Public summary of master thesis

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1 Introduction

This document is a summary of the research that was performed from August 2009 until May 2009 at Univé, business unit non-life in Assen. The research aim was to explore which trends influence the environment of Univé. Consequently was analyzed how these trends result in concrete opportunities and threats for Univé and what new opportunities appear for Univé to create a new kind of value in the mobility sector. The advices that were given to Univé related to the trends are considered confidential until the first of January, 2015. Therefore the parts that are summarized in this public summary are: methodology, literature and the first part of the research results. The first part of the research results is information on how the trends will develop and what in general their most important effects are.

2 Methodology

To guide the process of forming a strategic advice for Univé non-life, the management research question hierarchy was used (Blumberg, Cooper & Schindler, 2008). This methodology is based on asking questions at different research levels. These different types of questions will be explained, followed by how they were used in this research.

***Management dilemma**: What symptoms cause management concern? What environmental stimuli raise management interest?* These symptoms were the cause of the research of which this document is a summary of. Most of the symptoms are considered to be confidential, except for the symptom of increased price competition in the car insurance industry.

***Management question**: How can management eliminate the negative symptoms and fully capitalize on opportunities?* The management question is a reaction on the management dilemma: what does the management dilemma mean for the management of Univé? As reaction on the management dilemma Univé wants to know which threats and opportunities will emerge to create value in the mobility sector. Insight in opportunities for value creation requests information about social and technical trends (Berkhout & de Ridder, 2008). Hence the management question is:

> *Based on long term social and technical trends, which opportunities and threats emerge for Univé to create value in the mobility sector?*

This question was aimed at the car insurance product in the domain of mobility. The domain of mobility is defined as the mobility sector that offers services and products related to the transport of persons.

***Research questions**: What plausible courses of action are available to management to correct the problem or to take advantage of the opportunities, and which should be considered?* The research questions are a translation of the management question, aimed at facts and the collection of information. The management question can be answered when facts and information is collected by answering the following questions:

1. *Which trends can create threads or opportunities for Univé?*
2. *How should Univé act on aforementioned trends to capitalize on opportunities and eliminate threats?*

To answer the first research question the following actions were performed:

1. Via Google was searched with keywords as “toekomst mobiliteitssector” “trends mobiliteitssector” “future of transport” and “automotive new technologies”. Next to using Google, the supervisors were asked about relevant trends.
2. This resulted in rapports from organizations in the EU, Netherlands and other countries. These rapports contained visions from the organization on how they foresaw the future of the mobility sector.
3. These reports were read. When a trend related concept was encounterd, it was written down in a list.
4. This list eventually counted 91 references to possible trends. This list was processed to a list of eleven trends. Next to these trends one supervisor pointed out the trend of the restructuring of the automotive sector, resulting in 12 trends.

5. These twelve trends were investigated further as described with the investigation and measurement questions. Due to advancing insight about the nature of the trends and scoping issues of the research, the eventual analysis was based on 8 trends.

To answer the second question, questions needed to be asked on a detailed level. These are investigation questions and measurement questions.

***Investigation questions**: What does the manager need to know to choose the best alternative from the available courses of action?* For this research it is required to know how the trends are expected to develop, thus the following question was asked:

> *For each of the eight trends: How will this trend develop in the long term?*

To answer this question, the following actions were performed:

1. The reports from the first research question were read.
2. With Google and on the sites from the organizations who published the reports, additional information was collected to further understand the trends.
3. Several interviews were held with people from various organizations like a car manufacturer, TNO, HTAS, Ernst & Young and the Dutch railways.
4. A DVD was watched. This DVD contained interviews with players from the mobility sector. These interviews were about how the players thought the mobility sector would develop the coming ten years.

These actions resulted in information about the expected developments of the trends in the long term.

***Measurement questions**: What should be asked or observed to obtain the information the manager needs?* These questions relate to how the information collected with the investigation questions results in insight related to opportunities or threats to value creation. This is done in two ways:

> 1. *For each of the eight trends: which threats and opportunities does the trend create the coming five years?*
> 2. *Which opportunities arise for Univé to create a new kind value in the mobility sector?*

To answer the first question, the trends were analyzed in three different ways. For each technical trend, a description was given on what new technical functional capabilities will become available. For each social trend, a description was given on what new customers needs will arise. Next to these analysis, for all trends was described how they affected the social systems of the insurance industry and the mobility sector. These effects were structured according to the social system theory which states that companies need four different kinds of capital to engage in entrepreneurial processes: Strategic capital, economic capital, skills/patterns capital and network capital (Groen, 2005). The results of these analyses where translated in concrete threats and opportunities for Univé.

