoop dat wij een strategie hebben bedacht waarmee wij een bestaansrecht hebben omdat dat inherent en goed business model is. "*
8. *"Er is markt voor meerdere partijen, maar binnen die markt moet jij een USP hebben waarom mensen jou systeem gebruiken, het feit at en een linked-in en een Hyves is geeft heel duidelijk aan dat er markt is voor 2 verschillende doelgroepen, maar er kunnen er geen 20 zijn. Dus ergens moet je een keuze maken welke doelgroep, en hoe gaan we die het meest efficiënt bereiken, en anders dan de rest. Anders zijn het allemaal supermarkten maar je moet een reden hebben voor die ene supermarkt. En dat is een beetje waar we nu naar toe gaan. Als wij dit systeem zo innoveren dat dat heel veel sneller toegevoegde waarde heeft voor iemand die inlogt en z'n ding kan doen. Dan zullen we daar op de lange termijn heel veel voorsprong aan kunnen behouden. Omdat dat proces gaan wij beter doen dan de rest .Alleen dan moet je wel tot in den treuren door blijven gaan want je wordt alleen maar beter door dat proces te optimaliseren. Dan moet je de andere processen maar even stil zetten. "*
9. *"Arjan had laatst een idee voor banners is spelletje te gaan implementeren, dat si leuk, is een leuk idee, een fantastisch concept. Daar zouden we morgen mee kunnen beginnen, in principe. Maar daar moet wel het hele business model, en alles wat we aan het doen zijn daarop gaan aanpassen. Dus at idee is voor nu, op de huidige systemen, is dat gewoon te ver van ons pad. Dat is dan niet iets waar je morgen mee begintDat betekent niet dat je in de tussentijd geen dingen bekijkt, of verbeterd of in aanpast. Dat je er weer een nieuwe kijk op krijgt".*
10. " *Dat betekend niet dat je in de tussen tijd helemaal niet met nieuwe dingen bezig bent, die je verbeterd of aanpast. Om er weer een frisse blik op te krijgen*"
11. *"Alleen dat is een innovatie project waar we naartoe willen en waar we nu zijn. In die zin zijn we wel innovatief bezig alleen het duurt heel veel langer".*
12. *" Dat is onontkoombaar. Na 1,5 jaar ben je echt uit de running. Laat ik het zo stellen. De Lada is nog heel lang blijven rijden maar op een gegeven moment konden ze gewoon niet mee. Dan kan je wel een auto blijven produceren maarja, die komt uit de prehistorie, niemand koopt dat ding meer."*
13. "*Exploratie is nodig. Ik ben er nu van overtuigd is dat je de groei van het bedrijf wilt doorzetten, dat je dan niet anders kan. Het is onhoudbaar. Je kan met dit model niet meer naar het buitenland, dus je kunt niet anders, de markt voor dit product is in Nederland te klein. Het aantal programmeurs dat nodig is kan alleen als er grotere marges worden gehaald en dat kan niet met het huidige model als software platform. Dus het is een must, mits je overgenomen wordt of fuseert. Voor ons betreft is het een must om te overleven. "*
14. "B*ij ons is dit enerzijds beperkt is omdat je redelijk aan je targets en doelstellingen zit, waardoor het meer effectief wordt maar minder creatief en exploratie."*
15. *"Er zijn geen mechanismen, zijn we totaal niet mee bezig omdat het niet de doelstelling is. Het is de doelstelling om beter te worden, dan nieuwe dingen te ontwikkelingen. Als er veel creatieve dingen ontwikkeld worden gaat daar energie naar toe, terwijl we die juist op andere dingen willen richten."*
16. *"Als je nu te veel met andere dingen bezig gaat zijn, gaat de focus van het hele bedrijf weg. Je kunt het beter een beetje van de organisatie weghouden. Je zit nu in een roeiboot, als een iemand een zeil opzet, gaat iedereen even kijken wat er gebeurt. Terwijl als degene het zeil op een andere boot probeert en dan kijken of het werkt, en het dan gemakkelijk kan implementeren op de roeiboot."*