To answer the second question, a description was given on what markets arise and on how Univé could position herself in each of these markets. Based on the trends, it was analyzed what new customers needs will arise and what new services and products will be offered in the future mobility sector. This analysis resulted in a number of new markets (what these markets are is considered

confidential). For each of these markets a description is given in terms of: customer needs, value creating activities and what the shape will be of the organization that will have the most power in this market. Based on the shape of the dominant organization in each market a advice was given how Univé could create value in each market. This advices contained descriptions about: value creating activities, required alliances and required technologies. Each of these descriptions are options how Univé could create value in the future mobility sector. Next to choosing one of these options to create value, Univé can choose a combination of these options.

By having answered both questions, the management question is answered in two ways. The first way is considering concrete opportunities and threats. The second way is what new kinds of value Univé can create in the future mobility sector.

Management decision*: What is the recommended course of action, given the research findings?* Out of the opportunities for kindsof value creation in the future mobility sector, one kind of value creation is recommended.

This is done by considering the different opportunities for value creation and searching for similarities. This results in recommending a specific kind of value creation. A description of this kind of value creation was given, consisting of: value creating activities, required alliances and required technologies.

This kind of value creation is transformed into a strategy by describing it in a strategy canvas (Kim & Mauborgne, 2005)[1]. With supervisors from Univé, the current strategy was described in a strategy canvas by means of a value curve. Within the same strategy canvas, the strategy of the car insurance industry was described by means of a value curve. The value curve of Univé was changed so that it is aimed at delivering the new kind value. This is done by asking the following questions (Kim & Mauborgne, 2005):

1. Which of the factors that the industry takes for granted should be eliminated? This question focuses on considering eliminating factors that companies in the industry have long competed on. Often those factors are taken for granted even though they no longer have value or may even detract from value.
2. Which factors should be reduced well below the industry's standard? Often those factors are taken for granted even though they no longer have value or may even detract from value.
3. Which factors should be raised well above the industry's standard? This question focuses on determining whether products or services have been overdesigned in the race to match and beat the competition.
4. Which factors should be created that the industry has never offered? These factors represent the new kind of value that Univé aims to create and deliver to its customers.

This results in a new advised strategy for Univé, described through a value curve in the strategy canvas.

[1] For a description of a strategy canvas, see chapter 4.

3 Literature review

To make use of appropriate literature, a literature review was conducted. By using keywords like “industry technology change”, “innovation”, “value network innovation” and “service innovation”, databases like Scopus and Google Scholar were searched for articles. Articles were selected by reading their titles and their abstracts. The supervisors recommended additional theories, of which the following were used: Groen (2005) Berkhout & de Ridder (2008) and Blue Ocean (Kim & Mauborgne, 2005). The articles were read together with the recommended theories. After reading, the sources were grouped in themes:

1. Socio-technical dynamics: Is concerned with developments and changes in socio-technical systems. Within socio-technical systems interaction takes place between developments in technologies, society and industries (Rip & Groen, 2001).
2. Innovation within companies: is concerned with the question how innovation can be successful when it takes place within companies. A common thought in this theme is that innovation should be executed in a separate environment with separate resources (O'Reilly III & Tushman, 2004; Christensen & Overdorf, 2000).
3. Innovation in open systems: focuses on innovation that takes place in a network in which organizations cooperate with each other. According to theories of this theme, innovation should take place in greater entities like a network or business ecosystem, because company critical resources are no longer solely within the boundaries of the firm (Birkinshaw, Bessant & Delbridge, 2007).
4. Networks: This theme is concerned with the origins and maintenance of patterns and effects of networks. Amongst others, Nohria & Eccles (1992) distinguish three network sub-themes:
    - Social capital, is concerned with the potential value that appears when multiple actors are linked to each other.
    - Embeddedness, assumes that all economic behavior is embedded in a greater social context. Groen (2005) and Rip & Groen (2001) take a social system perspective in which actors are embedded on three levels: embeddedness of an actor in interaction with others actors in his network, embeddedness of an actor in regimes and structures that emerge behind the back of actors and embeddedness of actors in socio-technical systems.
    - Network organizations and organizational networks, a theme that originated in the 80’s and 90’s which describe long term repetitive exchange relations between semi-autonomous organizations. These relations were based on trust and embedded relations in order to protect transactions and reduce costs.
5. Roadmapping: Roadmaps are tools that focus on long term planning and improve communication and ownership of plans. A roadmap is a projected view on the future in a certain domain based on common knowledge about key drivers in the domain (Albright & Kappel, 2003; Kostof &Schaller, 2001). When a view on the future is established, a strategy canvas can serve as a strategic aim for a company on how it wants to deliver value in the future.
6. Innovation in services: Theories of innovation, specifically aimed at services. Radical innovation in services is attained through service encapsulation, in which services are added to an existing service in order to fulfill a need that is more central to the customer (Howells, 2001).

Because Univé‘s question is related with technical factors, the socio-technical perspective can be used to analyze technical trends in their broader context. Univé wants advice on how to create value,

for that it is necessary to also include social trend in the analysis (Rip & Groen, 2001; Berkhout & de Ridder, 2008). Technical trends will be described in what new product functionalities they make possible. Social trends will be described in what new customer needs they create. To translate trends into concrete threats and opportunities, the social system perspective which assumes embeddedness of actors will be used. For each trend an analysis will be done how the trend affects Univé in their four kinds of capital. Next to this analysis on Univé, the social system analysis will be done at the social system of the mobility sector to see effects of the trends in their broader context. Information resulting from these analyses will be used as attention points in terms of opportunities and threats. Next to this analysis, de information from the trends will be used to describe emerging markets. For each of these new markets, an advice is given on how Univé can create value in these new markets. The creation of a specific kind of value can be used with the strategy canvas from the Blue Ocean theory to form a new strategy.

4 Used literature

The literature that was chosen at the end of the previous chapter is described in this chapter.

4.1 Influencing factors in the company environment

This paragraph explains how an actor is dependent on three factors in his environment:

Embeddedness: *His own capital and positioning in relation to other actors with their own capital.*
Actors are dependant in their functioning on the ties they have with other actors in their network. Value that is created in an organization is spread through the ties it has with other actors in order to eventually result in value in the society. Through these connections an actor can engage in the entrepreneurial process, which consists of: (1) spotting a business opportunity, (2) developing a new business concept for that opportunity and (3) exploiting that business concept. According to the social system theory, there are four constant mechanisms in a network in which actors (Groen, 2005):

- Strive for goal attainment. These goals are to engage in the entrepreneurial process. These goals are achieved by directing his own actions or the actions of other actors. This power to influence himself or others is created by strategic capital. This strategic capital can exist in power and authority or the possession of an artifact. An example of an artifact is a technical standard so an actor can force other actors to behave in a specific kind of way.
- Develop new action patterns in existing culturally shared patterns of behavior. Interaction in networks takes places through a cultural standardized and (partly) shared system of symbols. This system of symbols facilitates patterns and facilitates changes in patterns. The more an actor possesses a compatible system of symbols, the more cultural capital it has. Examples of this kind of capital are culture, skills, language and knowledge.
- Strive for continuous optimization of rewards which leads to more effective and/or efficient processes. This optimization is achieved by exchange of resources that are related with the organization and the environment: this is called economic capital which is expressed in money.
- Integrate their actions in (direct and indirect) interaction with other actors. Through having ties with other actors, actors can have indirect access to the resources of these others actors. The ability to have access to other resources is called social capital.

Each exchange between actors relies on, and affects all four kinds of capital. Thus an actor needs to have a sufficient amount of all of these four kinds of capital. A small amount of one kind of capital can be compensated by possessing a large amount of other kind of capital.

Social trends: I*nstitutionalization and normalization of behavioral patterns in a (domain of a) network.* Interaction between actors can in the long term result in mutual strategic patterns, technological regimes, sector structures, markets and institutes in general. When a new form of interaction has become dominant in a social system, this new form of interaction has become a norm. This norm can result in rules, social legitimation and justification for a specific kind of behavior in a social system. An actor can choose to follow these norms to a greater or smaller extent in order to differentiate itself from its competition. Social trends can be viewed as a dynamical process: through scientific exploration in soft sciences, insight is gained in social transitions. These social transitions give insight in needs for new kinds of products and services. This process is dynamic in the sense that progress also occurs in the other direction, through creation of new services, social transitions can occur. Also through social transition, new insight can be found or needed in scientific exploration.