17. *"Als het zeilbootje werkt, gaat hij zijn eigen koers varen. Er kan maar een persoon in dat zeilbootje dus zeilbootje op de roeiboot zetten, of alle roeiers moeten naar de zeilboot. Maar hoe gaan de roeiers leren zeilen? De kans zit er in dat de roeiers tegen de wind in moeten gaan roeien als ze in de zeilboot zitten. Bij M4N was er de keuze om zelf affiliate te worden. Dit hebben we niet gedaan, daarom is No-Search ontstaan. Dat is wel een bewuste keuze geweest. Je moet er wel over nadenken, willen roeiers zeilen en kunnen ze dat?"*
18. *"Een nieuwe idee heeft altijd met tijd te maken."*
19. *"Als het meer dan X uur is dan moet ik dat overleggen dan kan ik niet zomaar een nieuwe feature erin doen."*

20. *"Het is heel erg afhankelijk van de mensen die je hebt, dat de mensen de innovatie kunnen dragen. Daarom is het ook jammer dat Daan ook weggaat. Die kan zo'n innovatie dragen, omdat hij vanuit de eindgebruiker kan denken. ..dat is best een unieke gave. Als techneut wil je vaak die techniek goed hebben, wat op zich een heel mooi streven is maar het gaat er natuurlijk om wat je de klant levert."*
21. *"Wenselijk zou zijn om bijvoorbeeld dat als project op te pakken met externe partij, zodat dat het de zonder dat het invloed heeft op onze processen."*
22. *Door middel van joint ventures langzamerhand gaan kijken om op die manier nieuwe ideeën vorm te geven. Door samenwerking met anderen die mogelijkheden buiten de organisatie te bekijken, in plaats van M4N radicaal te gaan veranderen. Dat is op dit moment de strategie. Als er iets voorkomt waarin het business model dermate kan verbeteren, dan zullen we het naar ons toetrekken en er daadwerkelijk iets mee gaan doen.*
23. *"Het is gewoon heel moeilijk om dat goed te krijgen. Als ik iemand inhuur om iets te doen dan is dat nog wel te doen. Dan zeg ik: jij moet dit opleveren. Maar als jet het samen doet dan doet de een deel en d ander een deel. En wanneer ben ik voor mezelf bezig en wanneer voor de anders, en wat is het rendement eruit? Dat is moeilijk, want software heeft soms helemaal geen rendement morgen. Maar over 3 of 6 maanden . Dan ga je snel naar uurbasis toe en dat is heel duur. "*
24. *"Op dit moment zijn het business partners waar we al zaken mee doen, waar we opportunities in zien, als je de krachten bundelt. Gezamenlijk iets nieuws beginnen. Edwin doet dat wel, met investeringsmaatschappijen investeren we in concepten waar we potentie in zien."*
25. *"Bij ons is het aanzienkijk minder geworden . het proces van nieuwe dingen doen is aanzienlijk terug gekomen naar wat we al deden. "*
26. *"Als ik terugkijk heb je in het begin van business model, dan heb je daar nog tijd voor. Op een bepaald moment, zeker financieel is een groot punt, word je gebonden door de financiële middelen. Als je je geld moet verdienen en er is geen andere keuze. Of je maakt heel veel winst om het bedrijf uit te breiden, anderen om te investeren. Beginfase 1,5 tot 2 jaar is het exploratief, dan fase van exploitatie en dan weer een fase van exploratie. "*
27. *Die hadden we wel, een route, we hadden zelfs een heel projectoverzicht. Maar dat is een beetje gestorven. Je had een project dat zit in de idee ontwikkeling geboortefase. Geboorte, kindje, pubertijd. En wat er dan in die fase gebeurt. Testen, klant aanbrengen, meer klanten*
28. *"De groei heeft er voor gezorgd dat we de boel niet opgeruimd hadden, niet snel genoeg. We hadden eerder moeten opruimen dan hadden w e nu nog harder kunnen groeien. Dat is eigenlijk de bottom line."*
29. *"Dat sluipt er bij in. Dat heeft er ook mee te maken met het feit dat als je groeit je heel veel dingen wil doen, ontwikkelingen wil doen. Maar de oude ontwikkelingen heb je nog niet opgeruimd, die heb je nog niet geadministreerd. Je bent nog niet bezocht geweest het papier op te ruimen va je nieuwe project. Ja, dat doe je gewoon niet. Als je 10 projecten start, waar en maar 1 van overblijven. Dan wil je niet die 9 gaan administreren, want dat is zonde van je tijd en we in een fase verder zijn moet dat wel. Dat ene project moet later namelijk ook iemand terug lezen wat dat project nou inhield. "*