Technological trends: *Technologies that are present in the network of an actor offers possibilities and demands to the technology an actor can use*. Technologies create conditions for the use of technology of a company and influence technological development in the society. Technologies can exist of: design standards, production process technologies, product characteristics, ways of using artifacts and persons and ways of defining problems. Berkhout & de Ridder (2008) describe technological development as a dynamical process in which scientific exploration in the hard sciences leads to new technologies also known as recipes that can be used to create new functionality. This functionality can be used to create new products and services. This process is dynamic in the sense that progress also occurs in the other direction: new products and services can result in new demands for functionality in these products and services. Technologies are explored to enable these new functionalities. This may give raise for the demand to create better technologies; these are discovered through scientific exploration. When a new technology is introduced, it has to be compatible with the existing technologies in the network. Depending on the characteristics of a new technology (novelty), it may be broadly adapted or only adapted in a small part of the network. This novelty may mature over time when it is broader adopted so that it has become part of a technological regime. A technological regime may develop further to become a part of a socio-technical landscape. When it is broader adopted, it becomes entrenched in society and becomes a standard. The more a technology becomes a standard, the more other technologies should be compatible with this technology. When a new technology is introduced, different companies create different variants of the technology. When a variant becomes a standard that is widely used, it results in business opportunities for the companies that own the technology. Because of these benefits, companies try to make their own variant the new standard, resulting in chaos of different variants when a new technology is introduced. When a variant of the technology has become the new standard, other companies comply with this new standard, and the focus of competition moves from product innovation (technology variant) to process innovation.

4.2 Strategy formation

The strategy canvas (Kim & Mauborgne, 2005) is a model that can be used to shape a differentiated strategy. It gives an overview of the state of the industry showing in what product factors the

industry invests in (and what the customers get). A factor can be price, service, product range or product specific features such as the appearance or the maximum speed of a car. Companies that offer the same factors in their proposition are considered to be part of the same industry. In an industry one can have companies offering a premium proposition or a budget proposition or a combination of the two. Companies in the same industry offer the same kind of value to customers, they differ in the amounts of value they offer and the price they ask for it. Because of the fact that companies offer the same kind of value, their proposition is susceptible to price competition. To avoid price competition, a company should try to offer a unique kind of value to its customers. A company should search for opportunities to offer a new kind of value. When it has decided on one, it should shape its product factors accordingly by following the process described in chapter 2 with the management decision. This will result in a new strategy which is based on a new kind of value, so that it is less susceptible to price competition.

5 Analyzed trends

This chapter describes which trends were analyzed in the research. For each trend a short description is given, including its most important effects on the social systems of the car insurance industry and the mobility sector. The part of the research about emerging markets, how Univé can take a position in them and what position Univé eventually should take is considered confidential.

Intelligent Transport Systems (ITS). ITS is a collection term for all applications in the mobility sector based on information technology. ITS are based on four components: users, computers and sensors in the car, computers and sensors on the roadside and back office systems situated in companies. Through computers and accompanying displays interaction with users is possible. The computers and sensors facilitate generation and transmission of information about eventually almost all aspects of the mobility sector. This creates possibilities on offering services and products with almost an endless range of functionality. Examples are electronic payment, traffic management, driving task assistance and travel information. Import effects of this trend are: increasingly safe cars and thus less damage, new possibility for premium differentiation and offering new services, collision of different domains in the mobility sector and opportunities to come closer to the customer.

Electric vehicles. Around 2012 the more noticeable introduction of electric vehicles will appear with multiple thousand electric vehicles per year. Different organizations predicted significantly different scenarios for the adoption of electric vehicles after 2012. Import effects of this trend are that electric vehicles may be offered through different business models; these may disrupt the car market and related markets like the market for car insurances.

Social networks. Traditional authorities like mass media, governments and companies lose gradually their potential to influence society. This potential is gradually moving to individuals. Through the rise of the internet and the shift of focus from production of tangible goods to intangible goods, people become more autonomic. Because of this people also have increasingly more potential to create news themselves, fulfilling the public watchdog function. In large groups people can engage in peer production, a process in which people from the same network work together on the same product. Important effects of this trend are: (1) customers will increasingly demand transparent organizations, (2) companies have opportunities to co-create products with their customers and (3) when people

live in new patterns, this creates opportunities for products and services that fit in these new patterns.