30. *"Soms moet je pas gaan opruimen als het nodig is, nu is de urgentie daar . en dan besteed je er tijd eraan, en besteed je er de juiste hoeveelheid tijd aan. Als je geen deadline hebt kan je eindeloos gaan zitten opruimen…. Je hebt heel erg een deadline nodig waarin je die opruimactie moet gaan doen, en dan gaan we weer naar het volgende punt. En dan ga je weer opruimen maar dan ga je op een andere manier opruimen."*
31. *"Ik denk dat ik weet dat ik een visie heb voor over 3 jaar nog steeds, ik heb een periode gehad dat ik niet meer wist wat ik over 3 jaar aan het doen was. Omdat ik dacht, dat houden we niet vol in deze situatie. Maar nu weet ik dat wat er ook gebeurd, ik kan nog 3 jaar lang met hetzelfde idee doorwerken daar is nog genoeg innovatie voor nodig . daar is nog genoeg ruimte om in te innoveren en beter in te worden want de wereld haalt ons niet in. omdat de problemen die wij hebben, zij ook moeten overbruggen. "*
32. *"Wij zijn wel in het stadium gekomen dat er meer structuur zit in nieuwe dingen maken. Er begint wat meer structuur naar boven te komen. Bijvoorbeeld commerciële dingen die je moet meenemen in de beslissingen die je maakt. Want dat heeft heel veel impact op de rest van de organisatie."*

8.6.7 Ocom

1. *Vaak is dat gemak, het is niet nodig zo ver te innoveren om toch klanten te trekken. En anderen durven hun nek niet uit te steken, het vergt wel experimentnatie. Juist gevestigde orde durft dat niet aan. Dat houd ze wel tegen uiteindelijk*
2. *Destijds waren we het meest innovatieve datacentre op dat moment vanaf openen. Maar bestaande gaan nog steeds niet zo te werk als zij nu doen, dus wel echt erg vooruitstrevend.*
3. *"Strategisch gezien is er wel voor gekozen deze keten de beheren."*
4. *"We zitten in de keten , dus we hebben invloed op het hele verhaal, en dat is het grote voordeel'*
5. *" Wat wij doen kunnen kleine partijen niet. Wij kopen zo groot in, dan heb je aardig inkoopkracht en dan kan je ook redelijke prijzen bedingen. Uiteindelijk kunnen we daardoor servers verhuren waar een concurrent ze nog niet eens voor kan krijgen. Dat si al een voordeel. En als je dan ook nog eens kan zorgen dat de oplevering daarvan , zoals opzeggen en dergelijk geautomatiseerd gaat dan ben je redelijk innovatief bezig ten opzichte van je concurrent."*
6. *" Normaal gesproken zie je die twee ook niet samen, alleen de laatste jaren zie je met name dat de grote hosting partijen ook zeggen : we willen eigenlijk niet afhankelijk zijn van derden en we gaan dat zelf doe. Maar dat hoeft niet altijd een succes te betekenen. Je moet het echt wel weten,, het is niet 1 en 1."*
7. *"Dat is behoorlijk innovatief, dat heb ik nog nooit gezien als klant van een datacentre*
8. *"We noemen onszelf maar vaak een beetje oneerbiedig de loodgieters van het internet. Veel mensen zeggen vaak internet is gebakken lucht, maar als je hier rondloopt dan zie je toch hoe fysiek het allemaal is. Alles wat je op internet ziet, het staat ergens."*
9. *Bij start van datacentre nog vrij weinig kennis hierover. Allen vanaf de kant van de gebruiker , als hostingpartij. Dus hebben veel kennis moeten ontwikkelen. Wel veel gebruik kunnen maken van aanwezige kennis*
10. *"Wij zijn vooraal bezig met het kijken naar hoe we zo goed mogelijk met alle facetten van moeder natuur om kunnen gaan"*
11. *" Daar zijn we constant mee bezig we willen natuurlijk met zo min mogelijk mensen zo veel mogelijk doen. Vooral manuele handelingen die echt niet nodig zijn, die moeten eruit gefilterd worden."*
12. *"Groei is echt heel hard gegaan en dat vergt inderdaad een nieuwe management laag, en tijd en aandacht . daardoor komen projecten onder druk te staan., niet alleen innovatie. "*
13. *"EvoSwitch leidt niet onder groei , want dat is ook iets wat heel veel geld kost , dus daar wordt wel heel veel aandacht aanbesteed."*

Quotes CEO http://www.hostreview.com/icontent/the-blog/hostreview-talks-con-zwinkels-managing-director-leaseweb-about-green-datacentres-customer-a?page=0%2C1 – 7 juli 2008