Restructuring of the automotive sector. It is expected that the automotive sector will undergo a restructuring the coming five to ten years to become a more transparent sector. This expectation is based on three developments: (1) big overcapacity at car manufacturers, (2) the economic crisis resulting in financial problems that forced car manufactures to restructure their production and (3) standardization of cars throughout the whole value chain leaving car manufacturers little space to create value. These developments result in: (1) Cars will become a bit cheaper, (2) the distribution of cars to customers will become more transparent and dynamic and (3) customers will have more demand for mobility solutions instead of lower level needs as a car, train, reparation services or car insurance. Important effects of this trend are: (1) Consolidation in the damage repair sector, (2) the rise of a mobility customer that wants total mobility solutions and (3) opportunities for car manufactures to have more control over when cars will be regarded as total loss through artificially pricing their modules that are needed to repair cars.

Increased congestion. In the period of 2003 until 2008 the hours that people lost on the roads due to congestion increased with 39%. In the period 2008 until 2012 this amount is expected to increase between 29% and 46%. Until 2020 there is a growth expected in amount of kilometers cars will drive on the road. There are no indications that expansions of the road infrastructure will meet this growing demand, so it is expected that the hours that people lose on the road will continue to increase the coming years.

Facilitating government instead of organizing government. In launching innovations in the society, the government is more and more taking a facilitating role in innovations, as opposed to a leading role as they would have done in the past. Examples of these include the introduction of electric vehicles and the introduction of intelligent transport systems. In both of these innovations, the government is creating a leveled playfield for organizations and the government expects these organizations to come up with new products and services. Important effect of this trend is that when more services and products will be organized by organizations, these organizations will take upon a more political role. Also the products and services that organizations deliver will increasingly influence other organizations.

Sustainability. Sustainability is expected to grow in importance over the coming years. Companies are increasingly forced to operate in a way that is friendly for the environment and choices of customer will increasingly be influenced by sustainability concerns.

Increased human machine interaction. Computers have changed the ways in which daily tasks are performed. Next to changing the experience that humans get by performing tasks different, computer have also changed the way humans look at reality: The world has become much smaller. Computer will continue to become cheaper. Because of this, computers will increasingly be used in more ways for different purposes. In the coming years the way in which humans will interact with computers will change: computers will be more personal, people will be more dependent on computers, people will always be connected to the internet, all actions of people will be recorded and the actions that people do will be increasingly supported by computers. Important effects of this trend are that customers increasingly demand that the service they buy will be supported by

information technology. A technological layer will form around the customer in which the services that organizations offer should fit into.

6 References

Albright, R.E. & Kappel, T.A. (2003). Roadmapping in the corporation. *Research Technology Management*, 46(2), 31-40.

Berkhout, G. & de Ridder, W. (2008). *Vooruitzien is regeren: leiderschap in innovatie.* Amsterdam: Pearson education benelux bv.

Birkinshaw, J., Bessant, J. & Delbridge, R. (2007). Finding, forming, and performing: Creating networks for discontinuous innovation. *California management review*, 49(3), 67-84.

Blumberg, B., Cooper, D.R. & Schindler, P.S. (2008). *Business research methods: second European edition.* Berkshire: McGraw-Hill Education.

Groen, A.J. (2005). Knowledge intensive entrepreneurship in networks: Towards a multi-level/multi dimensional approach. *Journal of Enterprising Culture*, 13(1), 69-88.

Howells, J. (2001). The nature of innovation in services. *In OECD (red.), Innovation and productivity in services*, 55-79, Parijs: OECD publications.

Kim, W.C. & Mauborgne, R. (2005). Blue ocean strategy: How to create uncontested market space and make the competition irrelevant. Boston, MA: Harvard Business Publishing.

Nohria, N. & Eccles, R.G. (1992). *Networks and Organizations: Structure, form, and action*. Cambridge, MA: Harvard University Press, 1-22.

O'Reilly III, C.A. & Tushman, M.L. (2004). The ambidextrous organization. *Harvard business review*, 82(4), 74-81.

Rip, A. & Groen, A.J. (2001). Many Visible Hands. In Coombs, R., Green, K., Richards, A. & Walsh, V. (red.), *Technology and the Market. Demand, Users and Innovation,* 12-37. Cheltenham: Edward Elgar Publishing Limited.